



# Administration and Scoring Manual

**David Wechsler** 







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# **Table of Contents**

rorewora	13
Chapter 1.	
Introduction	1
Content and Structure of the WPPSI-IV	2
Subtest, Composite, and Process Score Terminology	2
Subtest Content	2
Subtest Terminology	3
Composite Score Content	4
Composite Score Terminology	4
Process Scores	5
Test Structure	6
Ages 2:6–3:11	
Ages 4:0–7:7	9
Applications	10
User Responsibilities	12
Suitability and Fairness Issues	12
Testing Children at the Extremes of the Age Range	13
Testing Children for Reevaluation Purposes	14
Testing Children With Special Needs	14
Chapter 2.	
General Testing, Administration, and Scoring Guidelines	17
General Testing Guidelines	17
Familiarity With Test Materials	17
Materials	18
Product Safety of Test Materials	19
Administration Time	20
Physical Environment	22
Establishing and Maintaining Rapport	23



General Administration Guidelines	25
Standard Subtest Administration Order	25
Testing Across Multiple Sessions	26
Subtest Selection	26
Supplemental Subtest Substitution	28
Ages 2:6–3:11	30
Ages 4:0–7:7	30
Start Points, Reverse Rules, and Discontinue Rules	31
Start Points	31
Reverse Rules	31
Discontinue Rules	36
Timing	39
Demonstration, Sample, and Teaching Items	40
Queries, Prompts, and Repetitions	41
Queries	41
Prompts	41
Repetitions	41
Recording Responses	42
General Scoring Guidelines	43
Using Sample Responses	43
Scoring Queried Responses	45
Determining Spoiled Responses	45
Scoring Multiple Responses	46
Completing the Record Form	46
Calculating the Child's Test Age	47
Completing the Summary Page	47
Step 1. Calculating Subtest Total Raw Scores	48
Step 2. Converting Total Raw Scores to Scaled Scores	48
Step 3. Obtaining Sums of Scaled Scores	50
Prorating the Full Scale Sum of Scaled Scores	51
Limiting Substitution and Proration	52
Invalidating Composite Scores	53
Step 4. Deriving the Primary Index Scores and FSIQ	53
Step 5. Plotting the Subtest, Primary Index Score, and FSIQ Profiles	54







	Making Comparison Selections	54
	Completing the Primary Analysis Page	55
	Step 1. Analyzing Index- and Subtest-Level Strengths and Weaknesses	55
	Step 2. Analyzing Index- and Subtest-Level Pairwise Differences	59
	Completing the Ancillary Analysis Page	60
	Step 1. Obtaining Sums of Scaled Scores	60
	Step 2. Deriving the Ancillary Index Scores	61
	Step 3. Plotting the Ancillary Index Score Profile	64
	Step 4. Analyzing Index-, Subtest-, and Process-Level Pairwise Differen	ces 64
Cha	apter 3.	
	btest Administration and Scoring for Ages 2:6–3:11	67
	1. Receptive Vocabulary	
	2. Block Design	
	3. Picture Memory	
	4. Information	
	5. Object Assembly	
	6. Zoo Locations	
	7. Picture Naming	118
Րեշ	apter 4.	
	apter 4. btest Administration and Scoring for Ages 4:0–7:7	122
	1. Block Design	
	2. Information	
	3. Matrix Reasoning	
	4. Bug Search	
	5. Picture Memory	
	6. Similarities	
	7. Picture Concepts	
	8. Cancellation	
	9. Zoo Locations	
	10. Object Assembly	
	11. Vocabulary	
	12. Animal Coding	
	13. Comprehension	
	14. Receptive Vocabulary	
	15 D' NJ . '.	2(1







Appendix A. Norms and Conversion Tables267				
	x B. Value and Base Rate r Score Difference Comparisons			
Referenc	<b>es</b>			
List of Tab	les			
Table 1.1	Subtest Abbreviations and Descriptions2			
Table 1.2	Composite Score Abbreviations4			
Table 2.1	Materials Included in the WPPSI–IV Test Kit			
Table 2.2	WPPSI–IV Subtest Administration Times, by Age20			
Table 2.3	WPPSI–IV Subtest Administration Times, by Special Group			
Table 2.4	Standard Subtest Administration Order			
Table 2.5	Subtest Composition of Primary Index Scores and FSIQ, by Age Band27			
Table 2.6	Subtest Composition of Ancillary Index Scores, by Age Band			
Table 2.7	Allowable Substitutions for Core Subtests, by Age Band and Composite Score			
Table 2.8	Summary of Subtest Start Points, Reverse Rules, and Discontinue Rules38			
Table 2.9	Abbreviations for Use on the Record Form			
Table A.1	Scaled Score Equivalents of Total Raw Scores for Subtests, by Age Group 268			
Table A.2	VCI Equivalents of Sums of Scaled Scores for Ages 2:6–3:11			
Table A.3	VSI Equivalents of Sums of Scaled Scores for Ages 2:6–3:11			
Table A.4	WMI Equivalents of Sums of Scaled Scores for Ages 2:6–3:11285			
Table A.5	FSIQ Equivalents of Sums of Scaled Scores for Ages 2:6–3:11			
Table A.6	VCI Equivalents of Sums of Scaled Scores for Ages 4:0–7:7288			
Table A.7	VSI Equivalents of Sums of Scaled Scores for Ages 4:0–7:7			
Table A.8	FRI Equivalents of Sums of Scaled Scores for Ages 4:0–7:7			
Table A.9	WMI Equivalents of Sums of Scaled Scores for Ages 4:0-7:7290			
Table A.10	PSI Equivalents of Sums of Scaled Scores for Ages 4:0-7:7291			
Table A.11	FSIQ Equivalents of Sums of Scaled Scores for Ages 4:0–7:7292			
Table A.12	Prorated Sums of Scaled Scores for Deriving the FSIQ, by Age Band294			
Table A.13	Age Equivalents of Total Raw Scores			
Table B.1	Critical Values for Statistically Significant Differences Between Each Primary Index Score and the Mean Primary Index Score or FSIQ, by Age Group and Age Band			







Table B.2	Differences Between Each Primary Index Score and the Mean Primary Index Score or the FSIQ Obtained by Various Base Rates of the Normative Sample, by Overall Sample and FSIQ Ability Level302
Table B.3	Critical Values for Statistically Significant Differences Between Subtest Scaled Scores and the Mean Scaled Score for the Primary Index or FSIQ Subtests, by Age Group and Age Band
Table B.4	Differences Between Subtest Scaled Scores and the Mean Scaled Score for the Primary Index or FSIQ Subtests Obtained by Various Base Rates of the Normative Sample
Table B.5	Critical Values for Statistically Significant Differences Between Primary Index Scores, by Age Group and Age Band
Table B.6	Base Rates of Normative Sample Obtaining Various Differences Between Primary Index Scores, by Overall Sample and FSIQ Ability Level312
Table B.7	Critical Values for Statistically Significant Differences Between Scaled Subtest and Process Scores at the .01, .05, .10, and .15 Significance Levels324
Table B.8	Base Rates of Overall Normative Sample Obtaining Various Differences Between Selected Scaled Scores
Table B.9	Base Rates of Intersubtest Scatter Within Various Combinations of Subtests, by Age Band
List of Figu	ires
Figure 1.1	Test Framework for Ages 2:6–3:11
Figure 1.2	Test Framework for Ages 4:0–7:78
Figure 2.1	Suggested Seating and Materials Arrangement
Figure 2.2	Example of Perfect Scores Obtained on Start-Point Item and Subsequent Item
Figure 2.3	Example of Perfect Score Not Obtained on Start-Point Item33
Figure 2.4	Example of Perfect Score Obtained on Start-Point Item But Not on Subsequent Item
Figure 2.5	Example of Perfect Scores on Start-Point Item and Subsequent Item Overriding Scores on Previously Administered Items35
Figure 2.6	Example of Discontinue Criterion Met During Reversal Procedure37
Figure 2.7	Example of Sample Responses for a Verbal Comprehension Subtest
Figure 2.8	Example of Calculating the Child's Test Age
Figure 2.9	Example of Completed Summary Page
Figure 2.10	Example of Completed Total Raw Score to Scaled Score Conversion Table With One Substitution
Figure 2.11	Example of Completed Primary Analysis Page58
Figure 2.12	Example of Completed Ancillary Analysis Page





## viii Table of Contents

# **List of Figures** (continued)

Figure 3.1	Orientation of the Model and Stimulus Book
Figure 3.2	Examples of Rotation Errors for Square-Shaped Designs
Figure 3.3	Examples of Rotation Errors for Diamond-Shaped Designs
Figure 3.4	Examples of Acceptable Gaps and Misalignments Between Blocks76
Figure 3.5	Proper Alignment of Puzzle Pieces With Number Side Visible103
Figure 3.6	Proper Alignment of Puzzle Pieces With Picture Side Visible103
Figure 3.7	Example of Key for Animal Card Placement
Figure 3.8	Example of Zoo Layout With Animal Cards Presented According to Key 109
Figure 3.9	Recording Correctly Placed Animal Card
Figure 3.10	Recording Incorrectly Placed Animal Cards
Figure 4.1	Orientation of the Model and Stimulus Book
Figure 4.2	Examples of Rotation Errors for Square-Shaped Designs
Figure 4.3	Examples of Rotation Errors for Diamond-Shaped Designs
Figure 4.4	Examples of Acceptable Gaps and Misalignments Between Blocks
Figure 4.5	Example of Key for Animal Card Placement
Figure 4.6	Example of Zoo Layout With Animal Cards Presented According to Key 193
Figure 4.7	Recording Correctly Placed Animal Card
Figure 4.8	Recording Incorrectly Placed Animal Cards
Figure 4.9	Proper Alignment of Puzzle Pieces With Number Side Visible
Figure 4.10	Proper Alignment of Puzzle Pieces With Picture Side Visible







# **Foreword**

The Wechsler Preschool and Primary Scale of Intelligence—Fourth Edition (WPPSI–IV) is a work of art, crafted by Pearson psychologists with a master's touch and a firm foundation in contemporary theory and cutting-edge neurodevelopmental and neurocognitive research. That was not always the case with the WPPSI, which had a rocky beginning in 1967, when Head Start, Piaget, and the new fields of learning disabilities and neuropsychology were competing for attention in professional journals and the public media. Federal funding during the LBJ administration targeted intervention programs for ages 3:0 to 5:0 years, and the WPPSI missed the mark with its age range of 4:0 to 6:6. In essence, the WPPSI was a downward extension of the 1949 Wechsler Intelligence Scale for Children (WISC) that lowered the age range by only one year (the WISC had a 5:0 to 15:0 range). Five Verbal and three Performance subtests were taken directly from the WISC, and the overlap in items from one battery to the other was substantial on these subtests (47% of the Verbal and 55% of the Performance items were taken directly from the WISC). Just as notable was the absence in the WPPSI of arguably the most preschool-friendly WISC subtest—Object Assembly. There were few colorful pictures or game-like tasks; the wording in the test directions was often too difficult for young children; and there was little to capture the heart of the preschool or primary-age child.

Subsequent revisions of the WPPSI improved the test on every count. The age range of the 1989 WPPSI-R was extended to cover ages 3:0 to 7:3, and a child-oriented, colorized version of the Object Assembly subtest was added to the Performance Scale. Colorful pictures were incorporated into early items on Information, Vocabulary, and Similarities, and more age-appropriate items were added to Mazes and Geometric Design. The 2002 WPPSI-III further lowered the age range, this time to 2:6 and expanded its content to include 14 subtests, 7 old and 7 new. Geometric Design, Mazes, Animal Pegs, Arithmetic, and Sentences were eliminated, replaced by an abundance of new language, fluid reasoning, and processing speed subtests. The result was a strange hybrid that was neither traditional Wechsler nor rooted in a coherent theory. It retained the Verbal and Performance IQs and added a Processing Speed Quotient, but it included no measures of short-term or working memory. The WPPSI-III was a wonderful improvement over the previous versions and became a vital force in the field of preschool assessment; however, like the WPPSI and WPPSI-R, the WPPSI-III remained the kid brother of the WISC and Wechsler Adult Intelligence Scale (WAIS).



ix





The WPPSI–IV is no one's kid brother or sister. This newest version of the WPPSI stands tall alongside the WISC–IV and WAIS–IV in every way imaginable—technical excellence, clinical utility, innovativeness, theoretical basis, and societal relevance. And, the WPPSI–IV has accomplished something vital that has not been done previously by any other Wechsler scale: It has provided separate measures of visual spatial and fluid reasoning abilities (Gv and Gf, when speaking the language of Cattell-Horn-Carroll or CHC theory) for ages 4:0 to 7:7.

The WPPSI–IV, like the WISC–IV and WAIS–IV, has a firm grounding in state-of-the-art research in working memory, fluid reasoning, processing speed, and executive functioning. In addition, its comprehensive scale structure permits valid profile interpretation from the vantage points of both the multi-ability, psychometric CHC model, and the Luria-based, neuropsychological process-oriented functional units of Attention (Block 1), Coding & Storage (Block 2), and Planning (Block 3). The broad expansion of the concepts measured by the WPPSI–IV relative to its predecessors (most notably working memory) also enhances its interpretation from the perspective of other approaches, such as Piagetian and neo-Piagetian models.

The WPPSI–IV includes a variety of innovative new subtests—especially measures of the key constructs of working memory and processing speed—which are engaging, child oriented, game-like, and fun (e.g., Bug Search). The working memory tasks have strong floors and the new processing speed measures are far less dependent on fine-motor skills than the WPPSI-III subtests that they replaced (Coding and Symbol Search). The clinically astute developers of the WPPSI–IV were keenly aware that the key to revising the battery was not to mimic WISC-IV subtests, but to construct brand-new measures, such as Animal Coding and Zoo Locations, that are specifically designed to be developmentally appropriate and spot-on in terms of a young child's interests. They also added interesting picture items to the verbal subtests to strengthen the "bottom" for ages 4:0 to 7:7 and to provide fairer measures of the language abilities of both shy, nonverbal children and those who continue to struggle with expressing their ideas in words. The test's overhaul helped ensure the maintenance of rapport with a group of children that is "challenging" (to put it politely) because of rampant impulsivity, immaturity, limited attention span, and distractibility. Yet, the increase in the depth and breadth of coverage was accomplished without substantially increasing testing time. Research director Dr. Diane Coalson told us, "We wanted to give the clinician more insight with broader construct coverage, but not at the expense of him, her, or the child." Dr. Coalson and Dr. Raiford were successful in achieving that goal.

The WPPSI–IV is a contemporary instrument that was developed to meet today's needs and to cope with current controversies that define the hot-tempered assessment scene. The numerous validity studies included a novel clinical sample—a group with "early preliteracy concerns" based on achievement scores—as well as a correlational study with the NEPSY–II to look more closely at the interface between cognitive abilities measured by the WPPSI–IV and executive function.







The WPPSI–IV, though not specifically a neuropsychological test like the NEPSY–II, is an appropriate tool for clinical neuropsychologists and clinical psychologists and is an ideal fit for school psychologists in the age of IDEA and RTI. It is exceptional for evaluating young children referred for cognitive delays, intellectual disabilities, autistic spectrum disorders, and intellectual giftedness; and for informing interventions and placement decisions for special school-related programs, private schools, and clinical programs. A few subtests require practice and clinical acumen to thoroughly master administration and scoring (e.g., Zoo Locations), but the time spent to achieve mastery is well worth it.

Bottom line: The WPPSI–IV is an amazing work of measurement for young children. Its pictures are beautiful and will surely help keep the attention of young wandering eyes. The puzzles, the "dauber" (for processing speed subtests), and the game-like subtests themselves should attract children and help the examiner with rapport. Surely, this will present the examiner with a wonderful opportunity to observe and record young students' thinking and behavior. We applaud the results.

Alan S. Kaufman and Nadeen L. Kaufman Yale Child Study, School of Medicine









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# Introduction

The Wechsler Preschool and Primary Scale of Intelligence–Fourth Edition (WPPSI–IV) is an individually administered clinical instrument designed to measure the cognitive ability of children aged 2 years 6 months through 7 years 7 months (2:6–7:7). This updated edition of the Wechsler Preschool and Primary Scale of Intelligence–Third Edition (WPPSI–III; Wechsler, 2002) provides subtest and composite scores that represent intellectual functioning in specific cognitive domains (e.g., verbal comprehension, working memory), as well as a composite score that represents general intellectual ability (i.e., Full Scale IQ).

Significant revisions are incorporated into this edition, including an extended age range, updated norms, new subtests and index scores, as well as major changes to score terminology. Test materials have been updated to be more engaging, and modifications to administration and scoring procedures have been made to improve the usability of the scale.

The WPPSI-IV Administration and Scoring Manual contains all of the information needed to perform a standard test administration. Chapter 1 of this manual provides a general overview of the WPPSI-IV, focusing on content and structure, applications, user responsibilities, and suitability and fairness issues. Chapter 2 includes general testing guidelines, general administration and scoring procedures, and directions for completing the Record Form, including instructions on how to derive subtest and composite scores and how to perform the index- and subtest-level discrepancy comparisons. Chapter 3 presents the detailed subtest administration and scoring procedures for children aged 2:6-3:11, and Chapter 4 presents this information for children aged 4:0-7:7. The appendices include the normative information required to derive and evaluate all of the subtest scores, as well as those composite scores most often obtained for a comprehensive evaluation of cognitive ability (e.g., Verbal Comprehension Index, Full Scale IQ). The normative information for deriving and evaluating the additional, theoretically based index scores (e.g., Verbal Acquisition Index, Nonverbal Index) are available in the WPPSI-IV Technical and Interpretive Manual appendices.

1



## Content and Structure of the WPPSI-IV

Incorporating new research on intelligence, cognitive development, neurodevelopment, and cognitive neuroscience in the revision process, the WPPSI–IV is a unique instrument, distinct from its predecessor. The content and structure of the WPPSI–IV are described in this section, with specific attention to the descriptions of subtests, composites, and scores, as well as the scale's organization.

# Subtest, Composite, and Process Score Terminology

#### **Subtest Content**

The WPPSI–IV is composed of 15 subtests. Ten subtests were retained from the WPPSI–III: Block Design, Information, Matrix Reasoning, Similarities, Picture Concepts, Object Assembly, Vocabulary, Comprehension, Receptive Vocabulary, and Picture Naming. Five new subtests were developed for the WPPSI–IV: Bug Search, Picture Memory, Cancellation, Zoo Locations, and Animal Coding. Table 1.1 lists the WPPSI–IV subtests in administration order (for ages 4:0–7:7) and provides the abbreviation and a brief description of each. A thorough discussion of the revision goals and theoretical rationale that guided subtest development is provided in Chapter 2 of the WPPSI–IV Technical and Interpretive Manual.

Table 1.1 Subtest Abbreviations and Descriptions

Subtest	Abbreviation	Description
Block Design	BD	Working within a specified time limit, the child views a model and/or a picture and uses one- or two-color blocks to re-create the design.
Information	IN	For picture items, the child selects the response option that best answers a question about a general-knowledge topic. For verbal items, the child answers questions about a broad range of general-knowledge topics.
Matrix Reasoning	MR	The child views an incomplete matrix and selects the response option that completes the matrix.
Bug Search	BS	Working within a specified time limit, the child marks the bug in the search group that matches the target bug.
Picture Memory	PM	The child views a stimulus page of one or more pictures for a specified time and then selects the pictures from options on a response page.
Similarities	SI	For picture items, the child selects the response option that is from the same category as two other depicted objects. For verbal items, the child is read two words that represent common objects or concepts and describes how they are similar.







Table 1.1 Subtest Abbreviations and Descriptions (continued)

Subtest	Abbreviation	Description
Picture Concepts	РС	The child views two or three rows of pictures and selects one picture from each row to form a group with a common characteristic.
Cancellation	CA	Working within a specified time limit, the child scans two arrangements of objects (one random, one structured) and marks target objects.
Zoo Locations	ZL	The child views one or more animal cards placed on a zoo layout for a specified time and then places each card in the previously viewed locations.
Object Assembly	OA	Working within a specified time limit, the child assembles the pieces of a puzzle to create a representation of an identified object.
Vocabulary	VC	For picture items, the child names the depicted object. For verbal items, the child defines words that are read aloud.
Animal Coding	AC	Working within a specified time limit and using a key, the child marks shapes that correspond to pictured animals.
Comprehension	CO	For picture items, the child selects the response option that represents the best response to a general principle or social situation. For verbal items, the child answers questions based on his or her understanding of general principles and social situations.
Receptive Vocabulary	RV	The child selects the response option that best represents the word the examiner reads aloud.
Picture Naming	PN	The child names depicted objects.

## **Subtest Terminology**

Subtests can be grouped into three general categories: core, supplemental, and optional, according to whether or not they can be used to derive a composite score. Unless otherwise specified, core subtests were used to create the composite scores and other normative information reported in the appendix tables of this manual. Supplemental subtests can be administered in addition to core subtests to provide a broader sampling of intellectual functioning and to yield additional information for clinical decision making. In some situations, supplemental subtests may also be used as substitutes for missing or invalid core subtests when deriving composite scores. The optional subtests, like the supplemental subtests, broaden the sampling of intellectual functioning beyond the core subtests; however, unlike the supplemental subtests, they cannot be used as substitutes for missing or invalid core subtests when deriving composite scores. The categorization of a subtest as core, supplemental, or optional sometimes varies by age and by composite score. For example, Receptive Vocabulary is a core subtest used to derive the Verbal Comprehension Index for children aged 2:6–3:11, but it is an optional subtest that cannot be used to derive the Verbal





Content and Structure of the WPPSI-IV

Comprehension Index for children aged 4:0–7:7. Because the use of supplemental subtest substitution for core subtests may introduce additional measurement error into derived composite scores, there are limitations to their use that are detailed in the Supplemental Subtest Substitution section in Chapter 2.

## **Composite Score Content**

The WPPSI–IV composite scores and their abbreviations are listed in Table 1.2. A total of 10 composite scores are available to represent the child's performance in broader domains of cognitive functioning (i.e., the Index and Full Scale levels of performance) than those measured at the subtest level. Due to differences in the subtest batteries across the two age bands, 7 of the composite scores are available for ages 2:6–3:11 (all composite scores except the Fluid Reasoning Index, the Processing Speed Index, and the Cognitive Proficiency Index), whereas all 10 of the composite scores are available for ages 4:0-7:7 (see the subsequent Test Structure section for details regarding subtest and composite score availability for each age band).

Table 1.2 Composite Score Abbreviations

Composite Score	Abbreviation
Verbal Comprehension Index	VCI
Visual Spatial Index	VSI
Fluid Reasoning Index	FRI
Working Memory Index	WMI
Processing Speed Index	PSI
Full Scale IQ	FSIQ
Vocabulary Acquisition Index	VAI
Nonverbal Index	NVI
General Ability Index	GAI
Cognitive Proficiency Index	CPI

## **Composite Score Terminology**

Significant changes have been made to the composite score terminology in WPPSI-IV. These nomenclature changes more accurately reflect the configuration of subtests and contributing cognitive abilities assessed by each composite. In addition, this updated terminology makes the WPPSI-IV more consistent with recent revisions of the Wechsler intelligence scales (e.g., the Wechsler Adult Intelligence Scale-Fourth Edition [WAIS-IV; Wechsler, 2008] and the Wechsler Intelligence Scale for Children-Fourth Edition [WISC-IV; Wechsler, 2003]). The terms Verbal IQ (VIQ) and Performance IQ (PIQ) have been replaced with the terms Verbal







Comprehension Index (VCI) and Visual Spatial Index (VSI), respectively. Like the VIQ, the VCI includes subtests measuring verbal abilities such as reasoning, comprehension, and expression. The term Visual Spatial Index was selected to better represent the cognitive abilities measured by subtests contributing to this composite score (i.e., Block Design and Object Assembly). The term also differentiates the measurement emphasis of this score relative to the newly created Fluid Reasoning Index (FRI) for ages 4:0–7:7. The term Processing Speed Quotient has been replaced with the term Processing Speed Index (PSI) for consistency within the WPPSI–IV and across the Wechsler intelligence scales. The WPPSI–III General Language Composite has been renamed the Vocabulary Acquisition Index (VAI) to better represent its construct coverage. The use of more accurate and descriptive composite score terms should enhance the practitioner's ability to clearly communicate the results of a child's performance to colleagues, teachers, and the child's parent(s) and/or guardian(s).

The nine index scores available on the WPPSI–IV can be subdivided into two categories: primary and ancillary. The five primary index scores include those factor-based composite scores that are typically obtained for a comprehensive evaluation of cognitive ability, including the Verbal Comprehension Index, Visual Spatial Index, Fluid Reasoning Index, Working Memory Index, and Processing Speed Index. The four remaining ancillary index scores are primarily theoretically based and include the Vocabulary Acquisition Index, Nonverbal Index, General Ability Index, and Cognitive Proficiency Index. The ancillary index scores may be used to provide additional or supporting information regarding a child's WPPSI–IV performance (see Chapter 6 and Appendices C and D of the WPPSI–IV Technical and Interpretive Manual for additional interpretive information related to the ancillary index scores).

#### **Process Scores**

The Boston Process Approach to neuropsychological assessment, articulated by Edith Kaplan (1988), emphasizes that a qualitative evaluation of test performance, (e.g., performing error analysis, recording behavioral observations, and testing the limits) is as important as a quantitative evaluation of scores. More recent revisions of the Wechsler intelligence scales, such as the WISC–IV and WAIS–IV, have included a number of process scores to provide additional information about the individual's subtest performance. For ages 4:0–7:7, two process scores for the Cancellation subtest are available: Cancellation Random (CAR) and Cancellation Structured (CAS). Derivation of these process scores is dependent on the child's performance on the two Cancellation test items and does not require additional administration procedures. Significant and unusual differences between the performances on the two items may provide additional insight into the child's ability to benefit from an organizational structure when completing similar tasks. There are no process scores for ages 2:6–3:11 on the WPPSI–IV.







#### **Test Structure**

Due to the substantial developmental changes in cognitive ability from ages 2:6–7:7, the age range of the WPPSI–IV is divided into two age bands, ages 2:6–3:11 and ages 4:0–7:7, with each age band taking different subtest batteries. Figures 1.1 and 1.2 represent the test structure of the WPPSI–IV for each age band, respectively. (See Chapter 5 of the WPPSI–IV Technical and Interpretive Manual for details of the validity of the scale's structure based on factor analytic evidence.)

For both age bands, the test structure represents three levels of interpretation, including the Full Scale, the Primary Index scale, and the Ancillary Index scale levels. Each level of the test structure is composed of one or more scales. Each scale (e.g., Full, Verbal Comprehension, and Nonverbal) within a level includes the core subtests that were used to derive the normative information for the composite score, as well as any available supplemental subtests that may be used as allowable substitutes for missing or invalid core subtests. The core subtests within each scale are shown in red and the supplemental subtests (if available) are shown in black italic.

The scores derived at the Primary Index scale level (i.e., the VCI, VSI, FRI, WMI, and PSI) are most commonly used for a comprehensive description and evaluation of a child's cognitive abilities. The scores derived at the Ancillary Index scale level (i.e., VAI, NVI, GAI, and CPI) are commonly used as a complement to the primary index scores in pertinent clinical situations (e.g., evaluations of children with significant language delays or difficulties). The primary index scores are based on factor analytic evidence, whereas the ancillary index scores are derived from theoretically related subgroups of subtests. Normative and interpretive information for the primary index scores are included in Appendices A and B of this manual. The same information for the ancillary index scores is included in Appendices C and D of the WPPSI–IV Technical and Interpretive Manual.







## Ages 2:6-3:11

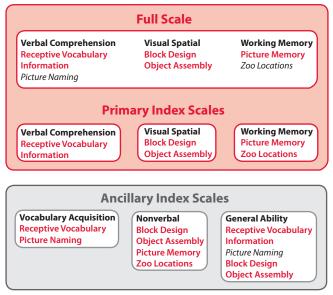


Figure 1.1 Test Framework for Ages 2:6–3:11

## Ages 2:6-3:11

For ages 2:6–3:11, the test framework of the WPPSI–IV is organized into three Primary Index scales: Verbal Comprehension, Visual Spatial, and Working Memory. The subtests within each scale are used to derive the corresponding primary index score (i.e., Verbal Comprehension Index, Visual Spatial Index, and Working Memory Index). The Full Scale includes all of the subtests in each scale at the Primary Index scale level, as well as any additional supplemental subtests that may be used to derive the FSIQ (i.e., Picture Naming).

There are six core subtests at the Primary Index scale level with each scale composed of two core subtests (i.e., VCI is derived from Receptive Vocabulary and Information, VSI is derived from Block Design and Object Assembly, and WMI is derived from Picture Memory and Zoo Locations). No supplemental subtests are available to derive the primary index scores.

At the Full Scale level there are five core subtests (i.e., Receptive Vocabulary, Information, Block Design, Object Assembly, and Picture Memory) and two supplemental subtests (i.e., Zoo Locations and Picture Naming). Picture Naming can be substituted for Receptive Vocabulary but not for Information, and Zoo Locations can be substituted for Picture Memory. It is important to note that only one supplemental subtest substitution is allowed when deriving the FSIQ. See the Supplemental Subtest Substitution section in Chapter 2 for detailed information







about the limitations on supplemental subtest substitution when deriving composite scores.

For ages 2:6–3:11, there are three Ancillary Index scales: Vocabulary Acquisition, Nonverbal, and General Ability. Like the primary index scales, the subtests within an ancillary scale are used to derive the corresponding ancillary index score (i.e., the Vocabulary Acquisition Index, Nonverbal Index, and General Ability Index).

At the Ancillary Index scale level, the number of core and supplemental subtests varies for each index scale. There are two core subtests for deriving the VAI (i.e., Receptive Vocabulary and Picture Naming) and four core subtests for deriving the NVI (i.e., Block Design, Object Assembly, Picture Memory, and Zoo Locations). No supplemental subtests are available to derive the VAI or NVI for this age band. For deriving the GAI, there are four core subtests (i.e., Receptive Vocabulary, Information, Block Design, and Object Assembly) and one supplemental subtest (i.e., Picture Naming can be substituted for Receptive Vocabulary but not for Information).

#### Full Scale **Processing Speed** Verbal Comprehension **Visual Spatial** Fluid Reasoning **Working Memory** Information **Block Design** Matrix Reasoning Picture Memory **Bug Search** Similarities Object Assembly Picture Concepts Cancellation 700 Locations Vocabulary Animal Coding Comprehension **Primary Index Scales** Verbal Comprehension Visual Spatial Fluid Reasoning **Working Memory** Processing Speed Information **Block Design Matrix Reasoning Picture Memory Bug Search** Similarities **Object Assembly Picture Concepts** Zoo Locations Cancellation **Ancillary Index Scales** Vocabulary Acquisition Nonverbal General Ability **Cognitive Proficiency Receptive Vocabulary Block Design** Information Picture Memory **Picture Naming Similarities** Object Assembly Zoo Locations **Matrix Reasoning** Vocabulary **Bug Search** Picture Concepts Comprehension Cancellation **Picture Memory Block Design** Animal Coding Object Assembly Zoo Locations **Bug Search Matrix Reasoning** Cancellation Picture Concepts

Ages 4:0-7:7

Figure 1.2 Test Framework for Ages 4:0–7:7

Animal Coding

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## Ages 4:0-7:7

For ages 4:0–7:7, the test framework of the WPPSI–IV is organized into five Primary Index scales: Verbal Comprehension, Visual Spatial, Fluid Reasoning, Working Memory, and Processing Speed. The subtests within a Primary Index scale are used to derive the corresponding primary index score (i.e., Verbal Comprehension Index, Visual Spatial Index, Fluid Reasoning Index, Working Memory Index, and Processing Speed Index). The Full Scale includes all of the subtests in each scale at the Primary Index scale level, as well as any additional supplemental subtests that may be used to derive the FSIQ.

There are 10 core subtests at the Primary Index scale level with each scale composed of two core subtests (i.e., VCI is derived from Information and Similarities, VSI is derived from Block Design and Object Assembly, FRI is derived from Matrix Reasoning and Picture Concepts, WMI is derived from Picture Memory and Zoo Locations, and PSI is derived from Bug Search and Cancellation). Like ages 2:6–3:11, no supplemental subtests are available to derive the primary index scores.

At the Full Scale level there are six core subtests (i.e., Information, Similarities, Block Design, Matrix Reasoning, Picture Memory, and Bug Search) and seven supplemental subtests (i.e., Vocabulary, Comprehension, Object Assembly, Picture Concepts, Zoo Locations, Cancellation, and Animal Coding). Vocabulary and Comprehension can be substituted for either Information or Similarities, but not both. Object Assembly can be substituted for Block Design, and Picture Concepts can be substituted for Matrix Reasoning. Zoo Locations can be substituted for Picture Memory, and Cancellation or Animal Coding can be substituted for Bug Search.

Ages 4:0–7:7 have four Ancillary Index scales: Vocabulary Acquisition, Nonverbal, General Ability, and Cognitive Proficiency. Like the Primary Index scales, the subtests within an Ancillary Index scale are used to derive the corresponding ancillary index score (i.e., Vocabulary Acquisition Index, Nonverbal Index, General Ability Index, and Cognitive Proficiency Index).

At the Ancillary Index scale level, the number of core subtests varies for each scale. There are two core subtests for deriving the VAI (i.e., Receptive Vocabulary and Picture Naming). As with ages 2:6–3:11, the VAI must be derived from the Receptive Vocabulary and Picture Naming subtests (i.e., no supplemental subtests are available for the VAI). Five core subtests are typically used to derive the NVI (i.e., Block Design, Matrix Reasoning, Picture Concepts, Picture Memory, and Bug Search), but there are four supplemental subtests (i.e., Object Assembly, Zoo Locations, Cancellation, and Animal Coding) that are acceptable substitutes if one of the core subtest scores is missing or invalid. The GAI has four core subtests (i.e., Information, Similarities, Block Design, and Matrix Reasoning) and four supplemental subtests (i.e., Vocabulary, Comprehension, Object Assembly, and





#### O Applications

Picture Concepts). The CPI is typically derived from four core subtests (i.e., Picture Memory, Zoo Locations, Bug Search, and Cancellation), but the Animal Coding subtest may serve as an acceptable substitute for Bug Search or Cancellation when necessary.

It is important to note that only one supplemental subtest substitution is allowed when deriving the FSIQ and the ancillary index scores. In addition, acceptable substitutions must occur between subtests from the same primary cognitive domain (i.e., Verbal Comprehension, Visual Spatial, Fluid Reasoning, Working Memory, and Processing Speed). For example, you can substitute Vocabulary for another Verbal Comprehension subtest when necessary, but you cannot substitute Vocabulary for a missing or invalid Visual Spatial, Fluid Reasoning, Working Memory, or Processing Speed subtest. See the Supplemental Subtest Substitution section in Chapter 2 for detailed information about the limitations on supplemental subtest substitution when deriving composite scores.

# **Applications**

As a psychoeducational tool, the WPPSI–IV can be used to obtain a comprehensive assessment of general intellectual functioning. It can also be used as part of an assessment to identify intellectual giftedness, cognitive developmental delays, and intellectual disability. Results also can serve as a guide for placement decisions in clinical and/or school-related programs.

According to criteria specified in the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition, Text Revision (*DSM–IV–TR*; American Psychiatric Association, 2000), an individual diagnosed with mental retardation must demonstrate "significantly subaverage intellectual functioning" and significant impairment in adaptive functioning in at least two of the following areas: communication, self-care, home living, social/interpersonal skills, use of community resources, self-direction, functional academic skills, work, leisure, health, and safety.

As reflected in their name change, the American Association of Intellectual and Developmental Disabilities (AAIDD; 2010) prefers the term *intellectual disability* to the previously used term *mental retardation*; however, the definition remains unchanged. According to the AAIDD, intellectual disability originates before the age of 18 and is characterized by significant limitations in both intellectual functioning and adaptive behavior expressed as conceptual, social, and practical skills (AAIDD, 2010). In both the *DSM–IV–TR* and AAIDD definitions, significantly low performance on a test of general intellectual ability, such as the WPPSI–IV, is a necessary, but not sufficient, criterion for the diagnosis of mental retardation or intellectual disability. Adaptive functioning must also be assessed.







In educational settings, tests of intellectual functioning are used extensively to evaluate specific cognitive deficits that may contribute to low academic achievement and also to predict future academic achievement. For this purpose, the WPPSI–IV is linked with the *Wechsler Individual Achievement Test—Third Edition* (WIAT–III; Pearson, 2009), a comprehensive measure of academic achievement for children and adults. This linkage provides information on both cognitive ability and academic achievement in children aged 4:0–7:7. Use of the WPPSI–IV in this way provides valuable information for early educational intervention purposes, such as assessment of school readiness or preliteracy concerns, or for placement in specialized programs for children with learning disabilities.

Children referred for assessment in clinical settings frequently show indications of complex problems requiring thorough assessment using intellectual, functional, and neuropsychological instruments. Practitioners from the fields of psychology, psychiatry, pediatric neurology, behavioral medicine, nursing, and social work may request neuropsychological evaluations to identify underlying neurological problems or to evaluate the abilities of children with known neurological insult. These evaluations are also utilized for differential diagnosis between neurological and psychiatric disorders. Although Wechsler did not originally intend for his instruments to be used as neuropsychological instruments, they are recognized as an integral part of neuropsychological batteries (Goldstein, 2008; Groth-Marnat, Gallagher, Hale, & Kaplan, 2000; Miller & Maricle, 2012).

In the context of a neuropsychological evaluation, a test of intellectual functioning is typically administered as part of a broader battery of tests for assessing cognitive and psychological functioning. Although standard subtest and composite scores are important pieces of information in neuropsychological evaluations, performance on a measure of cognitive ability should be considered in the context of the child's performance on other neuropsychological tests. Results from the WPPSI–IV may be interpreted from a neuropsychological perspective and used to generate hypotheses about neuropsychological functioning (Miller & Maricle, 2012).

The WPPSI–IV can be used with a number of the NEPSY–II (Korkman, Kirk, & Kemp, 2007) subtests that are designed for use with children aged 3:0–7:7. When used in this manner, additional information on the relationship between intellectual ability and measures of social perception (e.g., affect and facial recognition), executive function (e.g., inhibitory control and attention), early preliteracy skills (e.g., phonological processing and rapid naming), and various aspects of memory can be incorporated in the child's evaluation.

In addition to individual assessments, the WPPSI–IV can be used for research purposes. The evaluation of cognitive abilities establishes greater knowledge of how young children acquire and demonstrate important intellectual functions. For example, researchers can use the WPPSI–IV to examine whether the effectiveness of school-based interventions varies with children's cognitive ability or to determine the effects of traumatic brain injury on cognitive functioning.







# **User Responsibilities**

In light of the complexities of test administration, diagnosis, and assessment, users of the WPPSI–IV should have training and experience in the administration and interpretation of standardized clinical instruments. They should also have experience or training in testing children whose ages, linguistic backgrounds, and clinical, cultural, or educational histories are similar to those of the children they will be evaluating.

In most cases, users of the WPPSI–IV should have completed formal graduate-or professional-level training in psychological assessment. Although a trained technician can administer the subtests and score the responses under supervision, results should always be *interpreted* by individuals with appropriate training in assessment. Furthermore, test users should follow the *Standards for Educational and Psychological Testing (Standards*; American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999).

It is the responsibility of the test user to ensure that test materials, including completed assessment protocols, remain secure and are released only to professionals who will safeguard their proper use. Although review of test results with the child and/or their parent(s)/guardian(s) is appropriate when legally and ethically permitted, this review should not include disclosure or copying of test items, protocols, or other test materials that would compromise the security, validity, or value of the WPPSI-IV as a measurement tool. Under no circumstance should test materials be resold or displayed in locations where unqualified individuals can purchase or view partial or complete portions of the test. This restriction includes personal and educational Internet websites and Internet auction sites. Because all test items, norms, and other testing materials are copyrighted, Pearson must approve, in writing, the copying or reproduction of any test materials. The only exception to this requirement is the copying of a completed Record Form for the purpose of conveying a child's records to another qualified professional. These user responsibilities, copyright restrictions, and test security issues are consistent with the guidelines set forth in the *Standards* and are required by the WPPSI–IV licensing agreement.

# **Suitability and Fairness Issues**

The WPPSI–IV age range has been split into two age bands to accommodate the extensive cognitive development that occurs during these critical years. Children aged 2:6–3:11 take fewer subtests, most of which require minimal verbal expression, reducing the possible confounding effects of limited attention span and language development on performance. Children aged 4:0–7:7 take more subtests, some of which require more elaborate verbal expression and higher-order reasoning abilities. (See the WPPSI–IV Technical and Interpretive Manual for a detailed discussion of the theoretical and practical reasons for separating the age range.)







Although the WPPSI–IV batteries consist of 7 subtests for children 2:6–3:11 or 15 subtests for children 4:0–7:7, only 5 subtests for the younger age band, or 6 subtests for the older age band, must be administered in order to derive the FSIQ. Because each of the primary index scores must be derived from 2 core subtests, children in the younger age band must take 6 subtests and children in the older age band must take 10 subtests to derive all of the primary index scores, as well as the FSIQ. Administration of the primary index subtests also allows for derivation of the majority of the ancillary index scores (only the VAI requires administration of additional subtests).

# Testing Children at the Extremes of the Age Range

Because the age ranges of the WPPSI–IV and the WISC–IV overlap for children aged 6:0–7:7, examiners have the option of choosing the appropriate measure for a child between these ages. For children suspected of below average cognitive ability, the WPPSI–IV should be administered due to its lower floor at this age range. Also, children with limited English proficiency, language impairments, or verbal or expressive difficulties should be given the WPPSI–IV to reduce the confounding effects of language or verbal expression on the composite scores. For children of high ability, however, the WISC–IV should be considered due to its higher ceiling. For the average-ability child, the choice between the WPPSI–IV and the WISC–IV requires clinical judgment from the educational and/or psychological professional. The WISC–IV requires the administration of 10 subtests to calculate the FSIQ whereas the WPPSI–IV requires the administration of 6 subtests. Children who have difficulty completing a lengthier assessment may benefit from use of the WPPSI–IV. The reasons for referral, familiarity with the tests, and knowledge of the child's characteristics (e.g., verbal ability, attention span) should be taken into consideration.

For children aged 2:6–3:6, the *Bayley Scales of Infant and Toddler Development, Third Edition* (Bayley–III; Bayley, 2005) overlaps with the WPPSI–IV. Both instruments measure a child's current level of functioning, but the purpose of each instrument is different. The Bayley–III is designed to assess the development of children across cognitive, language, motor, behavioral, and social-emotional domains (i.e., whether a child possesses various skills at different developmental stages), whereas the WPPSI–IV primarily measures a child's cognitive abilities in comparison to children of approximately the same age. The cognitive scale of the Bayley–III, however, contains tasks that measure functions similar to those found on the WPPSI–IV. For young children suspected of below-average ability, the cognitive scale of the Bayley–III should be considered. Conversely, the WPPSI–IV should be considered for a young child with high abilities. The purpose of testing and the needs of the particular child should drive the decision of whether to administer the Bayley–III or the WPPSI–IV.







# Testing Children for Reevaluation Purposes

Very often clinicians and other practitioners reevaluate a child's intellectual functioning. Using the same instrument for reevaluation potentially results in practice effects. The shortest test-retest interval that will not result in significant practice effects on the WPPSI–IV has not yet been determined. Some research with previous editions of the Wechsler intelligence scales has indicated that practice effects on Performance subtests (now Visual Spatial, Fluid Reasoning, Working Memory, and Processing Speed) are minimized after an interval of 1–2 years. For Verbal (now Verbal Comprehension) subtests, that interval is approximately 1 year (Canivez & Watkins, 1998, 2001; McCaffrey, Duff, & Westervelt, 2000; Rapport, Brines, Axelrod, & Theisen, 1997; Ryan, Glass, & Bartels, 2010). Related research indicates that retest performance may vary with age (Mitrushina & Satz, 1991; Rönnlund & Nilsson, 2006), ability level (Rapport et al., 1997), clinical condition (Dietz, Swinkels, Buitelaar, van Daalen, & van Engeland, 2007), and the frequency of reevaluation (Ivnik et al., 1999).

The decision to readminister the WPPSI–IV must be based, in part, on the purpose of the reevaluation and the psychological status of the child. All of these issues and the possible influence of other intervening events should be considered when interpreting reevaluation performance. See Laird and Whitaker (2011) for additional information regarding possible sources of error in reevaluations and the interpretation of changes in performance over time.

# Testing Children With Special Needs

Children with special needs, such as physical, language, or sensory limitations, are frequently referred for psychological evaluation. With such children, it is important not to attribute low performance on a cognitive test to low intellectual ability when, in fact, it may be related to physical, language, or sensory difficulties (Ford, Kozey, & Negreiros, 2011).

Depending on the nature of the difficulty and the test administered, the child's performance may result in scores that underestimate intellectual ability if the test is administered in standard fashion. For example, a child with a severe motor impairment would most likely obtain low scores on subtests that require fine motor abilities or manipulation of test materials under time constraints. Similarly, a child with hearing, language, or speech difficulties may be at a disadvantage on subtests in the Verbal Comprehension scale. Although this section is not intended to be a set of prescriptions for testing children with special needs, the suggestions presented may be useful in assessing the cognitive abilities of such children.

When assessing a child with special needs, the examiner should use a comprehensive battery that includes the WPPSI–IV, as well as instruments that are designed to address the child's specific needs. Any and all modifications from the standard administration and scoring instructions (e.g., nonstandard administration order,







substitutions, translations) should be documented on the Record Form and considered when interpreting test results. Professionals who evaluate the child's functioning should rely on clinical judgment to evaluate the effects of such modified procedures on test scores. Despite the fact that some modifications invalidate the use of norms, such testing of limits often provides very valuable qualitative and quantitative information about the child's strengths and weaknesses in intellectual functioning. See Braden (2003), Decker, Englund, and Roberts (2011), Gordon, Stump, and Glaser (1996), and Chapters 9 and 10 of the *Standards* for additional information on testing accommodations for children with special needs.

Prior to testing a child with physical, language, or sensory difficulties, the examiner should become familiar with the child's limitations and preferred mode of communication, both of which may necessitate deviations from standard procedures. Some flexibility may be necessary to balance the needs of the child with the need to maintain standard procedures. For example, a child may present with limited gross motor skills that affect his or her ability to perform the Block Design, Zoo Locations, or Object Assembly subtests. In such situations, the examiner should consider administering only the Verbal Comprehension, Fluid Reasoning, and Working Memory subtests that require no or relatively simple motor skills (e.g., Matrix Reasoning and Picture Memory).

For a child with serious language difficulties, the examiner may prefer to place greater weight on the nonverbal subtests as estimates of the child's cognitive abilities. Similar challenges may arise when children who are not fluent in English are referred for evaluation. The WPPSI–IV normative data were collected on children residing in the United States, with English as their primary language. Translation or bilingual administration of the test is a deviation from the standardized administration and should be considered in score interpretation. Clinical judgment is required to weigh the benefits of improving the child's comprehension of instructions against obtaining scores under standard test administration.

To improve comprehension for children who are not fluent in English, experienced examiners utilize several approaches, such as administering the test with the assistance of an interpreter, using an adapted or translated version, or administering the test in the child's native language or bilingually. However, all of these methods present problems in score interpretation, particularly for the subtests in the Verbal Comprehension scale, because the difficulty level of words is frequently not equivalent across languages. When testing a child with limited English proficiency, it may be possible, and preferable, to use an official translation or adaptation of the WPPSI–III or WPPSI–IV produced in the child's country of origin.







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# **General Testing, Administration,** and Scoring Guidelines

This chapter presents guidelines for general test administration and introduces basic administration and scoring procedures for WPPSI-IV. It is *imperative* that you adhere to the administration, recording, and scoring procedures detailed in this manual. Any deviation from specified procedures may either distort the nature of the item or subtest being evaluated, or result in missing data.

# **General Testing Guidelines**

In order to ensure the validity of test results, it is important to maintain a standard administration whenever possible. The following information and guidelines will assist you in maintaining standard administration procedures as you provide for the comfort and needs of the child.

# Familiarity With Test Materials

Familiarity with the test materials and the administrative procedures *prior* to administering your first assessment facilitates a smooth administrative pace. You will need a stopwatch for timing and a pencil for recording responses, behavioral observations, and comments. Many examiners also use a clip board to keep the Record Form out of the child's view.







The materials included in the WPPSI-IV test kit are listed in Table 2.1.

Table 2.1 Materials Included in the WPPSI-IV Test Kit

Administration and Scoring Manual	Cancellation Scoring Template
Technical and Interpretive Manual	Animal Coding Scoring Key
Record Form Ages 2:6–3:11	Block Design Blocks (14 in box)
Record Form Ages 4:0-7:7	Zoo Locations Layouts (3 double-sided 17 x 11 sheets)
Stimulus Books 1–3	Zoo Locations Animal Card Set
Response Booklets 1–3	Object Assembly Puzzles (13)
Bug Search Scoring Key	Ink Dauber

Organize the test materials systematically so the testing session flows smoothly. Some subtests present fairly complex or novel administrative situations for new examiners. Practice the appropriate use of test materials until administration is smooth and nearly automatic. The materials needed to administer each subtest are identified at the beginning of the subtest directions and are indicated with the following icon:

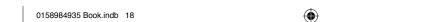


#### **Materials**

Before the testing session, arrange the materials so that they are easily accessible to you during the session but out of the child's view. Because the Record Form identifies correct responses for some subtests, the crackback manual or a clipboard may be used to shield the Record Form text from the child's view. Use similar caution with this manual; many of the subtest instructions also list correct responses. The crackback binding of this manual is designed to shield its text from the child. To use the crackback feature, open the manual, hold the binder upright, and push back the bottom portion of the cover. This creates a base that makes the manual freestanding.

There are three Stimulus Books, but only two Stimulus Books are necessary to derive all or most of the available standard scores. For ages 2:6–3:11, Stimulus Books 1 and 2 include all of the necessary subtests to derive all possible composite scores. For ages 4:0–7:7, Stimulus Books 2 and 3 include the necessary subtests to derive all possible composite scores except for the VAI (Receptive Vocabulary and Picture Naming only appear in Stimulus Book 1). To properly position the Stimulus Book, place the closed book face-up on the table with the bound edge toward the child. Use the appropriate tab divider to open to the desired subtest. Pages are turned toward the child during subtest administration. Ensure that the Stimulus Book is flat on the table and at a distance that allows the child to point easily to his or her response choices.

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An orange ink dauber is included in your test materials for use with the processing speed subtests (Bug Search, Cancellation, and Animal Coding), which are adminstered to children aged 4:0-7:7. Because use of an ink dauber can be a novel experience for both you and the child, the child must practice dauber use during administration of the first processing speed subtest (i.e., Bug Search). This practice should enable you and the child to become familiar with the amount of pressure required to make a legible mark without leaving excessive ink on the Response Booklet or on the child's hands. Because dauber practice is on the back of the Response Booklet, it is recommended that a paper towel or something similar be used to absorb excessive ink before the Response Booklet is turned over to continue administration. It also is recommended that a moistened disposable towelette be used to remove ink from the child's hands following administration of subtests requiring use of the ink dauber. This will ensure that ink is not inadvertently transferred to other test components (e.g., the Stimulus Book) during administration of subsequent subtests. If necessary, parents and guardians should be assured that the ink is safe and nontoxic.

Handling the stopwatch also requires forethought and practice. The stopwatch should operate quietly and be kept out of the child's view, possibly in your lap or in your hand behind the manual. If this proves awkward, place the stopwatch on the table out of the child's reach, and handle it as unobtrusively as possible to avoid appearing secretive.

## **Product Safety of Test Materials**

Although critical for all ages, the safety of the WPPSI–IV test materials is particularly important due to the covered age range (i.e., 2:6–7:7). Young children frequently engage in alternate uses of test materials that adults may not anticipate. All WPPSI–IV test kit materials are for assessment purposes only and are to be used under the strict supervision of a qualified professional. Observe and comply with all cautionary statements (e.g., choking hazard warnings) associated with the materials. Children should never be left unattended with any testing materials or allowed to place objects in their mouths. Pearson Clinical Assessment products are manufactured to meet applicable U.S. and International Product Safety standards. Accredited third party labs complete evaluations and testing of each component; provide guidance on product safety cautionary statements; and confirm that the products meet any applicable standards, including limits for prohibited or restricted chemicals. Pearson Clinical Assessment is committed to providing products that are safe and effective for their intended use.





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#### Administration Time

Administration time varies with numerous factors, including the child's age, ability level, and test-taking style, as well as the examiner's administration style and experience. Table 2.2 shows the subtest administration times by age, and Table 2.3 shows the subtest administration times by special group. In both tables, the values were rounded to the nearest minute. The average administration time to obtain all three of the primary index scores (from the six core subtests) for ages 2:6–3:11 is approximately 32 minutes, and the average time to obtain the FSIQ (from the five core subtests) is approximately 27 minutes. The average administration time to obtain all five of the primary index scores for ages 4:0–7:7 (from the 10 core subtests) is approximately 60 minutes, and the average time to obtain the FSIQ (from the six core subtests) is approximately 31 minutes. These average administration times for the composites scores may differ slightly from those obtained using the sum of contributing subtest administration times due to rounding error.

Table 2.2 WPPSI-IV Subtest Administration Times, by Age

	Ages					
Subtest	2:6–2:11	3:0–3:11	4:0–4:11	5:0–5:11	6:0–6:11	7:0–7:7
Information	4	4	4	4	3	3
Similarities	_	_	5	6	6	6
Vocabulary	_	_	7	8	9	10
Comprehension	_	_	6	7	8	9
Receptive Vocabulary	3	3	3	3	3	3
Picture Naming	3	3	2	2	2	2
Block Design	7	8	9	9	8	8
Object Assembly	6	9	11	12	10	10
Matrix Reasoning	_	_	4	4	4	4
Picture Concepts	_	_	5	6	6	6
Picture Memory	4	4	4	5	6	6
Zoo Locations	5	6	8	8	7	7
Bug Search	_	_	4	4	4	4
Cancellation	_	_	4	4	4	4
Animal Coding	_	_	3	3	3	3
Primary Index Subtests	29	35	60	62	60	58
FSIQ Subtests	24	29	31	32	31	31





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Table 2.3 WPPSI-IV Subtest Administration Times, by Special Group

**Special Group** 

		<u> </u>	_										
Subtest	ET.	Mild	Mod	DDC	RISK	PLC	ADHD	90	ELD	RELD	盟	AUT	ASP
Information	4	က	က	က	4	က	က	9	4	4	က	8	4
Similarities	7	က	က	4	2	9	2	9	2	2	2	4	9
Vocabulary	12	4	2	2	7	7	7	œ	7	9	9	2	6
Comprehension	Ξ	က	က	4	7	7	9	7	9	2	2	4	œ
Receptive Vocabulary	က	2	2	က	4	က	က	4	4	က	က	က	4
Picture Naming	2	2	2	2	က	2	2	က	က	က	2	က	က
Block Design	10	4	4	9	∞	9	7	7	∞	œ	10	∞	6
Object Assembly	=	2	4	7	6	10	6	10	10	6	12	6	10
Matrix Reasoning	7	က	က	4	4	က	4	4	2	4	4	4	2
Picture Concepts	∞	2	က	က	2	2	2	7	9	7	9	2	7
Picture Memory	∞	က	က	က	4	2	2	9	2	2	4	4	9
Zoo Locations	10	4	က	2	9	7	7	9	7	9	7	9	7
Bug Search	4	4	က	4	2	4	4	က	4	4	4	4	4
Cancellation	က	4	4	4	4	4	က	4	က	4	4	2	4
Animal Coding	က	က	က	က	က	က	က	က	က	က	က	က	က
Primary Index Subtests	11	29	30	32	53	52	22	59	28	69	28	53	64
FSIQ Subtests	38	19	18	22	31	27	28	32	30	31	31	28	33

Severity, DDC = Developmental Delay-Cognitive, RISK = Developmental Risk Factor, PLC = Preliteracy Concerns, ADHD = Attention-Deficit/Hyperactivity Disorder, DB = Disruptive Behavior, ELD = Expressive Language Disorder, RELD = Mixed Receptive-Expressive Language Disorder, Note. Special group abbreviations are: GT = Intellectually Gifted, ID Mild = Intellectual Disability-Mild Severity, ID Mod = Intellectual Disability-Moderate ELL = English Language Learners, AUT = Autistic Disorder, ASP = Asperger's Disorder.







# Physical Environment

To provide an ideal environment, administer the test in a well-lit, quiet room that is free from distractions and interruptions (e.g., an office or clinical treatment room). External distractions must be minimized to focus the child's attention on the tasks presented rather than outside sights or sounds, physical discomfort, or testing materials not in use. If possible, position the child to face away from windows. The furniture should be comfortable and appropriately sized for the child. If the tabletop is rough or uneven, a smooth work surface should be provided for subtests that require a Response Booklet.

Seating arrangements are important for efficient test administration. A clear view of the Stimulus Book is necessary in order to present instructions and to observe the child's responses. Sit directly across from the child so that you can fully observe test-taking behavior.

Test materials not in use should be placed out of the child's view but within your reach. To make this possible, a nearby chair or shelf may be used to arrange materials. The Record Form may be attached to a clipboard if preferred, but you should avoid any obvious efforts to conceal materials. Such behavior may make the child uncomfortable.



Figure 2.1 Suggested Seating and Materials Arrangement



# **Establishing and Maintaining Rapport**

Establishing and maintaining rapport ensures the child's interest and cooperation during test administration and encourages the child to give his or her best effort. Children should be approached differently, depending upon their age, the setting in which the testing is done, their familiarity with the examiner and testing situation, and other related factors. Your full attention is required to maintain rapport during test administration. You must master the mechanical aspects of test administration; including giving directions to the child, handling materials, timing stimuli exposure, and timing and recording responses, prior to test administration.

As a rule, no one other than you and the child should be in the room during testing. Try to administer the test to the child without an accompanying adult (e.g., parent or guardian) present. Some children may be unaccustomed to being alone with a stranger and may be fearful or shy. On rare occasions, and at your discretion, an accompanying adult may be permitted to remain in the room to facilitate testing. Advise him or her to remain in the background, and to sit quietly (preferably reading), out of the child's view. Instruct the accompanying adult to remain silent throughout the test and to refrain from urging the child and from repeating or rewording any questions. If necessary, assure the parent or guardian that you will meet with him or her after testing to answer questions and to discuss the child's performance.

Use your experience and common sense to determine the most effective way of establishing rapport with each child. Your manner and attitude toward the child are crucial during any assessment session. A confident, relaxed approach can elicit cooperation from the child and ease any uncertainty or anxiety about the test session. Any tension, apprehension, or premature attempts to gain cooperation are likely to be sensed by the child, resulting in resistance or mere token cooperation. The opposite extreme sometimes occurs when an insecure examiner, in an effort to make the child feel at ease, prolongs the preliminary getting-acquainted time. Overstimulation or excessive entertainment can tire the child before testing begins.

Begin the test session by putting the child at ease, perhaps with some informal conversation about the child's activities or interests. Shy, hesitant, or fearful children may need to be shown a toy (not part of the test materials) or be encouraged to talk about some feature of the testing room, such as a picture on the wall. The time needed to build rapport depends on the child's age and temperament.

When you believe an acceptable level of rapport has been established, introduce the test as instructed. Younger children may be engaged in testing by using such statements as I brought some special games for you to play. Try to avoid the word *test* because many younger children are unfamiliar with the term. If a child asks, "Is this a test?" say, Yes, but it is a different kind of test, not like a school test.

Administer the tasks in a professional, unhurried manner. This manual includes some standard phrases to cue transitions between items and subtests. You may embellish upon these phrases but *do not* alter the test items or administration





instructions. At times, engaging a bored or anxious child in brief conversation between subtests may ease transition to the next task.

Maintain a steady pace, but always be alert for changes in the child's mood or cooperativeness. If a child becomes fatigued or fidgety at any time during the testing session, allow him or her to walk about the room, stretch, or take a restroom break. If a break is required, it should occur upon completion of a subtest, not in the middle of one. Try to complete testing after a short break. For younger children, or children with physical, attention, or memory problems, more than one break may be necessary.

Communicate enthusiasm and interest by praising the child's effort. Such statements as **You're working hard** or **Way to work** are acceptable. Do not reinforce the child's performance by saying "Good" or "Right" after he or she responds correctly unless indicated in the verbatim instructions to the child.

If a child performs poorly on an entire subtest and is clearly aware of it, say, **That** was a hard one, but this next one may be easier. If the child says he or she cannot perform a task or answer a question, encourage the child by saying, **Just try your** best. Do not let simple urging become pestering, however, because it can ultimately frustrate the child. If the child asks for help or says "You do it," say, I want to see how well you can do it.

Young children demonstrate uncooperativeness in a variety of forms. Responses such as "I don't know" or "I can't" sometimes mean "I don't want to." Similarly, responses including "You do it" or "You show me" may indicate emotional dependency on adults or a lack of self-confidence, rather than true inability. In contrast, a child who responds with a negative shake of the head, saying "I won't" or "I don't want to," may appear to be uncooperative or stubborn, when in reality he or she does not know the answer. Often children cannot say "I don't know." Such an admission can be difficult for a bright, sensitive, but still egocentric child, who may instead resort to a more infantile form of expression.

Familiarity with the battery and experience with young children will enhance your skill in recognizing true failure (i.e., failure despite an effort to respond versus failure due to lack of cooperation). Children who do not cooperate or who are too frightened to respond, despite efforts to establish rapport, should be excused from testing with a comment such as We'll try it again another day or Maybe another day very soon you'll feel like trying all of my games. In these instances, mention other components and subtests that are fun and briefly show the child a set of materials that will arouse his or her curiosity, thereby paving the way for cooperation on a second occasion.

On occasion, older children may try to take control of the testing situation by turning the pages of the Stimulus Book, beginning to work before they are told to begin, or continuing to work after being told to stop. A reasonable amount of flexibility is permitted in the interest of maintaining rapport, but you must exercise a degree of control to ensure that standard administration procedures are followed.







### **General Administration Guidelines**

You may need practice to become accustomed to WPPSI–IV subtest administration, recording, and scoring procedures. A number of administration issues apply to the scale in general, including subtest administration order; subtest selection and substitution; start points; reverse and discontinue rules; timing; demonstration, sample, and teaching items; queries, prompts, and repetitions; and recording responses. Although many of these guidelines appear in previous versions of the Wechsler scales, some procedures differ from those in the WPPSI–III and other Wechsler scales. Therefore, it is important to review the general administration guidelines as well as the subtest administration directions in Chapters 3 and 4 before beginning your first assessment.

#### Standard Subtest Administration Order

It is recommended that you become familiar with the testing sequence of the WPPSI–IV subtests for each age band. Verbal Comprehension and Visual Spatial subtests are administered in alternating order, with additional Fluid Reasoning (ages 4:0–7:7 only), Working Memory, and Processing Speed (ages 4:0–7:7 only) subtests interspersed whenever possible. This subtest order was formulated to increase interest, maintain variety, and minimize fatigue effects. For both age bands, the core subtests for the FSIQ are administered first, followed by the additional core subtests required to obtain the primary index scores. Supplemental and optional subtests are administered last.

Whenever possible, subtests should be administered according to the order listed in Table 2.4. The subtests also appear in this order in the age-appropriate Record Form, Stimulus Book (where appropriate), in Chapters 3 and 4, and in most tables. If all subtests are not administered, simply skip the omitted subtest(s) and continue administration in the standard order.

Table 2.4 Standard Subtest Administration Order

Ages 2:6–3:11	Ages 4:0–7:7
1. Receptive Vocabulary	1. Block Design
2. Block Design	2. Information
3. Picture Memory	3. Matrix Reasoning
4. Information	4. Bug Search
5. Object Assembly	5. Picture Memory
6. Zoo Locations	6. Similarities
7. Picture Naming	7. Picture Concepts
	8. Cancellation
	9. Zoo Locations
	10. Object Assembly
	11. Vocabulary
	12. Animal Coding
	13. Comprehension
	14. Receptive Vocabulary
	15. Picture Naming





In some situations, deviation from the standard administration order may be necessary to meet the needs of a specific child. If a child refuses to respond to a particular subtest, you may temporarily suspend the subtest and administer the next one. Return to the suspended subtest when the child appears to be more engaged and has attained some degree of success in testing. Any alteration in subtest administration order should be based on clinical need, not on examiner preference. If it is necessary to alter the administration order, the modification should be noted on the Record Form and considered when interpreting results.

### **Testing Across Multiple Sessions**

Make every effort to administer all of the subtests necessary to derive the desired composite scores (e.g., primary index scores and the FSIQ) in one session. If the child becomes fatigued during testing, stop administration at the end of a subtest and allow him or her to rest. Try to complete testing after a short break. If administration of subtests must be done in two sessions, the second session should occur as soon as possible, preferably within 1 week. It is also recommended that you evaluate any significant occurrences (e.g., illness, injury, loss of friend or family member) since the first testing that may differentially impact the child's performance on the second testing.

### **Subtest Selection**

Prior to beginning an assessment, carefully consider the purpose of the evaluation and all available sources of information about the child to determine which subtests, composite scores, and discrepancy analyses will provide the most clinically relevant and useful information. Administration of the core primary index score subtests allows for derivation of the FSIQ, all of the primary index scores, as well as all ancillary index scores except for the VAI. For ages 2:6–3:11, administration of Picture Naming is also required to derive the VAI. Derivation of the VAI for ages 4:0–7:7 requires administration of both Receptive Vocabulary and Picture Naming.

Table 2.5 provides a summary of the subtest composition for the primary index scores and FSIQ. Similar information is provided for the ancillary index scores in Table 2.6.



Table 2.5 Subtest Composition of Primary Index Scores and FSIQ, by Age Band

Age Band	Subtests	VCI	VSI	FRI	WMI	PSI	FSIQ
2:6–3:11	Receptive Vocabulary	✓					1
	Information	✓					✓
	Picture Naming						<b>(✓</b> )*
	Block Design		✓				✓
	Object Assembly		✓				✓
	Picture Memory				✓		✓
	Zoo Locations				✓		
4:0-7:7	Information	<b>√</b>					✓
	Similarities	✓					/
	Vocabulary						<b>(✓</b> )
	Comprehension						<b>(✓</b> )
	Block Design		1				/
	Object Assembly		✓				<b>(✓</b> )
	Matrix Reasoning			✓			✓
	Picture Concepts			✓			<b>(✓</b> )
	Picture Memory				✓		✓
	Zoo Locations				✓		<b>(✓</b> )
	Bug Search					1	✓
	Cancellation					1	<b>(✓</b> )
	Animal Coding						<b>(✓</b> )

Note. Parentheses indicate supplemental subtests.

Table 2.6 Subtest Composition of Ancillary Index Scores, by Age Band

- Subtests	Ancillary Index Score						
	VAI	NVI	GAI	СРІ			
Receptive Vocabulary	<b>√</b>		✓				
Information			✓				
Picture Naming	✓		(✔)*				
Block Design		✓	✓				
Object Assembly		✓	✓				
Picture Memory		✓					
Zoo Locations		1					
	Receptive Vocabulary Information Picture Naming Block Design Object Assembly Picture Memory	Receptive Vocabulary  Information  Picture Naming  Block Design  Object Assembly  Picture Memory	Subtests VAI NVI  Receptive Vocabulary  ✓ Information  Picture Naming ✓ Block Design ✓ Object Assembly ✓ Picture Memory ✓	Subtests     VAI     NVI     GAI       Receptive Vocabulary     ✓     ✓       Information     ✓     ✓       Picture Naming     ✓     ✓       Block Design     ✓     ✓       Object Assembly     ✓     ✓       Picture Memory     ✓     ✓			

Note. Parentheses indicate supplemental subtests.

(continued)





<sup>\*</sup>Picture Naming can only substitute for Receptive Vocabulary when deriving the FSIQ.

<sup>\*</sup>Picture Naming can only substitute for Receptive Vocabulary when deriving the GAI.



Table 2.6 Subtest Composition of Ancillary Index Scores, by Age Band (continued)

		Ancillary Index Score						
Age Band	Subtests	VAI	NVI	GAI	СРІ			
4:0-7:7	Information			<b>√</b>				
	Similarities			1				
	Vocabulary			<b>(√</b> )				
	Comprehension			<b>(√</b> )				
	Receptive Vocabulary	✓						
	Picture Naming	✓						
	Block Design		1	1				
	Object Assembly		<b>(√</b> )	<b>(√</b> )				
	Matrix Reasoning		1	1				
	Picture Concepts		1	<b>(√</b> )				
	Picture Memory		1		✓			
	Zoo Locations		<b>(√</b> )		✓			
	Bug Search		1		✓			
	Cancellation		<b>(√</b> )		✓			
	Animal Coding		(✔)		<b>(✓</b> )			

Note. Parentheses indicate supplemental subtests.

# Supplemental Subtest Substitution

In some clinical situations, such as when a child's physical condition interferes with performance, you may choose to substitute a supplemental subtest for a core subtest. Also, if a core subtest is invalidated for any reason, substitution may be necessary. It is not appropriate to substitute a supplemental subtest for a valid core subtest for the sole purpose of changing a composite score.

Modifications to the subtest composition of the WPPSI–IV composite scores have resulted in corresponding changes to allowable subtest substitutions for composite-score derivation. Because the normative information for the composite scores is based on administration of core subtests, *the core subtests should be administered whenever possible*. Because the substitution of supplemental subtests may increase measurement error in derived scores, there are restrictions to their use.

For both age bands, the primary index scores (i.e., the VCI, VSI, FRI, WMI, and PSI) and the ancillary VAI are derived from only two core subtests; therefore, no supplemental subtests are available for substitution when deriving these index scores. For composite scores that are derived from more than two subtests (i.e., the FSIQ, NVI, GAI, and CPI), supplemental subtests may be available to substitute for core subtests when necessary; however, *only one substitution is allowed for each of these composite scores, and the substitution must be between a supplemental and core subtest* 







from the same cognitive domain (e.g., a supplemental verbal comprehension subtest may be substituted for a missing or invalid core verbal comprehension subtest, but not for a missing or invalid visual-spatial, fluid reasoning, working memory, or processing speed subtest). Table 2.7 lists the allowable supplemental subtest substitutions for the core composite-score subtests for each age band.

 Table 2.7
 Allowable Substitutions for Core Subtests, by Age Band and Composite Score

Age Band	Composite Score	Core Subtest	Allowable Substitution*
2:6–3:11	FSIQ	Receptive Vocabulary	Picture Naming
		Information	
		Block Design	
		Object Assembly	<del></del>
		Picture Memory	Zoo Locations
	NVI	Block Design	
		Object Assembly	
		Picture Memory	<del></del>
		Zoo Locations	
	GAI	Receptive Vocabulary	Picture Naming
		Information	
		Block Design	<del></del>
		Object Assembly	<del></del>
2:6-3:11 ]	FSIQ	Information	Vocabulary or Comprehension
		Similarities	Vocabulary or Comprehension
		Block Design	Object Assembly
		Matrix Reasoning	Picture Concepts
		Picture Memory	Zoo Locations
		Bug Search	Cancellation or Animal Coding
	NVI	Block Design	Object Assembly
		Matrix Reasoning	_
		Picture Concepts	_
		Picture Memory	Zoo Locations
		Bug Search	Cancellation or Animal Coding
	GAI	Information	Vocabulary or Comprehension
		Similarities	Vocabulary or Comprehension
		Block Design	Object Assembly
		Matrix Reasoning	Picture Concepts
	CPI	Picture Memory	_
		Zoo Locations	_
		Bug Search	Animal Coding
		Cancellation	Animal Coding

<sup>\*</sup> Because the substitution of a supplemental subtest for a core subtest may introduce additional measurement error, only one substitution is allowed for each listed composite score.







#### Ages 2:6-3:11

There are two supplemental subtests available for substitution when deriving the FSIQ. Picture Naming can substitute for Receptive Vocabulary (but not for Information) or Zoo Locations can substitute for Picture Memory. There are no available supplemental subtests for derivation of the NVI. It must be derived from its corresponding core subtests. Like the FSIQ, Picture Naming can substitute for Receptive Vocabulary (but not for Information) when deriving the GAI.

#### Ages 4:0-7:7

There are seven supplemental subtests available for substitution when deriving the FSIQ: Vocabulary, Comprehension, Object Assembly, Picture Concepts, Zoo Locations, Cancellation, and Animal Coding. Vocabulary or Comprehension can substitute for either Information or for Similarities (but not for both); or Object Assembly can substitute for Block Design; or Picture Concepts can substitute for Matrix Reasoning; or Zoo Locations can substitute for Picture Memory; or Cancellation or Animal Coding can substitute for Bug Search. There are four supplemental subtests available for deriving the NVI (i.e., Object Assembly, Zoo Locations, Cancellation, and Animal Coding). Object Assembly can substitute for Block Design; or Zoo Locations can substitute for Picture Memory; or Cancellation or Animal Coding can substitute for Bug Search. There are four supplemental subtests available for deriving the GAI (i.e., Vocabulary, Comprehension, Object Assembly, and Picture Concepts). Vocabulary or Comprehension can substitute for either Information or Similarities (but not for both); or Object Assembly can substitute for Block Design; or Picture Concepts can substitute for Matrix Reasoning. There is only one supplemental subtest available for the CPI: Animal Coding can substitute for either Bug Search or Cancellation (but not for both).

On rare occasions, an inadequate number of valid subtest scores are obtained to derive the FSIQ, despite the availability of supplemental subtests. In these situations, a prorated sum of scaled scores may be used to derive the FSIQ. Like substitution, proration introduces the risk of increased measurement error. However, substitution of a supplemental subtest for a core subtest is always preferred to proration because the resulting FSIQ is based on actual, rather than theoretical, performance. The use of proration should be limited to those instances in which it is unavoidable due to such factors as disruption during administration, recent exposure to test items, physical limitations or sensory deficits, or response sets (e.g., the child provides the same response to all items on a subtest). Proration is only available for the FSIQ, and only when the prorated sum of scaled scores is based on core subtests. *You cannot combine subtest substitution and proration when deriving the FSIQ*. Proration is not available for either the primary or ancillary index scores. A summary of these substitution and proration rules is included in the Completing the Record Form section of this chapter.









### Start Points, Reverse Rules, and Discontinue Rules

Start points, reverse rules, and discontinue rules are incorporated into a subtest to shorten testing time and to avoid unnecessary fatigue or boredom on the part of the child. These administration rules appear in the subtest administration directions and on the Record Form and are indicated by the following icons:



Start



I Reverse



**Discontinue** 

#### **Start Points**

Administration of each subtest begins at an age-specific start point, which is clearly designated in this manual and on the Record Form. Children aged 2:6–3:11 and those children suspected of having an intellectual disability or general intellectual deficiency (regardless of chronological age) should always start with Item 1.

Many subtests include demonstration and/or sample items that are administered to all children prior to the start-point item. These items should not be counted in the child's total raw score.

#### **Reverse Rules**

For ages 4:0–7:7, reverse rules are included to help you determine when to administer items prior to a start point (i.e., reversal items) when the child does not begin with Item 1 and does not obtain a perfect score on either of the first two items given. A perfect score is the maximum number of points that can be awarded for a particular item (e.g., 2 points for items that are scored 2, 1, or 0 points). Because the first two items require a decision regarding the next item to administer, their procedural instructions include the term appropriate (i.e., Proceed to the next appropriate item...). The term is also used as a cue for any item on which administration may proceed in either direction (forward or reverse), depending on the child's score. If the term appropriate does not appear in a procedural instruction, administration proceeds with the next unadministered item.

The reversal rules for Picture Memory and Similarities deserve special note. For these subtests, the first sample item is only administered to those children starting with Item 1 (i.e., ages 2:6–3:11 and older children suspected of intellectual disability or general intellectual deficiency). For children aged 4:0–7:7, if during reversal, two consecutive perfect scores have not been obtained after the administration of Item 1, do not administer the first sample item. If the child has not obtained two consecutive perfect scores after reversal to Item 1 on these subtests, proceed to the next unadministered item and continue with administration until the discontinue criterion has been met.





32

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In Figure 2.2, a child aged 4:5 obtained perfect scores on Items 4 and 5 of Block Design. The examiner awarded full credit for Items 1–3 and proceeded with Item 6. Note that scores are not circled for Items 1–3; rather a slash and a 6 are written in the Item 3 score space. This notation allows you to distinguish between unadministered items that receive credit and items actually administered.

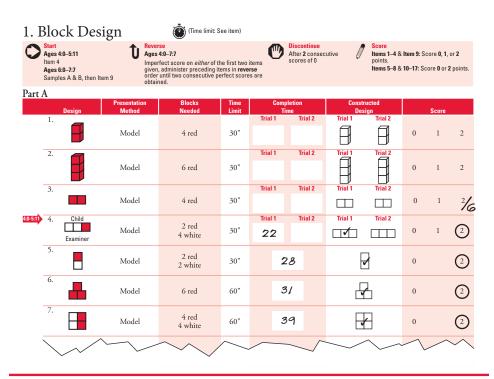


Figure 2.2 Example of Perfect Scores Obtained on Start-Point Item and Subsequent Item







If the child does not obtain a perfect score on either the first or the second item administered, reversal items are given until the child obtains perfect scores on two consecutive items. In Figure 2.3, a child aged 5:3 did not obtain a perfect score on the start-point item of Matrix Reasoning (Item 4). The examiner reversed to Items 3 and 2, on which the child received scores of 1 (see A). Because the child obtained perfect scores on Items 3 and 2, the examiner awarded full credit for Item 1 and proceeded to Item 5 to continue subtest administration (see B).

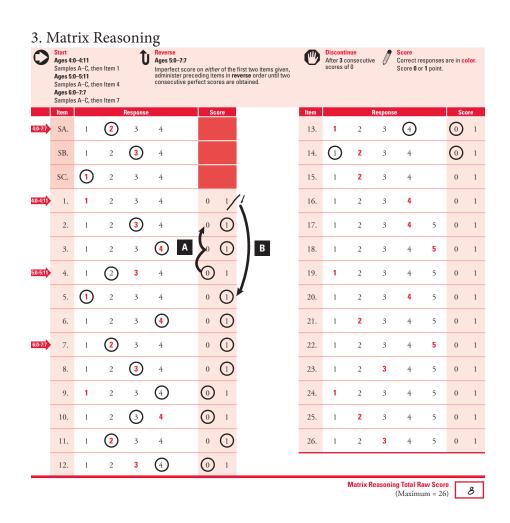


Figure 2.3 Example of Perfect Score Not Obtained on Start-Point Item





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If the child obtains a perfect score on the first item administered but not on the second item administered, count the first administered item toward the reversal criterion of two consecutive perfect scores. In Figure 2.4, a child aged 5:8 obtained a perfect score on the start-point item of Matrix Reasoning (Item 4) but obtained a score of 0 on Item 5. The examiner reversed to Item 3, on which the child obtained a perfect score (see A). Because the child obtained perfect scores on Items 4 and 3, the examiner awarded full credit for Items 1 and 2 and proceeded to Item 6 to continue subtest administration (see B).

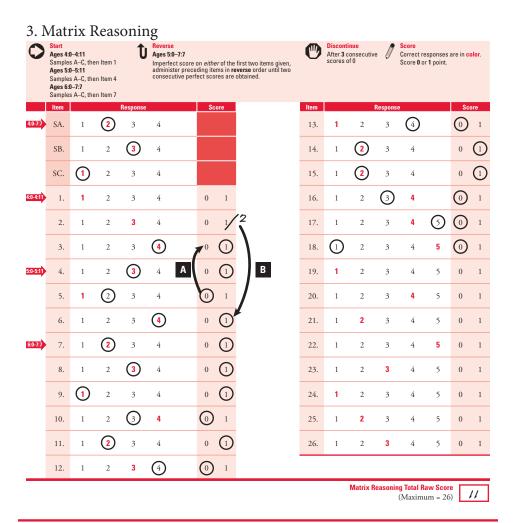


Figure 2.4 Example of Perfect Score Obtained on Start-Point Item

But Not on Subsequent Item



For children starting with Item 1 rather than the start point (e.g., children suspected of intellectual disability), special caution must be taken in scoring. Regardless of the child's performance on items preceding the start point, full credit is awarded for preceding items if perfect scores are obtained on the age-appropriate start point and subsequent item.

In Figure 2.5, the examiner started Matrix Reasoning with Item 1 rather than Item 4, the child's age-appropriate start point. The child obtained a perfect score on Item 1, a score of 0 on Item 2, and a perfect score on Item 3. The child then obtained perfect scores on the age-appropriate start-point item and the subsequent item (Items 4 and 5). The child met the discontinue criterion of scores of 0 on three consecutive items (Items 6, 7, and 8). The examiner correctly awarded full credit for Items 1–3 even though the child's obtained score for those items was 2. The child's total raw score on Matrix Reasoning was 5.

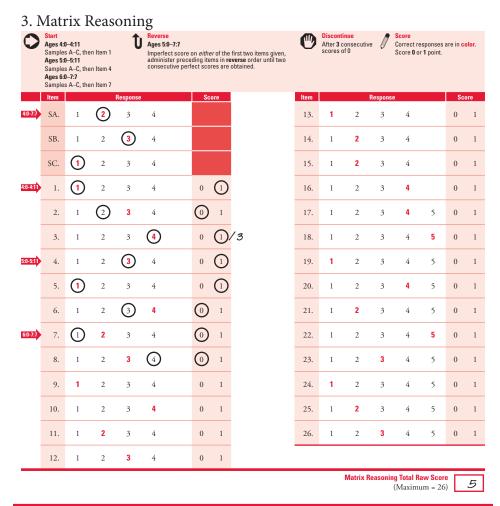


Figure 2.5 Example of Perfect Scores on Start-Point Item and Subsequent Item Overriding Scores on Previously Administered Items

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#### **Discontinue Rules**

Discontinue rules are criteria for determining when to cease subtest administration and are designed to maintain rapport and minimize testing time. These rules differ for each subtest and typically instruct the examiner to cease subtest administration after the child receives a score of 0 on a specified number of consecutive items. Scores of 0 obtained on reversal items count toward the discontinue rule. Most of the subtests for ages 4:0–7:7 have reversal items.

Do not discontinue administration prematurely. If you are unsure how to score a response and cannot determine quickly whether to discontinue a subtest, administer additional items until you are certain the discontinue criterion has been met. If, after review, you find that the child was given items beyond the point at which testing should have discontinued, do not award points for those items beyond the correct discontinue point, even if the child's responses ordinarily would have earned credit.

In Figure 2.6, a 6-year-old child obtained a perfect score on the start-point item (Item 7) but did not obtain a perfect score on the subsequent item (Item 8). The examiner reversed to Item 6 and administered the items in reverse order (see A). The child obtained scores of 0 on Items 6, 5, and 4, meeting the discontinue criterion of scores of 0 on three consecutive items (see B). The examiner then administered Items 3, 2, and 1 to determine the child's final score (see C). Note that the child's total raw score for Matrix Reasoning is 2 points. Because the child met the discontinue criterion during reversal, the score of 1 on Item 7 is not included in the child's total raw score.







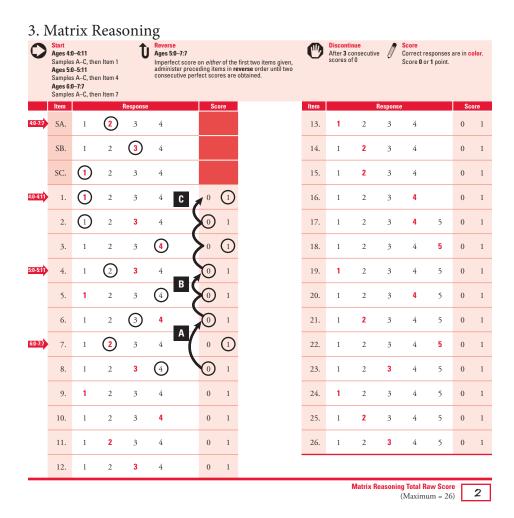


Figure 2.6 Example of Discontinue Criterion Met During Reversal Procedure

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Table 2.8 provides a summary of the start points, reverse rules, and discontinue rules for all subtests.

Table 2.8 Summary of Subtest Start Points, Reverse Rules, and Discontinue Rules

Subtest	Start Point	Reverse Rule	Discontinue Rule
BD	Ages 2:6–3:11: Item 1 Ages 4:0–5:11: Item 4 Ages 6:0–7:7: Samples A & B, then Item 9	Ages 4:0–7:7: Imperfect score on <i>either</i> of the first two items given, administer preceding items in <b>reverse</b> order until 2 consecutive perfect scores are obtained.	After <b>2</b> consecutive scores of 0
IN	Ages 2:6–3:11: Item 1 Ages 4:0–5:11: Item 10 Ages 6:0–7:7: Item 16	Ages 4:0–7:7: Imperfect score on <i>either</i> of the first two items given, administer preceding items in <b>reverse</b> order until 2 consecutive perfect scores are obtained.	After <b>3</b> consecutive scores of 0
MR	Ages 2:6–3:11: Do not administer.  Age 4:0–4:11: Samples A–C, then Item 1  Age 5:0–5:11: Samples A–C, then Item 4  Ages 6:0–7:7: Samples A–C, then Item 7	Ages 5:0–7:7: Imperfect score on <i>either</i> of the first two items given, administer preceding items in <b>reverse</b> order until 2 consecutive perfect scores are obtained.	After 3 consecutive scores of 0
BS	Ages 2:6–3:11: Do not administer. Ages 4:0–7:7: Dauber Practice, Demonstration Items, Sample Items, then Test Items	None	After 120 seconds
PM	Ages 2:6–3:11: Sample A, then Item 1 Ages 4:0–7:7: Sample B, then Item 7	Ages 4:0–7:7: Imperfect score on <i>either</i> of the first two items given, administer preceding items in <b>reverse</b> order until 2 consecutive perfect scores are obtained.	After <b>3</b> consecutive scores of 0
SI	Ages 2:6–3:11: Do not administer. Ages 4:0–5:11: Sample, then Item 1 Ages 6:0–7:7: Item 5	Ages 6:0–7:7: Imperfect score on <i>either</i> of the first two items given, administer preceding items in <b>reverse</b> order until 2 consecutive perfect scores are obtained.	After <b>3</b> consecutive scores of 0
PC	Ages 2:6–3:11: Do not administer. Ages 4:0–5:11: Samples A & B, then Item 1 Ages 6:0–7:7: Samples A & B, then Item 8	Ages 6:0–7:7: Imperfect score on <i>either</i> of the first two items given, administer preceding items in <b>reverse</b> order until 2 consecutive perfect scores are obtained.	After <b>3</b> consecutive scores of 0
CA	Ages 2:6–3:11: Do not administer.  Ages 4:0–7:7: Demonstration Item, Sample Item, then Item 1	None	After <b>45</b> seconds for each item







**Table 2.8** Summary of Subtest Start Points, Reverse Rules, and Discontinue Rules (continued)

Subtest	Start Point	Reverse Rule	Discontinue Rule
ZL	Ages 2:6–5:11: Sample, then Item I Ages 6:0–7:7: Sample, then Item 7	Ages 6:0–7:7: Imperfect score on <i>either</i> of the first two items given, administer preceding items in <b>reverse</b> order until 2 consecutive perfect scores are obtained.	After <b>2</b> consecutive scores of 0
OA	Ages 2:6–3:11: Item 1 Ages 4:0–5:11: Item 3 Ages 6:0–7:7: Item 7	Ages 4:0–7:7: Imperfect score on <i>either</i> of the first two items given, administer preceding items in <b>reverse</b> order until 2 consecutive perfect scores are obtained.	After <b>2</b> consecutive scores of 0
VC	Ages 2:6–3:11: Do not administer.  Ages 4:0–5:11: Item 1  Ages 6:0–7:7: Item 4	Ages 6:0–7:7: Imperfect score on <i>either</i> of the first two items given, administer preceding items in <b>reverse</b> order until 2 consecutive perfect scores are obtained.	After <b>3</b> consecutive scores of 0
AC	Ages 2:6–3:11: Do not administer.  Ages 4:0–7:7: Demonstration Items, Sample Items, then Test Items	None	After 120 seconds
СО	Ages 2:6–3:11: Do not administer. Ages 4:0–5:11: Item 1 Ages 6:0–7:7: Item 5	Ages 6:0–7:7: Imperfect score on <i>either</i> of the first two items given, administer preceding items in <b>reverse</b> order until 2 consecutive perfect scores are obtained.	After <b>3</b> consecutive scores of 0
RV	Ages 2:6–3:11: Item 1 Ages 4:0–5:11: Item 5 Ages 6:0–7:7: Item 13	Ages 4:0–7:7: Imperfect score on <i>either</i> of the first two items given, administer preceding items in <b>reverse</b> order until 2 consecutive perfect scores are obtained.	After 3 consecutive scores of 0
PN	Ages 2:6–3:11: Item 1 Ages 4:0–5:11: Item 7 Ages 6:0–7:7: Item 9	Ages 4:0–7:7: Imperfect score on <i>either</i> of the first two items given, administer preceding items in <b>reverse</b> order until 2 consecutive perfect scores are obtained.	After <b>3</b> consecutive scores of 0

# Timing

There are five subtests with strict time limits for the child to provide his or her response, including Block Design, Bug Search, Cancellation, Object Assembly, and Animal Coding. For these subtests, you must use a stopwatch for accurate timing. Begin timing when you have said the last word of instruction, and stop timing when the child completes his or her response, or the time limit expires. In the interest of maintaining rapport, a child may be given a few additional seconds to complete an item if he or she is nearing completion when the time limit expires; however, do not award credit for items completed after the time limit. In this situation, you should record and score the child's performance at the time limit.







The remaining ten subtests (Information, Matrix Reasoning, Picture Memory, Similarities, Picture Concepts, Zoo Locations, Vocabulary, Comprehension, Receptive Vocabulary, and Picture Naming) do not have strict time limits for the child to provide a response; however, two of them do require a stopwatch. Picture Memory and Zoo Locations require a stopwatch to accurately time stimulus exposure.

For subtests with strict time limits that allow for repetition of instructions (see Repetitions section for specific subtests), do not stop timing in order to clarify or repeat instructions. The repetition time is included in the completion time for that item. This rule also applies to those timed subtests that may require a prompt (e.g., Bug Search, Cancellation, Animal Coding). The time required to administer the prompt is included in the completion time.

For subtests without strict time limits, 30 seconds should be sufficient for most children to respond to an item. *The 30-second guideline is intended to assist in timely administration and should not be used rigidly.* If a child has been performing poorly and tends to consider responses for long periods without any perceived benefit, encourage him or her to respond after 30 seconds by asking, **Do you have an answer?** If the child does not respond, transition to the next item by saying, **Let's try another one.** On the other hand, if a child who has been performing well takes additional time as the item difficulty increases, adjust the timing of these prompts and grant additional time.

## Demonstration, Sample, and Teaching Items

Many of the subtests provide demonstration items for the examiner to explain the task and sample items for the child to practice the task before the test items are administered. For some subtests, corrective feedback is provided on initial teaching items to facilitate the child's understanding of the task. Teaching items are noted with a dagger (†) symbol in this manual and on the Record Form. Corrective feedback, where allowed, occurs after a child's response.

Make sure that you demonstrate, allow practice, and teach only on specified items and in the prescribed manner. These procedures are intended to familiarize the child with novel tasks, to explain task requirements, and to facilitate optimal performance. Providing additional help on test items is inconsistent with standard administration procedures and may result in inaccurate and invalid scores.

Note that Bug Search, the first subtest requiring use of the ink dauber, also includes a practice task that allows the child to become familiar with appropriate use of the ink dauber. Feedback regarding the appropriate amount of pressure needed to make a clear mark is provided as the child practices stamping. This practice task is administered to all children aged 4:0–7:7 before proceeding to the demonstration and sample items.







### Queries, Prompts, and Repetitions

Queries, prompts, and repetitions are designed to clarify the child's responses, to remind the child of the task, and to reinforce content or redirect attention. Because the guidelines governing the use of queries, prompts, and repetitions vary, it is imperative that you become familiar with the requirements for each subtest.

#### Queries

Queries are used to elicit additional information when a child's response is incomplete, vague, or unclear. For example, if a child's response is unclear on a Similarities verbal item, you can request clarification by saying, What do you mean?, Tell me more about it, or some other neutral inquiry. Queries are included in the General Directions section of relevant subtests in Chapters 3 and 4, and are typically indicated with a **Q** on the Record Form. Items with specific sample responses that require query are noted with an asterisk (\*) in this manual and on the Record Form. A query should not be used to improve a low-scoring or clearly incorrect response, unless indicated in the item instructions.

#### **Prompts**

Prompts are used to teach or remind the child of the subtest task. For example, children who mark more than one shape for an item on the Animal Coding subtest are reminded to mark only one shape for each animal. Instructions for prompting the child are included in the General Directions section of relevant subtests in Chapters 3 and 4 and are typically indicated with a **P** on the Record Form.

### Repetitions

Repetitions often serve to reinforce the child's understanding of item instructions and the subtest task. However, restrictions for repetitions vary among the subtests. For subtests that do not require a stopwatch (i.e., Information, Matrix Reasoning, Similarities, Picture Concepts, Vocabulary, Comprehension, Receptive Vocabulary, and Picture Naming), instructions may be repeated as often as requested by the child. In addition to repeating instructions when requested, it is generally good practice to repeat the instructions if the child has not responded within 5–10 seconds. However, instructions should not be repeated if it is clear that the child is considering his or her response, because this may interrupt the child's concentration.

For subtests that require strict timing of the child's response with a stopwatch (i.e., Block Design, Bug Search, Cancellation, Object Assembly, and Animal Coding), instructions may be repeated as often as necessary, but the time to repeat the instructions or to provide necessary prompts is included in the completion time (i.e., timing does *not* stop during repetition). For Block Design and Object Assembly, only the instructions related to the child's attempt to complete a design or puzzle may be repeated. Do not model a correct assembly again during the child's timed attempt. A similar situation applies to Picture Memory and Zoo Locations,





which require accurate timing of the stimulus exposure. Although the instructions for the response page may be repeated as often as necessary on these subtests, the stimulus should *not* be exposed again.

For those subtests that do not require a stopwatch, items on which the child initially responded "I don't know" can be re-administered if you believe the child knows the answer. This is typically indicated when the child responds "I don't know" to an item and then responds correctly to more difficult items. If the child responds correctly to the repeated administration, give credit for that response. Do not use this re-administration procedure for subtests that require a stopwatch for accurate timing of the child's response or stimulus exposure. Repetitions are typically indicated with an **R** on the Record Form.

### **Recording Responses**

It is recommended that you make an entry on the Record Form for all administered items (including sample items when applicable) to distinguish them from unadministered items. This entry can be a score, a check mark, a slash, a circled response, or the child's verbal response. When instructed, record the child's responses verbatim to allow for later evaluation and scoring if necessary. When recording responses, it is important to note the occurrence of queries, prompts, repetitions, and nonverbal responses (e.g., pointing, no response). This type of information allows you to more easily recall what occurred in the testing session and allows for clarity of communication in transfer of assessment records. Table 2.9 lists the recommended abbreviations for noting this information on the Record Form.

Table 2.9 Abbreviations for Use on the Record Form

Symbol	Use
Q	Administered query
P	Administered prompt
R	Repeated item
DK	Child indicated that he or she did not know the answer
NR	Child did not respond







# **General Scoring Guidelines**

A number of scoring guidelines apply to all or specific groupings of subtests and deserve detailed review. These include using sample responses, and scoring queried and multiple responses. An overview of these and other scoring issues are provided in the following section. Carefully follow the scoring procedures detailed in the instructions for each subtest. It is important to note that there have been modifications to scoring procedures on those subtests retained from the WPPSI–III. Scoring procedures for each subtest are noted on the Record Form with the following symbol:



### **Using Sample Responses**

For some subtests, scoring the responses is an objective process and calls for little, if any, interpretation of scoring criteria. More judgment is required for the Information, Similarities, Vocabulary, Comprehension, and Picture Naming subtests. These subtests include sample responses to illustrate various types and levels of responses. Borderline responses are the ones most likely to present scoring difficulty. A borderline response may indicate partial understanding of the item but does not address the essential nature of the item. Borderline responses require additional queries in order to make a final judgment regarding the accuracy of the response. To assist in identifying and clarifying these types of responses, several examples requiring additional queries are included in the sample responses.

To score verbatim responses on the Information and Picture Naming subtests, compare the child's responses to the listed sample responses for each item. For Similarities, Vocabulary, and Comprehension, compare the child's responses to the listed sample responses for each item and to the general scoring principles or general concepts. First, attempt to match the child's response to the sample responses. When a child's response has no similar sample response, refer to the general scoring principles or general concepts. For items that are scored 2, 1, or 0 points, 2 points are awarded for any response that is equivalent or superior to the 2-point sample responses, 1 point is awarded for any response that is equivalent to the 1-point sample responses, and 0 points are awarded for any response that is equivalent or inferior to the 0-point sample responses. The quality of a response refers to the content—not the elegance or length—of the child's verbalization. A child's score for a verbal response should **never** be penalized because of improper grammar or for poor pronunciation or articulation.







For the Information, Similarities, Vocabulary, Comprehension, and Picture Naming subtests, the sample responses are noted in this manual for each item. Figure 2.7 illustrates several features that may appear in sample responses.

#### 7. What is a DOG? 2 points Animal; Mammal; Pet; Canine They have (four legs and a tail, sharp teeth and whiskers, fur and a tail); [Names They (lick and bark, bite and dig holes, two physical features] slobber and beg); [Names two definitive behaviors] You (pet and walk them, take them to the vet and clean up after them); [Names They (bark and have four legs, lick and two activities between dog and owner] you walk them, have fur and you take them to the vet); [Names one example from two categories, including definitive behaviors, physical features, and activities between dog and owner] They (lick, bark, bite, dig holes, slobber, They have (four legs, a tail, teeth, whiskers, beg, chew, go potty); [Names one fur); [Names one physical feature] (0) definitive behavior (0) Poodle; Terrier; Collie; Mutt; [Names type You (pet, train, walk, play with) them; Take them to the vet; [Names one activity Dogs (say, go) (ruff, arf, yip, [demonstrates between dog and owner] (0) dog noise]) Man's best friend 0 points A puppy (0) [Demonstrates dog behavior or sound] (0) They (run, walk, sleep, stay outside, eat); [Names fictional dog] [Names one or more nondefinitive behaviors] (0)

Figure 2.7 Example of Sample Responses for a Verbal Comprehension Subtest

All sample responses are listed according to point level. Some sample responses include a description of an action enclosed in brackets; for example, "[Demonstrates dog behavior or sound]." Unless specifically noted, nonverbal responses on Verbal Comprehension subtests do not receive credit unless they are accompanied by verbal responses. Distinctions between response levels may also appear in brackets. For example, a 2-point sample response reads "They have (four legs and a tail, sharp teeth and whiskers, fur and a tail); [Names *two physical* features]," whereas the corresponding 1-point example reads, "They have (four legs, a tail, teeth, whiskers, fur); [Names *one physical* features] (0)." The bracketed information clarifies the distinction between the responses.

In some instances, two or more responses are listed on a single line and are separated by a semicolon (e.g., "Wear them (before, under, with) shoes; They go (on before, under) shoes"). Any one of the responses is acceptable for that point level; the child need not give all of the responses to receive credit. These responses also include several words or phrases enclosed in parentheses. A response resulting from the incorporation of any one of the words or phrases in the parentheses is equally acceptable for that point level. For example, "They go on before shoes" and "They





go under shoes" are equally acceptable 2-point responses. The child does not need to give all the answers in the parentheses to receive credit.

Other features in the list of sample responses concern queries, indicated by a (**Q**). Such responses, for example, "Clothing; Clothes (**Q**)," must always be queried. Failure to query can lead to an underestimation of a child's ability. A (**Q**) at the end of several responses on one line applies to *all* of the responses. That is, if two or more responses, separated by semicolons, are followed by a (**Q**), each of those responses must be queried. For example, all three responses indicated by "Come in (pairs, twos); Pair (**Q**)," must be queried. Likewise, if the sample response contains alternative words or phrases in parentheses, all followed by a (**Q**), the occurrence of any of the responses must be queried. For example, all responses indicated by "(For, On) your (legs, body) (**Q**)," must be queried. Sample responses not followed by a (**Q**) should not be queried.

## **Scoring Queried Responses**

Scoring queried responses can be difficult and requires judgment. As a general rule, when scoring a queried response, evaluate the entire response, that is, the portion given spontaneously and the portion given after a query. Apply the following general guidelines when scoring queried responses.

- If the child spontaneously gives a 0- or 1-point response that is appropriately queried but does not improve his or her response, the score retains its original value. For example, if in response to the question, "Why should children go to school?" the child says, "To learn to read," and after querying says, "They need to" (a 0-point response), no improvement has been made and the score remains 1 point. Generally, the child does not lose the point value awarded for the spontaneous portion of the response even if the queried part fails to improve the entire response.
- In some situations, the elaboration is of the same point value, but taken together with the original response, the combination is scored at a higher point value. For example, the child says, "To learn to read," and in response to a query says, "And to learn to write." Taken together, the entire response is scored 2 points, even though separately the responses are scored 1 point.

### **Determining Spoiled Responses**

The one exception to the improvement rule just described is the *spoiled* response. In a spoiled response, the child's elaboration reveals a fundamental misconception about the item. The initial response was potentially creditable, but the child's elaboration spoiled the response by revealing a clear misunderstanding of the concept.

It is important to distinguish between a *spoiled* response and a *poor* response. Spoiled responses are very rare, and often poor responses are misjudged as spoiled by novice







examiners. A poor response is an elaboration that does not improve the spontaneous response but does not reveal a fundamental misconception about the item. Hence, a poor but unspoiled response retains its original point value. A spoiled response is scored 0 points, even if the initial spontaneous response seemed creditable.

### **Scoring Multiple Responses**

Sometimes a child will spontaneously give several responses to an item. The rules listed here should be helpful in scoring such multiple responses.

- Unless otherwise specified, children may self-correct after their initial response and should be awarded appropriate credit. If a later response is intended to replace a previous one, score only the intended response. For timed items, score the child's response at the time limit.
- Naming subtests, if the child's responses vary widely in quality, with no one answer spoiling the entire response, score the best response of the group. For example, if the child responds to Item 7 of Similarities (Juice–Milk) with "They are both drinks, they are both healthy, and they are both cold," the best response, "They are both drinks," is scored. Two points are awarded even though the other responses are worth 1 point and 0 points, respectively. If the child spoils an otherwise acceptable response either spontaneously or upon query, score the response 0 points.
- Unless otherwise specified on subtests that do not require a verbal response, if a child provides multiple responses to an item or self-corrects after his or her initial response, score only the intended response. If it is not clear which is the intended answer, say, You (said, pointed to) [insert child's response] and you (said, pointed to) [insert child's response]. Which one did you mean?

# **Completing the Record Form**

The Record Form is designed to facilitate test administration and scoring. It provides space for recording and scoring the child's responses for each subtest and includes such information as start points, reverse rules, discontinue rules, and time limits. The Record Form also can be used to record additional item- and subtest-level information that may be useful in interpreting scores. For example, grids are provided on Block Design items to record the child's constructions at the time limit. This information may offer insight into reasons for performance errors.

The last four pages of the Record Form are used to derive and evaluate the scaled subtest and composite scores, and to record any additional information about the child that may be relevant to interpretation of the child's test performance (e.g., attentiveness, visual or motor problems). These pages are perforated so they







may be detached from the remainder of the Record Form. Spaces for recording the child's identifying information and age at the time of testing are duplicated on the first page of the Record Form to ensure that the Record Form can be identified as the child's if the last pages have been detached.

### Calculating the Child's Test Age

Accurate calculation of the child's age at the time of testing (i.e., the child's test age) is particularly important on the WPPSI–IV because the norm groups are divided into age-based intervals. To obtain the child's test age, enter the test date and the child's birth date in the appropriate spaces in the Calculation of Child's Age table. (If subtests were administered across two testing sessions, use only the first testing date in the calculation.) Subtract the birth date from the test date.

Figure 2.8 provides an example of calculating the child's test age. For these computations, all months are assumed to have 30 days. Also, ages are not rounded up to the nearest month or year. For example, the age of 6 years 11 months 22 days is not rounded up, and scores are derived according to age 6 years 11 months, even though the child is nearly 7 years old.

Use the following sections to complete the summary and analyses pages of the WPPSI–IV Record Form. Although the procedures are simple and primarily clerical in nature, errors can occur, so caution is warranted. Because there are some entries on the Record Form that substantially differ for children in the younger age band, separate sections for the younger and older age bands are included within some of the steps. See Chapter 6 of the WPPSI–IV Technical and Interpretive Manual for information about basic score interpretation.

]	Calculation of Child's Age						
	Year	Day					
Test Date	20/3	1534	414				
Birth Date	2006	4	19				
Test Age	6	//	22				

Figure 2.8 Example of Calculating the Child's Test Age

### Completing the Summary Page

The Summary Page includes sections for calculating the child's test age, and for deriving the scaled subtest scores (including the Cancellation Random and Cancellation Structured process scores for ages 4:0–7:7), the primary index scores (e.g., VCI, VSI, and WMI), and the FSIQ. Additional areas on the summary page are designated for plotting the subtest and composite score profiles. Figure 2.9 is an

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example of a completed summary page for a child with a test age of 4 years 7 months and 18 days (see A), with pertinent sections labeled. The following discussion refers to these labeled sections.

#### **Step 1. Calculating Subtest Total Raw Scores**

A total raw score for a subtest is typically the sum of the item scores. Simply add the scores for each item, including reversal items and unadministered items prior to the start point, if applicable, and write the total raw score in the box at the end of each subtest on the Record Form. Instructions for calculating the total raw scores for Bug Search, Cancellation, and Animal Coding are included in the scoring directions for these subtests in Chapter 4.

After you have obtained total raw scores for each subtest (including Cancellation Random and Cancellation Structured for ages 4:0–7:7), transfer the total raw scores to the Raw Score column of the Total Raw Score to Scaled Score Conversion table (see B) on the summary page. The subtests are listed in standard administration order. For ages 4:0–7:7, the Cancellation Random and Cancellation Structured process scores are listed after the last subtest in the standard administration order (i.e., Picture Naming).

### **Step 2. Converting Total Raw Scores to Scaled Scores**

To convert total raw scores to scaled scores for the subtests, follow the steps below, using Table A.1 in this manual. Scaled scores are based on the child's test age as determined in the Calculation of Child's Age table (see A). Because each page of Table A.1 presents a specified age span, clearly marked at the top of each page, the test age determines which page of the normative table should be used. For ages 2:6–3:11, two normative age groups are included on each page. For ages 4:0–7:7, only one normative age group is included on each page. The scaled score equivalents of the total raw scores are reported for all subtests, which are listed in standard administration order for each age band. For ages 4:0–7:7, the Cancellation Random (CAR) and Cancellation Structured (CAS) process scores are listed after Picture Naming.

Turn to the age-appropriate page of Table A.1. Locate the child's total raw score for each subtest and the CAR and CAS process scores (if applicable). Read across to either Scaled Score column. This number is the scaled score equivalent of the total raw score. In the Total Raw Score to Scaled Score Conversion table, enter each scaled score in every white space to the right of the subtest in the Scaled Score columns, including spaces with parentheses. For example, the Picture Concepts scaled score is entered in the columns labeled Fluid Reas, and Full Scale.







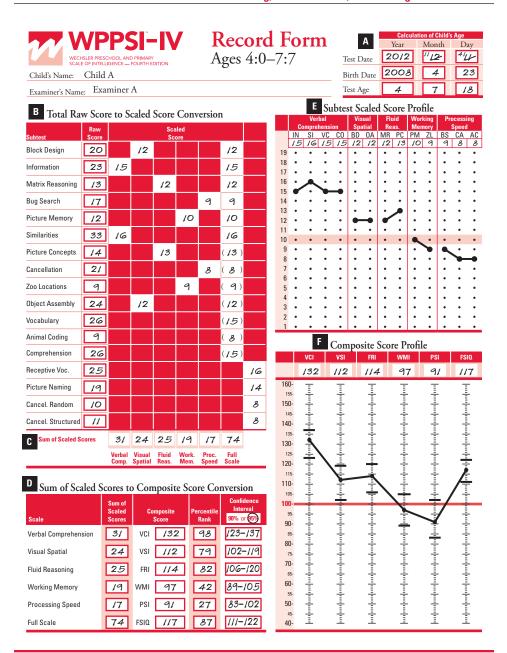


Figure 2.9 Example of Completed Summary Page

**(** 



### **Step 3. Obtaining Sums of Scaled Scores**

#### Ages 2:6-3:11

The VCI is derived from the sum of scaled scores for the two core Verbal Comprehension subtests, Receptive Vocabulary and Information. The VSI is derived from the sum of scaled scores for the two core Visual Spatial subtests, Block Design and Object Assembly, and the WMI is derived from the sum of scaled scores for the two core Working Memory subtests, Picture Memory and Zoo Locations. The FSIQ is derived from the sum of scaled scores for *five* Full Scale subtests, preferably the core subtests including Receptive Vocabulary, Block Design, Picture Memory, Information, and Object Assembly. Calculate the sum of scaled scores to derive each composite score and enter the result in the corresponding box at the bottom of the respective columns (e.g., Verbal Comp., Visual Spatial, Work. Mem.) in the row labeled Sum of Scaled Scores.

Parentheses in the Scaled Score columns indicate supplemental subtest scores. Only include the scaled score for a supplemental subtest in the sum of scaled scores for the Full Scale when it is intended to serve as a substitute for a core subtest when deriving the FSIQ. It is important to remember that *only one supplemental subtest substitution for a core subtest is allowed when deriving the FSIQ* although two supplemental subtests are available.

#### Ages 4:0-7:7

The VCI is derived from the sum of scaled scores for the two core Verbal Comprehension subtests, Information and Similarities. The VSI is derived from the sum of scaled scores for the two core Visual Spatial subtests, Block Design and Object Assembly, and the FRI is derived from the sum of scaled scores for the two core Fluid Reasoning subtests, Matrix Reasoning and Picture Concepts. The WMI is derived from the sum of scaled scores for the two core Working Memory subtests, Picture Memory and Zoo Locations, and the PSI is derived from the sum of scaled scores for the two core Processing Speed subtests, Bug Search and Cancellation. The FSIQ is derived from the sum of scaled scores for *six* Full Scale subtests, preferably the core subtests including Block Design, Information, Matrix Reasoning, Bug Search, Picture Memory, and Similarities. Calculate the sum of scaled scores to derive each composite score and enter the result in the corresponding box at the bottom of the respective columns (e.g., Verbal Comp., Visual Spatial, Fluid Reas.) in the row labeled Sum of Scaled Scores (see C).

Parentheses in the Scaled Score columns indicate supplemental subtest scores. Only include the scaled score for a supplemental subtest in the sum of scaled scores for the Full Scale when it is intended to serve as a substitute for a core subtest when deriving the FSIQ. It is important to remember that *only one supplemental subtest substitution for a core subtest is allowed when deriving the FSIQ* although seven supplemental subtests are available. See Figure 2.10 for an example of a completed Total Raw Score to Scaled Score Conversion table, with Comprehension substituted for Information in the Full Scale score.





Total Raw Score to Scaled Score Conversion								
Subtest	Raw Score		Scaled Score					
Block Design	20		12				12	
Information	invalid	_					-	
Matrix Reasoning	13			/2			/2	
Bug Search	17					9	9	
Picture Memory	/2				10		10	
Similarities	33	16					16	
Picture Concepts	14			13			(13)	
Cancellation	2/					8	(8)	
Zoo Locations	9				9		(9)	
Object Assembly	24		/2				(12)	
Vocabulary	26						(15)	
Animal Coding	9						(8)	
Comprehension	26						(15)	
Receptive Voc.	25							16
Picture Naming	19							14
Cancel. Random	10							8
Cancel. Structured	11							8
Sum of Scaled Scores		inval	24	25	19	/7	74	
		Verbal Comp.	Visual Spatial	Fluid Reas.	Work. Mem.	Proc. Speed	Full Scale	

#### Total Raw Score to Scaled Score Conversion

Figure 2.10 Example of Completed Total Raw Score to Scaled Score Conversion Table With One Substitution

### **Prorating the Full Scale Sum of Scaled Scores**

On occasion, a subtest may be invalidated by errors in administration, insufficient effort, or unexpected occurrences during testing (e.g., child becomes ill). A supplemental subtest can replace an invalidated core subtest in some situations, and this substitution should be considered when a core subtest is invalidated.

Despite the availability of supplemental subtests, there are some situations in which the sum of scaled scores must be prorated to account for a missing subtest score. Proration allows for derivation of a composite score when all necessary subtest







scaled scores are not available. For both age bands, proration is allowed for deriving only the FSIQ. Proration is not allowed for deriving any of the primary or ancillary index scores.

Although proration is allowed in rare situations, it should be avoided whenever possible. The use of proration should be limited to those instances in which it is unavoidable due to administration difficulties and the lack of a supplemental subtest for substitution. Proration violates standard test administration and may introduce additional measurement error in the FSIQ. The decision to prorate the sum of scaled scores to derive the FSIQ should be based on sound clinical judgment and requires caution when interpreting results. Proration is particularly problematic when results are used for diagnostic or placement decisions and should be used with extreme caution in these situations.

For ages 2:6–3:11, the sum of scaled scores for deriving the FSIQ can be prorated if four of the five core subtest scaled scores are valid. For ages 4:0-7:7, the sum of scaled scores for deriving the FSIQ can be prorated if five of the six core subtest scaled scores are valid. For example, for ages 2:6-3:11, the sum of scaled scores can be prorated from valid scores on Receptive Vocabulary, Block Design, Picture Memory, and Object Assembly (i.e., Information is missing). Table A.12 provides prorated sums of scaled scores for deriving the FSIQ by age band. Enter the prorated sum of scaled scores in the Full Scale box in the Sum of Scaled Scores to Composite Score Conversion table and record PRO next to the value to indicate that it was prorated.

### **Limiting Substitution and Proration**

The use of substitution and proration to derive the FSIQ may introduce additional measurement error into affected composite scores. Restricting the use of substitution and proration limits potential sources of measurement error while allowing derivation of interpretable composite scores. The following restrictions apply to the use of subtest substitution and proration when deriving composite scores:

- No subtest substitutions are allowed for index scores derived from only two subtests, including the VCI, VSI, FRI, WMI, PSI, and VAI.
- Only one subtest substitution is allowed for composite scores derived from more than two subtests, including the FSIQ, NVI (for ages 4:0–7:7 only), GAI, and CPI.
- Proration is only allowed for deriving the FSIQ. It is not allowed for deriving any of the primary and ancillary index scores.
- A prorated sum of scaled scores can be used to derive the FSIQ if four of the five (for ages 2:6-3:11) or five of the six (for ages 4:0-7:7) core Full Scale subtests are available. Proration cannot be combined with a supplemental subtest substitution when deriving the FSIQ: It must be based on the core subtest scores.







#### **Invalidating Composite Scores**

If a child obtains a total raw score of 0 (zero) on a subtest, that score does not indicate that the child entirely lacks the ability measured by the subtest. It indicates rather that the child's ability cannot be determined by the particular set of subtest items. For example, a child may score 0 points on Picture Naming or Vocabulary but still know the names of some objects or the meanings of some easier words. Because such occurrences provide a limited sample of behavior for adequate description of the child's ability on that subtest, the number of subtests with total raw scores of 0 that can contribute to a composite score is limited.

For both age bands, only one subtest with a total raw score of 0 is allowed for derivation of a two-subtest composite score. Thus, only one of the two subtests contributing to the VCI, VSI, FRI, WMI, PSI, and VAI can have a total raw score of 0. If both of the contributing subtests have total raw scores of 0, a two-subtest composite score is invalid and should not be derived.

For composite scores derived from more than two contributing subtests, the number of allowable subtests with total raw scores of 0 varies with the number of subtests that contribute to the score. For composite scores with four contributing subtests, including the NVI for ages 2:6-3:11, the GAI for both age bands, and the CPI for ages 4:0-7:7, no more than two of the four contributing subtests (including an allowable substitution, if available) can have total raw scores of 0 to derive a valid score. Scores of 0 on three or four of the contributing subtests result in invalid scores. For composite scores with five or six contributing subtests, including the NVI for ages 4:0-7:7 and the FSIQ for both age bands, no more than three of the five or six contributing subtests (including an allowable substitution) can have total raw scores of 0 to derive a valid score: Scores of 0 on four, five, or six of the contributing subtests result in invalid scores.

### Step 4. Deriving the Primary Index Scores and FSIQ

#### Ages 2:6-3:11

Transfer the sum of scaled scores for the Verbal Comprehension (Verbal Comp.), Visual Spatial, Working Memory (Work. Mem.), and Full Scale into the Sum of Scaled Scores column of the Sum of Scaled Scores to Composite Score Conversion table. Use Tables A.2-A.5 to derive the VCI, VSI, WMI, and FSIQ, respectively. Each table also includes percentile ranks and confidence intervals. Locate the appropriate sum of scaled scores in the Sum of Scaled Scores column and read across the row to determine the pertinent values. Enter the composite score, the percentile rank, and a confidence interval (based on selection of either the 90% or 95% confidence level) in the columns to the right of the previously recorded sums of scaled scores. Indicate the selected confidence level by circling either 90% or 95% under the Confidence Interval heading. The FSIQ is not the sum or average of the VCI, VSI, and WMI. The FSIQ is derived from the sum of scaled scores for five subtests on the Full Scale.





#### 54

#### Ages 4:0-7:7

Transfer the sum of scaled scores for the Verbal Comprehension (Verbal Comp.), Visual Spatial, Fluid Reasoning (Fluid Reas.), Working Memory (Work. Mem.), Processing Speed (Proc. Speed), and Full Scale into the Sum of Scaled Scores column of the Sum of Scaled Scores to Composite Score Conversion table (see D in Figure 2.9). Use Tables A.6–A.11 to derive the VCI, VSI, FRI, WMI, PSI, and FSIQ, respectively. Each table also includes percentile ranks and confidence intervals. Locate the appropriate sum of scaled scores in the Sum of Scaled Scores column and read across the row to determine the pertinent values. Enter the composite score, the percentile rank, and a confidence interval (based on selection of either the 90% or 95% confidence level) in the columns to the right of the previously recorded sums of scaled scores. Indicate the selected confidence level by circling either 90% or 95% under the Confidence Interval heading. *The FSIQ is not the sum or average of the VCI, VSI, FRI, WMI and PSI. The FSIQ is derived from the sum of scaled scores for six subtests on the Full Scale.* 

### Step 5. Plotting the Subtest, Primary Index Score, and FSIQ Profiles

The subtests, primary index scores, and FSIQ can be plotted on the graphs provided on the right side of the summary page. To complete the Subtest Scaled Score Profile (see E in Figure 2.9), transfer each subtest scaled score into the provided space and place a dot on the point that corresponds to the scaled score for each subtest. Draw a line between the dots, as shown in the figure. For illustrative purposes, the example in Figure 2.9 is based on administration of all subtests.

To complete the Composite Score Profile (see F in Figure 2.9), transfer each composite score into the provided space and place a dot on the line that corresponds to the score for each composite. Draw a line between the dots, as shown in the figure. If desired, you may place bars at the upper and lower range to reflect the confidence interval.

### **Making Comparison Selections**

The comparisons included on the analysis pages are evaluated by comparing obtained score differences to critical values and base rates of occurrence in the normative sample. Critical values are used to determine whether the difference between two scores is statistically significant and the base rate information is used to determine whether the score difference is relatively rare or common. This information is critical when determining how meaningful a score difference is, regardless of the critical value.

The selection of the significance level for a critical value is based on a variety of factors, including the purpose of testing (e.g., to provide an overview of cognitive abilities versus differential diagnosis of a specific learning disability) as well as the number of simultaneous score comparisons being made. A less stringent







significance level (e.g., .15) may be appropriate in relatively low-risk situations, such as a referral for an average performing child to gain a better understanding of the child's strengths and weaknesses. Conversely, when multiple, simultaneous score comparisons are being made or in higher-risk situations, a more stringent significance level (e.g., .01 or .05) may be preferred. Because more stringent significance levels produce fewer significant differences, it is important to consider both the purpose of testing and the number of simultaneous score comparisons being made prior to choosing the significance level for critical values. See Chapter 4 in the WPPSI–IV Technical and Interpretive Manual for additional details on the psychometric issues related to selecting significance levels for critical values.

Because the frequency of a score difference may vary with ability level, a selection for the base rate reference group (i.e., Overall Sample or Ability Level) is made for the index-level score comparisons. Base rate information for the Overall Sample provides an indication of the child's performance relative to other children regardless of cognitive ability level, whereas the ability-level base rates provide an indication of the child's performance relative to other children with similar cognitive ability (i.e., FSIQ or GAI scores). The selection of the base rate reference group requires clinical judgment. In general, the base rates for score differences vary more at the extremes of performance, suggesting that it becomes more preferable to select the Ability Level base rate information as the child's FSIQ (or GAI) deviates from the mean of 100. For children of approximately average performance (e.g., FSIQ score between 90 and 109), the use of Ability Level base rate information may not produce results that differ substantially from those reported for the Overall Sample. The selections for the significance levels of critical values (i.e., .01, .05, .10, or .15) and the base rate reference groups (Overall Sample or Ability Level) should be made prior to performing the score comparisons.

# Completing the Primary Analysis Page

The top half of the Primary Analysis page is used to evaluate the child's cognitive strengths and weaknesses through comparisons between the primary index scores and an estimate of overall performance (i.e., the mean primary index score or the FSIQ). Space for a similar evaluation of subtest-level strengths and weaknesses is also included in this section. The bottom half of the page is used to perform a number of pairwise difference score comparisons at the index and subtest levels (e.g., the VCI–VSI comparison and the Information–Similarities comparison).

Figure 2.11 is an example of a completed Primary Analysis page with the pertinent portions labeled. The following discussion refers to these labeled sections.

### Step 1. Analyzing Index- and Subtest-Level Strengths and Weaknesses

In addition to selecting the critical value significance levels and the base rate reference groups, comparison scores need to be selected prior to performing the evaluation of cognitive strengths and weaknesses. For both age bands, *it is* 







recommended that the mean primary index score (MIS) be used as the comparison score for the index-level difference comparisons if all scores from the primary index subtests are available and valid. Similarly, it is recommended that the mean scaled score for the primary index subtests (MSS-I) be used as the comparison score for the subtest-level difference comparisons if all scores from the primary index subtests are available and valid. If scores from any of the primary index subtests are either missing or invalid, the FSIQ may be used as the comparison score for the index-level difference comparisons, and the mean scaled score of the subtests used to derive the FSIQ (MSS-F) may be used as the comparison score for the subtest-level difference comparisons. Indicate the selected comparison score for both the index and subtest levels by checking the appropriate boxes in the Comparison Selections tables (see A and B). If necessary, calculate the mean comparison score using the space in the Comparison Selections table for each level of analysis.

If the FSIQ has been derived using a supplemental subtest substitution, the evaluation of index- and subtest-level strengths and weaknesses can be performed, but the involved score comparisons may include additional measurement error. At both levels, the critical values and base rates are affected by the part-whole relationship between a subtest and a comparison score. At the index level, the critical values and base rates for the differences between the primary index scores and the FSIQ take into account the shared subtest content between the scores. At the subtest level, the critical values are either corrected or uncorrected depending on whether the two compared scores share content. Comparisons between the supplemental FSIQ subtests on the Record Form (i.e., Object Assembly, Picture Concepts, Zoo Locations, and Cancellation) and the MSS-F assume no overlap in subtest content with the FSIQ. Therefore, the critical value and base rate information for these subtests do not take into account the shared subtest content. If a supplemental subtest has been used to derive the FSIQ, the evaluation of the supplemental subtest as a cognitive strength or weakness should utilize the critical value and base rate information for the core subtest that was replaced. For example, if Zoo Locations was substituted for Picture Memory when deriving the FSIQ, the critical value and base rate information for Picture Memory should be recorded for the Zoo Locations subtest-level analysis in the strengths and weaknesses section. Record SUB next to the supplemental subtest name to indicate that it was substituted for a core subtest when deriving the FSIQ. See Chapter 4 in the WPPSI-IV Technical and Interpretive Manual for additional details on the appropriate use and calculation of corrected and uncorrected critical values for evaluating score differences.

Transfer the primary index and subtest scaled scores from the summary page to the appropriate boxes in the Score column of the Strengths and Weaknesses table, and then transfer the selected comparison scores to the Comparison Score column of the Strengths and Weaknesses table (see C). Be careful to enter the appropriate comparison score for the index and subtest levels. For each score comparison, subtract Comparison Score from Score and enter the result in the Difference column, remembering to note whether the value is positive or negative.







Tables B.1 and B.3 provide the critical values for identifying statistically significant score differences at the .01, .05, .10, and .15 levels of significance for the index- and subtest-levels, respectively. Using the appropriate table, find the age group or age band of the child and the selected critical value significance level. Read across to the appropriate column for each score comparison and enter this value in the Critical Value column. If the absolute value of the obtained difference score is equal to or greater than the critical value in the Critical Value column, the difference is statistically significant.

The direction of the difference between the index or subtest and the mean scaled scores determines whether the primary index score or subtest represents a strength or weakness relative to the comparison score. If the difference score is statistically significant and positive, it reflects a relative strength and should be noted by circling **S** in the Strength or Weakness column. If the difference score is statistically significant and negative, it reflects a relative weakness and should be noted by circling **W**.

It is recommended that base rate information be reported for all statistically significant differences as well as those approaching statistical significance.

Table B.2 is used to determine how the child's obtained difference scores compare to the same difference scores obtained by various percentages (i.e., 1%, 2%, 5%, 10%, and 25%) of the normative sample. The values reported in the table are separated into "-" and "+" columns, based on the direction of the difference. Based on your selection of the base rate reference group (Overall Sample or Ability Level), use the appropriate section and column of the table to locate the child's difference score. Read across to the far left or right columns to determine the base rate for each difference score. If the child's difference score is equal to the difference score for an indicated percentage of the normative sample, record that percentage (i.e., 1%, 2%, 5%, 10%, or 25%) in the Base Rate column. If the child's difference score does not equal any of the difference scores for the indicated percentages of the normative sample (i.e., the child's difference score falls between two difference scores in the table), the base rate is recorded as a range with the minimum and maximum values aligning with the difference scores immediately following and preceding the child's obtained difference score. For example, a base rate of 5%-10% would be reported if the VCI was 13 points higher than the mean primary index score (MIS) and the Overall Sample was selected as the base rate reference group.

Table B.4 is used to determine how the child's obtained difference scores compare to the same difference scores obtained by various percentages (i.e., 1%, 2%, 5%, 10%, and 25%) of the normative sample. The values reported in the table are separated into "–" and "+" columns, based on the direction of the difference. Use the appropriate section and column to locate the child's difference score and read across to the far left or right columns to determine the base rate for each difference score. If the child's difference score is equal to the difference score for an indicated percentage of the normative sample, record that percentage (i.e., 1%, 2%, 5%, 10%, or 25%) in the Base Rate column. If the child's difference score does not equal









any of the difference scores for the indicated percentages of the normative sample (i.e., the child's difference score falls between two difference scores in the table), the base rate is recorded as a range with the minimum and maximum values aligning with the difference scores immediately following and preceding the child's obtained difference score. For example, a base rate of 2%–5% would be reported if the scaled score for MR was 4 points higher than the mean scaled score for the 6 primary index subtests (MSS-I).

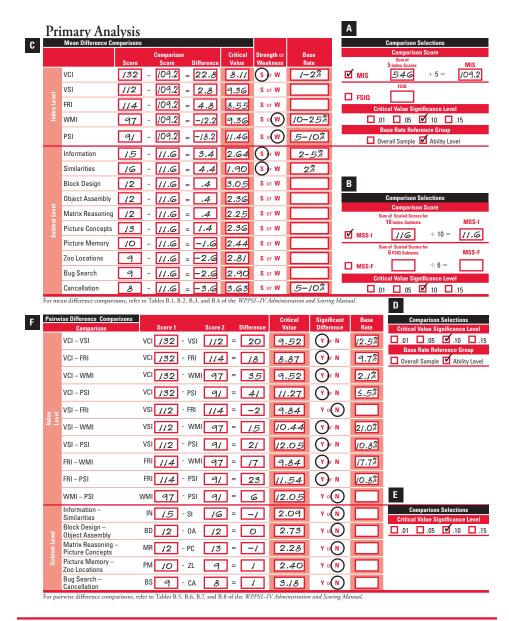


Figure 2.11 Example of Completed Primary Analysis Page







#### Step 2. Analyzing Index- and Subtest-Level Pairwise Differences

The bottom portion of the Primary Analysis page is used to evaluate differences between pairs of primary index (e.g., VCI and VSI) or subtest (e.g., Block Design and Object Assembly) scores. Similar to the analysis of cognitive strengths and weaknesses, several options are available for the analysis of pairwise score differences (see D and E). The significance level of the critical value should be selected for score comparisons at both levels, as well as the option for determining the base rate reference group (i.e., Overall Sample or Ability Level) at the index level. Indicate selections for critical value significance levels and the base rate reference group prior to completing the Pairwise Difference Comparisons table.

#### **Index-Level Comparisons**

Transfer the primary index scores from the summary page to the appropriate Score 1 and Score 2 columns of the Pairwise Difference Comparisons table (see F). Calculate the differences between the scores by subtracting Score 2 from Score 1. Enter the result in the Difference column, remembering to note whether the value is positive or negative.

Table B.5 provides the critical values for identifying statistically significant differences between primary index scores at the .01, .05, .10, and .15 levels of significance. Using the table, locate the child's age group or age band and the selected critical value significance level. Read across to the appropriate column for each score comparison and enter this value in the Critical Value column. If the absolute value of the obtained difference score is equal to or greater than the value in the Critical Value column, the difference is statistically significant. Circle **Y** in the Significant Difference column if the score is equal to or exceeds the critical value. Circle **N** if the difference score does not equal or exceed the critical value.

The base rate information for children in the normative sample who obtained the same or greater difference between primary index scores is reported in Table B.6. The table is divided into pages according to the preferred reference group (i.e., Overall Sample or Ability Level). The values are divided into"—" and "+" columns, based on the direction of the difference. Use the appropriate page of the table and locate the child's difference score in the Difference column to the far left or right. Read across the row to the column that corresponds to the score comparison and the direction of the difference (e.g., VCI < VSI). Record this value in the Base Rate column.

#### **Subtest-Level Comparisons**

To complete the subtest level portion of the Pairwise Difference Comparisons table (see F), transfer the appropriate subtest scaled scores from the summary page to the Score 1 and Score 2 columns. Subtract Score 2 from Score 1 and enter the result in the Difference column, remembering to note whether the value is positive or negative.





Table B.7 provides the critical values for subtest-level pairwise differences at the .01, .05, .10, and .15 significance levels. Because the table includes the critical values for all possible pairwise comparisons of subtest scores, it is formatted differently than other critical value tables. The first page includes critical values at the .01 significance level in the unshaded area below the diagonal, and the critical values at the .05 significance level in the shaded area above the diagonal. The second page includes critical values at the .10 significance level in the unshaded area below the diagonal, and the critical values at the .15 significance level in the shaded area above the diagonal. The values represent the averages across age groups. Using the appropriate section of Table B.7, locate the comparison of interest and enter that number in the Critical Value column. The absolute value of the difference score must equal or exceed the critical value to be statistically significant at the selected level. If the absolute value of the difference score does not equal or exceed the critical value, circle **Y** in the Significant Difference column. If the absolute value of the difference score does not equal or exceed the critical value, circle **N**.

The base rate information for children in the normative sample who obtained the same or greater difference between subtest scaled scores is reported in Table B.8. The values reported in the table are separated into "–" and "+" columns, based on the direction of the difference. For all significant differences, locate the absolute value of the difference score in the Difference column to the far left or right of the table, and read across the row to the column that corresponds to the score comparison and the direction of the difference (e.g., BS < CA). Record this value in the Base Rate column.

### Completing the Ancillary Analysis Page

Similar to the Primary Analysis page, the Ancillary Analysis page provides sections for deriving and evaluating the ancillary index scores, as well as space to plot the resulting score profile. Additional areas are designated for a number of pairwise comparisons between ancillary index scores, their contributing subtests, as well as the CAR and CAS process scores.

A completed example of the ancillary analysis page is shown, with pertinent portions labeled, in Figure 2.12. The following discussion refers to these labeled portions. All figures use the scores presented in Figure 2.9. Instructions for deriving the CAR and CAS process scores are provided in the Completing the Summary Page section.

### **Step 1. Obtaining Sums of Scaled Scores**

Transfer the scaled scores for each desired ancillary index score and for the CAR and CAS process scores (if applicable) from the summary page to the appropriate boxes in the Sum of Scaled Scores table (see A). Enter each score in every open box to the right of the subtest name, including boxes with parentheses.







Calculate the sum of scaled scores to derive each desired ancillary index score and enter them in the corresponding boxes at the bottom of their respective columns (e.g., Vocabulary Acquisition, Nonverbal, General Ability, Cognitive Proficiency), in the row labeled Sum of Scaled Scores (see B).

Parentheses in the Sum of Scaled Scores table indicate supplemental subtest scores. Only include the scaled score for a supplemental subtest in the sum of scaled scores for deriving an ancillary index score when it is intended to serve as a substitute for a core subtest. It is important to remember that *only one supplemental subtest substitution for a core subtest is allowed when deriving the ancillary index scores with more than two subtests (i.e., the NVI, GAI, and CPI)*, even when more than one supplemental subtest is available for substitution.

# Step 2. Deriving the Ancillary Index Scores

### Ages 2:6-3:11

Transfer the sums of scaled scores for Vocabulary Acquisition, Nonverbal, and General Ability scales into the Sum of Scaled Scores column of the Sum of Scaled Scores to Index Score Conversion table. The Vocabulary Acquisition Index is derived from the sum of scaled scores for the two core subtests, Receptive Vocabulary and Picture Naming. The Nonverbal Index is derived from the sum of scaled scores for four subtests, including Block Design, Picture Memory, Object Assembly, and Zoo Locations. The General Ability Index is derived from the sum of scaled scores for four subtests, preferably the core Receptive Vocabulary, Block Design, Information, and Object Assembly subtests (Picture Naming can substitute for Receptive Vocabulary when deriving the GAI).

Use Tables C.1, C.2, and D.1 in the WPPSI–IV Technical and Interpretive Manual to derive the VAI, NVI, and GAI, respectively. Each table also includes percentile ranks and confidence intervals. Locate the appropriate sum of scaled scores in the Sum of Scaled Scores column and read across the row to determine the pertinent values. Enter the index score, the percentile rank, and a confidence interval (based on selection of either the 90% or 95% confidence level) in the columns to the right of the previously recorded sums of scaled scores. Indicate the selected confidence level by circling either 90% or 95% under the Confidence Interval heading.

### Ages 4:0-7:7

Transfer the sums of scaled scores for deriving the Vocabulary Acquisition, Nonverbal, General Ability, and Cognitive Proficiency Index scores into the Sum of Scaled Scores column of the Sum of Scaled Scores to Index Score Conversion table (see C). The Vocabulary Acquisition Index is derived from the sum of scaled scores for the two core subtests, Receptive Vocabulary and Picture Naming. The Nonverbal Index is derived from the sum of scaled scores for five subtests, preferably the core Block Design, Matrix Reasoning, Bug Search, Picture Memory, and









Picture Concepts subtests. The General Ability Index is derived from the sum of scaled scores for four subtests, preferably the core Block Design, Information, Matrix Reasoning, and Similarities subtests. The Cognitive Proficiency Index is derived from the sum of scaled scores for four subtests, preferably the core Bug Search, Picture Memory, Cancellation, and Zoo Locations subtests.

Use Tables C.1, C.3, D.2, and D.3 in the WPPSI–IV Technical and Interpretive Manual to derive the VAI, NVI, GAI, and CPI, respectively. Each table also includes percentile ranks and confidence intervals. Locate the appropriate sum of scaled scores in the Sum of Scaled Scores column and read across the row to determine the pertinent values. Enter the index score, the percentile rank, and a confidence interval (based on selection of either the 90% or 95% confidence level) in the columns to the right of the previously recorded sums of scaled scores. Indicate the selected confidence level by circling either 90% or 95% under the Confidence Interval heading.







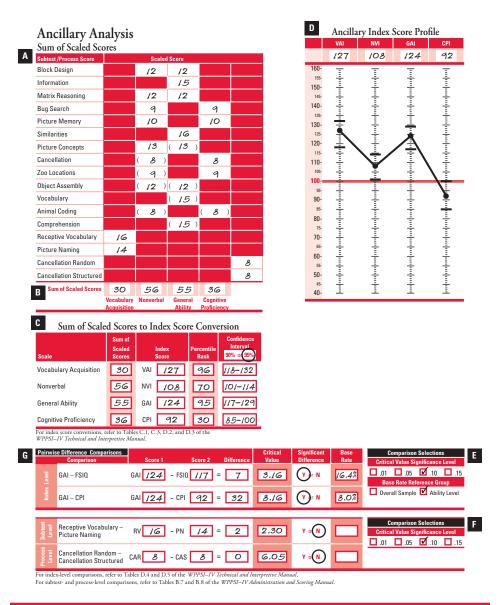


Figure 2.12 Example of Completed Ancillary Analysis Page



# **Step 3. Plotting the Ancillary Index Score Profile**

The ancillary index scores can be plotted on the graph provided on the right side of the Ancillary Analysis page. To complete the Ancillary Index Score Profile (see D), transfer each index score into the provided space and place a dot on the line that corresponds to the score for each composite. Draw a line between the dots, as shown. If desired, you may place bars at the upper and lower range to reflect the confidence interval.

# Step 4. Analyzing Index-, Subtest-, and Process-Level Pairwise Differences

A section for evaluating pairwise score differences at the index-, subtest-, and process-levels is included on the bottom portion of the Ancillary Analysis page. Like the score comparisons on the Primary Analysis page, a number of selections are made to indicate the critical value significance levels, as well as an option to choose the most appropriate reference group (Overall Sample or Ability Level) for the index-level base rate information (see E and F). Indicate the critical value significance levels and the base rate reference group for the index-level comparison(s) in the appropriate spaces prior to completing the pairwise score comparisons.

# **Index-Level Comparisons**

To complete the index level of the Pairwise Difference Comparisons table (see G), transfer the index scores from Sum of Scaled Scores to Index Score Conversion table (see C) to the appropriate Score 1 and Score 2 columns. Values for the subtest and process scores are transferred from the Sum of Scaled Scores table (see A). If the GAI–FSIQ comparison is performed, transfer the FSIQ from the summary page. Calculate the differences between the scores by subtracting Score 2 from Score 1. Enter the result in the Difference column, remembering to note whether the value is positive or negative.

Use Table D.4 in the WPPSI–IV Technical and Interpretive Manual to obtain the critical values for statistically significant differences between the GAI and selected composite scores (i.e., the FSIQ for ages 2:6–7:7 and the CPI for ages 4:0–7:7) at the .01, .05, .10, and .15 significance levels. Find the age group or age band of the child and the selected critical value significance level. Read across to the appropriate column for each score comparison and record the critical value in the Critical Value column. The absolute value of the child's difference score must equal or exceed that critical value to be statistically significant. Indicate the significance of the difference score by circling a **Y** in the Significant Difference column if the absolute value of the child's difference score equals or exceeds the corresponding critical value. Circle **N** if the absolute value of the child's difference score does not equal or exceed the corresponding critical value.







Table D.5 in the WPPSI–IV Technical and Interpretive Manual provides the base rate information of children in the normative sample who obtained the same or greater difference between the GAI and selected composite scores (i.e, FSIQ and CPI). The table is divided into columns according to the preferred basis for comparison (i.e., Overall Sample or Ability Level), and the reported values are separated into "—" and "+" columns, based on the direction of the difference. For all significant differences, locate the absolute value of the child's difference score in the Difference column to the far left or right. Read across the row to the column that corresponds to the score comparison and the direction of the difference (e.g., GAI < FSIQ). Enter this value in the Base Rate column.

# **Subtest- and Process-Level Comparisons**

To complete the subtest and process levels of the Pairwise Difference Comparisons table (see G), transfer the appropriate scaled scores from the Sum of Scaled Scores table to the Score 1 and Score 2 columns. Subtract Score 2 from Score 1 and enter the result in the Difference column, remembering to note whether the value is positive or negative.

Table B.7 in this manual provides the critical values for subtest- and process-level pairwise differences at the .01, .05, .10, and .15 significance levels. Because the table includes the critical values for all possible pairwise comparisons of subtest scores, it is formatted differently than other critical value tables. The first page includes critical values at the .01 significance level in the unshaded area below the diagonal, and the critical values for the .05 significance level in the shaded area above the diagonal. The second page includes critical values at the .10 significance level in the unshaded area below the diagonal, and the critical values for the .15 significance level in the shaded area above the diagonal. The values represent the averages across age groups.

Using the appropriate section of Table B.7, locate the comparison of interest and enter that number in the Critical Value column. The absolute value of the difference score must equal or exceed the critical value to be statistically significant at the selected level. If the absolute value of the difference score equals or exceeds the critical value, circle **Y** in the Significant Difference column. If the absolute value of the difference score does not equal or exceed the critical value, circle **N**.

Table B.8 in this manual provides the base rate information of children in the normative sample who obtained the same or greater difference between scaled scores for the subtest- and process-level comparisons on the Record Form. The values reported in the table are separated into "–" and "+" columns, based on the direction of the difference. For all significant differences, locate the absolute value of the difference score in the Difference column to the far left or right of the table, and read across the row to the column corresponding to the score comparison and the direction of the difference (e.g., RV > PN). Record this value in the Base Rate column.







**(** 







# Subtest Administration and Scoring for Ages 2:6–3:11

# **Getting Started**

Detailed subtest administration and scoring procedures for children aged 2:6–3:11 are presented in this chapter. Administration and scoring information for children aged 4:0–7:7 is provided in Chapter 4.

Before you begin, ensure that the necessary test materials are in order and that the child is engaged in the testing process. (Refer to Chapter 2 for guidelines on establishing and maintaining rapport.) Assure the child that breaks are permissable and that he or she should tell you if a break is needed. When you feel that you have attained a sufficient level of rapport and engagement, introduce the WPPSI–IV by saying,

We'll be doing a lot of things today, like looking at pictures, answering questions, and playing with blocks. Some things may be easy, and some may be hard. Just try your best.

Children will differ in the amount of explanation they require. Try to avoid the words *intelligence* and *test* because they may be unfamiliar to young children or cause unnecessary anxiety. If the child expresses misconceptions about the testing, address these concerns in a truthful, nonthreatening manner.







# 1. Receptive Vocabulary

The child selects the response option that best represents the word the examiner reads aloud.

# 

Administration and Scoring Manual

Record Form

Stimulus Book 1

# Start

Ages 2:6-3:11

Item 1

# Discontinue

Discontinue after 3 consecutive scores of 0.

# **General Directions**

- Read each item verbatim to the child.
- Each item may be repeated *as often as necessary*, but do not alter the wording in any way.
- Use the local pronunciation of each word or the pronunciation you believe to be familiar to the child.
- The child must indicate his or her choice by either pointing to or saying the number of the selected response option. If the child responds with any other type of verbalization (e.g., names the picture), say, Show me.
- If the child selects multiple response options for an item or self-corrects after his or her initial response, score only the intended response. If it is not clear which one is the intended response, say, You (said, pointed to) [insert child's response], and you (said, pointed to) [insert child's response]. Which one did you mean?
- Item 1 is a teaching item. Corrective feedback is provided if the child does not obtain a perfect score. Provide no further assistance on this subtest.







# **Score**

- Circle the child's response for each item. Correct responses are printed in color on the Record Form and are listed in this manual.
- Score 1 point if the child gives a correct response.
- Score 0 points if the child gives an incorrect response, says that he or she does not know the answer, or does not respond.

Maximum Receptive Vocabulary Total Raw Score: 31 points

# **Item Administration**

# 2:6-3:11 †Item 1

Turn to Item 1 in the Stimulus Book and say, Show me the foot.

Correct response [1]: Proceed to the next item.

†Incorrect response: Point to response option 1 and say, **This is the foot.** Proceed to the next item.

# Items 2-31

Turn to the appropriate item in the Stimulus Book. Read each item verbatim to the child.







# 70 Receptive Vocabulary

# **Correct Responses**

	ltem	Correct Response
2:6-3:11	†1. Show me the <b>foot</b> .	1
	†If the child does not obtain a perfect score, point to response option 1 and say, <b>This is the foot.</b>	
	2. Show me the <b>cup</b> .	3
	3. Show me the <b>butterfly</b> .	2
	4. Show me <b>painting</b> .	4
	5. Show me the <b>snail</b> .	3
	6. Show me <b>raining</b> .	2
	7. Show me <b>dancing</b> .	4
	8. Show me the <b>window</b> .	3
	9. Show me <b>swimming</b> .	1
	10. Show me the <b>wallet</b> .	4
	11. Show me the <b>closet</b> .	3
	12. Show me <b>stirring</b> .	4
	13. Show me lying down.	1
	14. Show me the <b>desert</b> .	2
	15. Show me <b>paying</b> .	1
	16. Show me the <b>curly</b> tail.	3
	17. Show me the <b>telescope</b> .	4
	18. Show me the <b>cymbals</b> .	1
	19. Show me <b>fancy</b> .	4
	20. Show me the girl <b>between</b> the boys.	2
	21. Show me the bird <b>beneath</b> the tree.	1
	22. Show me the <b>easel</b> .	1
	23. Show me <b>shaggy</b> .	2
	24. Show me <b>clinging</b> .	4
	25. Show me <b>crouching</b> .	3
	26. Show me <b>gnawing</b> .	4
	27. Show me <b>narrow</b> .	3
	28. Show me the <b>cylinder</b> .	3
	29. Show me <b>parallel</b> .	2
	30. Show me <b>equivalent</b> .	2
	31. Show me horizontal.	1







# 2. Block Design

Working within a specified time limit, the child views a model and/or a picture and uses one- or two-color blocks to re-create the design.

# Materials

Administration and Scoring Manual

Record Form

Stimulus Book 1

Block Design Blocks

Stopwatch

# Start

Ages 2:6-3:11

Item 1

# Discontinue

Discontinue after 2 consecutive scores of 0.

# Timing

The time limit for each item is provided in this manual and on the Record Form.

Accurate timing is essential. Begin timing for each item after saying the last word of instruction.

Stop timing when the child completes the item, the time limit expires, or it is clear from the child's words or gestures that he or she has finished. If uncertain, ask the child if he or she has finished working.

In the interest of maintaining rapport, allow a few additional seconds for the child to complete an item if he or she is nearing completion when the time limit expires. However, do not award credit for correct completion of a design after the time limit.





# **General Directions**

- Ensure that the child is seated directly facing the edge of the table.
- The block designs illustrated on the Record Form are from your perspective (i.e., upside down).
- Block Design includes two parts: Part A and Part B. Part A is composed of Items 1–8. Part B is composed of Sample Items A and B, and Items 9–17.
- Part A items use one-color blocks (red or white). Part B items use two-color blocks (red-and-white). The number and color of blocks required for each item are noted in the Blocks Needed column on the Record Form.
- Items 1–2 are stacked designs; Items 3–17 are flat designs.
- Items 1—4 have two trials each. If the child correctly constructs the design within the time limit on Trial 1, proceed to the next item. If the child does not correctly construct the design or exceeds the time limit on Trial 1, administer Trial 2.
- The sample items are designed to introduce the child to the two-color blocks. Prior to proceeding to Item 9, administer the sample items to all children who do not meet the discontinue criterion during Part A administration.
- Item 9 also has two trials. If the child correctly constructs the design without a rotation error and within the time limit on Trial 1, proceed to the next item. If the child does not correctly construct the design, has a rotation error, or exceeds the time limit on Trial 1, administer Trial 2.

# **Standard Presentation Procedures**

- Items are presented as a model and/or pictured design. The presentation method is identified in the Presentation Method column on the Record Form.
  - ☑ Items 1–8 and Sample Items A and B are presented as a model you
    construct from the design pictured on the Record Form. The model is
    left intact as the child constructs the design according to the model.
  - Items 9 and 10 are presented as a model you construct from the design pictured in the Stimulus Book. The model is then disassembled, and the child constructs the design according to the image in the Stimulus Book.
  - ☑ Items 11–17 are presented to the child as a design pictured in the Stimulus Book.







- For all items, the model and/or pictured design should be parallel to the child's edge of the table. Do not allow the child to rotate the model or Stimulus Book for any item.
- It is essential to point to the model and/or pictured design as instructed in the administration directions.
- For test items presented using a model (i.e., Items 1–10), always explain your construction aloud. Use phrases such as, I put a red block here and another red one here and Here I have to use a (white, red-and-white) block.
- When an item model is assembled with 2-color blocks (i.e., the sample items and Items 9–10), the child may occasionally attempt to duplicate the examiner's model exactly. If the child attempts to duplicate the side faces of the model, point to the top faces of the blocks and say, Only the tops of the blocks need to be the same. Allow the child to continue working until the time limit expires.
- For those items presented using a pictured design (i.e., Items 9–17), the child may occasionally attempt to construct the design on top of the Stimulus Book page. If this occurs, point to the appropriate area next to the Stimulus Book and say, Make yours over here. Allow the child to continue working until the time limit expires. Credit is awarded based on the applicable scoring guidelines, regardless of the construction's location.
- For test items using the two-color blocks (i.e., Items 9–17), present the blocks with a variety of surfaces facing up. For items with two blocks, each block should have a different side facing up. For items with four blocks, only one block should have a red-and-white side facing up.
- For items presented using **only** a model or pictured design, place the model or Stimulus Book at a distance of approximately 7 inches (18 centimeters), from the child's edge of the table. If the child is right-handed, position the model or Stimulus Book slightly to the child's left. If the child is left-handed, position the model or Stimulus Book slightly to the child's right. If the child's handedness is not apparent at the time of testing, position the model or Stimulus Book directly in front of the child.
- For items presented using **both** a model and a pictured design (i.e., Items 9 and 10), place the model next to the Stimulus Book, as illustrated in Figure 3.1.







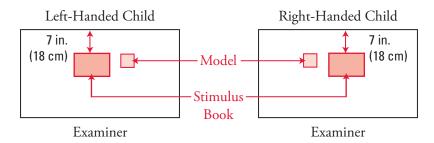


Figure 3.1 Orientation of the Model and Stimulus Book

• Present only the blocks needed to construct each item. Remove all unnecessary blocks from the child's view.

# **Correcting Rotation Errors**

- Although any rotation of 30° or more is considered an error, *rotation errors* are only penalized in Part B.
- A total of two corrections for rotation errors can be made during subtest administration, one in Part A and one in Part B. Correct the first occurrence of a rotation error on each part of the subtest by rotating the blocks to the correct position and saying, See, it goes this way. Continue subtest administration.
- Examples of degrees of rotation and rotation errors are shown in Figures 3.2 and 3.3.

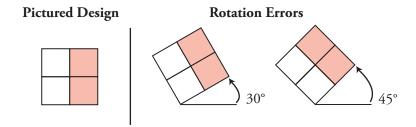


Figure 3.2 Examples of Rotation Errors for Square-Shaped Designs







# Pictured Design Rotation Errors 30° 45° 45°

Figure 3.3 Examples of Rotation Errors for Diamond-Shaped Designs

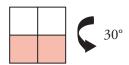
# **Score**

- Record the completion time in seconds for each item. Items completed after the time limit are scored 0 points.
- You have the option of recording the child's constructions on the blank grids in the Constructed Design column. Shade the grid to match the child's design at the time limit or when the child indicates that he or she is finished. For correct constructions, you may place a check mark on the grid, as shown below.



# Rotation and Reversal of Designs

• For all rotated constructions, indicate the degree of rotation with an arrow and the number of degrees rotated, as shown below.



**Recording Rotations** 





### Part A

• For Items 1–8, *no* degree of rotation (even a complete reversal) is judged as incorrect. Although the rotations are noted for Items 1–8, they do *not* carry a penalty.

### Part B

■ For Items 9–17, any rotation of 30° or more is incorrect and is scored 0 points, including the first rotation that is corrected.

# Gaps and Misalignment Between Blocks

- For items on both Part A and Part B, gaps and/or misalignments between blocks that are less than or equal to ¼ inch (approximately ¼th the length or width of a block) are *not* penalized. Only those designs with gaps and/or misalignments that exceed ¼ inch are penalized and should be scored 0 points.
- Figure 3.4 depicts acceptable ¼-inch gaps and/or misalignments between blocks. Note that a single design may have both gaps and misalignments between blocks.

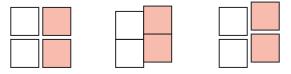


Figure 3.4 Examples of Acceptable Gaps and Misalignments Between Blocks

# Items 1-4

- Score 2 points if the child constructs the design correctly within the time limit on Trial 1.
- Score 1 point if the child constructs the design correctly within the time limit on Trial 2.
- Score 0 points if the child does not construct the design correctly or exceeds the time limit on both Trial 1 and Trial 2.

# Items 5–8

- Score 2 points if the child constructs the design correctly within the time limit.
- Score 0 points if the child does not construct the design correctly or exceeds the time limit.



- Score 2 points if the child constructs the design correctly, without a rotation error, and within the time limit on Trial 1.
- Score 1 point if the child constructs the design correctly, without a rotation error, and within the time limit on Trial 2.
- Score 0 points if the child does not construct the design correctly, has rotation errors, or exceeds the time limit on both Trial 1 and Trial 2.

# Items 10-17

- Score 2 points if the child constructs the design correctly, without rotation errors, and within the time limit.
- Score 0 points if the child does not construct the design correctly, has rotation errors, or exceeds the time limit.

Maximum Block Design Total Raw Score: 34 points

# Item Administration

# Part A

# 2:6-3:11 Item 1

### **Trial 1**

Place the appropriate blocks in front of the child and say, Watch me. Slowly assemble the model as you describe the construction aloud. Leave the model intact.

Place the remaining blocks in front of the child, point to the model, and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next item.

Incorrect design: Administer Trial 2.

### **Trial 2**

Leave the model intact and say, Watch me again. Using the child's blocks, slowly assemble the design as you describe the construction aloud.

Disassemble the construction and place the blocks in front of the child. Point to the model and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next item.

Incorrect design: Proceed to the next item.





### **Trial 1**

Place the appropriate blocks in front of the child and say, Watch me. Slowly assemble the model as you describe the construction aloud. Leave the model intact.

Place the remaining blocks in front of the child, point to the model, and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next item.

Incorrect design: Administer Trial 2.

### **Trial 2**

Leave the model intact and say, Watch me again. Using the child's blocks, slowly assemble the design as you describe the construction aloud.

Disassemble the construction and place the blocks in front of the child. Point to the model and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next item.

Incorrect design: Proceed to the next item if the discontinue criterion has not been met.

# Item 3

### **Trial 1**

Place the appropriate blocks in front of the child and say, Watch me. Slowly assemble the model as you describe the construction aloud. Leave the model intact.

Place the remaining blocks in front of the child, point to the model, and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next item.

Incorrect design: Administer Trial 2.

### **Trial 2**

Leave the model intact and say, Watch me again. Using the child's blocks, slowly assemble the design as you describe the construction aloud.

Disassemble the construction and place the blocks in front of the child. Point to the model and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next item.

Incorrect design: Proceed to the next item if the discontinue criterion has not been met.







### **Trial 1**

Place the appropriate blocks in front of the child and say, Watch me. Slowly assemble the model as you describe the construction aloud. Leave the model intact.

Place the remaining blocks in front of the child, point to the model, and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next item.

Incorrect design: Administer Trial 2.

### **Trial 2**

Leave the model intact and say, Watch me again. Using the child's blocks, slowly assemble the design as you describe the construction aloud.

Disassemble the construction and place the blocks in front of the child. Point to the model and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next item.

Incorrect design: Proceed to the next item if the discontinue criterion has not been met.

# Item 5

Place the appropriate blocks in front of the child and say, Watch me. Slowly assemble the model as you describe the construction aloud. Leave the model intact.

Place the remaining blocks in front of the child, point to the model, and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next item.

Incorrect design: Proceed to the next item if the discontinue criterion has not been met.







# **Items 6–7**

Place the appropriate blocks in front of the child and say, **Watch me.** Slowly assemble the model as you describe the construction aloud. Leave the model intact.

Place the remaining blocks in front of the child, point to the model, and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 60 seconds.

The instructions may be shortened when the child understands the task.

Correct design: Proceed to the next item.

Incorrect design: Proceed to the next item if the discontinue criterion has not been met.

# Item 8

Place the appropriate blocks in front of the child and say, Watch me. Slowly assemble the model as you describe the construction aloud. Leave the model intact.

Place the remaining blocks in front of the child, point to the model, and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 60 seconds.

The instructions may be shortened when the child understands the task.

Correct design: Proceed to Part B, Sample Item A.

Incorrect design: Proceed to Part B, Sample Item A if the discontinue criterion has not been met.

# Part B

# Sample Item A

Place two red-and-white blocks in front of the child. Hold up one of the blocks for the child to see and say, **See these blocks? Some sides are all red** (show red side), **some are all white** (show white side), **and some** (show red-and-white side) **are red** (point to red half) **and white** (point to white half).

Place one block on the table as shown:



Hand the remaining block to the child and say, Put your block like mine.

Correct design: Say, That's right. Proceed to Sample Item B.

Incorrect design: Say, That's not quite right. Point to your block and say, The red side should face up like mine. Turn your block like mine.

Correct reposition: Say, That's right. Proceed to Sample Item B.

Incorrect reposition: Say, **That's not quite right.** Turn the child's block to the correct position and say, **See**, it goes like this. Proceed to Sample Item B.







# Sample Item B

Place one block on the table as shown:



Hand the remaining block to the child and say, Put your block like mine.

Correct design: Say, That's right. Proceed to Item 9.

Incorrect design: Say, That's not quite right. Point to your block and say, The white part should point up, like mine (point to white half), and the red part should point down (point to red half). Turn your block like mine.

Correct reposition: Say, That's right. Proceed to Item 9.

Incorrect reposition: Say, **That's not quite right.** Turn the child's block to the correct position and say, **See, it goes like this.** Proceed to Item 9.

# Item 9

### **Trial 1**

Place the appropriate blocks in front of the child. Turn to Item 9 in the Stimulus Book and say, Watch me make my blocks look like this picture (point to picture). Slowly assemble the model as you describe the construction aloud.

Say, See, my blocks (point to model) look the same as this picture (point to picture).

Disassemble your model, and place the blocks in front of the child. Say, **Now you** make one like this picture (point to picture). Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 60 seconds.

Correct design: Proceed to the next item.

Incorrect design: Administer Trial 2.

### **Trial 2**

Disassemble the construction and place the blocks in front of the child. Say, Watch me again. Slowly assemble the model as you describe the construction aloud.

Say, See, my blocks (point to model) look the same as this picture (point to picture).

Disassemble your model, and place the blocks in front of the child. Say, Now you make one like this picture (point to picture). Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 60 seconds.

Correct design: Proceed to the next item.

Incorrect design: Proceed to the next item if the discontinue criterion has not been met.





Place the appropriate blocks in front of the child. Turn to Item 10 in the Stimulus Book and say, Watch me make my blocks look like this picture (point to picture). Slowly assemble the model as you describe the construction aloud.

Say, See, my blocks (point to model) look the same as this picture (point to picture).

Disassemble your model, and place the blocks in front of the child. Say, Now you make one like this picture (point to picture). Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 60 seconds.

Correct design: Proceed to the next item.

Incorrect design: Proceed to the next item if the discontinue criterion has not been met.

# Items 11-17

Place the appropriate blocks in front of the child. Turn to the appropriate item in the Stimulus Book and say, Now make one like this. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 90 seconds.

The instructions may be shortened when the child understands the task.

Proceed to the next item if the discontinue criterion has not been met.







# 3. Picture Memory

The child views a stimulus page of one or more pictures for a specified time and then selects the pictures from options on a response page.

# Materials

Administration and Scoring Manual

Record Form

Stimulus Book 2

Stopwatch

# Start

Ages 2:6-3:11

Sample Item A, then Item 1

# Discontinue

Discontinue after 3 consecutive scores of 0.

# Timing

**Sample Item A–Item 6:** Expose the stimulus page for **3** seconds.

Sample Item B-Item 35: Expose the stimulus page for 5 seconds.

A red line on the Record Form is a visual reminder of the change in exposure time.

Accurate exposure time is essential. Begin timing after presenting the stimulus page and giving the last word of instruction.

Immediately following exposure, turn to the response page and provide the indicated instruction.

# **General Directions**

- Administration of each item requires two pages in the Stimulus Book: a stimulus page and a response page. It is important to expose the stimulus page for the correct amount of time, as instructed on the Record Form and in this manual.
- With the exception of the sample and teaching items, the stimulus page for each item is exposed *one time only*. If the child asks for another exposure, say, I can't show you again. Just try your best.





# Picture Memory

- The child must indicate his or her choice(s) by either pointing to or saying the letter(s) of the selected response option(s). If the child responds with any other type of verbalization (e.g., names the pictures), say, **Show me**.
- If the child selects more than the required number of response options or self-corrects after his or her initial response, score only the intended response. If it is not clear which one is the intended response, say, (Show, Tell) me your answer again. Provide this prompt one time only for each item.
- If the child asks if his or her responses must be provided in a specific order (e.g., alphabetical), say, You don't have to (say, point to) the pictures in order.
- Sample Item B is designed to introduce the child to items that require the selection of multiple response options. If the child has not met the discontinue criterion following administration of Item 6, administer Sample Item B before proceeding to Item 7.
- Items 1, 2, 7, and 8 are teaching items. Corrective feedback is provided if the child does not obtain a perfect score. Provide no further assistance on this subtest.

# **Score**

- Circle the child's response(s) for each item. Correct responses are printed in color on the Record Form and are listed in this manual.
- Correct responses for Items 1–6 require the selection of one response option. Correct responses for Items 7–35 require the selection of multiple response options. The selection of an incorrect response option results in a score of 0, even if the other selected response options are correct.
- Score 1 point if the child gives a correct response.
- Score 0 points if the child gives an incorrect response, says that he or she does not know the answer, or does not respond.

Maximum Picture Memory Total Raw Score: 35 points









# **Item Administration**

# 26-3:11 Sample Item A

Expose Sample Item A stimulus page and say, **Look at this picture**. Begin timing and allow 3 seconds.

Turn to Sample Item A response page and say, Point to the picture I just showed you.

Correct response [B]: Say, That's right. Proceed to Item 1.

Incorrect response: Say, **That's not quite right.** Expose Sample Item A stimulus page. Say, **I showed you this picture.** Expose Sample Item A response page. Say, **So** you should point to *this* one (point to response option B). Proceed to Item 1.

# †Item 1

Expose Item 1 stimulus page and say, Look at this picture. Begin timing and allow 3 seconds.

Turn to Item 1 response page and say, Point to the picture I just showed you.

Correct response [A]: Proceed to the next item.

†Incorrect response: Expose Item 1 stimulus page and say, I showed you this picture. Expose Item 1 response page and say, So you should point to this one (point to response option A). Proceed to the next item.

### †Item 2

Expose Item 2 stimulus page and say, **Look at this picture**. Begin timing and allow 3 seconds.

Turn to Item 2 response page and say, Point to the picture I just showed you.

Correct response [B]: Proceed to the next item.

†Incorrect response: Expose Item 2 stimulus page and say, I showed you this picture. Expose Item 2 response page and say, So you should point to this one (point to response option B). Proceed to the next item.

# **Items 3–6**

Expose the stimulus page and say, **Look at this picture**. Begin timing and allow 3 seconds. Do *not* shorten or eliminate this instruction.

Turn to the item response page and say, Point to the picture I just showed you.

This instruction may be shortened or eliminated when the child understands the task.

Proceed to the next item if the discontinue criterion has not been met.





# Sample Item B

Expose Sample Item B stimulus page and say, Look at these pictures. Begin timing and allow 5 seconds.

Turn to Sample Item B response page and say, Point to the pictures I just showed you.

Correct response [A, B]: Say, That's right. Proceed to Item 7.

Incorrect response: Say, **That's not quite right.** Expose Sample Item B stimulus page and say, **I showed you these pictures.** Expose Sample Item B response page and say, **So you should point to** *these* (point to response options A and B). Proceed to Item 7.

# †Item 7

Expose Item 7 stimulus page and say, Look at these pictures. Begin timing and allow 5 seconds.

Turn to Item 7 response page and say, Point to the pictures I just showed you.

Correct response [C, D]: Proceed to the next item.

†Incorrect response: Expose Item 7 stimulus page and say, I showed you these pictures. Expose Item 7 response page and say, So you should point to these (point to response options C and D). Proceed to the next item if the discontinue criterion has not been met.

### †Item 8

Expose Item 8 stimulus page and say, **Look at these pictures.** Begin timing and allow 5 seconds.

Turn to Item 8 response page and say, Point to the pictures I just showed you.

Correct response [A, B]: Proceed to the next item.

†Incorrect response: Expose Item 8 stimulus page and say, I showed you these pictures. Expose Item 8 response page and say, So you should point to these (point to response options A and B). Proceed to the next item if the discontinue criterion has not been met.

# Items 9-35

Expose the stimulus page and say, **Look at these pictures.** Begin timing and allow 5 seconds. Do *not* shorten or eliminate this instruction.

Turn to the item response page and say, Point to the pictures I just showed you.

This instruction may be shortened or eliminated when the child understands the task.

Proceed to the next item if the discontinue criterion has not been met.







# Correct Responses

	ltem	Correct Response	Item	Correct Response
2:6-3:11	SA.	В	18.	C, D, F
	†1.	A	19.	A, E, F
	†2.	В	20.	B, E, F
	3.	A	21.	A, D, G
	4.	В	22.	В, С, Н
	5.	С	23.	A, C, E, F
	6.	A	24.	B, C, D, F
	SB.	A, B	25.	B, D, F, G
	†7.	C, D	26.	A, B, D, G
	†8.	A, B	27.	В, С, Н, І
	9.	A, D	28.	A, D, G, I
	10.	B, D	29.	A, B, E, F, H
	11.	A, E	30.	B, C, E, G, H
	12.	B, F	31.	A, C, F, H, I
	13.	A, B, C	32.	B, D, F, H, I
	14.	A, B, E	33.	B, D, H, I, J, L
	15.	B, C, F	34.	A, C, E, F, H, K
	16.	B, D, E	35.	B, C, E, G, H, J, L
	17.	B, D, F		







# 4. Information

For picture items, the child selects the response option that best answers a question about a general-knowledge topic. For verbal items, the child answers questions about a broad range of general-knowledge topics.

# Materials

Administration and Scoring Manual Record Form

Stimulus Book 1

# Start

Ages 2:6-3:11

Item 1

# Discontinue

Discontinue after 3 consecutive scores of 0.

# **General Directions**

- Each item may be repeated as often as necessary, but do not alter the wording in any way.
- Use the local pronunciation for each item or the pronunciation you believe to be familiar to the child.

# Picture Items (Items 1-4)

- Picture items are presented in the Stimulus Book. Read each item verbatim to the child and point to the pictures in the Stimulus Book as instructed.
- The child must indicate his or her choice by either pointing to or saying the number of the selected response option. If the child responds with any other type of verbalization (e.g., names the picture), say, Show me.
- If the child selects multiple response options for an item or self-corrects after his or her initial response, score only the intended response. If it is not clear which one is the intended response, say, You (said, pointed to) [insert child's response], and you (said, pointed to) [insert child's response]. Which one did you mean?
- Items 1 and 2 are teaching items. Corrective feedback is provided if the child does not obtain a perfect score.



# Verbal Items (Items 5–29)

- Remove the Stimulus Book from the child's view before administering verbal items.
- Read each item verbatim to the child.
- If the child's response is unclear or too vague to be readily scored or is followed by a (0) in the sample responses, say, What do you mean? or Tell me more about it (or some other neutral inquiry).
- If the child gives a verbal and a nonverbal response that are contradictory (e.g., says "Seven" but holds up five fingers), ask the child to clarify by saying, Which one do you mean?
- Items with sample responses that require specific query are identified with an asterisk (\*) on the Record Form and in this manual.
- Items 5, 6, 10, 11, 16, and 17 are teaching items. Corrective feedback is provided if the child does not obtain a perfect score. Provide no further assistance on this subtest.

# Score

# Picture Items (Items 1-4)

- Circle the child's response for each item. Correct responses are printed in color on the Record Form and are listed in this manual.
- Score 1 point if the child gives a correct response.
- Score 0 points if the child gives an incorrect response, says that he or she does not know the answer, or does not respond.

# Verbal Items (Items 5–29)

- Record the child's responses verbatim.
- Use the sample responses for each item to facilitate scoring.
- The sample responses are not an exhaustive list but do provide replies that range from relatively inferior to more creditable. It is important that you evaluate unusual responses carefully and refer to the sample responses to facilitate scoring.







- If the child provides multiple responses for an item, refer to the following:
  - Added remarks, obviously not part of the child's answer, do not affect the score. For example, score 1 point if the child responds to *What do people write with?* with "Pencils. I got some erasers too."
  - If the child's responses vary in quality, with no one answer spoiling the entire response, score the best response. For example, if the child responds to *What color is most dirt?* with "Brown and orange," the best response, "Brown," is scored 1 point.
  - A 1-point response to an item accompanied by a spoiled response is scored 0 points. For example, score 0 points if the child responds to *Tell me the name of a vegetable* with "Pepper" but then spoils the response with "salt and pepper."
- Score 1 or 0 points according to the sample responses.

Maximum Information Total Raw Score: 29 points

# **Item Administration**

# Picture Items (Items 1-4)

# 2:6-3:11 †Item 1

Turn to Item 1. Point to the page and say, Show me what you can eat.

Correct response [2]: Proceed to the next item.

†Incorrect response: Point to response option 2 and say, **This is what you can eat.**Proceed to the next item.

# †Item 2

Turn to Item 2 and say, Show me what you take a bath in.

Correct response [4]: Proceed to the next item.

†Incorrect response: Point to response option 4 and say, **This is what you take a** bath in. Proceed to the next item.

# Items 3–4

Present each item in the Stimulus Book and give the corresponding instruction.

Proceed to the next item if the discontinue criterion has not been met.

Remove the Stimulus Book from the child's view before proceeding to Verbal Items.



ltem	Instruction	Correct Response
3.	Show me what goes meow.	1
4.	Show me what you cut with.	3

# Verbal Items (Items 5-29)

Read each item verbatim to the child. Proceed to the next item if the discontinue criterion has not been met.

# \*†5. Show me your mouth. Touch it.

### 1 point

[Touches, points to, or otherwise indicates own or examiner's mouth]

### 0 points

[Touches, points to, or otherwise indicates different part of face or head] (0)

Mouth; [Child responds *mouth* without nonverbal indication] (0)\*

[Touches, points to, or otherwise indicates any other body part]

# \*†6. Show me your knee. Touch it.

# 1 point

[Touches, points to, or otherwise indicates own or examiner's knee]

# 0 points

[Touches, points to, or otherwise indicates different part of leg] (0)

Knee; [Child responds *knee* without nonverbal indication] (0)\*

[Touches, points to, or otherwise indicates any other body part]





<sup>\*</sup>If the child responds mouth, repeat the item again, emphasizing Show.

<sup>†</sup> If the child does not provide a 1-point response, point to the child's mouth and say, **This is your mouth.** 

<sup>\*</sup>If the child responds knee, repeat the item again, emphasizing Show.

<sup>†</sup> If the child does not provide a 1-point response, point to the child's knee and say, **This is your knee.** 



# 7. How old are you?

### 1 point

[Verbally or physically indicates correct age]

(Three, Four) on my birthday; [Verbally indicates correct age on next birthday]

### 0 points

[Verbally or physically indicates incorrect age]

# 8. What goes in a cup?

# 1 point

Liquid; Fluid; Drinks Golf ball

Water; Juice; Milk; Soda; Coffee; Tea; Soup; [Names consumable liquid]

Straw; Spoon (0)

# 0 points

Ice (**Q**)

Pour; Pour them (0)

Pencils; Pens (0)

[Demonstrates drinking] (0)

Food; Snacks (Q)

Cereal; Ice cream; Pudding; [Names food typically served in cup or bowl] (0)

Sandwich; Pizza; [Names food typically served on plate]

Flour; Butter; Sugar; [Names solid typically measured in cup] (0)

Breakfast; Lunch; Dinner; [Names specific meal ( $\mathbf{Q}$ )

Cleaner; Gas; Oil; [Names non-consumable liquid]

# 9. What do people write with?

# 1 point

Pencil; Pen; Chalk; Marker; Crayon; Color(s)

Computer; Typewriter; Keyboard

Hands; Fingers

# 0 points

Paper (Q)

Letters (0)

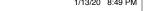
[Demonstrates writing motion] (0)

Book (**Q**)

[Points to examiner's pen or pencil] (0)

(In, At) school







### \*†10. What color is most dirt?

### 1 point

Brown; Black; Tan; Gray; [Names shade of brown or black]

### 0 points

Red; Orange; Yellow; White (0)\* [Points to brown or black object] (0)

Sand (0) Mud; Clay; Soil

Green; Blue; [Names any other color] Dirty; Gross; Yucky

\*If the child names a shade of red, orange, yellow, or white, say, What other color can dirt be?

†If the child does not provide a 1-point response, say, Most dirt is brown or black.

# †11. How many eyes do you have?

# 1 point

[Verbally or physically indicates two]

### 0 points

[Verbally or physically indicates any number other than two]

[Points to own or examiner's eyes]

†If the child does not provide a 1-point response, say, You have two eyes.

# 12. What do people use to stay dry in the rain?

# 1 point

Umbrella Raincoat; Rain jacket; Rain gear; Slicker

Round thing that goes over your head; Jacket; Poncho; Coat

[Describes umbrella] Hat; Cap; Hood

Boots; Galoshes

Swimsuit; Mask

# 0 points

[Demonstrates using umbrella] (0) Hoodie (0)

Shelter; House; Roof; Car; Building (0) Clothes; Clothing (0)

You (go, stay) inside (Q) Towel; Blanket (Q)

Book; Backpack; Paper (0) Wipers; Windshield wipers; [Demonstrates

wiper motion]







# \*13. What animal lays eggs?

### 1 point

Bird; Chicken; Hen; Duck; [Names egg-laying bird]

Platypus; Echidna; [Names egg-laying mammal]

Dinosaur

Salmon; Ant; Butterfly; Alligator; Crocodile; Turtle; Frog; Snake; [Names egg-laying fish, insect, reptile, or amphibian]

Spider; Scorpion

# 0 points

Mammal; Amphibian; Reptile (0)

Animals; Fish; Insects (0)

Cat; Horse; Cow; [Names live-bearing mammal]

Rooster (Q)

Rabbit; Bunny (0)\*

Moms; Mommy animals

# 14. What grows in the ground?

# 1 point

Plants; Flowers; Trees; Grass; Bushes

[Names specific plant, flower, tree, grass,

or bush]

Seeds; Beans

Roots

Vegetables; Fruits

Corn; Peanuts; Tomatoes; [Names specific

vegetable or fruit]

Crops; Gardens; Forests

### 0 points

Leaf; Leaves (0)

Worms; Grubs; Ants (0)

Caterpillars; Grasshoppers

Mole; Snake; [Names animal that lives underground]

Food (**Q**)

Dirt; Rocks; Water; Lava; [Names nonliving

thing found underground]

Buildings; Sidewalks



<sup>\*</sup>If the child says rabbit or bunny, say, What other animal lays eggs?



### 15. Who wears a crown?

Debutante; Quinceañera

### 1 point

King; Queen Prince; Princess

Royalty; Dictators; Rulers Cinderella; Snow White; [Names fictional

character who wears crown]

Miss America; [Names beauty [Names religious figure depicted

pageant winner] wearing crown]

[Names historical figure who wears or wore crown]

### 0 points

You wear one when (pretending, playing make believe, playing dress-up, it's your

birthday) (0)

Me; I wear one (0)

President; Senator; Mayor

Actors (0)

People; Girls; Boys (0)

Policeman; Fireman

Singers

# †16. How many legs does a bird have?

### 1 point

Two

### 0 points

[Physically indicates two] (0)

(Long, Skinny, Bird) legs

[Verbally or physically indicates any number other than two]

†If the child does not provide a 1-point response, say, A bird has two legs.

### †17. (Display pinky.) What is this finger called?

### 1 point

Pinky Fifth finger

(Little, Baby, Small, Tiny) finger (Little, Baby, Small, Tiny) one

0 points

Little; Baby; Small; Tiny (0) (Last, First) (finger, one) (0)

Five; One (0) Thumb; Pointer; Ring; Middle

Finger; Fingernail; Hand; Nail

†If the child does not provide a 1-point response, display pinky and say, **This finger is called a pinky.** 







# 18. What do people use to chew their food?

# 1 point

Teeth; Mouth; Jaws

### 0 points

Tongue (Q)

[Points to mouth or teeth] (0)

Bite; Eat; They eat (0)

[Demonstrates chewing] (0)

Gums [must have s] (0)

Fork; Knife (0)

Gum; Bubble gum

Spoon; Plate

Apple; Chicken; [Names specific food]

# 19. Tell me the name of a vegetable.

### 1 point

Carrots; Peas; Broccoli; Spinach; Beans;

Potato; Sweet potato; Yams

Green beans; [Names any vegetable]

Tomato; Avocado; [Names fruit commonly

Peppers; Bell peppers

Pumpkin; Squash

referred to as vegetable]

### 0 points

Green (0)

Salad; Pickle (0)

French fries; Mashed potatoes;

Potato chips (0)

Macaroni and cheese; Spaghetti; Pasta (Q)

Ketchup; Spaghetti sauce (0)

Hot dog; Pizza; [Names any other food]

Fruit

Eat them; Food; Good for you

Orange; Grapes; Strawberry; Apple; Banana; Pear; Cherry; [Names any other fruit]







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# \*20. What day comes right after Saturday?

### 1 point

Sunday

#### 0 points

Weekend; Day of rest; Sabbath; Church (Q) Tomorrow; Yesterday; Today (Q)\*

[Names any other day] Morning; School day; School

## 21. What body part do people use to breathe?

#### 1 point

Mouth; Nose Lungs; Bronchi; Diaphragm

Windpipe; Breathing (tube, pipe);

Air (tube, pipe)

#### 0 points

Chest; Ribs (0) Throat; Neck (0)

Brain; Head (0) [Physically indicates mouth, nose, neck,

Air; Oxygen (Q) or chest] (Q)

[Demonstrates breathing]

Heart; Stomach; Tummy

## \*22. Tell me the name of a planet.

#### 1 point

Earth Mars; Jupiter; Saturn; Mercury;
Venus; Uranus; Neptune;
[Names nonfictional planet]

#### 0 points

World (0) Krypton; [Names fictional planet] (0)\*

Moon; Sun (Q) Europe; Brazil

\*If the child names a fictional planet, say, Tell me the name of another planet.





<sup>\*</sup>If the child says tomorrow, yesterday, or today, say, What day is that?

# 23. What season comes right after winter?

#### 1 point

Spring; Springtime

#### 0 points

March (0) Rain; Rainy (0)

Summer; Fall; Autumn; Winter Snow; Snowy

Easter; Christmas; Hanukkah Hot; Gets (hot, warmer)

## 24. How many months are in a year?

#### 1 point

12 [Names all 12 months of the year]

#### 0 points

7; [Names number other than 12] [Names fewer than 12 months of the year]

[Names days of the week]

#### 25. What is cheese made of?

#### 1 point

Milk

0 points

Dairy (Q)

Butter; Yogurt; [Names specific dairy food] (0)

Calcium; Protein (0)

Eggs; Oil

(American, Cheddar, Swiss) cheese

In a sandwich; Ham and cheese

Milk from a (cow, buffalo, goat, sheep)

Cow; Goat; Sheep; [Names animal that typically produces milk for human consumption] (0)

Bacteria; Mold (0)

Cat; Chicken; Mouse; [Names animal that does not typically produce milk for human consumption]







## \*26. What is the opposite of south?

### 1 point

North; North Pole

Up

### 0 points

[Points up or to the north] (0)\* [Points in a direction other than up or north]

Snow; Snowy; Cold

Santa's house West; East

# 27. What is the biggest ocean in the world?

## 1 point

Pacific Ocean Pacific Ocean

## 0 points

One next to (California, Hawaii, Alaska); [Indicates Pacific Ocean without

naming it] (0)

Atlantic; Indian; [Names any other ocean]

Beach; Sea; Lake; River; Water

#### \*28. What are most noodles made of?

## 1 point

Wheat; Flour Rice; Grain

## 0 points

Eggs (Q) Dough; Pasta (Q)\*

Potatoes; Beans; Acorns; Buckwheat (0) Spaghetti; Macaroni; Linguine; [Names type of pasta]

Milk; Cheese

Peas; Corn Boiled water; Water

(Spaghetti, Tomato) sauce





<sup>\*</sup>If the child points up or to the north, say, What direction is that?

<sup>\*</sup>If the child says dough or pasta, say, Yes, but what is [insert child's response] made of?



## \*29. Where does the sun rise?

#### 1 point

East

## 0 points

[Points right or to the east]  $(0)^*$  (At, On, To) the right  $(0)^*$ 

[Points in a direction other than right Behind the mountains; Over the ocean;

or east] Over the horizon

On the side of the earth To the left

Up; In the sky; In space North; South; West

At (dawn, morning) From the (cloud, moon, stars)

\*If the child points right or to the east, or says (At, On, To) the right, say, What direction is that?







# 5. Object Assembly

Working within a specified time limit, the child assembles the pieces of a puzzle to create a representation of an identified object.

# Materials

Administration and Scoring Manual

Record Form

13 Puzzles

Stopwatch

# Start

Ages 2:6-3:11

Item 1

# Discontinue

Discontinue after 2 consecutive scores of 0.

# Timing

The time limit for each item is **90** seconds.

Accurate timing is essential. Begin timing for each item after saying the last word of instruction.

Stop timing when the child completes the item, the time limit expires, or it is clear from the child's words or gestures that he or she has finished. If uncertain, ask the child if he or she has finished working.

In the interest of maintaining rapport, allow a few additional seconds for the child to complete an item if he or she is nearing completion when the time limit expires. However, do not award credit for junctures that were correctly joined after the time limit.





# •

## **General Directions**

- Ensure that the child is seated directly facing the edge of the table.
- The puzzles illustrated on the Record Form are from your perspective (i.e., upside down), with each red "X" representing a correctly joined juncture.
- If the child flips a puzzle piece over during the task, unobtrusively turn the piece right-side up again.
- If the child hesitates or seems merely to be playing with the pieces, say, Work as fast as you can.
- Item 1 has two trials. If the child correctly joins all of the junctures within the time limit on Trial 1, proceed to the next item. If the child does not correctly join all of the junctures or exceeds the time limit on Trial 1, administer Trial 2.
- Present only the pieces needed to construct each puzzle. Remove all unnecessary puzzle pieces from the child's view.

# **Standard Presentation Procedures**

- Before beginning each item, sequentially sort the puzzle pieces in your hand, out of the child's view. Stack the pieces face-down in sequential order, starting with the highest-numbered piece and ending with the piece numbered 1.
- Working from your left to right, place the pieces in sequential order, with the number side visible and the numbers upright, from your perspective. The underlines beneath the numbers should be parallel to your edge of the table. Place those pieces with one underline in the first row, closest to the child. Place the pieces with double underlines in the second row, closest to you. Place the pieces so that they are within comfortable reach of the child.
- When properly aligned, an imaginary line can be drawn through the underlines on the back of each piece in a row. See Figure 3.5 for an example of properly aligned puzzle pieces with the number side visible.







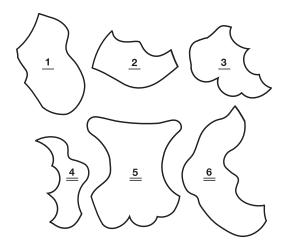


Figure 3.5 Proper Alignment of Puzzle Pieces With Number Side Visible

After the pieces are properly aligned, expose the picture side of the pieces sequentially, beginning with the piece numbered 1. The pieces are flipped from top to bottom, not from left to right. Figure 3.6 depicts how the puzzle pieces in Figure 3.5 should appear after flipping them to the picture side.



Figure 3.6 Proper Alignment of Puzzle Pieces With Picture Side Visible

Present only the pieces needed to complete each puzzle. Remove all unnecessary puzzle pieces from the child's view.







## Score

- Record the completion time in seconds for each item.
- A juncture is the place where two adjacent pieces meet. Two pieces are considered correctly joined even if the child forms certain segments of the puzzle in isolation but fails to integrate them with the other puzzle pieces. For example, on Item 13 (Butterfly) the child may correctly join adjacent wing pieces without integrating them to form the whole butterfly.
- Because the development of fine motor skills may lag behind the development of cognitive ability, gaps and/or misalignments between adjacent pieces that are less than or equal to ¼ inch are not penalized. Adjacent pieces with gaps and/or misalignments that exceed ¼ inch should not be judged as correctly joined.
- To assist in scoring, pictures of the items are provided on the Record Form, with each juncture noted with a red "X." Circle the "X" that corresponds to each correctly joined juncture at the time limit.
- Record the number of correctly joined junctures within the time limit.
   The range of possible correct junctures appears in the Number of Correct Junctures column.

# Item 1

- Score 1 point if the juncture is joined correctly within the time limit on *either* Trial 1 or Trial 2.
- Score 0 points if the juncture is not joined correctly within the time limit on *both* Trial 1 and Trial 2.

# Items 2-11

- Score 1 point for each correctly joined juncture within the time limit.
- Score 0 points if there are no correctly joined junctures within the time limit.

## Items 12-13

- Score ½ point for each correctly joined juncture within the time limit. Partial scores are rounded up.
- Score 0 points if there are no correctly joined junctures within the time limit.

Maximum Object Assembly Total Raw Score: 38 points



# **Item Administration**

# 2:6-3:11 Item 1. Watermelon

#### **Trial 1**

Present the pieces to the child and say, These pieces make a watermelon. See, they fit together like this. Slowly put the pieces together and allow the child to look at the assembled puzzle for approximately 3 seconds.

Disassemble the puzzle and present the pieces to the child. Say, **Now you try. Put** them together as fast as you can and tell me when you're done. Go ahead.

Begin timing and allow 90 seconds.

Correct assembly within the time limit: Proceed to the next item.

Incorrect assembly: Administer Trial 2.

#### **Trial 2**

Disassemble the puzzle and present the pieces to the child. Say, **See**, they go like this.

Slowly put the pieces together and allow the child to look at the assembled puzzle for approximately 3 seconds.

Disassemble the puzzle and present the pieces to the child. Say, Now you try again. Put them together as fast as you can and tell me when you're done. Go ahead.

Begin timing and allow 90 seconds.

Proceed to the next item.

# Items 2-13

Present the pieces to the child and say, These pieces make a [insert item name]. Put them together as fast as you can and tell me when you're done. Go ahead.

Begin timing and allow 90 seconds.

Proceed to the next item if the discontinue criterion has not been met.







# 6. Zoo Locations

The child views one or more animal cards placed on a zoo layout for a specified time and then places each card in the previously viewed locations.

# Materials

Administration and Scoring Manual

Record Form

Zoo Locations Layouts

Zoo Locations Animal Cards

Stopwatch

# Start

Ages 2:6-3:11

Sample Item, then Item 1

# Discontinue

Discontinue after 2 consecutive scores of 0.

# Timing

**Sample Item–Item 6:** Expose the cards in their correct locations for **3** seconds.

**Items 7–20:** Expose the cards in their correct locations for **5** seconds.

A red line on the Record Form is a visual reminder of the change in exposure time.

Accurate exposure time is essential. Begin timing after presenting the last card and giving the last word of instruction.

Immediately following exposure, quickly collect and stack the animal cards in random order and hand to the child, animal-side up.

# **General Directions**

- There are six Zoo Layouts. Ensure only the layout for the current item is visible to the child.
- There are 64 Animal Cards divided into three groups according to item number. The cards for the sample item and Items 1–10 are included in the first group, the cards for Items 11–15 are included in the second group, and the cards for Items 16–20 are included in the third group.



- Items are administered by placing Animal Cards in specific locations on the Zoo Layouts. After the specified exposure time, the cards are removed from the layout, randomly stacked, and then presented to the child, who attempts to reproduce the card locations from memory.
- The child must indicate his or her response(s) by placing each card in an acceptable location on the Zoo Layout. Acceptable locations are designated by the light brown areas.
- Do not allow the child to touch the Animal Cards until you hand them to him or her.
- If the child turns a card animal-side down during the task, unobtrusively turn the card right-side up again.
- A child may self-correct after his or her initial response. If it is unclear whether it is the child's final response, ask the child if he or she has finished.
- If the child asks if he or she must place the cards in a specific order, say, You don't have to put the cards down in order. Just put each animal where it lives.
- If the child attempts to place multiple cards in a single, acceptable location, point to the location with multiple cards and say, Only one animal lives in each place.
- If the child attempts to place a card between acceptable locations (e.g., in a green area), say, The animals only live in the brown places (point to acceptable locations).
- The sample item and Items 1 and 2 have two trials each. If the child correctly places the card on Trial 1, proceed to the next item. If the child does not correctly place the card on Trial 1, administer Trial 2.
- Items 1–2 and 5–8 are teaching items. Corrective feedback is provided if the child does not obtain a perfect score. Provide no further assistance on this subtest.

## Standard Presentation Procedures

- With the exception of the card for the sample item, the back of each Animal Card has a number and letter. The number indicates the item number and the letter indicates the presentation order. The card for the sample item is labeled SA.
- Prior to administration, sequentially stack the three groups of Animal Cards by number and letter, with the number and letter side visible and upright from your perspective. The top card for the Sample Item-Item 10 card group should be labeled SA, and the bottom card should be labeled 10C.







The top card for the Items 11–15 card group should be labeled 11A, and the bottom card should be labeled 15E. The top card for the Items 16–20 card group should be labeled 16A, and the bottom card should be labeled 20G.

- Animal Cards not being used during item administration should be placed out of the child's view.
- The locations for card placement appear in a key for each item (see Figure 3.7 below).

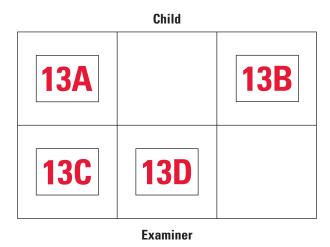


Figure 3.7 Example of Key for Animal Card Placement

To present the cards for an item, select the required cards from the stack of Animal Cards. The cards should be in alphabetical order, with the "A" card on top. Sequentially place each card in its keyed location by flipping the card from top to bottom *as you place it* on the Zoo Layout. The child should never see the labeled side of the card placed on the layout. The animal side of each card will be right side up from the child's perspective if the cards are presented in this manner. See Figure 3.8 for an example of how the Zoo Layout appears when the Animal Cards are presented according to the key.



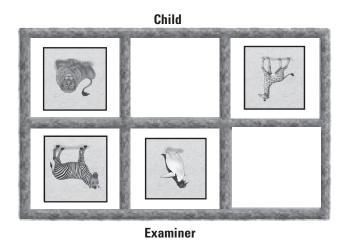


Figure 3.8 Example of Zoo Layout With Animal Cards Presented According to Key

# **Score**

- For each item, the correct location of each Animal Card is depicted in the Response column. Each Animal Card is represented by the first letter of the depicted animal's name (e.g., L represents the *lion*, M represents the *monkey*, **P** represents the *penguin*). The abbreviations are included in a legend on the Record Form.
- The child is not penalized for placing cards in rotated orientations (e.g., the animal is upside down from his or her perspective). Credit should be awarded for correct placement of a card in any orientation.
- Record the child's placement of each Animal Card as follows:
  - For correctly placed cards, record a check mark over the letter in the key. In the example in Figure 3.9, the child placed the Lion card in the correct location.



Figure 3.9 Recording Correctly Placed Animal Card







For incorrectly placed cards, record the first letter of the animal's name in the placed location. In the example in Figure 3.10, the child placed the Lion card in the correct location, incorrectly placed the Zebra card in the Giraffe's location, incorrectly placed the Giraffe card in the Zebra's location, and placed the Penguin card in an incorrect location.

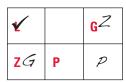


Figure 3.10 Recording Incorrectly Placed Animal Cards

- Items 1 and 2 have two trials. For Items 1 and 2, score 1 point if the child gives a correct response on either Trial 1 or Trial 2. Score 0 points if the child gives an incorrect response on both Trial 1 and Trial 2.
- Correct responses for Items 1–4 and 7 require the correct placement of a single card. Correct responses for Items 5-6 and 8-20 require the correct placement of multiple cards. For items with multiple cards, all cards must be placed in the correct locations to earn credit.
- Score 1 point if the child gives a correct response. Score 0 points if the child gives an incorrect response, says that he or she does not know the answer, or does not respond.

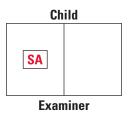
Maximum Zoo Locations Total Raw Score: 20 points

# Item Administration

# 2:6-3:11 Sample Item

#### **Trial 1**

Position the layout for Sample-Item 2 in front of the child and say, Let's go to the zoo.









Present the card according to the key and say, The monkey lives here. Remember where the monkey lives. Begin timing and allow 3 seconds.

Collect the card, hand it to the child, and say, Put the monkey where it lives.

Correct response: Say, That's right. Let's try some more. Collect the card and proceed to Item 1.

Incorrect response: Say, That's not quite right. Collect the card, place it in the correct location, and say, The monkey lives here, so you should put it here. Let's try again. Collect the card and administer Trial 2.

#### **Trial 2**

Present the card according to the key and say, The monkey lives here. Remember where the monkey lives. Begin timing and allow 3 seconds.

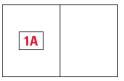
Collect the card, hand it to the child, and say, Put the monkey where it lives.

Correct response: Say, That's right. Let's try some more. Collect the card and proceed to Item 1.

Incorrect response: Say, That's not quite right. Collect the card, place it in the correct location, and say, The monkey lives here, so you should put it here. **Let's try some more.** Collect the card and proceed to Item 1.

# †Item 1

## **Trial 1**



Present the card according to the key and say, The lion lives here. Remember where the lion lives. Begin timing and allow 3 seconds.

Collect the card, hand it to the child, and say, **Put the lion where it lives.** 

Correct response: Collect the card and proceed to the next item.

†Incorrect response: Collect the card, place it in the correct location, and say, The lion lives here, so you should put it here. Let's try again. Collect the card and administer Trial 2.





#### **Trial 2**

Present the card according to the key and say, **The lion lives here. Remember where the lion lives.** Begin timing and allow 3 seconds.

Collect the card, hand it to the child, and say, Put the lion where it lives.

Correct response: Collect the card and proceed to the next item.

†Incorrect response: Collect the card, place it in the correct location, and say, **The lion lives here, so you should put it here.** Collect the card and proceed to the next item.

## †Item 2

#### **Trial 1**



Present the card according to the key and say, **Now the lion lives here. Remember** where the lion lives. Begin timing and allow 3 seconds.

Collect the card, hand it to the child, and say, Put the lion where it lives.

Correct response: Collect the card and proceed to the next item.

†Incorrect response: Collect the card, place it in the correct location, and say, **The lion lives here, so you should put it here. Let's try again.** Collect the card and administer Trial 2.

## **Trial 2**

Present the card according to the key and say, **The lion lives here. Remember where the lion lives.** Begin timing and allow 3 seconds.

Collect the card, hand it to the child, and say, Put the lion where it lives.

Correct response: Collect the card and proceed to the next item.

†Incorrect response: Collect the card, place it in the correct location, and say, **The lion lives here, so you should put it here.** Collect the card and proceed to the
next item if the discontinue criterion has not been met.



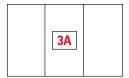






## Item 3

Position the layout for Items 3–6 in front of the child.



Present the card according to the key and say, The zebra lives here. Remember where the zebra lives. Begin timing and allow 3 seconds.

Collect the card, hand it to the child, and say, Put the zebra where it lives.

Correct response: Collect the card and proceed to the next item.

Incorrect response: Collect the card and proceed to the next item if the discontinue criterion has not been met.

## Item 4



Present the card according to the key and say, The bear lives here. Remember where the bear lives. Begin timing and allow 3 seconds.

Collect the card, hand it to the child, and say, Put the bear where it lives.

Correct response: Collect the card and proceed to the next item.

Incorrect response: Collect the card and proceed to the next item if the discontinue criterion has not been met.

# †Item 5



Present the cards according to the key and say, The animals live here. Remember where each animal lives. Begin timing and allow 3 seconds.







Collect the cards, hand them to the child, and say, Put each animal where it lives.

Correct response: Collect the cards and proceed to the next item.

†Incorrect response: Collect the cards and place them in their correct locations. Say, The bear lives here (point to bear), so you should put it here. The zebra lives here (point to zebra), so you should put it here. Collect the cards and proceed to the next item if the discontinue criterion has not been met.

# †Item 6



Present the cards according to the key and say, **The animals live here. Remember** where each animal lives. Begin timing and allow 3 seconds.

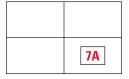
Collect the cards, hand them to the child, and say, Put each animal where it lives.

Correct response: Collect the cards and proceed to the next item.

†Incorrect response: Collect the cards and place them in their correct locations. Say, The zebra lives here (point to zebra), so you should put it here. The bear lives here (point to bear), so you should put it here. Collect the cards and proceed to the next item if the discontinue criterion has not been met.

## †Item 7

Position the layout for Items 7–10 in front of the child.



Present the card according to the key and say, **The penguin lives here. Remember** where the penguin lives. Begin timing and allow 5 seconds.

Collect the card, hand it to the child, and say, Put the penguin where it lives.

Correct response: Collect the card and proceed to the next item.

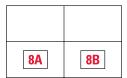
†Incorrect response: Collect the card, place it in the correct location, and say, **The penguin lives here, so you should put it here.** Collect the card and proceed to the next item if the discontinue criterion has not been met.







# †Item 8



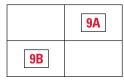
Present the cards according to the key and say, The animals live here. Remember where each animal lives. Begin timing and allow 5 seconds.

Collect the cards, hand them to the child, and say, Put each animal where it lives.

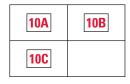
Correct response: Collect the cards and proceed to the next item.

†Incorrect response: Collect the cards and place them in their correct locations. Say, The elephant lives here (point to elephant), so you should put it here. The tiger lives here (point to tiger), so you should put it here. Collect the cards and proceed to the next item if the discontinue criterion has not been met.

# Items 9-10



Item 9



Item 10

Present the cards according to the key and say, Remember where each animal lives. Begin timing and allow 5 seconds.

Collect the cards, hand them to the child, and say, Put each animal where it lives. This instruction may be shortened or eliminated when the child understands the task.

Correct response: Collect the cards and proceed to the next item.

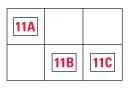
Incorrect response: Collect the cards and proceed to the next item if the discontinue criterion has not been met.





# Items 11-13

Position the layout for Items 11–13 in front of the child.





Item 11

**Item 12** 



Item 13

Present the cards according to the key and say, Remember where each animal lives. Begin timing and allow 5 seconds.

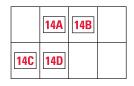
Collect the cards, hand them to the child, and say, **Put each animal where it lives.**This instruction may be shortened or eliminated when the child understands the task.

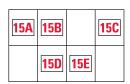
Correct response: Collect the cards and proceed to the next item.

Incorrect response: Collect the cards and proceed to the next item if the discontinue criterion has not been met.

# Items 14-15

Position the layout for Items 14–15 in front of the child.





Item 14

Item 15

Present the cards according to the key and say, Remember where each animal lives.

Begin timing and allow 5 seconds.

Collect the cards, hand them to the child, and say, **Put each animal where it lives.**This instruction may be shortened or eliminated when the child understands the task.

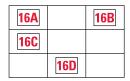
Correct response: Collect the cards and proceed to the next item.



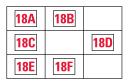
Incorrect response: Collect the cards and proceed to the next item if the discontinue criterion has not been met.

## Items 16-20

Position the layout for Items 16–20 in front of the child.



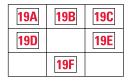
17A		17B
	17C	
17D		17E



Item 16

Item 17

Item 18





Item 19

Item 20

Present the cards according to the key and say, Remember where each animal lives. Begin timing and allow 5 seconds.

Collect the cards, hand them to the child, and say, Put each animal where it lives. This instruction may be shortened or eliminated when the child understands the task.

Correct response: Collect the cards and proceed to the next item.

Incorrect response: Collect the cards and proceed to the next item if the discontinue criterion has not been met.







# 7. Picture Naming

The child names depicted objects.



## Materials

Administration and Scoring Manual Record Form

Stimulus Book 1



Ages 2:6-3:11

Item 1

# Discontinue

Discontinue after **3** consecutive scores of 0.

# **General Directions**

- There are four general response situations that require further query by the examiner: marginal responses, generalized responses, functional descriptions, and hand gestures. Provide these queries as often as necessary.
  - If the child provides a marginal but appropriate response for an item, such as responding "truck" to the car or "snippers" to the scissors, ask him or her to clarify the response by saying, Yes, but what else is it called?
  - If the child gives an appropriate generalized response to an item, such as responding "bug" to the *ladybug* or "fruit" to the *banana*, ask him or her to clarify the response by saying, Yes, but what kind of [insert child's response] is it?
  - If the child gives an appropriate functional description of an item, such as responding "You play with it" to the bear or "It makes music" to the guitar, ask him or her to clarify the response by pointing to the picture and saying, Yes, but what is it called?
  - If the child uses appropriate hand gestures for an item, such as pretending to brush his or her teeth in response to the *toothbrush*, ask him or her to clarify the response by saying, Yes, but what is it called?
- Common responses that require a query are followed by the notation (Q) in the sample responses. All responses followed by a (Q) must be queried.







- Items with sample responses that require specific query are identified with an asterisk (\*) on the Record Form and in this manual.
- Item 1 is a teaching item. Corrective feedback is provided if the child does not obtain a perfect score. Provide no further assistance on this subtest.

# Score

- Record the child's responses verbatim.
- Children are not penalized for problems with articulation on this subtest. A child receives credit for correct responses, despite his or her inability to pronounce words clearly.
- Use the sample responses for each item to facilitate scoring.
- The sample responses are not an exhaustive list but do provide replies that range from relatively inferior to more creditable. It is important that you evaluate unusual responses carefully and refer to the sample responses to facilitate scoring.
- Inappropriate marginal responses, generalized responses, functional descriptions, and hand gestures are scored 0 points.
- Personalized responses, such as "I have one" or "Mommy uses one," are scored 0 points. Proper or fictional names are also considered personalized responses and are scored 0 points.
- If the child provides multiple responses for an item, refer to the following:
  - Added remarks, obviously not part of the child's answer, do not affect the score. For example, score 1 point if the child responds to *star* with "A star. I wished on a star last night."
  - If the child's responses vary in quality, with no one answer spoiling the entire response, score the best response. For example, if the child responds to shell with "A crab with a shell," the best response, "Shell," is scored 1 point.
  - A 1-point response to an item accompanied by a spoiled response is scored 0 points. For example, score 0 points if the child responds to pineapple with "A pineapple" but then spoils the response with "No wait, they're called pine cones."
- Score 1 or 0 points according to the sample responses.

Maximum Picture Naming Total Raw Score: 24 points









# **Item Administration**

# 2:6-3:11 †Item 1. Car

Turn to Item 1 in the Stimulus Book. Point to the picture on the page and say, What is this?

Correct response (Car; Auto; Automobile): Proceed to the next item.

†Incorrect response: Say, This is a car. Proceed to the next item.

# Items 2-24

Turn to the appropriate item. Point to the picture on the page and say, What is this?

This instruction may be shortened or eliminated when the child understands the task. Provide queries *as often as necessary* for marginal responses, generalized responses, functional descriptions, and hand gestures, but do not query responses that are clearly incorrect.

Proceed to the next item if the discontinue criterion has not been met.

## Sample Responses

	ltem	1 Point	0 Points	
2-6_3-11	†1.	Car; Auto; Automobile	Vehicle (Q)	
20-0.11			Truck (Q)	
	†If the child does not obtain a perfect score, say, This is a car.			
	2.	Bear; Teddy bear;	Teddy (0)	
		[Names any type of bear]	Stuffed animal (Q)	
			Animal (0)	
			Toy ( <b>Q</b> )	
	3.	Banana; 'Nana; Plantain	Fruit (Q)	
	4.	Balloon	Toy ( <b>Q</b> )	
			Bubble	
	5.	Star; Starfish	Sun (Q)	
			Sparkle; Twinkle	
	6.	Clock	Tick tock;	
			[Demonstrates clock] (Q)	
	7.	Scissors; Shears	Clippers; Trimmers; Cutters; Snippers (0)	
		(Hedge, Bush) clippers	Knife	
	*8.	Toothbrush	Brush; Brush teeth (0)	
			Teeth (Q)	
			Toothpaste (0)*	
	* If the child responds toothpaste, say, Yes, but what is the toothpaste on?			







# Sample Responses (continued)

ltem	1 Point	0 Points
9.	Ladybug; Ladybird	Bug; Insect (0)
		Spider
10.	Guitar; Ukulele	Instrument (Q)
		Banjo; Violin
11.	Kangaroo; Wallaby	Animal (0)
		Roo ( <b>Q</b> )
12.	Shell; Seashell; Clam	Crab; Snail
13.	Broom; Broomstick;	Sweep; Sweeper (0)
	[Names any type of broom]	Clean; Cleaner (Q)
		Brush (0)
		Mop
14.	Caterpillar; Centipede;	Worm; Larvae; Bug; Insect (0)
	Millipede	Butterfly (Q)
15.	Microphone; Mic	Bullhorn; Megaphone (Q)
		Speaker
16.	Pineapple	Fruit (Q)
		Pine cone
		Peach; Apple
17.	Nail; Pin	Needle; Screw (0)
		Tool (Q)
		Pencil
18.	Teapot; Kettle; Coffee pot (Coffee, Tea, Steam) kettle; [Names any type of pot/kettle]	(Tea, Coffee) (maker, thing) (Q)
		(For, Pours) tea (Q)
		Teacup <mark>(Q)</mark>
		Tea
		Steam; Steamer
19.	Globe	Planet; World; Map; Earth (0)
		Where we live (0)
20.	Xylophone; Glockenspiel	Instrument (Q)
		Chimes; Bells (Q)
21.	Thermometer	Temperature; Temperature thing (Q)
		(Blood, Air) thing (Q)
22.	Harp	Instrument (0)
		Violin
23.	Stethoscope; Stethophone	Heart listener (Q)
		Necklace; Telescope
24.	Tripod	Stand (Q)
		(Camera, Video camera, Telescope) (holder, stand) (0)
		Legs









**(** 





# Subtest Administration and Scoring for Ages 4:0–7:7

# **Getting Started**

Detailed subtest administration and scoring procedures for children aged 4:0–7:7 are presented in this chapter. Administration and scoring information for children aged 2:6–3:11 is provided in Chapter 3.

Before you begin, ensure that the necessary test materials are in order and that the child is engaged in the testing process. (Refer to Chapter 2 for guidelines on establishing and maintaining rapport.) Assure the child that breaks are permissable and that he or she should tell you if a break is needed. When you feel that you have attained a sufficient level of rapport and engagement, introduce the WPPSI–IV by saying,

We'll be doing a lot of things today, like looking at pictures, answering questions, and playing with blocks. Some things may be easy, and some may be hard. Just try your best.

Children will differ in the amount of explanation they require. Try to avoid the words *intelligence* and *test* because they may be unfamiliar to young children or cause unnecessary anxiety. If the child expresses misconceptions about the testing, address these concerns in a truthful, nonthreatening manner.







# 1. Block Design

Working within a specified time limit, the child views a model and/or a picture and uses one- or two-color blocks to re-create the design.

# 

Administration and Scoring Manual

Record Form

Stimulus Book 3

Block Design Blocks

Stopwatch

# Start

Ages 4:0-5:11

Item 4

Ages 6:0-7:7

Sample Items A & B, then Item 9

Children suspected of an intellectual disability or general intellectual deficiency should start with Item 1.

# **1** Reverse

If a child does not obtain a perfect score on *either* of the first two items given, administer the preceding items in **reverse** order until the child obtains perfect scores on two consecutive items.

# Discontinue

Discontinue after **2** consecutive scores of 0.

# 🍅 Timing

The time limit for each item is provided in this manual and on the Record Form.

Accurate timing is essential. Begin timing for each item after saying the last word of instruction.

Stop timing when the child completes the item, the time limit expires, or it is clear from the child's words or gestures that he or she has finished. If uncertain, ask the child if he or she has finished working.

In the interest of maintaining rapport, allow a few additional seconds for the child to complete an item if he or she is nearing completion when the time limit expires. However, do not award credit for correct completion of a design after the time limit.







# **General Directions**

- Ensure that the child is seated directly facing the edge of the table.
- The block designs illustrated on the Record Form are from your perspective (i.e., upside down).
- Block Design includes two parts: Part A and Part B. Part A is composed of Items 1–8. Part B is composed of Sample Items A and B, and Items 9–17.
- Part A items use one-color blocks (red or white). Part B items use two-color blocks (red-and-white). The number and color of blocks required for each item are noted in the Blocks Needed column on the Record Form.
- Items 1–2 are stacked designs; Items 3–17 are flat designs.
- Items 1–4 have two trials each. If the child correctly constructs the design within the time limit on Trial 1, proceed to the next appropriate item. If the child does not correctly construct the design or exceeds the time limit on Trial 1, administer Trial 2.
- The sample items are designed to introduce the child to the two-color blocks. Prior to proceeding to Item 9, administer the sample items to all children who do not meet the discontinue criterion during Part A administration.
- Item 9 also has two trials. If the child correctly constructs the design without a rotation error and within the time limit on Trial 1, proceed to the next item. If the child does not correctly construct the design, has a rotation error, or exceeds the time limit on Trial 1, administer Trial 2.

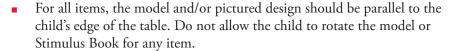
# **Standard Presentation Procedures**

- Items are presented as a model and/or pictured design. The presentation method is identified in the Presentation Method column on the Record Form.
  - Items 1–8 and Sample Items A and B are presented as a model you construct from the design pictured on the Record Form. The model is left intact as the child constructs the design according to the model.
  - Items 9 and 10 are presented as a model you construct from the design pictured in the Stimulus Book. The model is then disassembled, and the child constructs the design according to the image in the Stimulus Book.
  - Items 11–17 are presented to the child as a design pictured in the Stimulus Book.





#### **Block Design**



- It is essential to point to the model and/or pictured design as instructed in the administration directions.
- For test items presented using a model (i.e., Items 1–10), always explain your construction aloud. Use phrases such as, I put a red block here and another red one here and Here I have to use a (white, red-and-white) block.
- When an item model is assembled with 2-color blocks (i.e., the sample items and Items 9–10), the child may occasionally attempt to duplicate the examiner's model exactly. If the child attempts to duplicate the side faces of the model, point to the top faces of the blocks and say, Only the tops of the blocks need to be the same. Allow the child to continue working until the time limit expires.
- For those items presented using a pictured design (i.e., Items 9–17), the child may occasionally attempt to construct the design on top of the Stimulus Book page. If this occurs, point to the appropriate area next to the Stimulus Book and say, Make yours over here. Allow the child to continue working until the time limit expires. Credit is awarded based on the applicable scoring guidelines, regardless of the construction's location.
- For test items using the two-color blocks (i.e., Items 9–17), present the blocks with a variety of surfaces facing up. For items with two blocks, each block should have a different side facing up. For items with four blocks, only one block should have a red-and-white side facing up.
- For items presented using **only** a model or pictured design, place the model or Stimulus Book at a distance of approximately 7 inches (18 centimeters), from the child's edge of the table. If the child is right-handed, position the model or Stimulus Book slightly to the child's left. If the child is lefthanded, position the model or Stimulus Book slightly to the child's right. If the child's handedness is not apparent at the time of testing, position the model or Stimulus Book directly in front of the child.
- For items presented using **both** a model and a pictured design (i.e., Items 9 and 10), place the model next to the Stimulus Book, as illustrated in Figure 4.1.







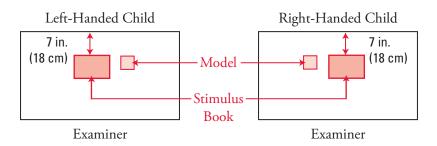


Figure 4.1 Orientation of the Model and Stimulus Book

Present only the blocks needed to construct each item. Remove all unnecessary blocks from the child's view.

# **Correcting Rotation Errors**

- Although any rotation of 30° or more is considered an error, rotation errors are only penalized in Part B.
- A total of two corrections for rotation errors can be made during subtest administration, one in Part A and one in Part B. Correct the first occurrence of a rotation error **on each part** of the subtest by rotating the blocks to the correct position and saying, See, it goes this way. Continue subtest administration.
- Examples of degrees of rotation and rotation errors are shown in Figures 4.2 and 4.3.

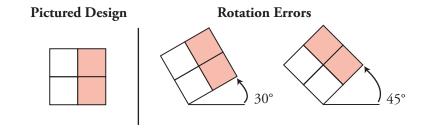


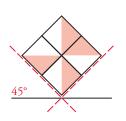
Figure 4.2 Examples of Rotation Errors for Square-Shaped Designs

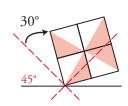




# Pictured Design

## **Rotation Errors**





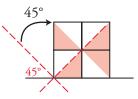


Figure 4.3 Examples of Rotation Errors for Diamond-Shaped Designs

# **Score**

- Record the completion time in seconds for each item. Items completed after the time limit are scored 0 points.
- You have the option of recording the child's constructions on the blank grids in the Constructed Design column. Shade the grid to match the child's design at the time limit or when the child indicates that he or she is finished. For correct constructions, you may place a check mark on the grid, as shown below.



Recording Correct Constructions

# Rotation and Reversal of Designs

• For all rotated constructions, indicate the degree of rotation with an arrow and the number of degrees rotated, as shown below.



**Recording Rotations** 







#### Part A

For Items 1–8, *no* degree of rotation (even a complete reversal) is judged as incorrect. Although the rotations are noted for Items 1–8, they do not carry a penalty.

#### Part B

For Items 9–17, any rotation of 30° or more is incorrect and is scored 0 points, including the first rotation that is corrected.

# Gaps and Misalignment Between Blocks

- For items on both Part A and Part B, gaps and/or misalignments between blocks that are less than or equal to 1/4 inch (approximately 1/4th the length or width of a block) are *not* penalized. Only those designs with gaps and/or misalignments that exceed 1/4 inch are penalized and should be scored 0 points.
- Figure 4.4 depicts acceptable \( \frac{1}{4} \)-inch gaps and/or misalignments between blocks. Note that a single design may have both gaps and misalignments between blocks.

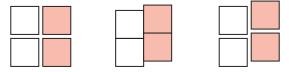


Figure 4.4 Examples of Acceptable Gaps and Misalignments Between Blocks

## Items 1-4

- Score 2 points if the child constructs the design correctly within the time limit on Trial 1.
- Score 1 point if the child constructs the design correctly within the time limit on Trial 2.
- Score 0 points if the child does not construct the design correctly or exceeds the time limit on both Trial 1 and Trial 2.







## Items 5–8

- Score 2 points if the child constructs the design correctly within the time limit.
- Score 0 points if the child does not construct the design correctly or exceeds the time limit.

## Item 9

- Score 2 points if the child constructs the design correctly, without a rotation error, and within the time limit on Trial 1.
- Score 1 point if the child constructs the design correctly, without a rotation error, and within the time limit on Trial 2.
- Score 0 points if the child does not construct the design correctly, has rotation errors, or exceeds the time limit on both Trial 1 and Trial 2.

## Items 10-17

- Score 2 points if the child constructs the design correctly, without rotation errors, and within the time limit.
- Score 0 points if the child does not construct the design correctly, has rotation errors, or exceeds the time limit.

Maximum Block Design Total Raw Score: 34 points

## Item Administration

## Part A

# Item 1

#### **Trial 1**

Place the appropriate blocks in front of the child and say, Watch me. Slowly assemble the model as you describe the construction aloud. Leave the model intact.

Place the remaining blocks in front of the child, point to the model, and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next item.

Incorrect design: Administer Trial 2.







#### **Trial 2**

Leave the model intact and say, Watch me again. Using the child's blocks, slowly assemble the design as you describe the construction aloud.

Disassemble the construction and place the blocks in front of the child. Point to the model and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next item.

Incorrect design: Proceed to the next item if the discontinue criterion has not been met.

## Item 2

#### **Trial 1**

Place the appropriate blocks in front of the child and say, Watch me. Slowly assemble the model as you describe the construction aloud. Leave the model intact.

Place the remaining blocks in front of the child, point to the model, and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next appropriate item.

Incorrect design: Administer Trial 2.

#### **Trial 2**

Leave the model intact and say, Watch me again. Using the child's blocks, slowly assemble the design as you describe the construction aloud.

Disassemble the construction and place the blocks in front of the child. Point to the model and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next appropriate item.

Incorrect design: Proceed to the next appropriate item if the discontinue criterion has not been met.







## Item 3

#### **Trial 1**

Place the appropriate blocks in front of the child and say, Watch me. Slowly assemble the model as you describe the construction aloud. Leave the model intact.

Place the remaining blocks in front of the child, point to the model, and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next appropriate item.

Incorrect design: Administer Trial 2.

#### **Trial 2**

Leave the model intact and say, Watch me again. Using the child's blocks, slowly assemble the design as you describe the construction aloud.

Disassemble the construction and place the blocks in front of the child. Point to the model and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next appropriate item.

Incorrect design: Proceed to the next appropriate item if the discontinue criterion has not been met.

# 4:0-5:11 Item 4

#### **Trial 1**

Place the appropriate blocks in front of the child and say, **Watch me.** Slowly assemble the model as you describe the construction aloud. Leave the model intact.

Place the remaining blocks in front of the child, point to the model, and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next appropriate item.

Incorrect design: Administer Trial 2.

#### **Trial 2**

Leave the model intact and say, Watch me again. Using the child's blocks, slowly assemble the design as you describe the construction aloud.

Disassemble the construction and place the blocks in front of the child. Point to the model and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next appropriate item.

Incorrect design: Proceed to the next appropriate item if the discontinue criterion has not been met.







### Item 5

Place the appropriate blocks in front of the child and say, **Watch me.** Slowly assemble the model as you describe the construction aloud. Leave the model intact.

Place the remaining blocks in front of the child, point to the model, and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 30 seconds.

Correct design: Proceed to the next appropriate item.

Incorrect design: Proceed to the next appropriate item if the discontinue criterion has not been met.

### **Items 6–7**

Place the appropriate blocks in front of the child and say, Watch me. Slowly assemble the model as you describe the construction aloud. Leave the model intact.

Place the remaining blocks in front of the child, point to the model, and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 60 seconds.

The instructions may be shortened when the child understands the task.

Correct design: Proceed to the next appropriate item.

Incorrect design: Proceed to the next appropriate item if the discontinue criterion has not been met.

#### Item 8

Place the appropriate blocks in front of the child and say, Watch me. Slowly assemble the model as you describe the construction aloud. Leave the model intact.

Place the remaining blocks in front of the child, point to the model, and say, Now you make it. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 60 seconds.

The instructions may be shortened when the child understands the task.

Correct design: Proceed to Part B, Sample Item A.

Incorrect design: Proceed to Part B, Sample Item A if the discontinue criterion has not been met.







#### Part B

# Sample Item A

Place two red-and-white blocks in front of the child. Hold up one of the blocks for the child to see and say, **See these blocks? Some sides are all red** (show red side), **some are all white** (show white side), **and some** (show red-and-white side) **are red** (point to red half) **and white** (point to white half).

Place one block on the table as shown:



Hand the remaining block to the child and say, Put your block like mine.

Correct design: Say, That's right. Proceed to Sample Item B.

Incorrect design: Say, That's not quite right. Point to your block and say, The red side should face up like mine. Turn your block like mine.

Correct reposition: Say, That's right. Proceed to Sample Item B.

Incorrect reposition: Say, **That's not quite right.** Turn the child's block to the correct position and say, **See, it goes like this.** Proceed to Sample Item B.

# Sample Item B

Place one block on the table as shown:



Hand the remaining block to the child and say, Put your block like mine.

Correct design: Say, **That's right.** Proceed to Item 9.

Incorrect design: Say, That's not quite right. Point to your block and say, The white part should point up, like mine (point to white half), and the red part should point down (point to red half). Turn your block like mine.

Correct reposition: Say, That's right. Proceed to Item 9.

Incorrect reposition: Say, **That's not quite right.** Turn the child's block to the correct position and say, **See, it goes like this.** Proceed to Item 9.







### Item 9

#### **Trial 1**

Place the appropriate blocks in front of the child. Turn to Item 9 in the Stimulus Book and say, Watch me make my blocks look like this picture (point to picture). Slowly assemble the model as you describe the construction aloud.

Say, See, my blocks (point to model) look the same as this picture (point to picture).

Disassemble your model, and place the blocks in front of the child. Say, Now you make one like this picture (point to picture). Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 60 seconds.

Correct design: Proceed to the next item.

Incorrect design: Administer Trial 2.

#### **Trial 2**

Disassemble the construction and place the blocks in front of the child. Say, Watch me again. Slowly assemble the model as you describe the construction aloud.

Say, See, my blocks (point to model) look the same as this picture (point to picture).

Disassemble your model, and place the blocks in front of the child. Say, Now you make one like this picture (point to picture). Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 60 seconds.

Correct design: Proceed to the next item.

Incorrect design: Proceed to the next appropriate item if the discontinue criterion has not been met.

### Item 10

Place the appropriate blocks in front of the child. Turn to Item 10 in the Stimulus Book and say, Watch me make my blocks look like this picture (point to picture). Slowly assemble the model as you describe the construction aloud.

Say, See, my blocks (point to model) look the same as this picture (point to picture).

Disassemble your model, and place the blocks in front of the child. Say, Now you make one like this picture (point to picture). Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 60 seconds.

Correct design: Proceed to the next item.

Incorrect design: Proceed to the next appropriate item if the discontinue criterion has not been met.





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# Items 11-17

Place the appropriate blocks in front of the child. Turn to the appropriate item in the Stimulus Book and say, Now make one like this. Work as fast as you can and tell me when you're done. Go ahead. Begin timing and allow 90 seconds.

The instructions may be shortened when the child understands the task.

Proceed to the next item if the discontinue criterion has not been met.







# 2. Information

For picture items, the child selects the response option that best answers a question about a general-knowledge topic. For verbal items, the child answers questions about a broad range of general-knowledge topics.

# Materials

Administration and Scoring Manual

Record Form

Stimulus Book 3

# Start

Ages 4:0-5:11

Item 10

Ages 6:0-7:7

Item 16

Children suspected of an intellectual disability or general intellectual deficiency should start with Item 1.

### **1** Reverse

If a child does not obtain a perfect score on *either* of the first two items given, administer the preceding items in **reverse** order until the child obtains perfect scores on two consecutive items.

# Discontinue

Discontinue after 3 consecutive scores of 0.

# **General Directions**

- Each item may be repeated as often as necessary, but do not alter the wording in any way.
- Use the local pronunciation for each item or the pronunciation you believe to be familiar to the child.

# Picture Items (Items 1-4)

• Picture items are presented in the Stimulus Book. Read each item verbatim to the child and point to the pictures in the Stimulus Book as instructed.







- The child must indicate his or her choice by either pointing to or saying the number of the selected response option. If the child responds with any other type of verbalization (e.g., names the picture), say, **Show me**.
- If the child selects multiple response options for an item or self-corrects after his or her initial response, score only the intended response. If it is not clear which one is the intended response, say, You (said, pointed to) [insert child's response], and you (said, pointed to) [insert child's response]. Which one did you mean?
- Items 1 and 2 are teaching items. Corrective feedback is provided if the child does not obtain a perfect score.

# Verbal Items (Items 5-29)

- Remove the Stimulus Book from the child's view before administering verbal items.
- Read each item verbatim to the child.
- If the child's response is unclear or too vague to be readily scored or is followed by a (0) in the sample responses, say, What do you mean? or Tell me more about it (or some other neutral inquiry).
- If the child gives a verbal and a nonverbal response that are contradictory (e.g., says "Seven" but holds up five fingers), ask the child to clarify by saying, Which one do you mean?
- Items with sample responses that require specific query are identified with an asterisk (\*) on the Record Form and in this manual.
- Items 5, 6, 10, 11, 16, and 17 are teaching items. Corrective feedback is provided if the child does not obtain a perfect score. Provide no further assistance on this subtest.

### **Score**

# Picture Items (Items 1-4)

- Circle the child's response for each item. Correct responses are printed in color on the Record Form and are listed in this manual.
- Score 1 point if the child gives a correct response.
- Score 0 points if the child gives an incorrect response, says that he or she does not know the answer, or does not respond.







### Verbal Items (Items 5–29)

- Record the child's responses verbatim.
- Use the sample responses for each item to facilitate scoring.
- The sample responses are not an exhaustive list but do provide replies that range from relatively inferior to more creditable. It is important that you evaluate unusual responses carefully and refer to the sample responses to facilitate scoring.
- If the child provides multiple responses for an item, refer to the following:
  - Added remarks, obviously not part of the child's answer, do not affect the score. For example, score 1 point if the child responds to What do people write with? with "Pencils. I got some erasers too."
  - If the child's responses vary in quality, with no one answer spoiling the entire response, score the best response. For example, if the child responds to What color is most dirt? with "Brown and orange," the best response, "Brown," is scored 1 point.
  - A 1-point response to an item accompanied by a spoiled response is scored 0 points. For example, score 0 points if the child responds to Tell me the name of a vegetable with "Pepper" but then spoils the response with "salt and pepper."
- Score 1 or 0 points according to the sample responses.

Maximum Information Total Raw Score: 29 points

# Item Administration

# Picture Items (Items 1-4)

### †Item 1

Turn to Item 1. Point to the page and say, Show me what you can eat.

Correct response [2]: Proceed to the next item.

†Incorrect response: Point to response option 2 and say, This is what you can eat. Proceed to the next item if the discontinue criterion has not been met.

### †Item 2

Turn to Item 2 and say, **Show me what you take a bath in.** 

Correct response [4]: Proceed to the next appropriate item.

†Incorrect response: Point to response option 4 and say, This is what you take a bath in. Proceed to the next appropriate item if the discontinue criterion has not been met.







### Items 3-4

Present each item in the Stimulus Book and give the corresponding instruction.

Proceed to the next appropriate item if the discontinue criterion has not been met.

Remove the Stimulus Book from the child's view before proceeding to Verbal Items.

ltem	Instruction	Correct Response
3.	Show me what goes meow.	1
4.	Show me what you cut with.	3

### Verbal Items (Items 5-29)

Read each item verbatim to the child. Proceed to the next appropriate item if the discontinue criterion has not been met.

### \*†5. Show me your mouth. Touch it.

#### 1 point

[Touches, points to, or otherwise indicates own or examiner's mouth]

#### 0 points

[Touches, points to, or otherwise indicates different part of face or head] (0)

Mouth; [Child responds mouth without nonverbal indication] (0)\*

[Touches, points to, or otherwise indicates any other body part]

\*If the child responds mouth, repeat the item again, emphasizing Show.

† If the child does not provide a 1-point response, point to the child's mouth and say, This is your mouth.

#### \*†6. Show me your knee. Touch it.

#### 1 point

Touches, points to, or otherwise indicates own or examiner's kneel

#### 0 points

[Touches, points to, or otherwise indicates different part of leg (0)

Knee; [Child responds knee without nonverbal indication] (0)\*

Touches, points to, or otherwise indicates any other body part]





<sup>\*</sup>If the child responds knee, repeat the item again, emphasizing Show.

<sup>†</sup> If the child does not provide a 1-point response, point to the child's knee and say, This is your knee.



#### 7. How old are you?

#### 1 point

[Verbally or physically indicates correct age]

(Five, Six) on my birthday; [Verbally indicates correct age on next birthday]

#### 0 points

[Verbally or physically indicates incorrect age]

### 8. What goes in a cup?

### 1 point

Liquid; Fluid; Drinks Golf ball Water; Juice; Milk; Soda; Coffee; Tea; Soup; [Names consumable liquid]

#### 0 points

Ice **(Q)** 

Straw; Spoon (Q)

Pour; Pour them (0)

Pencils; Pens (0)

[Demonstrates drinking] (0)

Flour; Butter; Sugar; [Names solid typically measured in cup] (0)

Food; Snacks (Q)

measured in cup] (0)

Cereal; Ice cream; Pudding; [Names food typically served in cup or bowl] (0)

Breakfast; Lunch; Dinner; [Names specific meal] (0)

Sandwich; Pizza; [Names food typically served on plate]

Cleaner; Gas; Oil; [Names non-consumable liquid]

#### 9. What do people write with?

### 1 point

Pencil; Pen; Chalk; Marker; Crayon; Color(s)

Computer; Typewriter; Keyboard

Hands; Fingers

#### 0 points

Paper (Q)

Letters (Q)

[Demonstrates writing motion] (0)

Book (Q)

[Points to examiner's pen or pencil] (0)

(In, At) school







### 4:0-5:11 \*†10. What color is most dirt?

#### 1 point

Brown; Black; Tan; Gray; [Names shade of brown or black]

#### 0 points

Red; Orange; Yellow; White (0)\* [Points to brown or black object] (0)

Sand (0) Mud; Clay; Soil

Green; Blue; [Names any other color] Dirty; Gross; Yucky

\*If the child names a shade of red, orange, yellow, or white, say, What other color can dirt be?

†If the child does not provide a 1-point response, say, Most dirt is brown or black.

### †11. How many eyes do you have?

#### 1 point

[Verbally or physically indicates two]

#### 0 points

[Verbally or physically indicates any number other than two]

[Points to own or examiner's eyes]

†If the child does not provide a 1-point response, say, You have two eyes.

### 12. What do people use to stay dry in the rain?

### 1 point

Umbrella Raincoat; Rain jacket; Rain gear; Slicker

Round thing that goes over your head;

[Describes umbrella]

Jacket; Poncho; Coat

Describes umbrella] Hat; Cap; Hood

Boots; Galoshes

Swimsuit; Mask

#### 0 points

[Demonstrates using umbrella] (0) Hoodie (0)

Shelter; House; Roof; Car; Building (Q) Clothes; Clothing (Q)

You (go, stay) inside (Q) Towel; Blanket (Q)

Book; Backpack; Paper (0) Wipers; Windshield wipers; [Demonstrates

wiper motion]







### \*13. What animal lays eggs?

#### 1 point

Bird; Chicken; Hen; Duck; [Names egg-laying bird]

Platypus; Echidna; [Names egg-laying mammal]

Dinosaur

Salmon; Ant; Butterfly; Alligator; Crocodile; Turtle; Frog; Snake; [Names egg-laying fish, insect, reptile, or amphibian]

Spider; Scorpion

#### 0 points

Mammal; Amphibian; Reptile (0)

Animals; Fish; Insects (0)

Cat; Horse; Cow; [Names live-bearing mammal]

Rooster (0)

Rabbit; Bunny (0)\*

Moms; Mommy animals

### 14. What grows in the ground?

#### 1 point

Plants; Flowers; Trees; Grass; Bushes

[Names specific plant, flower, tree, grass,

or bush]

Seeds; Beans

Roots

Vegetables; Fruits

Corn; Peanuts; Tomatoes; [Names specific

vegetable or fruit]

Crops; Gardens; Forests

#### 0 points

Leaf; Leaves (0)

Worms; Grubs; Ants (0)

Caterpillars; Grasshoppers

Mole; Snake; [Names animal that lives underground]

Food (Q)

Dirt; Rocks; Water; Lava; [Names nonliving

thing found underground]

Buildings; Sidewalks





<sup>\*</sup>If the child says rabbit or bunny, say, What other animal lays eggs?



#### 15. Who wears a crown?

#### 1 point

King; Queen Prince; Princess

Royalty; Dictators; Rulers Cinderella; Snow White; [Names fictional

Debutante; Quinceañera character who wears crown]

Miss America; [Names beauty [Names religious figure depicted

pageant winner] wearing crown]

[Names historical figure who wears or wore crown]

### 0 points

You wear one when (pretending, playing make believe, playing dress-up, it's your People; Girls; Boys (0)

birthday) (Q)

Me; I wear one (0)

President; Senator; Mayor

### 6:0−7:7 †16. How many legs does a bird have?

#### 1 point

Two

#### 0 points

[Physically indicates two] (0) (Long, Skinny, Bird) legs

[Verbally or physically indicates any number other than two]

†If the child does not provide a 1-point response, say, A bird has two legs.

#### †17. (Display pinky.) What is this finger called?

#### 1 point

Pinky Fifth finger

(Little, Baby, Small, Tiny) finger (Little, Baby, Small, Tiny) one

0 points

Little; Baby; Small; Tiny (0) (Last, First) (finger, one) (0)

Five; One (0) Thumb; Pointer; Ring; Middle

Finger; Fingernail; Hand; Nail

†If the child does not provide a 1-point response, display pinky and say, **This finger is called a pinky**.







### 18. What do people use to chew their food?

#### 1 point

Teeth; Mouth; Jaws

#### 0 points

Tongue (0)

Bite; Eat; They eat (0)

Gums [must have s] (0)

Gum; Bubble gum

Apple; Chicken; [Names specific food]

# [Points to mouth or teeth] (0)

[Demonstrates chewing] (0)

Fork; Knife (0)

Spoon; Plate

### 19. Tell me the name of a vegetable.

#### 1 point

Carrots; Peas; Broccoli; Spinach; Beans;

Green beans; [Names any vegetable]

Peppers; Bell peppers

Pumpkin; Squash

#### 0 points

Green (0)

Salad; Pickle (0)

Macaroni and cheese; Spaghetti; Pasta (0)

Hot dog; Pizza; [Names any other food]

Eat them; Food; Good for you

Potato; Sweet potato; Yams

Tomato; Avocado; [Names fruit commonly

referred to as vegetable]

French fries; Mashed potatoes;

Potato chips (0)

Ketchup; Spaghetti sauce (0)

Fruit

Orange; Grapes; Strawberry; Apple; Banana;

Pear; Cherry; [Names any other fruit]







### \*20. What day comes right after Saturday?

#### 1 point

Sunday

#### 0 points

Weekend; Day of rest; Sabbath; Church (0) Tomorrow; Yesterday; Today (0)\*

[Names any other day] Morning; School day; School

### 21. What body part do people use to breathe?

#### 1 point

Mouth; Nose Lungs; Bronchi; Diaphragm

Windpipe; Breathing (tube, pipe);

Air (tube, pipe)

#### 0 points

Chest; Ribs (0) Throat; Neck (0)

Brain; Head (0) [Physically indicates mouth, nose, neck,

or chest] (0) Air; Oxygen (0)

[Demonstrates breathing] Heart; Stomach; Tummy

#### \*22. Tell me the name of a planet.

#### 1 point

Earth Mars; Jupiter; Saturn; Mercury; Venus; Uranus; Neptune; Pluto [Names nonfictional planet]

#### 0 points

World (Q) Krypton; [Names fictional planet] (0)\*

Moon; Sun (Q) Europe; Brazil

\*If the child names a fictional planet, say, Tell me the name of another planet.



<sup>\*</sup>If the child says tomorrow, yesterday, or today, say, What day is that?



### 23. What season comes right after winter?

#### 1 point

Spring; Springtime

#### 0 points

March (Q)

Summer; Fall; Autumn; Winter

Easter; Christmas; Hanukkah

Rain; Rainy (0)

Snow; Snowy

Hot; Gets (hot, warmer)

### 24. How many months are in a year?

#### 1 point

12

[Names all 12 months of the year]

#### 0 points

7; [Names number other than 12]

[Names days of the week]

[Names fewer than 12 months of the year]

#### 25. What is cheese made of?

#### 1 point

Milk

Milk from a (cow, buffalo, goat, sheep)

### 0 points

Dairy (0)

Butter; Yogurt; [Names specific dairy food (Q)

Calcium; Protein (Q)

Eggs; Oil

(American, Cheddar, Swiss) cheese

In a sandwich; Ham and cheese

Cow; Goat; Sheep; [Names animal that typically produces milk for human consumption] (0)

Bacteria; Mold (0)

Cat; Chicken; Mouse; [Names animal that does not typically produce milk for human consumption]







### \*26. What is the opposite of south?

#### 1 point

North; North Pole

Up

#### 0 points

[Points up or to the north] (0)\* [Points in a direction other than up

Snow; Snowy; Cold or north]

Santa's house West; East

### 27. What is the biggest ocean in the world?

#### 1 point

Pacific Ocean Pacific Ocean

### 0 points

One next to (California, Hawaii, Alaska); [Indicates Pacific Ocean without

naming it] (0)

Atlantic; Indian; [Names any other ocean]

Beach; Sea; Lake; River; Water

#### \*28. What are most noodles made of?

### 1 point

Wheat; Flour Rice; Grain

#### 0 points

Eggs (0) Dough; Pasta (0)\*

Potatoes; Beans; Acorns; Buckwheat (Q) Spaghetti; Macaroni; Linguine;

Milk; Cheese [Names type of pasta]

Peas; Corn Boiled water; Water

(Spaghetti, Tomato) sauce





<sup>\*</sup>If the child points up or to the north, say, What direction is that?

<sup>\*</sup>If the child says dough or pasta, say, Yes, but what is [insert child's response] made of?



### \*29. Where does the sun rise?

#### 1 point

East

### 0 points

(At, On, To) the right (0)\* [Points right or to the east] (0)\*

[Points in a direction other than right Behind the mountains; Over the ocean;

Over the horizon or east]

On the side of the earth To the left

Up; In the sky; In space North; South; West

At (dawn, morning) From the (cloud, moon, stars)

\*If the child points right or to the east, or says (At, On, To) the right, say, What direction is that?







# 3. Matrix Reasoning

The child views an incomplete matrix and selects the response option that completes the matrix.

# **Materials**

Administration and Scoring Manual

Record Form

Stimulus Book 3

# Start

Ages 4:0-4:11

Sample Items A-C, then Item 1

Ages 5:0-5:11

Sample Items A-C, then Item 4

Ages 6:0-7:7

Sample Items A-C, then Item 7

Children suspected of an intellectual disability or general intellectual deficiency should start with Sample Items A–C, then Item 1.

# **1** Reverse

If a child aged 5:0–7:7 does not obtain a perfect score on *either* of the first two items given, administer the preceding items in **reverse** order until the child obtains perfect scores on two consecutive items.

# Discontinue

Discontinue after 3 consecutive scores of 0.

### **General Directions**

- Provide assistance on the sample items only.
- It is essential to point to the visual stimuli, the response options, and the box with the question mark, as instructed in the administration directions.
- The child must indicate his or her choice by either pointing to or saying the number of the selected response option. If the child responds with any other type of verbalization (e.g., names the picture), say, **Show me.**







- If the child selects multiple response options for an item or self-corrects after his or her initial response, score only the intended response. If it is not clear which one is the intended response, say, You (said, pointed to) [insert child's response], and you (said, pointed to) [insert child's response]. Which one did you mean?
- Follow the general 30-second guideline described in Chapter 2 for test items. If the child has not responded within approximately 30 seconds, prompt him or her by saying, Do you have an answer? Adjust the timing of this prompt and/or grant additional time if the child has established a pattern of providing delayed but correct responses as the item difficulty increases.
- If the discontinue criterion has not been met, cue the child that you are moving to the next item by saying, Let's try another one. Proceed to the next appropriate item.

### Score

- Circle the child's response for each item. Correct responses are printed in color on the Record Form and are listed in this manual.
- Score 1 point if the child gives a correct response.
- Score 0 points if the child gives an incorrect response, says that he or she does not know the answer, or does not respond.

Maximum Matrix Reasoning Total Raw Score: 26 points

### **Item Administration**

# Sample Item A

Turn to Sample Item A in the Stimulus Book and say, Look at these pictures. Which one here (point across response options) goes here (point to box with question mark)?

Correct response [2]: Say, That's right. Proceed to Sample Item B.

Incorrect response: Say, That's not quite right. All of these umbrellas are yellow (point to umbrellas in grid). This one (point to response option 2) is also yellow, so it goes here (point to box with question mark). Proceed to Sample Item B.

# Sample Item B

Turn to Sample Item B and say, Which one here (point across response options) goes here (point to box with question mark)?









Incorrect response: Say, That's not quite right. These two flowers are pink (point to pink flowers in grid). Here is a white flower (point to white flower in grid). We need another white flower, so this one (point to response option 3) goes here (point to box with question mark). Proceed to Sample Item C.

# Sample Item C

Turn to Sample Item C and say, Which one here (point across response options) goes here (point to box with question mark)?

Correct response [1]: Say, That's right. Proceed to the appropriate start point.

Incorrect response: Say, That's not quite right. Here are two teddy bears (point to teddy bears in grid). Here is a ball (point to ball in grid). We need another ball, so this one (point to response option 1) goes here (point to box with question mark). Proceed to the appropriate start point.

# 4:0-7:7 Items 1-26

Turn to the appropriate item and say, **Which one here** (point across response options) **goes here** (point to box with question mark)?

If the child has not responded within approximately 30 seconds, prompt him or her by saying, **Do you have an answer?** Adjust the timing of this prompt and/or grant additional time if the child has established a pattern of providing delayed but correct responses as the item difficulty increases.

The instructions may be shortened or eliminated when the child understands the task.

Proceed to the next appropriate item if the discontinue criterion has not been met.







# **Correct Responses**

	ltem	Correct Response	ltem	Correct Response
4:0-7:7	SA.	2	13.	1
	SB.	3	14.	2
	SC.	1	15.	2
4:0-4:11	1.	1	16.	4
	2.	3	17.	4
	3.	4	18.	5
5:0-5:11	4.	3	19.	1
	5.	1	20.	4
	6.	4	21.	2
6:0-7:7	7.	2	22.	5
	8.	3	23.	3
	9.	1	24.	1
	10.	4	25.	2
	11.	2	26.	3
	12.	3	20.	J







# 4. Bug Search

Working within a specified time limit, the child marks the bug in the search group that matches the target bug.

# Materials

Administration and Scoring Manual

Record Form

Response Booklet 1

Ink dauber

Stopwatch

Bug Search Scoring Key

Moistened disposable towelettes (recommended)

Paper towel (or something similar)

# **Start**

Ages 4:0-7:7

Dauber Practice, Demonstration Items, Sample Items, then Test Items

# (17) Discontinue

Discontinue after 120 seconds.

# Timing

Accurate timing is essential. Begin timing after saying the last word of instruction. Stop timing when the child completes all of the test items or the time limit expires.

### **General Directions**

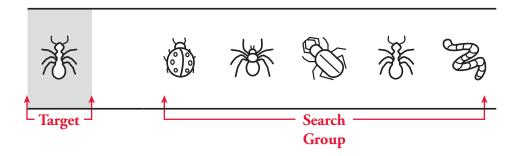
- Ensure the child has a smooth work surface.
- The back cover of the Response Booklet includes space for Dauber Practice, which allows the child to become familiar with appropriate use of the ink dauber (e.g., the amount of pressure required to leave a mark) prior to administration of the subtest. All children complete this practice before proceeding to the demonstration, sample, and test items.
- Because some children use excessive pressure during dauber practice, it is recommended that a paper towel or something similar be available to protect the table surface when the Response Booklet is turned over after dauber practice.







- Items appear on odd-numbered pages of the Response Booklet, and blue screens appear on even-numbered pages. This layout minimizes ink transfer to subsequent pages.
- Each item contains a target and a search group (see figure below). As directed in the instructions for the demonstration and sample items, point to the target and search group as you explain the task to the child.



- Use the demonstration items to explain and illustrate the task to the child, then allow the child to practice by completing the sample items. If the child appears confused, repeat the explanation and demonstrate the task again, using the sample items. Proceed with the test items only when the child understands the task. If it is clear the child will not be able to understand the task with further instruction, discontinue the subtest.
- If the child begins to mark the test items before you finish the instructions, say, Wait until I say "Go" to start.
- It is imperative that you watch the child during completion of the test items because you are responsible for turning the pages of the Response Booklet. If the child completes the last test item on a page before the time limit expires, immediately turn the page and say, Keep working as fast as you can.
- If the child marks the target, say, **Only stamp on** *this* **side** (point across search group).
- If the child marks a bug in the search group more than once, point to the bug and say, **Stamp it one time only.**
- If the child self-corrects or marks multiple bugs for a test item, point to the item and say, Stamp only one bug.
- If the child asks what to do if he or she makes a mistake, say, That's OK. Just keep working as fast as you can.
- If the child omits an item (i.e., skips a row), point to the first omitted item and say, Don't skip any. Do this one next.





#### 156 Bug Search

- Provide no further assistance on this subtest except to remind the child to continue until told to stop (if necessary).
- To prevent inadvertent ink transfer to other test components, ensure that the table surface and the child's hands are free of ink before proceeding to the next subtest. It is recommended that you have moistened disposable towelettes available.

### **Score**

- If the child completes all test items before the time limit expires, stop timing and record the completion time in seconds.
- If the child does not complete all test items within the time limit, stop timing and record the completion time as 120 seconds.
- Use the Bug Search Scoring Key to score the child's responses. The target and search group for each test item are presented on the key, with the correct response for each item in bold. Each side of the key has correct responses for two Response Booklet pages. Side A depicts the correct responses for pages 5 and 7, Side B depicts the correct responses for pages 9 and 11, Side C depicts the correct responses for pages 13 and 15, Side D depicts the correct responses for pages 17 and 19, Side E depicts the correct responses for pages 21 and 23, and Side F depicts the correct responses for page 25. Ensure that you are using the correct side of the key for the page that you are scoring.
- To score each page of Bug Search test items, turn the appropriate side of the key so the corresponding page number is right side up and place it over the preceding page of the Response Booklet (page with blue screen). For example, to score page 5 test items, turn Side A of the key so the correct responses for page 5 are right side up, and on the right side. Place the key over page 4 and ensure that the key aligns properly with the items in the Response Booklet. If the child marked the response that appears in bold on the scoring key, the item is correct. Unless the child self-corrected (i.e., marked an incorrect response prior to marking the correct response), any other bug marked on an item is incorrect. Items that the child did not attempt (either skipped or did not reach before the time limit expired) should not be counted in the correct or incorrect total. Record the number of correct and incorrect responses in the spaces labeled C (Correct) and I (Incorrect) at the bottom of each page.
- A bug is judged as marked only if it is clear that the child intended to mark it. If a mark extends through an adjacent bug, do not judge the adjacent bug as marked unless it is clear that it was the child's intent. If a child marks in the white area near a bug, the closest bug should be judged as marked. If the closest bug cannot be determined, no bug should be judged as marked.







- Sum the number of correct and incorrect responses across all pages. Transfer these totals to the Record Form.
- The total raw score is the number of correct responses minus the number of incorrect responses.
- If the total raw score is less than or equal to 0, enter 0 as the total raw score.

Maximum Bug Search Total Raw Score: 66 points

### Item Administration

### 4:0-7:7 Dauber Practice

Turn the Response Booklet over to expose the back cover and place it in front of the child. Ensure the child sees only Dauber Practice. Hold up the ink dauber and say, Watch me use this stamp to make some marks. To stamp the right way, I press down a little. I do not press down a lot (make four marks in white space for dauber practice). Hand the child the ink dauber and say, Now you try it. Allow the child to practice with the ink dauber.

Correct marks (marks with appropriate amount of pressure): Say, **Good** or **Right** and finally, **Now you know how to use it**. Ask the child to return the dauber and ensure the page is free of excess ink before proceeding to Demonstration Items.

Incorrect marks (marks with inappropriate pressure): Correct the error(s) immediately. Use explanations such as, **That's too** (hard, soft) or **Press a** *little*. When the child is using the ink dauber with the appropriate amount of pressure, say, **Now you know how to use it.** Ask the child to return the dauber and ensure the page is free of excess ink before proceeding to Demonstration Items.

#### **Demonstration Items**

Turn the Response Booklet over to expose the front cover and place it in front of the child. Ensure the child sees only the demonstration items. Say, **Look at this bug** (point to target in first demonstration item). **When I find this bug over here** (point across search group), **I stamp it**, **like this** (mark matching bug).

Now look at this bug (point to target in second demonstration item). When I find this bug over here (point across search group), I stamp it, like this (mark matching bug).

Point to the third demonstration item and say, On this one, I find this bug (point to target) here (mark matching bug).

Point to the fourth demonstration item and say, On this one, I find this bug (point to target) here (mark matching bug).

Proceed to Sample Items.







# •

# Sample Items

Turn to page 3. Point to the sample items and say, Now you do these. Do this one first (point to first item), then do this one (point to second item), and then do the next ones, in order (point to remaining items in order).

Hand the child the ink dauber, then say, **Go.** Allow the child to complete the sample items.

Correct responses: Say, That's right. Now you know how to do them. Proceed to Test Items.

Incorrect response(s): Correct the error(s) immediately, using the sample items.

Continue to help the child, if necessary, until the child correctly completes the sample items. Use explanations such as That's not quite right. This bug (point to target) is here (point to matching bug in search group), so you should stamp it.

When the child has successfully completed the sample items, say, That's right.

Now you know how to do them. Proceed to Test Items.

Do not proceed with the test items until the child understands the task. If it is clear that the child will not be able to understand the task with further instruction, discontinue the subtest.

### **Test Items**

Turn to page 5 and say, When I say "Go," do these the same way. Start here (point to first test item), go in order (point down page to each row one at a time), and don't skip any. Work as fast as you can without making mistakes until I tell you to stop. Are you ready?

If the child begins to mark the test items before you finish the instructions, say, Wait until I say "Go" to start.

Explain further if necessary, and then say, Go.

Begin timing and allow 120 seconds.

If the child completes the last test item on a page before the time limit expires, immediately turn the page and say, **Keep working as fast as you can**.

If the child marks the target, say, **Only stamp on** *this* **side** (point across search group).

If the child marks a bug in the search group more than once, point to the bug and say, **Stamp it** *one* **time only.** 

If the child self-corrects or marks multiple bugs for a test item, point to the item and say, **Stamp only** *one* bug.

If the child asks what to do if he or she makes a mistake, say, **That's OK. Just keep working as fast as you can.** 







If the child omits an item (i.e., skips a row), point to the first omitted item and say, **Don't skip any. Do this one next.** 

If the child completes the items before the time limit expires, stop timing and record the completion time in seconds.

If the child is still working at the time limit, stop timing and say, **Stop.** Record the completion time as 120 seconds.

**Reminder:** Ensure that the table surface and the child's hands are free from ink before proceeding to the next subtest.





# 5. Picture Memory

The child views a stimulus page of one or more pictures for a specified time and then selects the pictures from options on a response page.

# Materials

Administration and Scoring Manual

Record Form

Stimulus Book 2

Stopwatch

# Start

### Ages 4:0-7:7

Sample Item B, then Item 7

Children suspected of an intellectual disability or general intellectual deficiency should start with Sample Item A, then Item 1.

# **1** Reverse

If a child does not obtain a perfect score on *either* of the first two items given, administer the preceding items in **reverse** order until the child obtains perfect scores on two consecutive items.

# Discontinue

Discontinue after **3** consecutive scores of 0.

# Timing

**Sample Item A–Item 6:** Expose the stimulus page for **3** seconds.

Sample Item B-Item 35: Expose the stimulus page for 5 seconds.

A red line on the Record Form is a visual reminder of the change in exposure time.

Accurate exposure time is essential. Begin timing after presenting the stimulus page and giving the last word of instruction.

Immediately following exposure, turn to the response page and provide the indicated instruction.







### **General Directions**

- Administration of each item requires two pages in the Stimulus Book: a stimulus page and a response page. It is important to expose the stimulus page for the correct amount of time, as instructed on the Record Form and in this manual.
- With the exception of the sample and teaching items, the stimulus page for each item is exposed *one time only*. If the child asks for another exposure, say, I can't show you again. Just try your best.
- The child must indicate his or her choice(s) by either pointing to or saying the letter(s) of the selected response option(s). If the child responds with any other type of verbalization (e.g., names the pictures), say, **Show me**.
- If the child selects more than the required number of response options or self-corrects after his or her initial response, score only the intended response. If it is not clear which one is the intended response, say, (Show, Tell) me your answer again. Provide this prompt one time only for each item.
- If the child asks if his or her responses must be provided in a specific order (e.g., alphabetical), say, You don't have to (say, point to) the pictures in order.
- Sample Item B is designed to introduce the child to items that require the selection of multiple response options. If the child started on Sample A, then Item 1 and has not met the discontinue criterion following administration of Item 6, administer Sample Item B before proceeding to Item 7.
- Items 1, 2, 7, and 8 are teaching items. Corrective feedback is provided if the child does not obtain a perfect score. Provide no further assistance on this subtest.

### Score

- Circle the child's response(s) for each item. Correct responses are printed in color on the Record Form and are listed in this manual.
- Correct responses for Items 1–6 require the selection of one response option. Correct responses for Items 7–35 require the selection of multiple response options. The selection of an incorrect response option results in a score of 0, even if the other selected response options are correct.
- Score 1 point if the child gives a correct response.
- Score 0 points if the child gives an incorrect response, says that he or she does not know the answer, or does not respond.

Maximum Picture Memory Total Raw Score: 35 points





### **Item Administration**

# Sample Item A

Expose Sample Item A stimulus page and say, Look at this picture. Begin timing and allow 3 seconds.

Turn to Sample Item A response page and say, Point to the picture I just showed you.

Correct response [B]: Say, That's right. Proceed to Item 1.

Incorrect response: Say, That's not quite right. Expose Sample Item A stimulus page. Say, I showed you this picture. Expose Sample Item A response page. Say, So you should point to this one (point to response option B). Proceed to Item 1.

# †Item 1

Expose Item 1 stimulus page and say, Look at this picture. Begin timing and allow 3 seconds.

Turn to Item 1 response page and say, Point to the picture I just showed you.

Correct response [A]: Proceed to the next item.

†Incorrect response: Expose Item 1 stimulus page and say, I showed you this picture. Expose Item 1 response page and say, So you should point to this one (point to response option A). Proceed to the next item if the discontinue criterion has not been met.

#### †Item 2

Expose Item 2 stimulus page and say, Look at this picture. Begin timing and allow 3 seconds.

Turn to Item 2 response page and say, Point to the picture I just showed you.

Correct response [B]: Proceed to the next appropriate item.

†Incorrect response: Expose Item 2 stimulus page and say, I showed you this picture. Expose Item 2 response page and say, So you should point to this **one** (point to response option B). Proceed to the next appropriate item if the discontinue criterion has not been met.

#### Items 3–6

Expose the stimulus page and say, Look at this picture. Begin timing and allow 3 seconds. Do *not* shorten or eliminate this instruction.

Turn to the appropriate item response page and say, Point to the picture I just showed you. This instruction may be shortened or eliminated when the child understands the task.

Proceed to the next appropriate item if the discontinue criterion has not been met.







# Sample Item B

Expose Sample Item B stimulus page and say, **Look at these pictures.** Begin timing and allow 5 seconds.

Turn to Sample Item B response page and say, Point to the pictures I just showed you.

Correct response [A, B]: Say, That's right. Proceed to Item 7.

Incorrect response: Say, **That's not quite right.** Expose Sample Item B stimulus page and say, **I showed you these pictures.** Expose Sample Item B response page and say, **So you should point to** *these* (point to response options A and B). Proceed to Item 7.

### †Item 7

Expose Item 7 stimulus page and say, Look at these pictures. Begin timing and allow 5 seconds.

Turn to Item 7 response page and say, Point to the pictures I just showed you.

Correct response [C, D]: Proceed to the next item.

†Incorrect response: Expose Item 7 stimulus page and say, I showed you these pictures. Expose Item 7 response page and say, So you should point to these (point to response options C and D). Proceed to the next appropriate item if the discontinue criterion has not been met.

### †Item 8

Expose Item 8 stimulus page and say, **Look at these pictures.** Begin timing and allow 5 seconds.

Turn to Item 8 response page and say, Point to the pictures I just showed you.

Correct response [A, B]: Proceed to the next item.

†Incorrect response: Expose Item 8 stimulus page and say, I showed you these pictures. Expose Item 8 response page and say, So you should point to these (point to response options A and B). Proceed to the next appropriate item if the discontinue criterion has not been met.

### Items 9–35

Expose the stimulus page and say, **Look at these pictures.** Begin timing and allow 5 seconds. Do *not* shorten or eliminate this instruction.

Turn to the item response page and say, Point to the pictures I just showed you.

This instruction may be shortened or eliminated when the child understands the task.

Proceed to the next item if the discontinue criterion has not been met.









# 164 Picture Memory

# **Correct Responses**

	ltem	Correct Response	Item	Correct Response
	SA.	В	18.	C, D, F
	†1.	A	19.	A, E, F
	†2.	В	20.	B, E, F
	3.	A	21.	A, D, G
	4.	В	22.	В, С, Н
	5.	С	23.	A, C, E, F
	6.	A	24.	B, C, D, F
4:0-7:7	SB.	A, B	25.	B, D, F, G
	†7.	C, D	26.	A, B, D, G
	†8.	A, B	27.	В, С, Н, І
	9.	A, D	28.	A, D, G, I
	10.	B, D	29.	A, B, E, F, H
	11.	A, E	30.	B, C, E, G, H
	12.	B, F	31.	A, C, F, H, I
	13.	A, B, C	32.	B, D, F, H, I
	14.	A, B, E	33.	B, D, H, I, J, L
	15.	B, C, F	34.	A, C, E, F, H, K
	16.	B, D, E	35.	B, C, E, G, H, J, L
	17.	B, D, F		







# 6. Similarities

For picture items, the child selects the response option that is from the same category as two other depicted objects. For verbal items, the child is read two words that represent common objects or concepts and describes how they are similar.

# Materials

Administration and Scoring Manual

Record Form

Stimulus Book 3

# Start

Ages 4:0-5:11

Sample Item, then Item 1

Ages 6:0-7:7

Item 5

Children suspected of an intellectual disability or general intellectual deficiency should start with Sample Item, then Item 1.

### **1** Reverse

If a child aged 6:0–7:7 does not obtain a perfect score on *either* of the first two items given, administer the preceding items in **reverse** order until the child obtains perfect scores on two consecutive items.

# Discontinue

Discontinue after 3 consecutive scores of 0.

### **General Directions**

- Each item may be repeated *as often as necessary*, but do not alter the wording in any way.
- Use the local pronunciation of each word or the pronunciation you believe to be familiar to the child.
- If the child mistakenly hears a different word and responds incorrectly, say, Listen carefully. Repeat the item, emphasizing the misheard word.







### Picture Items (Items 1–4)

- Picture items are presented in the Stimulus Book. Read each item verbatim to the child and point to the pictures in the Stimulus Book as instructed.
- The child must indicate his or her choice by either pointing to or saying the number of the selected response option. If the child responds with any other type of verbalization (e.g., names the picture), say, **Show me.**
- If the child selects multiple response options for an item or self-corrects after his or her initial response, score only the intended response. If it is not clear which one is the intended response, say, You (said, pointed to) [insert child's response], and you (said, pointed to) [insert child's response]. Which one did you mean?
- Items 1 and 2 are teaching items. Corrective feedback is provided if the child does not obtain a perfect score.

# Verbal Items (Items 5-23)

- Remove the Stimulus Book from the child's view before administering verbal items.
- Read each item verbatim to the child.
- Signal the missing portion of the sentence by emphasizing the word *both*.
- If the child's response is unclear or too vague to be readily scored or is followed by a (Q) in the sample responses, say, What do you mean? or **Tell me more about it** (or some other neutral inquiry).
- Items 5 and 6 are teaching items, and each has two trials. If the child does not provide a response with the target word *colors* (Item 5) or *sweet* (Item 6), provide corrective feedback as instructed and administer Trial 2. Provide no further assistance on this subtest.

#### Score

# Picture Items (Items 1–4)

- Circle the child's response for each item. Correct responses are printed in color on the Record Form and are listed in this manual.
- Score 1 point if the child gives a correct response.
- Score 0 points if the child gives an incorrect response, says that he or she does not know the answer, or does not respond.







### Verbal Items (Items 5–23)

- Record the child's responses verbatim.
- Use the sample responses for each item and the general scoring principles to facilitate scoring.
- The sample responses are not an exhaustive list but do provide replies that range from relatively inferior to more creditable. It is important that you evaluate unusual responses carefully and refer to the sample responses and general scoring principles to facilitate scoring.
- If the child provides multiple responses for an item, refer to the following:
  - Added remarks, obviously not part of the child's answer, do not affect the score. For example, score 1 point if the child responds to *Cookies*— *Ice cream* with "They're both sweet things. I eat them after dinner."
  - If the child's responses vary in quality, with no one answer spoiling the entire response, score the best response. For example, if the child responds to Juice-Milk with "Things you drink, and they make you big and strong," the best response, "Things you drink," is scored 2 points.
  - A 2- or 1-point response to an item accompanied by a spoiled response is scored 0 points. For example, score 0 points if the child responds to Ears-Noses with "Things with holes," but then spoils the response with "you use for smelling."
- For Items 5 and 6, score 1 point if the child provides a correct response on either Trial 1 or Trial 2, according to the sample responses and the general scoring principles. Score 0 points if the child does not provide a correct response on Trial 1 and Trial 2.
- For Items 7–23, score 2, 1, or 0 points according to the sample responses and the general scoring principles.

Maximum Similarities Total Raw Score: 40 points







# **General Scoring Principles**

#### 2 points

 Any major classification that is pertinent for both members of the item pair, such as "Apples and oranges are both fruits" or "An apple is a fruit, and an orange is a fruit."

### 1 point

- Any specific property common to both members that constitutes a minor or less pertinent similarity, such as "*Apples* and *oranges* are both sweet."
- Any major classification that is less pertinent for both members of the item pair, such as "*Apples* and *oranges* are both food."

#### 0 points

- Any property that is not pertinent to both members, is too general in nature, or describes differences between members of the item pair, such as "Apples are red, and oranges are orange."
- Any clearly incorrect response

The degree of abstraction of a response is an important score determinant. Therefore, a response that is a pertinent general categorization merits full credit, whereas a response that names one or more common properties of the item pair (a more concrete problem-solving approach) merits no or only partial credit. The response "*Heavy* and *light* are both weights" is less concrete (and worth a higher score) than the response that describes them as "Things you lift."

Even a relatively concrete approach to solving the problem (*Dogs* and *cats* both have four legs) requires the child to conceptualize something similar about both members of the item pair. These relatively concrete answers are typically scored 1 point. Some children are unable to make connections between both members of the item pair and may give a response that applies separately to each member rather than to the pair as a whole (*Dogs* bark and *cats* meow). Although such a response is a true statement, it is scored 0 points because it does not indicate a similarity.

### **Item Administration**

# Picture Items (Items 1-4)

# 4.0-5:11 Sample Item

Turn to Sample Item and say, A bee (point to bee) and an ant (point to ant) are alike because they are both *bugs*.

Which one here (point across response options) is a bug like these (point to target group)?









Correct response [2]: Say, That's right. Let's try some more. Proceed to the next item.

Incorrect response: Say, That's not quite right. This ladybug (point to response option 2) is a bug like these (point to target group). Let's try some more. Proceed to the next item.

# †Item 1

Turn to Item 1 and say, A hot dog (point to hot dog) and a pizza (point to pizza) are alike because they are both food.

Which one here (point across response options) is food like these (point to target group)?

Correct response [3]: Proceed to the next item if the discontinue criterion has not been met.

†Incorrect response: Say, This sandwich (point to response option 3) is food like these (point to target group). Proceed to the next item if the discontinue criterion has not been met.

# †Item 2

Turn to Item 2 and say, A hand (point to hand) and an eye (point to eye) are alike because they are both body parts.

Which one here (point across response options) is a body part like these (point to target group)?

Correct response [4]: Proceed to the next appropriate item.

†Incorrect response: Say, This foot (point to response option 4) is a body part like these (point to target group). Proceed to the next appropriate item.

### Items 3-4

Present each item in the Stimulus Book and give the corresponding instruction. Proceed to the next appropriate item if the discontinue criterion has not been met. Remove the Stimulus Book from the child's view before proceeding to Verbal Items.

ltem	Instruction	Correct Response
3.	Pants (point to pants) and a dress (point to dress) are alike because they are both things people wear.	1
	Which one here (point across response options) is a thing people wear like these (point to target group)?	
4.	Lettuce (point to lettuce) and broccoli (point to broccoli) are alike because they are both <i>vegetables</i> .	4
	Which one here (point across response options) is a <i>vegetable</i> like these (point to target group)?	







# Verbal Items (Items 5-23)

Read each item verbatim to the child. Proceed to the next appropriate item if the discontinue criterion has not been met.

# 6:0-7:7 ‡Item 5

#### **Trial 1**

Say, Finish what I say. RED and YELLOW are both \_\_\_\_\_.

Correct response with the word *colors*: Proceed to the next item.

‡Incorrect response or correct response without the word *colors*: Say, Red and yellow are both colors. Administer Trial 2.

#### **Trial 2**

Say, Let's try again. Finish what I say. RED and YELLOW are both \_

Correct response with the word *colors*: Proceed to the next item.

‡Incorrect response or correct response without the word *colors*, say, Red and yellow are both colors. Proceed to the next appropriate item if the discontinue criterion has not been met.

### 1 point

Colors; (Light, Dark, Bright, Primary)

Red *color* and yellow *color* [must identify both as colors]

Make orange together

#### 0 points

Orange (0)

Green; Brown; Pink; [Names any color other than orange]

Apples are red and bananas are yellow

On a (rainbow, stoplight, flag, [names object with red and yellow])

Crayons; Markers; Paint; Pens; Pencils

### Bright; Dark; Light (0)

Red means stop and yellow means be careful

# ‡Item 6

#### **Trial 1**

Say, Finish what I say. COOKIES and ICE CREAM are both \_\_\_\_\_.

Correct response with the word *sweet*: Proceed to the next item.

‡Incorrect response or correct response without the word sweet, say, Cookies and ice **cream are both sweet things you eat.** Administer Trial 2.



#### **Trial 2**

### Say, Let's try again. Finish what I say. COOKIES and ICE CREAM are both \_\_\_\_\_.

Correct response with the word *sweet:* Proceed to the next item.

‡Incorrect response or correct response without the word *sweet*, say, **Cookies and ice cream are both** *sweet* **things you eat.** Proceed to the next appropriate item if the discontinue criterion has not been met.

#### 1 point

Sweet; Sugary; Made with sugar; Sugar

Yummy; Taste good; Delicious

Sweets; Treats; Goodies; Desserts; Snacks;

Junk food

Food; Things you eat; Eat them; Edible

Bad for your teeth; Bad for you; Not good for you; Not healthy

#### 0 points

Candy (0) Good for you; Healthy (0)

They are both (cold, soft, chewy, white, chocolate)

At (parties, birthdays); Get them trick-or-treating

After dinner Same color; White; Brown; [Names any color]

## Items 7-23

# 7. JUICE and MILK are both \_\_\_\_\_.

#### 2 points

Drinks; Things you drink; For drinking; For when you're thirsty; Quench thirst Drink them; Beverages

Liquid; Fluid

#### 1 point

Wet; Watery; Have water (0) For (breakfast, dinner, snack) (0)
Food; Eat them; Edible (0) Nutritious; Healthy; Good for you

Have (vitamins, minerals, calcium)

Taste good; Yummy; Sweet

Make you (big, strong)

#### 0 points

Good (Q) (Pour, Spill) them (Q)

Come in (cups, glasses, bottles) (0) Cold; Go in the refrigerator (0)

At the store; Things you buy; Groceries For babies







### 8. SOCKS and SHIRTS are both \_\_\_\_\_.

#### 2 points

Clothing; Clothes

Things you (wear, put on); Wear them;

To wear; Put them on

Dress; Dressings; For outfits

To dress (in, with); For dressing;

To get dressed (in, with)

1 point

(Cover, Go on, Protect) your body (0)

For your body (0)

Things you (wash, clean)

Go in (closets, drawers)

Warm; Soft; Comfortable

[Demonstrates putting socks *and* shirt on] (0)

Made from (cloth, fabric, cotton, thread)

Sewn; Sewed together

0 points

[Demonstrates putting socks or shirt on] (0)

Same color; White; [Names any color]

(Start, Begin) with S (0)

To get ready; To go (outside, to school, out

to eat)

#### 9. DOGS and CATS are both \_\_\_\_\_

### 2 points

Pets

Living things; Alive

Animals; Mammals; Creatures

### 1 point

Things with (legs, tails, whiskers, hair, eyes, four legs, [names a shared feature])

You (feed, wash, clean, play with, [names a shared activity]) them

Things that (growl, scratch, eat, sleep, run, chase, [names a shared behavior])

Soft; Fuzzy; Hairy; Furry; Warm; Cuddly

#### 0 points

Fight each other; Fight (0)

Mean; Nice; Mad; Good; Sweet;

Hyper; Active

Pretty; Little; Small; Beautiful; Cute

Don't like each other

Same color; Black; Brown; Yellow; White

At home; In the house

Bark and meow



### 10. APPLES and ORANGES are both \_\_\_\_\_.

### 2 points

Fruits

#### 1 point

Food; Things you eat; Edible (0)

Snacks; Desserts; Goodies; Treats (0)

Have (juice, seeds, peels,

[names a shared feature])

Things you (peel, slice)

Lunch; Breakfast

# 0 points

Good (**Q**)

Round; Same shape

Vegetables

### 11. TWO and THREE are both \_\_\_\_\_.

### 2 points

Numbers

### 1 point

For counting; You count them (0)

#### 0 points

How old you are; Ages (0)

Five; Four; [Names any number] (0)

Dates (0)

Letters

On fingers

Grow on trees; Come from (seeds, trees) (0)

Nutritious; Healthy; Good for you

Have (vitamins, minerals)

Drinks; Juices

Taste (good, sweet, sour, yummy)

Taste the same (0)

Same color; Red; Orange

Prime numbers

Between one and four; Less than (four,

five); Come after one

(Start, Begin) with  $T(\mathbf{0})$ 

Together; Next to each other (0)

[Demonstrates counting] (0)

[Physically indicates two and/or

three fingers]





### 174 Similarities

### 12. CIRCLES and SQUARES are both \_\_\_\_\_.

#### 2 points

Shapes Patterns; Designs

lacktriangle

#### 1 point

Things you (draw, color) Made from lines

Things you put on paper

#### 0 points

Things you play with; Toys; Games (0) Triangles; Rectangles (0)

Blocks (0) In (pictures, books)

Puzzles; Puzzle pieces Things at school

### 13. ARMS and LEGS are both \_\_\_\_\_.

Things that (break, get broken) (0)

## 2 points

(On, Attached to, Hang off of) your body Body parts; (Parts, Pieces) of body

Body; On body Things with joints

Limbs

#### 1 point

On (people, me, you) (0) Things that (bend, fold) (0)

Things with (skin, muscle, bone, blood) (0) Things that move; Things that go (back and forth, up and down)

Things you use to (walk, run, get around, move your body)

Come in (pairs, twos)

# 0 points

Things you use to (grab, move, get)

things (0)

Long; Skinny (0)

Big; Strong







#### 14. MOTHERS and SISTERS are both

#### 2 points

Girls; Women; Females; Ladies Relatives; Related; Relations (In, Part of) a family; Family members

#### 1 point

People; Humans; Persons (0) Daughters (0)

Wear dresses (Q) Live with each other; Live in the same house (Q)

People that (get me dressed and fix me dinner, help with homework and take me to school, [names two or more caretaking activities])

People that (care for, take care of) me

#### 0 points

People that (get me dressed, fix dinner, help with homework, take me to school, [names *one* caretaking activity]) (0)

Living things; Alive (0)

Adults; Grown-ups; Big; Parents

At home (Q)

Friends; People I play with (0)

They (fight, love, like) each other (0)

Nice; Mean; Pretty; Fun; Smart

#### 15. PLATES and BOWLS are both

#### 2 points

Things that (hold, have) food (on, in) them; Dishes; China; Dinnerware Put food (on, in) them

#### 1 point

Things you eat (with, on, out of, off of); (Used for, For) eating (0)

Used at (meals, breakfast, lunch, dinner) (0)

Same shape; Round; Circles

Tableware; Silverware; Utensils; Things that go on the table (0)

To put things (on, in); Put (stuff, things) on them  $(\mathbf{Q})$ 

Made out of (glass, china, plastic, metal, wood); Breakable

#### 0 points

Food; Eat (0) Things you (wash, clean) (0) Things in the kitchen (0) Things you (drop, spill) (0)

Trays (Q) Toys; Things you play with







#### 16. CARS and TRUCKS are both \_\_\_\_\_.

#### 2 points

Vehicles; Automobiles

Things you (drive, steer, ride in) to go to (places, school, work, the store)

Things you (drive, steer, ride in) with (engines, tires, brakes, steering wheels, horns, gas, oil) Transportation

Things that (take, carry) you to (places, school, work, the store)

Machines you (drive, ride in); Machines that use gas

### 1 point

Things you (drive, steer, ride in); You (drive, steer, ride) them (0)

Things with (engines, tires, brakes, steering wheels, horns, gas, oil) (0)

Things that carry (people, things) (0)

Made of (metal, plastic)

Machines; Mechanical (0)

Things that go somewhere (0)

Things that (go, move, roll, are mobile) (0)

On the (road, street, highway)

### 0 points

Things that break; Things you have (fixed, repaired) (0)

Toys; Things you play with (0)

Big; Small; Same (size, shape)

Like a (bus, motorcycle) (0)

Things you sit in (0)

#### 17. EARS and NOSES are both \_\_\_\_\_.

#### 2 points

Used for senses; Sensory organs

Parts of your (face, head); (On, Attached to) your (face, head)

Body parts used for (senses, sensing)

Things that tell us about (what's around us, our surroundings)

Things that tell us (things, stuff, information)

#### 1 point

Parts of your body; Body parts; (On, Attached to) your body (0)

Have (skin, hair, blood, bones)

(On, Attached to, Part of) people (0)

Things with (holes, things, rings, wet stuff) in them

0 points

Body; [Vague reference to body] (0)

Hearing and smelling; To hear and smell (0)

To hear with; To smell with

Things you use (0)

Things you (clean, wash) (0)

Sticky; Smelly







#### 18. RAIN and SNOW are both \_

#### 2 points

Made (of, from) water; Things (with, that have) water

Things that give water to (plants, trees, oceans)

Water; Watery

Weather

Wet and (outside, outdoors)

### 1 point

Wet; Liquid (0)

Seasons (Q)

(Outside, Natural) things; Nature (0)

Things that (fall, come) out of the (sky, clouds) (Q)

(Fall, Come, Go) down (0)

Times you can't go (outside, to school)

Times you wear (coats, jackets, boots, galoshes); Times you need an umbrella

#### 0 points

Made of rain; Make ice (0)

Good for (flowers, plants) (0)

Melt; Freeze; Disappear; Evaporate (0)

Same color; White; Clear

Fun to play in

In winter; Cold

#### 19. HAPPY and SAD are both

#### 2 points

Emotions; Feelings; Moods

(Ways, What, How) you feel

# You feel happy and sad

#### 1 point

Ways you can act; Actions (0)

Expressions; Attitudes; Conditions (0)

Looks; Signs (0)

Part of (life, living)

Faces; Faces you make; [Demonstrates happy and sad face]

(Part of, Show on) your face

### 0 points

Things you (do, make) with your mouth;

Things you make (0)

Things in your body (0)

[Demonstrates happy *or* sad face] (0)

(Ways, Things) you can be, are (0)

Times you (cry, get hugs) (0)

Glad; Angry; Mad; [Names any emotion]







### 20. SWEET and SOUR are both

#### 2 points

Tastes; Flavors (Things, Stuff) you taste; Taste them; Taste good

How things feel (in your mouth, on your tongue)

#### 1 point

Things (in, on) food (0)

Go in your mouth (0)

Sauces (Q)

Bad for your teeth

Food; Things you eat (0) Spices; Spicy (0)

Yummy

Make your mouth water (0)

### 0 points

Juicy (Q)

(Start, Begin) with S (Q)

Candy; Treats; Snacks (0) Sweet; Sugary; Salty

Not good; Bad for you Good

#### 21. TABLES and CHAIRS are both

#### 2 points

**Furniture** 

### 1 point

Things you use (to eat, for eating); Things you use at (breakfast, lunch, dinner)

Things with (legs, four legs)

Put (things, stuff) on them; Things that hold things

In the (kitchen, dining room, study); At (school, home, work, the office)

Made of (wood, plastic, metal, trees)

Things you use to (read, write, do homework)

#### 0 points

Things (you, people) use (0)

Man-made (0)

To (sit, stand, climb) on; To sit at (0)

Put (dishes, clothes, books) on them (0)

Go together; Part of a set (0)

Nonliving





#### 22. HEAVY and LIGHT are both \_\_\_\_\_.

#### 2 points

Weights

How (big, heavy) you are in (pounds, kilograms, ounces)

Amounts; Measures; Scales

How much something weighs; How much you weigh

#### 1 point

How (big, heavy) something is; How (big, heavy) you are (0)

How strong something is; Strengths (0)

Sizes; Levels (0)

Things you (carry, pick up, lift)

#### 0 points

Things you feel (0)

Meals; Breakfast; Lunch; Dinner (0)

Big and small; Fat and thin

Creams (Q)

Boxes are heavy and light

Kinds of (clothing, exercise, jackets)

### 23. ASLEEP and AWAKE are both \_\_\_

#### 2 points

(Ways, How) your (brain, mind) can be; What your (brain, mind) does

States of (mind, consciousness)

Activity (levels, cycles)

How (alert, tired, drowsy) you are

#### 1 point

Feelings; How you feel (0)

Things (you, people) do every day; Parts of your day

(What, Ways) eyes can be; Eyes do them; Eyes are open or closed; Look at their eyes (0)

Part of life; Things you need to live

## 0 points

Things (you, people) do; Everybody does them (Q)

Ways you can be; Things you are (0)

Sleep and wake up

How (asleep, awake) you are (0)

(Start, Begin) with A (0)

Good for you (Q)

Things you do in bed; Do them (at night, in the morning)





# 7. Picture Concepts

The child views two or three rows of pictures and selects one picture from each row to form a group with a common characteristic.

# Materials

Administration and Scoring Manual

Record Form

Stimulus Book 3

# Start

Ages 4:0-5:11

Sample Items A & B, then Item 1

Ages 6:0-7:7

Sample Items A & B, then Item 8

Children suspected of an intellectual disability or general intellectual deficiency should start with Sample Items  $A \stackrel{.}{\circ} B$ , then Item 1.

# **Û** Reverse

If a child aged 6:0–7:7 does not obtain a perfect score on *either* of the first two items given, administer the preceding items in **reverse** order until the child obtains perfect scores on two consecutive items.

# Discontinue

Discontinue after 3 consecutive scores of 0.

# **General Directions**

- Provide assistance on the sample items only.
- It is essential to point across the rows of response options, as instructed in the administration directions.
- If the child asks the name of a picture, provide the name only.
- The child must indicate his or her choices by naming, pointing to, or saying the numbers of the selected response options.
- If the child's name for a picture is unclear, say, Point to the pictures you mean.







- If the child does not select a picture in each row or selects more than one picture in a single row, the following prompts must be provided as often as necessary:
  - For two-row items, say, Pick one here (point across first row), and one here (point across second row).
  - For three-row items, say, Pick one here (point across first row), one here (point across second row), and one here (point across third row).
- Follow the general 30-second guideline described in Chapter 2 for test items. If the child has not responded within approximately 30 seconds, prompt him or her by saying, Do you have an answer? Adjust the timing of this prompt and/or grant additional time if the child has established a pattern of providing delayed but correct responses as the item difficulty increases.
- If the discontinue criterion has not been met, cue the child that you are moving to the next item by saying, Let's try another one. Proceed to the next appropriate item.

# Score

- Circle the child's response(s) for each item. Correct responses are printed in color on the Record Form and are listed in this manual.
- Score 1 point only if the child chooses the correct responses from **all** rows of an item.
- Score 0 points if the child does not choose the correct responses, says that he or she does not know the answer, or does not respond.

Maximum Picture Concepts Total Raw Score: 27 points

# Item Administration

# 4:0-7:7 Sample Item A

Turn to Sample Item A in the Stimulus Book and say, Look up here (point across first row). Look down here (point across second row). Pick one here (point across first row) that goes with one here (point across second row).

Correct response [2 and 4]: Say, That's right. This alligator (point to response option 2) goes with this turtle (point to response option 4). They are both animals. Let's try another one. Proceed to Sample Item B.

Incorrect response: Say, That's not quite right. This alligator (point to response option 2) goes with this turtle (point to response option 4). They are both animals. Let's try another one. Proceed to Sample Item B.







# Sample Item B

Turn to Sample Item B and say, Pick one here (point across first row) that goes with one here (point across second row).

Correct response [2 and 3]: Say, **That's right. This dog** (point to response option 2) **goes with this cat** (point to response option 3). **They are both pets. Let's try some more.** Proceed to the appropriate start point.

Incorrect response: Say, **That's not quite right. This dog** (point to response option 2) **goes with this cat** (point to response option 3). **They are both pets. Let's try some more.** Proceed to the appropriate start point.

# 4:0-7:7 Items 1-25

Turn to the appropriate item and say, Pick one here (point across first row) that goes with one here (point across second row). The instructions may be shortened or eliminated when the child understands the task.

Proceed to the next appropriate item if the discontinue criterion has not been met.

### Items 26-27

Turn to the appropriate item and say, **Pick one here** (point across first row) **that goes with one here** (point across second row) **and one here** (point across third row). The instructions may be shortened or eliminated when the child understands the task.

Proceed to the next item if the discontinue criterion has not been met.







# **Correct Responses**

1, 5

14.

	Item	Correct Response	Item	Correct Response
	Itelli	Correct nesponse	iteiii	Correct nesponse
4:0-7:7	SA.	2, 4	15.	2, 4
	SB.	2, 3	16.	2, 5
4:0-5:11	1.	1, 3	17.	2, 5
	2.	2, 4	18.	2, 6
	3.	1, 3	19.	3, 5
	4.	2, 3	20.	1, 6
	5.	1, 3	21.	1, 6
	6.	2, 4	22.	1, 5
	7.	1, 4	23.	2, 4
6:0-7:7	8.	2, 4	24.	3, 5
	9.	1, 4	25.	1, 4
	10.	2, 3	26.	1, 5, 8
	11.	1, 4	27.	3, 6, 7
	12.	3, 4		
	13.	3, 6		







# 8. Cancellation

Working within a specified time limit, the child scans two arrangements of objects (one random, one structured) and marks target objects.

# **Materials**

Administration and Scoring Manual

Record Form

Response Booklet 2

Ink dauber

Stopwatch

Cancellation Scoring Template

Moistened disposable towelettes (recommended)

# Start

Ages 4:0-7:7

Demonstration Item, Sample Item, then Item 1

# Discontinue

Discontinue after 45 seconds for each item.

# Timing

Accurate timing is essential. Begin timing after saying the last word of instruction. Stop timing when the child completes the item, the time limit expires, or it is clear from the child's words or gestures that he or she has finished. If uncertain, ask the child if he or she has finished working.

# **General Directions**

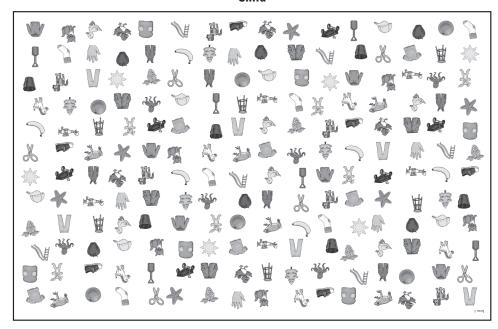
- Ensure the child has a smooth work surface.
- The Response Booklet is composed of three folded 17 x 11 pages. When opened, the center page includes the demonstration and sample items. Items 1 and 2 appear on the second and third pages, respectively. The child should see the entire 17 x 11 spread as each page is administered (see figure).







#### Child



### **Examiner**

- The Item 1 and Item 2 targets are articles of clothing. The objects for Item 1 are in a random arrangement, and the objects for Item 2 are in a structured arrangement (i.e., rows).
- Each page of the Response Booklet is administered separately to avoid smearing the ink. Completed pages are removed from the child's view and allowed to dry as subsequent pages are administered. Do not fold, reassemble, or score the pages of the Response Booklet until the ink is completely dry.
- Use the demonstration item to explain and illustrate the task to the child, then allow the child to practice by completing the sample item. If the child appears confused, repeat the explanation and demonstrate the task again, using the sample item. Proceed to Item 1 only when the child understands the task. If it is clear the child will not be able to understand the task with further instruction, discontinue the subtest.
- If the child does not mark one of the targets or marks a non-target while completing the sample item, correct the error(s), as instructed.
- If the child begins to mark objects on the test items before you finish the instructions, say, Wait until I say "Go" to start.





#### 186 Cancellation

- If the child marks an object more than once, point to the object and say, Stamp it one time only.
- If the child asks what to do if he or she makes a mistake, say, That's OK. Just keep working as fast as you can.
- Provide no further assistance on this subtest except to remind the child to continue until told to stop (if necessary).
- To prevent inadvertent ink transfer to other test components, ensure that the child's hands are free of ink before proceeding to the next subtest. It is recommended that you have moistened disposable towelettes available.

# Score

- If the child completes a test item before the time limit expires, stop timing and record the completion time in seconds.
- If the child does not complete a test item within the time limit, stop timing and record the completion time as 45 seconds.
- Ensure the ink is completely dry before using the Cancellation Scoring Template to score the child's responses. Align the template over the Response Booklet by lining up the edges of the template and the Response Booklet. Each outline box on the template coincides with the location of a target. The targets are in the same location on both items.
- Marks on a target are scored as correct, and marks on a non-target are scored as incorrect even if a single mark passes through multiple objects.
- Objects are judged as marked only if it is clear that the child intended to mark them. If a mark extends through an adjacent object, do not judge the adjacent object as marked unless it is clear that it was the child's intent. If a child marks in the white area near an object, the closest object should be judged as marked. If the closest object cannot be determined, no object should be judged as marked.
- For each item, record the total number of correct and incorrect responses on the Record Form. Subtract the total number of incorrect responses from the total number of correct responses, and enter the difference in the Item Score column on the Record Form. If the difference is less than or equal to 0, enter 0 as the total raw score for the item.
- The total raw score for Cancellation is the sum of the total raw scores for both Item 1 and Item 2.

Maximum Cancellation Total Raw Score: 96 points







## **Process Scores**

- The Cancellation Random (CAR) Total Raw Score is the total raw score for Item 1.
- The Cancellation Structured (CAS) Total Raw Score is the total raw score for Item 2.

Maximum Cancellation Random Total Raw Score: 48 points

Maximum Cancellation Structured Total Raw Score: 48 points

### **Item Administration**

# 4:0-7:7 Demonstration Item

Open the Response Booklet and place the page with the demonstration and sample items in front of the child. Ensure the child sees the entire 17 x 11 spread. Remove the other pages from the child's view.

Point across the row of clothing targets, from the child's left to right, and say, **Look** at these. They are all things people wear.

Point to the demonstration item and say, Now look at these. There are things people wear and other things too. I will *only* stamp the things people wear. I will *not* stamp anything else (randomly mark each of the four targets).

Proceed to Sample Item.

# Sample Item

Point to the sample item and say, Now you do these. Only stamp the things people wear. Do not stamp anything else. Hand the child the ink dauber, then say, Go. Allow the child to complete the sample item. Explain further if necessary.

Correct response [marks the eight targets only]: Say, **That's right. Now you know how to do them.** Remove the page from the child's view and allow it to dry. Proceed to Item 1.

Incorrect response(s) [omits a target or marks a non-target]:

Correct the error(s) as follows:

If the child omits a target, say, **That's not quite right** (point to error). **People** wear this, so you should stamp it.

If the child marks a non-target, say, **That's not quite right** (point to error). **People** *don't* **wear this, so you should** *not* **stamp it.** 

Do not proceed to Item 1 until the child understands the task. If it is clear that the child will not be able to understand the task with further instruction, discontinue the subtest.







When the child has successfully completed the sample item, remove the page from the child's view and allow it to dry. Proceed to Item 1.

### Item 1. Random

Place the page with Item 1 in front of the child. Ensure the child sees the entire 17 x 11 spread.

Say, When I say "Go," stamp all the things people wear. Do not stamp anything else. Work as fast as you can without making mistakes until I tell you to stop. Are you ready?

If the child begins to mark objects before you finish the instructions, say, Wait until I say "Go" to start.

Explain further if necessary, and then say, Go.

Begin timing and allow 45 seconds.

If the child marks an object more than once, point to the object and say, **Stamp** it one time only.

If the child asks what to do if he or she makes a mistake, say, That's OK. Just keep working as fast as you can.

If the child completes the item before the time limit expires, stop timing and record the completion time in seconds.

If the child is still working at the time limit, stop timing and say, Stop. Record the completion time as 45 seconds.

Remove the completed page from the child's view and allow it to dry. Proceed to Item 2.

#### Item 2. Structured

Place the page with Item 2 in front of the child. Ensure the child sees the entire 17 x 11 spread.

Say, When I say "Go," stamp all the things people wear. Do not stamp anything else. Work as fast as you can without making mistakes until I tell you to stop. Are you ready?

If the child begins to mark objects before you finish the instructions, say, Wait until I say "Go" to start.

Explain further if necessary, and then say, Go.

Begin timing and allow 45 seconds.

If the child marks an object more than once, point to the object and say, **Stamp** it one time only.

If the child asks what to do if he or she makes a mistake, say, That's OK. Just keep working as fast as you can.







If the child completes the item before the time limit expires, stop timing and record the completion time in seconds.

If the child is still working at the time limit, stop timing and say, Stop. Record the completion time as 45 seconds.

Reminder: Ensure that the table surface and the child's hands are free from ink before proceeding to the next subtest.







# 9. Zoo Locations

The child views one or more animal cards placed on a zoo layout for a specified time and then places each card in the previously viewed locations.

# Materials

Administration and Scoring Manual

Record Form

Zoo Locations Layouts

Zoo Locations Animal Cards

Stopwatch

# Start

Ages 4:0-5:11

Sample Item, then Item 1

Ages 6:0-7:7

Sample Item, then Item 7

Children suspected of an intellectual disability or general intellectual deficiency should start with Sample Item, then Item 1.

# **1** Reverse

If a child aged 6:0–7:7 does not obtain a perfect score on *either* of the first two items given, administer the items in **reverse** order until the child obtains perfect scores on two consecutive items.

# Discontinue

Discontinue after **2** consecutive scores of 0.

# 🍅 Timing

**Sample Item–Item 6:** Expose the cards in their correct locations for **3** seconds.

**Items** 7–20: Expose the cards in their correct locations for 5 seconds.

A red line on the Record Form is a visual reminder of the change in exposure time.

Accurate exposure time is essential. Begin timing after presenting the last card and giving the last word of instruction.

Immediately following exposure, quickly collect and stack the animal cards in random order and hand to the child, animal-side up.







# **General Directions**

- There are six Zoo Layouts. Ensure only the layout for the current item is visible to the child.
- There are 64 Animal Cards divided into three groups according to item number. The cards for the sample item and Items 1–10 are included in the first group, the cards for Items 11–15 are included in the second group, and the cards for Items 16–20 are included in the third group.
- Items are administered by placing Animal Cards in specific locations on the Zoo Layouts. After the specified exposure time, the cards are removed from the layout, randomly stacked, and then presented to the child, who attempts to reproduce the card locations from memory.
- The child must indicate his or her response(s) by placing each card in an acceptable location on the Zoo Layout. Acceptable locations are designated by the light brown areas.
- Do not allow the child to touch the Animal Cards until you hand them to him or her.
- If the child turns a card animal-side down during the task, unobtrusively turn the card right-side up again.
- A child may self-correct after his or her initial response. If it is unclear whether it is the child's final response, ask the child if he or she has finished.
- If the child asks if he or she must place the cards in a specific order, say, You don't have to put the cards down in order. Just put each animal where it lives.
- If the child attempts to place multiple cards in a single, acceptable location, point to the location with multiple cards and say, Only one animal lives in each place.
- If the child attempts to place a card between acceptable locations (e.g., in a green area), say, The animals only live in the brown places (point to acceptable locations).
- The sample item and Items 1 and 2 have two trials each. If the child correctly places the card on Trial 1, proceed to the next item. If the child does not correctly place the card on Trial 1, administer Trial 2.
- Items 1–2 and 5–8 are teaching items. Corrective feedback is provided if the child does not obtain a perfect score. Provide no further assistance on this subtest.







### **Standard Presentation Procedures**

- With the exception of the card for the sample item, the back of each Animal Card has a number and letter. The number indicates the item number and the letter indicates the presentation order. The card for the sample item is labeled SA.
- Prior to administration, sequentially stack the three groups of Animal Cards by number and letter, with the number and letter side visible and upright from your perspective. The top card for the Sample Item—Item 10 card group should be labeled SA, and the bottom card should be labeled 10C. The top card for the Items 11–15 card group should be labeled 11A, and the bottom card should be labeled 15E. The top card for the Items 16–20 card group should be labeled 16A, and the bottom card should be labeled 20G.
- Animal Cards not being used during item administration should be placed out of the child's view.
- The locations for card placement appear in a key for each item (see Figure 4.5 below).

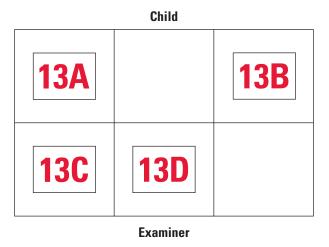


Figure 4.5 Example of Key for Animal Card Placement

To present the cards for an item, select the required cards from the stack of Animal Cards. The cards should be in alphabetical order, with the "A" card on top. Sequentially place each card in its keyed location by flipping the card from top to bottom *as you place it* on the Zoo Layout. The child should never see the labeled side of the card placed on the layout. The animal side of each card will be right side up from the child's perspective if the cards are presented in this manner. See Figure 4.6 for an example of how the Zoo Layout appears when the Animal Cards are presented according to the key.







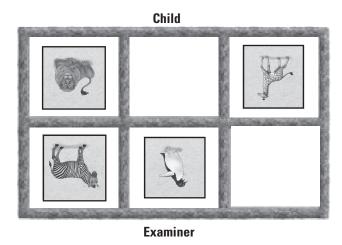


Figure 4.6 Example of Zoo Layout With Animal Cards Presented According to Key

# **Score**

- For each item, the correct location of each Animal Card is depicted in the Response column. Each Animal Card is represented by the first letter of the depicted animal's name (e.g., L represents the *lion*, M represents the *monkey*, **P** represents the *penguin*). The abbreviations are included in a legend on the Record Form.
- The child is not penalized for placing cards in rotated orientations (e.g., the animal is upside down from his or her perspective). Credit should be awarded for correct placement of a card in any orientation.
- Record the child's placement of each Animal Card as follows:
  - For correctly placed cards, record a check mark over the letter in the key. In the example in Figure 4.7, the child placed the Lion card in the correct location.

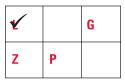


Figure 4.7 Recording Correctly Placed Animal Card







For incorrectly placed cards, record the first letter of the animal's name in the placed location. In the example in Figure 4.8, the child placed the Lion card in the correct location, incorrectly placed the Zebra card in the Giraffe's location, incorrectly placed the Giraffe card in the Zebra's location, and placed the Penguin card in an incorrect location.

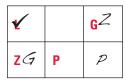


Figure 4.8 Recording Incorrectly Placed Animal Cards

- Items 1 and 2 have two trials. For Items 1 and 2, score 1 point if the child gives a correct response on either Trial 1 or Trial 2. Score 0 points if the child gives an incorrect response on both Trial 1 and Trial 2.
- Correct responses for Items 1–4 and 7 require the correct placement of a single card. Correct responses for Items 5-6 and 8-20 require the correct placement of multiple cards. For items with multiple cards, all cards must be placed in the correct locations to earn credit.
- Score 1 point if the child gives a correct response. Score 0 points if the child gives an incorrect response, says that he or she does not know the answer, or does not respond.

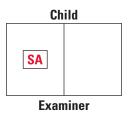
Maximum Zoo Locations Total Raw Score: 20 points

# **Item Administration**

# 4:0-7:7 Sample Item

#### **Trial 1**

Position the layout for Sample–Item 2 in front of the child and say, Let's go to the zoo.









Present the card according to the key and say, The monkey lives here. Remember where the monkey lives. Begin timing and allow 3 seconds.

Collect the card, hand it to the child, and say, Put the monkey where it lives.

Correct response: Say, That's right. Let's try some more. Collect the card and proceed to the appropriate start point.

Incorrect response: Say, That's not quite right. Collect the card, place it in the correct location, and say, The monkey lives here, so you should put it here. Let's try again. Collect the card and administer Trial 2.

#### **Trial 2**

Present the card according to the key and say, The monkey lives here. Remember where the monkey lives. Begin timing and allow 3 seconds.

Collect the card, hand it to the child, and say, Put the monkey where it lives.

Correct response: Say, That's right. Let's try some more. Collect the card and proceed to the appropriate start point.

Incorrect response: Say, That's not quite right. Collect the card, place it in the correct location, and say, The monkey lives here, so you should put it here. **Let's try some more.** Collect the card and proceed to the appropriate start point.

# 4:0-5:11 †Item 1

#### **Trial 1**



Present the card according to the key and say, The lion lives here. Remember where the lion lives. Begin timing and allow 3 seconds.

Collect the card, hand it to the child, and say, **Put the lion where it lives.** 

Correct response: Collect the card and proceed to the next item.

†Incorrect response: Collect the card, place it in the correct location, and say, The lion lives here, so you should put it here. Let's try again. Collect the card and administer Trial 2.







#### **Trial 2**

Present the card according to the key and say, **The lion lives here. Remember where the lion lives.** Begin timing and allow 3 seconds.

Collect the card, hand it to the child, and say, Put the lion where it lives.

Correct response: Collect the card and proceed to the next item.

†Incorrect response: Collect the card, place it in the correct location, and say, **The lion lives here, so you should put it here.** Collect the card and proceed to the next item if the discontinue criterion has not been met.

### †Item 2

#### **Trial 1**



Present the card according to the key and say, **Now the lion lives here. Remember** where the lion lives. Begin timing and allow 3 seconds.

Collect the card, hand it to the child, and say, Put the lion where it lives.

Correct response: Collect the card and proceed to the next appropriate item.

†Incorrect response: Collect the card, place it in the correct location, and say, **The** lion lives here, so you should put it here. Let's try again. Collect the card and administer Trial 2.

#### **Trial 2**

Present the card according to the key and say, **The lion lives here. Remember where the lion lives.** Begin timing and allow 3 seconds.

Collect the card, hand it to the child, and say, Put the lion where it lives.

Correct response: Collect the card and proceed to the next appropriate item.

†Incorrect response: Collect the card, place it in the correct location, and say, **The lion lives here, so you should put it here.** Collect the card and proceed to the next appropriate item if the discontinue criterion has not been met.









### Item 3

Position the layout for Items 3–6 in front of the child.



Present the card according to the key and say, The zebra lives here. Remember where the zebra lives. Begin timing and allow 3 seconds.

Collect the card, hand it to the child, and say, Put the zebra where it lives.

Correct response: Collect the card and proceed to the next appropriate item.

Incorrect response: Collect the card and proceed to the next appropriate item if the discontinue criterion has not been met.

## Item 4



Present the card according to the key and say, The bear lives here. Remember where the bear lives. Begin timing and allow 3 seconds.

Collect the card, hand it to the child, and say, Put the bear where it lives.

Correct response: Collect the card and proceed to the next appropriate item.

Incorrect response: Collect the card and proceed to the next appropriate item if the discontinue criterion has not been met.

## †Item 5



Present the cards according to the key and say, The animals live here. Remember where each animal lives. Begin timing and allow 3 seconds.







Collect the cards, hand them to the child, and say, Put each animal where it lives.

Correct response: Collect the cards and proceed to the next appropriate item.

†Incorrect response: Collect the cards and place them in their correct locations. Say, The bear lives here (point to bear), so you should put it here. The zebra lives here (point to zebra), so you should put it here. Collect the cards and proceed to the next appropriate item if the discontinue criterion has not been met.

## †Item 6



Present the cards according to the key and say, The animals live here. Remember where each animal lives. Begin timing and allow 3 seconds.

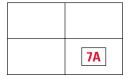
Collect the cards, hand them to the child, and say, Put each animal where it lives.

Correct response: Collect the cards and proceed to the next appropriate item.

†Incorrect response: Collect the cards and place them in their correct locations. Say, The zebra lives here (point to zebra), so you should put it here. The bear lives here (point to bear), so you should put it here. Collect the cards and proceed to the next appropriate item if the discontinue criterion has not been met.

# 6:0-7:7 †Item 7

Position the layout for Items 7–10 in front of the child.



Present the card according to the key and say, **The penguin lives here. Remember** where the penguin lives. Begin timing and allow 5 seconds.

Collect the card, hand it to the child, and say, Put the penguin where it lives.

Correct response: Collect the card and proceed to the next item.

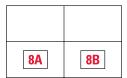
†Incorrect response: Collect the card, place it in the correct location, and say, **The penguin lives here, so you should put it here.** Collect the card and proceed to the next appropriate item if the discontinue criterion has not been met.







# †Item 8



Present the cards according to the key and say, **The animals live here. Remember** where each animal lives. Begin timing and allow 5 seconds.

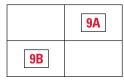
Collect the cards, hand them to the child, and say, Put each animal where it lives.

Correct response: Collect the cards and proceed to the next item.

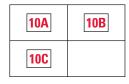
†Incorrect response: Collect the cards and place them in their correct locations. Say,

The elephant lives here (point to elephant), so you should put it here. The tiger
lives here (point to tiger), so you should put it here. Collect the cards and proceed to the next appropriate item if the discontinue criterion has not been met.

## Items 9-10



Item 9



Item 10

Present the cards according to the key and say, Remember where each animal lives.

Begin timing and allow 5 seconds.

Collect the cards, hand them to the child, and say, **Put each animal where it lives.**This instruction may be shortened or eliminated when the child understands the task.

Correct response: Collect the cards and proceed to the next item.

Incorrect response: Collect the cards and proceed to the next item if the discontinue criterion has not been met.







# Items 11-13

Position the layout for Items 11–13 in front of the child.





Item 11

**Item 12** 



Item 13

Present the cards according to the key and say, Remember where each animal lives. Begin timing and allow 5 seconds.

Collect the cards, hand them to the child, and say, **Put each animal where it lives.**This instruction may be shortened or eliminated when the child understands the task.

Correct response: Collect the cards and proceed to the next item.

Incorrect response: Collect the cards and proceed to the next item if the discontinue criterion has not been met.

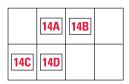


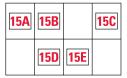




# Items 14-15

Position the layout for Items 14–15 in front of the child.





Item 14

Item 15

Present the cards according to the key and say, Remember where each animal lives. Begin timing and allow 5 seconds.

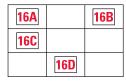
Collect the cards, hand them to the child, and say, **Put each animal where it lives.**This instruction may be shortened or eliminated when the child understands the task.

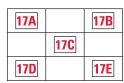
Correct response: Collect the cards and proceed to the next item.

Incorrect response: Collect the cards and proceed to the next item if the discontinue criterion has not been met.

# Items 16-20

Position the layout for Items 16–20 in front of the child.



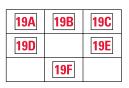


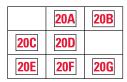


Item 16

Item 17

Item 18





Item 19

Item 20

Present the cards according to the key and say, Remember where each animal lives. Begin timing and allow 5 seconds.

Collect the cards, hand them to the child, and say, **Put each animal where it lives.**This instruction may be shortened or eliminated when the child understands the task.

Correct response: Collect the cards and proceed to the next item.

Incorrect response: Collect the cards and proceed to the next item if the discontinue criterion has not been met.

# 10. Object Assembly

Working within a specified time limit, the child assembles the pieces of a puzzle to create a representation of an identified object.

# **Materials**

Administration and Scoring Manual

Record Form

13 Puzzles

Stopwatch

# Start

Ages 4:0-5:11

Item 3

Ages 6:0-7:7

Item 7

Children suspected of an intellectual disability or general intellectual deficiency should start with Item 1.

# **Û** Reverse

If a child does not obtain a perfect score on *either* of the first two items given, administer the preceding items in **reverse** order until the child obtains perfect scores on two consecutive items.

# Discontinue

Discontinue after 2 consecutive scores of 0.

# 🍅 Timing

The time limit for each item is **90** seconds.

Accurate timing is essential. Begin timing for each item after saying the last word of instruction.

Stop timing when the child completes the item, the time limit expires, or it is clear from the child's words or gestures that he or she has finished. If uncertain, ask the child if he or she has finished working.

In the interest of maintaining rapport, allow a few additional seconds for the child to complete an item if he or she is nearing completion when the time limit expires. However, do not award credit for junctures that were correctly joined after the time limit.







### **General Directions**

- Ensure that the child is seated directly facing the edge of the table.
- The puzzles illustrated on the Record Form are from your perspective (i.e., upside down), with each red "X" representing a correctly joined juncture.
- If the child flips a puzzle piece over during the task, unobtrusively turn the piece right-side up again.
- If the child hesitates or seems merely to be playing with the pieces, say, **Work as fast as you can.**
- Item 1 has two trials. If the child correctly joins all of the junctures within the time limit on Trial 1, proceed to the next item. If the child does not correctly join all of the junctures or exceeds the time limit on Trial 1, administer Trial 2.
- Present only the pieces needed to construct each puzzle. Remove all unnecessary puzzle pieces from the child's view.

# **Standard Presentation Procedures**

- Before beginning each item, sequentially sort the puzzle pieces in your hand, out of the child's view. Stack the pieces face-down in sequential order, starting with the highest-numbered piece and ending with the piece numbered 1.
- Working from your left to right, place the pieces in sequential order, with the number side visible and the numbers upright, from your perspective. The underlines beneath the numbers should be parallel to your edge of the table. Place those pieces with one underline in the first row, closest to the child. Place the pieces with double underlines in the second row, closest to you. Place the pieces so that they are within comfortable reach of the child.
- When properly aligned, an imaginary line can be drawn through the underlines on the back of each piece in a row. See Figure 4.9 for an example of properly aligned puzzle pieces with the number side visible.







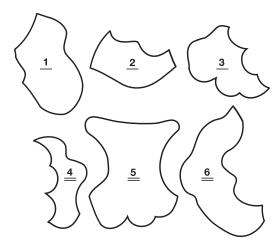


Figure 4.9 Proper Alignment of Puzzle Pieces With Number Side Visible

After the pieces are properly aligned, expose the picture side of the pieces sequentially, beginning with the piece numbered 1. The pieces are flipped from top to bottom, not from left to right. Figure 4.10 depicts how the puzzle pieces in Figure 4.9 should appear after flipping them to the picture side.



Figure 4.10 Proper Alignment of Puzzle Pieces With Picture Side Visible

• Present only the pieces needed to complete each puzzle. Remove all unnecessary puzzle pieces from the child's view.







### **Score**

- Record the completion time in seconds for each item.
- A juncture is the place where two adjacent pieces meet. Two pieces are considered correctly joined even if the child forms certain segments of the puzzle in isolation but fails to integrate them with the other puzzle pieces. For example, on Item 13 (Butterfly) the child may correctly join adjacent wing pieces without integrating them to form the whole butterfly.
- Because the development of fine motor skills may lag behind the development of cognitive ability, gaps and/or misalignments between adjacent pieces that are less than or equal to ¼ inch are not penalized. Adjacent pieces with gaps and/or misalignments that exceed ¼ inch should not be judged as correctly joined.
- To assist in scoring, pictures of the items are provided on the Record Form, with each juncture noted with a red "X." Circle the "X" that corresponds to each correctly joined juncture at the time limit.
- Record the number of correctly joined junctures within the time limit.
   The range of possible correct junctures appears in the Number of Correct Junctures column.

#### Item 1

- Score 1 point if the juncture is joined correctly within the time limit on *either* Trial 1 or Trial 2.
- Score 0 points if the juncture is not joined correctly within the time limit on *both* Trial 1 and Trial 2.

### Items 2-11

- Score 1 point for each correctly joined juncture within the time limit.
- Score 0 points if there are no correctly joined junctures within the time limit.

#### Items 12–13

- Score ½ point for each correctly joined juncture within the time limit.
   Partial scores are rounded up.
- Score 0 points if there are no correctly joined junctures within the time limit.

Maximum Object Assembly Total Raw Score: 38 points





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### **Item Administration**

#### Item 1. Watermelon

#### **Trial 1**

Present the pieces to the child and say, These pieces make a watermelon. See, they fit together like this. Slowly put the pieces together and allow the child to look at the assembled puzzle for approximately 3 seconds.

Disassemble the puzzle and present the pieces to the child. Say, Now you try. Put them together as fast as you can and tell me when you're done. Go ahead.

Begin timing and allow 90 seconds.

Correct assembly within the time limit: Proceed to the next item.

Incorrect assembly: Administer Trial 2.

#### **Trial 2**

Disassemble the puzzle and present the pieces to the child. Say, **See**, **they go** like this.

Slowly put the pieces together and allow the child to look at the assembled puzzle for approximately 3 seconds.

Disassemble the puzzle and present the pieces to the child. Say, Now you try again. Put them together as fast as you can and tell me when you're done. Go ahead.

Begin timing and allow 90 seconds.

Proceed to the next item if the discontinue criterion has not been met.

# Item 2. Hot dog

Present the pieces to the child and say, These pieces make a hot dog. Put them together as fast as you can and tell me when you're done. Go ahead.

Begin timing and allow 90 seconds.

Proceed to the next appropriate item if the discontinue criterion has not been met.

## 4:0-7:7 Items 3–13

Present the pieces to the child and say, These pieces make a [insert item name]. Put them together as fast as you can and tell me when you're done. Go ahead.

Begin timing and allow 90 seconds.

Proceed to the next appropriate item if the discontinue criterion has not been met.







# 11. Vocabulary

For picture items, the child names the depicted object. For verbal items, the child defines words that are read aloud.

# Materials

Administration and Scoring Manual

Record Form

Stimulus Book 3

## Start

Ages 4:0-5:11

Item 1

Ages 6:0-7:7

Item 4

Children suspected of an intellectual disability or general intellectual deficiency should start with Item 1.

### **1** Reverse

If a child aged 6:0–7:7 does not obtain a perfect score on *either* of the first two items given, administer the preceding items in **reverse** order until the child obtains perfect scores on two consecutive items.

# Discontinue

Discontinue after 3 consecutive scores of 0.

### **General Directions**

## Picture Items (Items 1-3)

- Picture items are presented in the Stimulus Book.
- There are four general response situations that require further query by the examiner: marginal responses, generalized responses, functional descriptions, and hand gestures. Provide these queries *as often as necessary*.
  - If the child provides a marginal but appropriate response for an item, such as responding "truck" to the *car*, ask him or her to clarify the response by saying, **Yes, but what else is it called?**







- If the child gives an appropriate generalized response to an item, such as responding "fruit" to the *banana*, ask him or her to clarify the response by saying, **Yes, but what kind of** [*insert child's response*] is it?
- ▶ If the child gives an appropriate functional description of an item, such as responding "cuts things" to the *scissors*, ask him or her to clarify the response by pointing to the picture and saying, **Yes**, but what is it called?
- ▶ If the child uses appropriate hand gestures for an item, such as pretending to drive or steer a car in response to the *car*, ask him or her to clarify the response by saying, **Yes, but what is it called?**
- Common responses that require a query are followed by the notation (0) in the sample responses. All responses followed by a (0) must be queried.
- Item 1 is a teaching item. Corrective feedback is provided if the child does not obtain a perfect score.

### Verbal Items (Items 4-23)

- Remove the Stimulus Book from the child's view before administering verbal items.
- Read each item verbatim to the child.
- Each item may be repeated *as often as necessary*, but do not alter the wording in any way.
- Use the local pronunciation of each word or the pronunciation you believe to be familiar to the child.
- If the child mistakenly hears a different word and responds incorrectly, say, Listen carefully. Repeat the item, emphasizing the misheard word.
- If the child's response is unclear or too vague to be readily scored or is followed by a (Q) in the sample responses, say, What do you mean? or Tell me more about it (or some other neutral inquiry).
- Items with sample responses that require specific query are identified with an asterisk (\*) on the Record Form and in this manual.
- Items 4 and 5 are teaching items. Corrective feedback is provided if the child does not obtain a perfect score. Provide no further assistance on this subtest.







### **Score**

- Record the child's responses verbatim.
- If the child provides multiple responses for an item, refer to the following:
  - Added remarks, obviously not part of the child's answer, do not affect the score. For example, score 2 points if the child responds to *What is candy?* with "Something you eat that's sweet. I love chocolate."
  - ▶ If the child's responses vary in quality, with no one answer spoiling the entire response, score the best response. For example, if the child responds to *What is a boat?* with "Something you ride in the water. You can ski or go tubing behind one," the best response, "Something you ride in the water," is scored 2 points.
  - A 2- or 1-point response to an item accompanied by a spoiled response is scored 0 points. For example, score 0 points if the child responds to *What does double mean?* with "To get another" but then spoils the response with "You get three more."

### Picture Items (Items 1-3)

- Use the sample responses for each item to facilitate scoring.
- The sample responses are not an exhaustive list but do provide replies that range from relatively inferior to more creditable. It is important that you evaluate unusual responses carefully and refer to the sample responses to facilitate scoring.
- Children are not penalized for problems with articulation on this subtest.
   A child receives credit for correct responses, despite his or her inability to pronounce words clearly.
- Inappropriate marginal responses, generalized responses, functional descriptions, and hand gestures are scored 0 points.
- Personalized responses, such as "I have one," are scored 0 points. Proper or fictional names are also considered personalized responses and are scored 0 points.
- Score 1 or 0 points according to the sample responses.







### Verbal Items (Items 4–23)

- Use the sample responses for each item and the general scoring principles to facilitate scoring.
- The sample responses are not an exhaustive list but do provide replies that range from relatively inferior to more creditable. It is important that you evaluate unusual responses carefully and refer to the sample responses and general scoring principles to facilitate scoring.
- All word meanings recognized by standard dictionaries are acceptable and are scored according to the quality of the definition. Regionalisms or slang that are not found in standard dictionaries should be scored 0 points. If such a response is given or if you are unsure about the acceptability of a response, query the child.
- Score 2, 1, or 0 points according to the sample responses and the general scoring principles.

Maximum Vocabulary Total Raw Score: 43 points

# **General Scoring Principles**

In general, any recognized meaning of the word is acceptable, but lack of content is penalized. If the child indicates only a vague knowledge of the word's definition, do not give full credit.

#### 2 points

The response shows a good understanding of the word.

- A good synonym ("Courage is bravery")
- A major use ("A *telephone* is used to speak with someone who is far away")
- A general classification to which the word belongs ("A dog is an animal"). This principle must be applied with particular caution because defining a word in terms of a general classification is not always sufficient. For example, the statement "Courage is a feeling" is not scored 2 points unless it is appropriately elaborated.
- One or more definitive or primary features ("An airport is a place where you
  go to get on an airplane")
- A correct figurative use of the word ("You use a telephone like a walkie-talkie")
- Several less definitive but correct descriptive features that cumulatively indicate understanding of the word ("A *leaf* is green and grows on trees")







For verbs, a definitive example of action or causal relations ("If you're quick, you get there in no time")

#### 1 point

In general, the response is correct but shows poverty of content.

- A vague or less pertinent synonym ("A *picnic* is a cookout")
- A minor use, not elaborated ("A telephone is something you hang up")
- An attribute that is correct but not a definitive or distinguishing feature and is not improved after you query ("Knights use armor")
- An example using the word itself, not elaborated ("Take the *boat* to the island")
- A concrete instance of the word, not elaborated ("Chocolate *candy*")
- A correct definition of a related form of the word (Defines modernize instead of *modern*)

#### 0 points

The response shows no clear understanding of the word or is obviously incorrect.

- A demonstration that is not elaborated in words (for *double*, the child holds up two fingers)
- A verbal response that shows no real understanding even after query ("Choo-choo train")
- Responses that are not totally incorrect but which, even after questioning, are vague, trivial, or demonstrate a poverty of content ("A picnic is a basket")
- Regionalisms and slang not found in dictionaries
- Any clearly incorrect response

### **Item Administration**

# 4:0-5:11 Picture Items (Items 1-3)

Turn to the appropriate item. Point to the picture and say, What is this?

Provide queries as often as necessary for marginal responses, generalized responses, functional descriptions, and hand gestures, but do not query responses that are clearly incorrect. Proceed to the next appropriate item if the discontinue criterion has not been met.

Remove the Stimulus Book from the child's view before proceeding to Verbal Items.







Item	1 Point	0 Points
† <b>1</b> .	Car; Auto; Automobile	Vehicle (0)
		Truck (Q)
	If the child does not obtain a perfect score, say, <b>This is a car.</b>	
2.	Banana; 'Nana; Plantain	Fruit (Q)
3.	Scissors; Shears	Clippers; Trimmers; Cutters; Snippers (Q)
	(Hedge, Bush) clippers	Knife

# Verbal Items (Items 4-23)

Read each item verbatim to the child. Proceed to the next appropriate item if the discontinue criterion has not been met.

### †4. Answer this question. What is a SOCK?

#### 2 points

Something you (wear, put) on your foot; You (wear, put) them on your feet	They (cover, protect, shield) your (foot, feet)
Goes on your (foot, feet)	Clothes for feet
Wear them (before, under, with) shoes; They go (on before, under) shoes	Put on (before, under, with) shoes; When you put on your shoes; To put shoes on
They keep your feet (warm, from freezing)	

#### 1 point

You (wear them, put them on, take them off) (0)	Clothing; Clothes ( <b>Q</b> ) (Goes with, For, Inside) shoes ( <b>Q</b> )	
(For, On) your (foot, feet) ( <b>Q</b> ) Keep you warm ( <b>Q</b> )	So you won't be barefoot (0)	
Punch; Hit		
0 points		

Foot; Feet (Q)	Shoes; Socks and shoes (Q)	
(For, On) your (legs, body) (0)	[Points to sock] (0)	
Come in (pairs, twos); Pair (0)	Puppet (Q)	
Made of (cotton, cloth) (0)	Black; Brown; White	
Tights	They're soft	

†If the child does not provide a 2-point response, say, **A sock is something you wear on your foot.** 







#### †5. What is a TELEPHONE?

#### 2 points

Communicate (with, on) it; Communication (equipment, device)

It sends messages; Use it (instead of mail, like a walkie-talkie)

You (call on, answer, dial, talk on, speak on) it

Use it to (speak to, call) people; (Call, Speak to) (someone, people) on it

Something you (talk, speak) (on, into)

#### 1 point

It has (numbers, buttons, an antenna, a dial, a ringer) (0)

(Hear, Listen) on it (0)

You pick it up; You get it; Go get the phone to see who it is (0)

(Play, Has) games; Watch movies (Q)

Rings and you say (hello, hi)

Use it to call (a friend, Grandma, Mom, Dad, [names specific person]) (0)

Put it up to your (ear, mouth) (0)

You hang it up (0)

Dial 911 on it; [Describes emergency use of phone]

### 0 points

Rings; It rings (0)

A phone; Cell phone (Q)

Hello: Hi

(Hangs, Hooks) on the wall

[Demonstrates ringing, busy, or other phone sound] (0)

[Demonstrates phone use] (0)

Put money in it

†If the child does not provide a 2-point response, say, A telephone is something you use to call someone.







#### 6. What is a BOAT?

#### 2 points

Ship

Water transportation

Vehicle used (on, in) (water, lakes, rivers, oceans)

(Gets, Carries, Takes) people (across, over) the ocean

Has a (bow, stern, sail, propeller, rudder, anchor); [Names one *definitive* feature]

#### 1 point

A vehicle; Transportation (0)

Takes you (places, somewhere); Go places; Gets you somewhere (0)

Has a steering wheel; Has a steering wheel and (motor, engine); [Names one or more *nondefinitive* features] (0)

You (water ski, wakeboard, tube) behind it; You fish on it (0)

(So you can, For you to) go in the water

### 0 points

You go on a (cruise, vacation) (0)

Motorboat; Sailboat; Submarine; Aircraft carrier; Cruise ship (0)

Something you (get, sit) in (0)

Something you (row, sail, ride, go, travel, drive) (on, in) the (water, lake, river, oceans)

(Sails, Drives) (on, in) water

It (goes, moves, floats) (on, in) the (water, lake, river, oceans)

You (row, sail, ride, go, travel, drive, float) to islands (on, in) it

It floats; You float it (0)

Something you (row, sail, ride, drive); You (row, sail, ride, go, travel) on it (0)

Use it on (water, lakes, rivers, oceans); Used in water (0)

Go to an island (Q)

Use it at the beach

Swims (on, in) water

Water; (On, In) (water, oceans) (0)

Swim; Swim (off, by) it (0)

Toy; Thing you play with (0)







#### 7. What is a DOG?

#### 2 points

Animal; Mammal; Pet; Canine

They (lick and bark, bite and dig holes, slobber and beg); [Names *two definitive* behaviors]

They (bark and have four legs, lick and you walk them, have fur and you take them to the vet); [Names *one example from two categories*, including definitive behaviors, physical features, and activities between dog and owner]

### 1 point

They (lick, bark, bite, dig holes, slobber, beg, chew, go potty); [Names *one definitive* behavior] (0)

You (pet, train, walk, play with) them; Take them to the vet; [Names *one activity* between dog and owner] (0)

Man's best friend

#### 0 points

A puppy (Q)

They (run, walk, sleep, stay outside, eat); [Names one or more *nondefinitive* behaviors] (0)

They have (four legs and a tail, sharp teeth and whiskers, fur and a tail); [Names *two physical* features]

You (pet and walk them, take them to the vet and clean up after them); [Names *two activities* between dog and owner]

They have (four legs, a tail, teeth, whiskers, fur); [Names *one physical* feature] (0)

Poodle; Terrier; Collie; Mutt; [Names type of dog]

Dogs (say, go) (ruff, arf, yip, [demonstrates dog noise])

[Demonstrates dog behavior or sound] (0)

[Names fictional dog]







#### 8. What is CANDY?

#### 2 points

Something you (eat, chew, lick) that is (sweet, made with sugar)

Sweet (food, treat, snack); Sugary food

(Food, Something you eat) that's (bad for you, unhealthy); If you eat too much it's bad for you Sweets; A sweet; [Refers to sweet as a noun]

Something that's sweet and spoils your teeth; Sugary and gives you cavities

#### 1 point

You (eat, chew) it; For eating; To eat (0)

Food; Junk food; Treat; Snack; Dessert (0)

Bad for you; Unhealthy; Makes you sick (0)

Lollipops; Bubble gum; Chocolate; [Names specific candy]

Sweet; Sugary (Q)

(Bad for, Rots) teeth; Causes cavities (0)

Will make your sugar go up; Bad for your diabetes (Q)

Yummy; Tastes good

#### 0 points

Sugar (Q)

Get it after (lunch, dinner) (0)

Get it after (shots, haircuts, something bad) (0)

Goes in your mouth (0)

Something that (makes you hyper, gives you energy) (0)

Sticky; Gooey; Slimy







#### 9. What is a DOCTOR?

#### 2 points

(Help you get, Make you) better when you're (sick, hurt)

(Heal, Cure) you

Help you (stay healthy, keep healthy, not get sick)

Give you medicine and shots; Take your temperature and listen to your heart; [Names *two* medical procedures]

Listen to your heart and see them for allergies; Do surgery and treat colds; [Names one medical procedure *and* one medical condition]

#### 1 point

Fix you; (Help you get, Make you) better (0)

Give you (medicine, shots); Take your temperature; Write prescriptions; Listen to your heart; Do surgery; [Names *one* medical procedure] (0)

Work in a (hospital, clinic) (0)

#### 0 points

They (help, take care of) you (Q)

[Names his or her doctor]

Physician; Someone who (treats patients, practices medicine)

Someone with (an MD, a PhD, a doctorate, a doctor's degree)

(Go to, See) them when you're (sick, hurt)

(Go to, See) them for (colds and allergies, broken legs and asthma, [names *two* medical conditions])

Works in a (hospital, clinic) *and* (gives you shots, does surgery, [names *one* medical procedure])

(Go to, See) them for (colds, allergies, broken legs, asthma, [names *one* medical condition]) (1)

Dentist; Surgeon; Professor; Scientist; [Names type of doctor] (0)

Went to school for a long time

Wear a (white coat, stethoscope)

A nurse







#### \*10. What does QUICK mean?

#### 2 points

Fast; Speedy Hasty; Rapid; Swift

Hurry up; Rush Takes (no time, a short time)

(Run, Race) before you miss it Get there in no time

1 point

Now; Right away (0) Speed; Speeding (0)

Run; Race; Dash (0) Not (slow, pokey) (0)

Like (a, an) (shooting star, airplane, [names Like a (cheetah, rabbit, [names fast-moving object]) fast-moving animal])

0 points

Stop; End; Leave your job (0)\* A video

Makes chocolate milk To move

Quicksand Quiet

To do something





<sup>\*</sup>If the response suggests that the child heard "What does *quit* mean?" repeat the question, emphasizing *quick*.



#### 11. What is a TRAIN?

#### 2 points

(Vehicle, Machine) that has (tracks, cars, a caboose, a conductor, a whistle)

You (ride, travel, go places) on it and it has (tracks, cars, a caboose, a conductor, a whistle); [Describes transport of people *and* one definitive feature]

You (ride, travel, go places) on it and it (moves, carries) (things, food, oil, coal); [Describes transport of people and goods]

You (ride, travel, go places) on it and it goes (choo-choo, toot-toot, [demonstrates train noise])

#### 1 point

Vehicle; Transportation (0)

You (ride, travel, go places) on it; [Describes transport of people] (0)

Has (tracks, cars, a caboose, an engine, a conductor, a whistle); [Names *one definitive* feature] (0)

#### 0 points

Drive it; For driving (0)

Board it; (Get, Sit) on it (0)

It (is long, has wheels, goes fast, drives, goes places); [Names *nondefinitive* feature] (0)

(Vehicle, Machine) that moves (people, things); Machine that (drives, takes) you places

Moves (things, food, oil, coal) and it has (tracks, cars, a caboose, a conductor, a whistle); [Describes transport of goods and one definitive feature]

Has (cars and a caboose, an engine and runs on tracks); [Names *two definitive* features]

Has (tracks, cars, a caboose, an engine, a conductor, a whistle) *and* goes (choo-choo, toot-toot, [demonstrates train noise])

Moves (things, food, oil, coal); [Describes transport of goods] (0)

Goes (choo-choo, toot-toot); It (whistles, blows a horn) (0)

Teach a (dog, person) to do something; [Defines *train* as verb] (0)

Choo-choo; Toot-toot; Chugga-chugga; [Demonstrates train noise] (0)

Car (**Q**)







#### 12. What is an AIRPORT?

#### 2 points

Place where airplanes (take off, depart, land, arrive, fly, stop)

Place (people, we, you) go to (catch, get on, fly on) a plane

Where you (catch, get on, wait for) a plane

Place with (airplanes and runways, gates and towers); [Names *two* definitive features]

Place you fly (from, to)

#### 1 point

Place where airplanes (stay, are kept, get fixed, are checked) (0)

Where you (go, leave) for (vacations, trips, places far away)

Place with (airplanes, runways, gates, towers); [Names *one* definitive feature] (0)

### 0 points

Plane; Airplane; [Vague reference to airplane] (0)

Place; Building (0)

Made of (steel, concrete, wood)

You can (eat, shop) there; Has (restaurants, stores)

Fly; Flying; Flies; [Vague reference to flying] (0)

Go there to (pick-up, get) (visitors, family) (0)

Fun; Where you go to have fun

Has lots of people; Crowded







#### \*13. What is a LEAF?

#### 2 points

Green things that (grow on, hang off, are on top of, cover, go on) a tree; [Describes leaves as green *and* as foliage]

They (fall off, grow on, hang off, are on top of, cover, go on) trees and (turn colors, have veins, you rake them); [Describes leaves as foliage *and* names one definitive feature]

They turn colors and have veins; They get raked and have stems; [Names *two* definitive features]

Part of a (tree, plant, flower, bush) that makes food; They (make oxygen, help us breathe); [Describes photosynthesis]

Fall off of (trees, plants) in the (fall, winter); (Grow, Sprout, Come out) on a tree in the (spring, summer); [Describes seasonal foliage change]

#### 1 point

They (fall off, grow on, hang off, are on top of, cover, go on) trees; [Describes leaves as foliage] (0)

(On, Part of) a (tree, plant, flower, bush); (Comes from, Goes on) trees (Q)

(Animal, Bug, People) food; (Animals, Bugs, People) eat them

A (sheet, piece) of paper

They (turn colors, have veins, get raked); [Names *one* definitive feature] (0)

How (trees, plants, flowers, bushes) grow; Grows from seed (0)

Use it to make a table (bigger, longer, smaller, shorter)

#### 0 points

Tree; Grass; Flower; Plant (0)

They fall; Fall on the ground (0)

To go (away, on vacation)  $(\mathbf{Q})^*$ 

Green (Q)

They (fly, blow) in the wind (0)

Bugs (crawl, live) on them

\*If the response suggests that the child heard "What is (a) *leave*?" repeat the question, emphasizing *leaf*.







#### 14. What is a PICNIC?

#### 2 points

Having (food, a meal, lunch, dinner) (outside, in your yard, at the park)

(When you eat, Eating) (outside, in your yard, at the park)

#### 1 point

(Cooking, Grilling) outside (0)

Cookout; Barbeque (Q)

Camping; Campout

### 0 points

Eat; Eating; Food (0)

Breakfast; Lunch; Dinner (0)

Go on (them, a picnic) (0)

(Ants, Bugs) get on your food (Q)

(School, Company) picnic

(Meal, Food) eaten (on a blanket, out of a basket, at a picnic table)

[Describes eating or having meal outdoors]

Uses a (basket and blanket, basket and picnic table); [Names *two* definitive features] (0)

Place you (eat, have food) (0)

Outside; At the (park, beach) (0)

Do it (in summer, when it's nice) (0)

Basket; Blanket; Table; Tablecloth; [Names *one* definitive feature] (0)







#### 15. What is a HOLIDAY?

#### 2 points

A (celebration, day we celebrate)

A (vacation, trip); To vacation

Something to honor (someone, something)

#### 1 point

Break; Time off (0)

(Spring, Winter, Summer, Fall) break (0)

Saturday; Sunday; Weekend (0)

#### 0 points

Summer (Q)

(People, Friends, Family) come over; Get together with relatives (0)

Turkey day; Fireworks day; Santa comes; Trick-or-treating (0)

You (get, give) presents; You have parties

Christmas and Yom Kippur; Valentine's Day and Halloween; [Names *two* different holidays]

Christmas; Valentine's Day; Yom Kippur; Ramadan; [Names *one* holiday] (0)

Special day; Event (0)

Fun day; Day off; Day you (stay home, don't go to school)

Birthday; Field day; Snow day; [Names special day that is not recognized holiday] (0)

You go (away, out, somewhere) (0)

A (day, week, month, season)

Get dressed up







### 16. What does INVITE mean?

#### 2 points

Request

Ask someone (over, to do something, out for dinner)

Tell someone about your party so they can come

Be open to; Welcome; Encourage

A (card, letter, note) you give people when you want them to come (over, to a party)

#### 1 point

Ask; To ask (Q)

(Get, Give) it for (parties, weddings) (0)

Have someone over; Someone comes over (0)

Come (over, to a party, to my house, do something) (0)

To give an invitation (0)

Invite (someone, people, friends, family) to (your house, your party, spend the night, do something, watch TV) (0)

Invite someone (in, over) (0)

#### 0 points

(Give, Send) it (0)

For (parties, weddings); Go to a party (0)

Invite (someone, people, friends, family) (0)

It's my (birthday, party)







#### 17. What does DOUBLE mean?

#### 2 points

Twice; Two times

(Twice, Two times) as big; Twice as (much, many, heavy)

Copy; Clone; Duplicate

Pair; Matching pair

#### 1 point

Two things; Two things together (0)

Two; Two (scoops, trucks, balls) (0)

Alike; Same (0)

(Get, Give, Have) another; One more (0)

Second-base hit; Two strikes in bowling (0)

#### 0 points

(Get, Give, Have) more; Make more; Get bigger (0)

(Hit, Make) a double (0)

Two of the same thing; Two that are (alike, the same)

Two of (something, anything)

Split something in half; Half something

Twin; Someone who looks just like you; Doppelganger (0)

Two and two; Three plus three; [Provides example of adding two of the same number] (0)

Split something (Q)

[Physically demonstrates two fingers] (0)

Double (check, date, trouble, back, tied); On the double (0)







### 18. What does ANNOY mean?

#### 2 points

(Frustrate, Irritate, Bother, Bug) someone

When you do something that somebody

doesn't like

Ignore people and copy everything they say;

[Names two annoying behaviors]

Make someone (angry, upset); Drive someone crazy

To get on someone's nerves

To be a (pest, pain in the neck)

#### 1 point

Rude; Being rude (0)

(Ignore, Interrupt) someone; (Repeat,

Copy) what someone says; [Names *one* annoying behavior] **(0)** 

Like flies bothering you

(Distract, Disrupt, Disturb) someone (**Q**)

You're being (bad, silly); Acting up;

Behaving badly (Q)

Nagging

#### 0 points

Mad; Angry (0)

Walk away; Tell them to stop

Childish; Not grown-up

Loud; Noisy (Q)

Not helping

Annoy (someone, people)







#### 19. What is ARMOR?

#### 2 points

Protective covering

Body protection; Protects your body; Protects your (arms, legs, [names body part])

(Wear it, Put it on) to keep you (safe, protected, from getting hurt)

Protective (gear, clothing); Shield you wear

(Covers, Goes on) you to (keep you safe, protect you)

Helmets and shields; Breastplate and chain mail; [Names *two* pieces of armor]

#### 1 point

Protection; (Protects, Shields) you (Q)

Keeps you (safe, from getting hurt) (0)

Covers (you, your body) (0)

Helmet; Shield; Breastplate; Chain mail; [Names *one* piece of armor] (0)

#### 0 points

Knights; Soldiers; War; Battle (0)

A suit; Suit of armor (0)

[Names fictional character who wears armor]  $(\mathbf{0})$ 

Shiny; Shines; Shining

Protects you and is made of (metal, steel, iron)

Wear it and is made of (metal, steel, iron); Suit of (metal, steel, iron)

Protects you (against, from) weapons; Shields you in (war, battles, fights)

Wear it in (war, battles, fights); Gear for (war, battle, fights)

Protects (soldiers, knights); (Soldiers, Knights) wear it

Something you wear; Wear it (0)

A (covering, shell) (0)

Use it in (war, battles, fights) (0)

(Good, Bad) guys wear it (0)

(Knights, Soldiers) use it (0)

(Good, Bad) guys use it (Q)

Metal; Steel; Iron; Silver (0)

It's (strong, hard, tough) (0)







#### 20. What does SUBSTITUTE mean?

#### 2 points

Replace; Replacement

(Something, Someone) that takes the place of (something else, someone else, another)

To take the place of (someone, something) else; To (fill in, cover) for someone

Exchange; Switch; Change one thing for another

To use something (instead, in place) of something else

#### 1 point

Change (0)

Another teacher (takes your teacher's place, covers for your teacher); [Describes substitute teacher] Use something else (0)

Just as good; Same quality

#### 0 points

Teacher; (New, Substitute) teacher (0)

When your teacher is sick (0)

Someone who (helps, watches) you

Something else (0)

Minus; Subtract; In math

To (use, do) something

#### 21. What is COURAGE?

#### 2 points

Brave; Bravery; Daring; Bold

Not (scared, afraid); You're (afraid, scared) but you do it anyway

(Stand up for, Defend) yourself

(Stand, Face) up to (danger, threats, bad guys)

Guts

#### 1 point

Willpower; Persistence; You don't (give up, stop) (0)

Confidence; Belief in yourself; Faith (0)

Speak up (Q)

You have a lot of heart

#### 0 points

Not shy (0)

You feel it; Feeling; Emotion (0)

Like a (hero, soldier, fireman, policeman, knight) (0)

(Cheering, Supporting, Encouraging) somebody

To (fight hard, try your best) (0)

When someone (saves, rescues, helps) people (Q)

[Names or describes fictional hero] (0)

Being (nice, good, polite, smart)







#### 22. What is a PRIVILEGE?

#### 2 points

Thing you get to do if you (follow rules, clean your room, do chores)

Something you (get when you're good, lose when you're bad)

An honor; An honor to (meet someone, do something)

A (permission, right, benefit, advantage) that only some people get

Earn it; Something you earn

#### 1 point

A reward (Q)

Something you (give, get, lose); Something that's taken away (0)

Something (Mom, Dad, teacher) (gives, takes away) (0)

Chance to do something; Second chance (0)

When you're bad and can't have ice cream; When you're good and get to go to the park; [Describes loss or gain of specific privilege] Permission; Right; Benefit; Advantage (0)

Allowed to do something; Something you get to do (0)

Deserve it; Something you deserve (0)

Punishment; Used for punishment

A responsibility

#### 0 points

Toy; Ice cream; [Names specific privilege] (0)

When you do something (good, bad) (0)

When you get (sent to your room, grounded); [Names specific punishment] Something you (pick, choose) (Q)

Someone owes you; Owe someone

Favor; Something someone asks you to do







#### 23. What does MODERN mean?

### 2 points

Recent; Present Contemporary

Current; Up-to-date

### 1 point

New; Not (old, from long ago) (0) Now; Today (Q)

(Kind, Type) of (art, history, dance, Young; Young people like it music) (0)

### 0 points

Fancy (Q) Modern (art, history, dance, music) (0)

Old The future; Happening soon







# 12. Animal Coding

Working within a specified time limit and using a key, the child marks shapes that correspond to pictured animals.

# Materials

Administration and Scoring Manual

Record Form

Response Booklet 3

Ink dauber

Stopwatch

Animal Coding Scoring Key

Moistened disposable towelettes (recommended)

### Start

Ages 4:0-7:7

Demonstration Items, Sample Items, then Test Items

### Discontinue

Discontinue after 120 seconds.

## Timing

Accurate timing is essential. Begin timing after saying the last word of instruction. Stop timing when the child completes all of the test items or the time limit expires.

### **General Directions**

- Ensure the child has a smooth work surface.
- Items appear on odd-numbered pages of the Response Booklet, and gray screens appear on even-numbered pages. This layout minimizes ink transfer to subsequent pages.
- Use the demonstration items to explain and illustrate the task to the child, then allow the child to practice by completing the sample items. If the child appears confused, repeat the explanation and demonstrate the task again, using the sample items. Proceed with the test items only when the child understands the task. If it is clear the child will not be able to understand the task with further instruction, discontinue the subtest.





#### 232 Animal Coding

- If the child begins to mark the test items before you finish the instructions, say, Wait until I say "Go" to start.
- It is imperative that you watch the child during completion of the test items because you are responsible for turning the pages of the Response Booklet. If the child completes the last test item on a page before the time limit expires, immediately turn the page and say, **Keep working as fast as you can.**
- If the child's performance is impeded by his or her attempt(s) to recall the animal-shape pairings from memory, point to the key at the top of the page and say, You can look here to see which shape each animal likes best.
- If the child marks the key or an animal, point to the item that should be completed and say, Only stamp the shapes down here.
- If the child marks a shape more than once, point to the shape and say, Stamp it one time only.
- If the child self-corrects or marks multiple shapes for a test item, point to the item and say, **Stamp only** *one* **shape.**
- If the child asks what to do if he or she makes a mistake, say, That's OK. Just keep working as fast as you can.
- If the child omits an item, point to the first omitted item and say, Don't skip any. Do this one next.
- Provide no further assistance on this subtest except to remind the child to continue until told to stop (if necessary).
- To prevent inadvertent ink transfer to other test components, ensure that
  the child's hands are free of ink before proceeding to the next subtest. It is
  recommended that you have moistened disposable towelettes available.

### **Score**

- If the child completes all test items before the time limit expires, stop timing and record the completion time in seconds.
- If the child does not complete all test items within the time limit, stop timing and record the completion time as 120 seconds.
- Use the Animal Coding Scoring Key to score the child's responses. Each page of the Response Booklet is reproduced on the key, with the correct response for each item in black. Each side of the key has correct responses for four Response Booklet pages. Side A depicts the correct responses for pages 5, 7, 9, and 11; and Side B depicts correct responses for pages 13, 15, 17, and 19. Ensure that you are using the correct side of the key for the page that you are scoring.







- To score each page of Animal Coding test items, place the key next to each page of the Response Booklet and compare the keyed responses to the child's responses. If the child marked the response that appears in black on the scoring key, the item is correct. Unless the child self-corrected (i.e., marked an incorrect response prior to marking the correct response), any other shape marked on an item is incorrect. Items that the child did not attempt (either skipped or did not reach before the time limit expired) should not be counted in the correct or incorrect total. Record the number of correct and incorrect responses in the spaces labeled C (Correct) and I (Incorrect) at the bottom of each page.
- A shape is judged as marked only if it is clear that the child intended to mark it. If a mark extends through an adjacent shape, do not judge the adjacent shape as marked unless it is clear that it was the child's intent. If a child marks in the white area near a shape, the closest shape should be judged as marked. If the closest shape cannot be determined, no shape should be judged as marked.
- Sum the number of correct and incorrect responses across all pages. Transfer these totals to the Record Form.
- The total raw score is the number of correct responses minus the number of incorrect responses.
- If the total raw score is less than or equal to 0, enter 0 as the total raw score.

Maximum Animal Coding Total Raw Score: 72 points

### **Item Administration**

## 4:0-7:7 Demonstration Items

Open the Response Booklet to page 3 and place it in front of the child. Ensure the child sees only the demonstration and sample items. Point to the key at the top of the page and say, Look at these. Each animal has a shape it likes best. As you point to each shape in the key, say, The cat likes the star, the turtle likes the circle, and the fish likes the square.

Point to the fish in the first demonstration item and say, Here's a fish. The fish (point to fish in key) likes the square (point to square in key), so I stamp the square (mark square in first demonstration item).

Point to the cat in the second demonstration item and say, Here's a cat. The cat (point to cat in key) likes the star (point to star in key), so I stamp the star (mark star in second demonstration item).







Point to the turtle in the third demonstration item and say, Here's a turtle. The turtle (point to turtle in key) likes the circle (point to circle in key), so I stamp the circle (mark circle in third demonstration item).

Proceed to Sample Items.

### Sample Items

Say, Now you do these (point to sample items). Stamp the shape that each animal likes best. Do this row first (sweep finger across first row), then do this row (sweep finger across second row). You can look here (point to key) to see which shape each animal likes best.

Hand the child the ink dauber, and then say, Go. Allow the child to complete the sample items.

Correct responses: Say, That's right. Now you know how to do them. Proceed to Test Items.

Incorrect response(s): Correct the error(s) immediately, using the sample items to review use of the key. Continue to help the child, if necessary, until the child correctly completes the sample items. Use explanations such as The [insert animal] likes this shape (point to correct shape in key), so you should stamp this shape here (point to correct shape in item). When the child has successfully completed the sample items, say, That's right. Now you know how to do them. Proceed to Test Items.

Do not proceed with the test items until the child understands the task. If it is clear that the child will not be able to understand the task with further instruction, discontinue the subtest.

# 4:0-7:7 Test Items

Turn to page 5 and say, When I say "Go," do these the same way. Start here (point to first test item), go in order (point across each row from child's left to right), and don't skip any. Work as fast as you can without making mistakes until I tell you to stop. Are you ready?

If the child begins to mark the test items before you finish the instructions, say, Wait until I say "Go" to start.

Explain further if necessary, and then say, Go.

Begin timing and allow 120 seconds.

If the child completes the last test item on a page before the time limit expires, immediately turn the page and say, Keep working as fast as you can.

If the child's performance is impeded by his or her attempt(s) to recall the animal-shape pairings from memory, point to the key at the top of the page and say, You can look here to see which shape each animal likes best.







If the child marks the key or an animal, point to the item that should be completed, and say, **Only stamp the shapes down here.** 

If the child marks a shape more than once, point to the shape and say, **Stamp it** *one* time only.

If the child self-corrects or marks multiple shapes for a test item, point to the item and say, **Stamp only** *one* **shape.** 

If the child asks what to do if he or she makes a mistake, say, **That's OK. Just keep working as fast as you can.** 

If the child omits an item, point to the first omitted item and say, **Don't skip** any. Do this one next.

If the child completes the items before the time limit expires, stop timing and record the completion time in seconds.

If the child is still working at the time limit, stop timing and say, **Stop.** Record the completion time as 120 seconds.

**Reminder:** Ensure that the table surface and the child's hands are free from ink before proceeding to the next subtest.





# 13. Comprehension

For picture items, the child selects the response option that represents the best response to a general principle or social situation. For verbal items, the child answers questions based on his or her understanding of general principles and social situations.

### Materials

Administration and Scoring Manual

Record Form

Stimulus Book 3

## C Start

Ages 4:0-5:11

Item 1

Ages 6:0-7:7

Item 5

Children suspected of an intellectual disability or general intellectual deficiency should start with Item 1.

### **1** Reverse

If a child aged 6:0-7:7 does not obtain a perfect score on either of the first two items given, administer the preceding items in reverse order until the child obtains perfect scores on two consecutive items.

# Discontinue

Discontinue after 3 consecutive items.

### **General Directions**

- Each item may be repeated *as often as necessary*, but do not alter the wording in any way.
- Use the local pronunciation for each item or the pronunciation you believe to be familiar to the child.



### Picture Items (Items 1–4)

- Picture items are presented in the Stimulus Book. Read each item verbatim to the child and point to the pictures in the Stimulus Book as instructed.
- The child must indicate his or her choice by either pointing to or saying the number of the selected response option. If the child responds with any other type of verbalization (e.g., describes the picture), say, **Show me.**
- If the child selects multiple response options for an item or self-corrects after his or her initial response, score only the intended response. If it is not clear which one is the intended response, say, You (said, pointed to) [insert child's response], and you (said, pointed to) [insert child's response]. Which one did you mean?
- Items 1 and 2 are teaching items. Corrective feedback is provided if the child does not obtain a perfect score.

### Verbal Items (Items 5-22)

- Remove the Stimulus Book from the child's view before administering verbal items.
- Read each item verbatim to the child.
- If the child's response is unclear or too vague to be readily scored or is followed by a (①) in the sample responses, say, What do you mean? or Tell me more about it (or some other neutral inquiry).
- Items with sample responses that require specific query are identified with an asterisk (\*) on the Record Form and in this manual.
- Items 5 and 6 are teaching items. Corrective feedback is provided if the child does not obtain a perfect score. Provide no further assistance on this subtest.

#### Score

## Picture Items (Items 1-4)

- Circle the child's response for each item. Correct responses are printed in color on the Record Form and are listed in this manual.
- Score 1 point if the child gives a correct response.
- Score 0 points if the child gives an incorrect response, says that he or she does not know the answer, or does not respond.







### Verbal Items (Items 5-22)

- Record the child's responses verbatim.
- Use the sample responses and the general concepts for each item to facilitate scoring.
- The sample responses are not an exhaustive list but do provide replies that range from relatively inferior to more creditable. It is important that you evaluate unusual responses carefully and refer to the sample responses and general concepts to facilitate scoring.
- If the child provides multiple responses for an item, refer to the following:
  - Added remarks, obviously not part of the child's answer, do not affect the score. For example, score 2 points if the child responds to *What could happen if you touch a hot stove?* with "You could burn yourself. I burned my finger once."
  - ▶ If the child's responses vary in quality, with no one answer spoiling the entire response, score the best response. For example, if the child responds to *Why should children go to school?* with "To see my friends and to learn," the best response, "to learn," is scored 2 points.
  - A 2- or 1-point response to an item accompanied by a spoiled response is scored 0 points. For example, score 0 points if the child responds to *Why do children need babysitters?* with "They could get kidnapped," but then spoils the response with "Babysitters kidnap little kids."
- Score 2, 1, or 0 points according to the sample responses and the general concepts.

Maximum Comprehension Total Raw Score: 40 points

### **Item Administration**

## Picture Items (Items 1-4)

## 4:0-5:11 †Item 1

Turn to Item 1. Point to the page and say, Show me the one that you eat.

Correct response [2]: Proceed to the next item.

†Incorrect response: Point to response option 2 and say, **This is the one that you eat.**Proceed to the next item if the discontinue criterion has not been met.







### †Item 2

Turn to Item 2 and say, **Show me the child who had an accident.** 

Correct response [1]: Proceed to the next appropriate item.

†Incorrect response: Point to response option 1 and say, **This is the child who had an accident.** Proceed to the next appropriate item if the discontinue criterion has not been met.

### Items 3-4

Present each item in the Stimulus Book and give the corresponding instruction.

Proceed to the next appropriate item if the discontinue criterion has not been met.

Remove the Stimulus Book from the child's view before proceeding to Verbal Items.

ltem	Instruction	Correct Response
3.	Show me the one that is safest to touch.	4
4.	Show me the children who need help.	3





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### Verbal Items (Items 5-22)

Read each item verbatim to the child. Proceed to the next appropriate item if the discontinue criterion has not been met.

### †5. Answer this question. What could happen if you touch a hot stove?

General concept: Recognizes danger of getting hurt, burned, or starting a fire

#### 2 points

You could (get burned, burn yourself, burn your skin)

Burn your (finger, hand)

A burn; Burn; Burn you

#### 1 point

You could (get hurt, go to the doctor, go to the hospital) (0)

House could (catch, start on) fire; You could burn the house down (0)

(Hand, Finger) gets (warm, hot) (0)

Get a (blister, red mark, bruise) (0)

You could injure (your hand, your body, yourself) (0)

You might (catch, get on) fire; Your (finger, skin, hair, clothes) could catch fire (0)

#### 0 points

You (will, could) die; It could kill you; You (will, could) bleed (0)

It is (dangerous, not safe, bad) (0)

You could get (an ouchie, an owy, a boo-boo) (0)

Start a fire (Q)

Hot; Fire; [Vague reference to hot or fire] (0)

You will (cry, get in trouble, get grounded)

†If the child does not provide a 2-point response, say, **If you touch a hot stove**, **you might get burned.** 







#### †6. Why do we look both ways before crossing the street?

#### General concept: Recognizes danger of being hurt by a vehicle

#### 2 points

So you don't get (hit, hurt, run over, smashed, crashed) by a (car, truck)

To (see if, make sure that) no cars are coming; To look for cars

You could get (hit, run over, smashed, struck, squished)

#### 1 point

To be (safe, careful); It's dangerous if you don't look (0)

Might cause (a car crash, an accident); Might get in a wreck (0) You could (die, get hurt, go to the doctor, go to the hospital) (0)

Cars; (Because of, For) cars; [Vague reference to cars] (0)

#### 0 points

You have to wait (your turn, for the light); You have to stop first (0)

To get on the bus (0)

To go (somewhere, home, to a friend's house, to the store)

To get the ball

Hold hands

You could break your car (0)

I can't do it alone; I need (an adult, a crossing guard, a policeman) (0)

It's the law; So you don't get arrested

It's a rule; (Mom, Dad, Grown-up) says to

†If the child does not provide a 2-point response, say, If you don't look both ways before crossing the street, you might get hit by a car.





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#### 7. Why do we say Thank you?

**General concept:** Recognizes phrase as expression of gratitude for kindness, services, or things received

#### 2 points

It's (polite, good manners, not rude)

When someone holds the door or invites you to dinner; Say it before we eat and when we get presents; [Describes *two* specific situations]

#### 1 point

It's nice (Q)

When someone (compliments you, holds the door, says nice things, shares); Say it when (we eat, visit someone's house); [Describes *one* specific situation] (0)

When (Mom, Dad, a friend) gives me something; [Names specific person] (0)

If you don't, you might hurt their feelings (0)

#### 0 points

(To, So we) get (something, a present, a toy) (0)

Christmas; Hanukkah; Birthday (0)

So (Mom, Dad) don't get mad; So you don't get in trouble

It's a (magic, special) word

Because someone (does something for, helps, does a favor for) you

When someone (gives, gets) you something; [Names nonspecific person *and* nonspecific gift]

When someone (gives, gets) you a (gift, present) (0)

When someone gives you (a toy, food, candy); [Names specific gift] (0)

To (make, keep) friends; People will like you better (0)

When you (had fun, liked it, had a good time, wanted it)

For (things, food, stuff) (0)

(For, They're) friends (0)

It's a rule; You (have, need) to; (Mom, Dad, Teacher) says to







#### 8. Why do we wear shoes?

#### General concept: Recognizes purpose of protecting feet

#### 2 points

To (protect feet, keep feet safe)

So feet don't get (hurt, cut, burned, blisters, bruised, frozen, bitten)

Keep feet (warm, dry)

#### 1 point

Safety; Protection; To be safe (0)

To cover your feet (0)

So you don't (get hurt, bleed, get cut) (Q)

In case (of a fire, your car breaks down, [describes emergency]) (0)

So people don't step on your feet (Q)

Because of dirt [no reference to feet]

#### 0 points

Because feet stink (Q)

To not get (sick, a cold); It's healthy (Q)

Shoes go on feet; For feet (0)

To go to (school, a restaurant, church); To get in the car; To go somewhere

To keep feet from showing; Because your feet are ugly

So you don't step on (something sharp, glass, stickers, splinters, rocks)

Keep feet clean; So your feet don't get dirty

It's (hot, cold, wet) outside; (Sidewalk, Pavement) is hot (Q)

For the (rain, snow) (0)

To keep feet comfortable (0)

Keep (bugs, ants, spiders, scorpions) from (biting, stinging) you

So feet don't get (stinky, smelly)

Keep socks (clean, from getting dirty)

To go outside (0)

To not (be barefoot, have bare feet) (0)

For (walking, playing, hiking, running, jumping)

It's a rule; (Mom, Dad, Grown-up) says to





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#### 9. Why should children go to school?

#### General concept: Recognizes the importance of learning or education

#### 2 points

To learn to (read and write, do math and spelling, [names *two* school subjects])

To get (smart, smarter); To know more things

So you can go to college (someday, when you grow up)

To learn; To get an education; To be taught

To get a (*better*, *good*) job; To make *more* money

#### 1 point

To learn to (read, write, do math, [names *one* school subject]) (**Q**)

To get (A's, all A's) (0)

To get better (grades, marks, scores) (0)

To get (grades, marks, scores [no reference to *better*])

## To (get a job, make money [no reference to *better* or *more*]) (0)

It's the law; (Mom, Dad, Parent) gets in trouble if we don't (0)

To be smart (0)

Make (more, new) friends (0)

#### 0 points

To do better (Q)

To (play sports, be in band) (0)

To do (stuff, things) (0)

(Mom, Dad) works; Kids can't stay home alone (0)

To (play, eat lunch, have recess, see the teacher); It's fun

It's a rule; (Mom, Dad, Grown-up) says to

To do (homework, work) (0)

To listen (0)

So they aren't (late, tardy, absent) (0)

It's a school day; They have school (0)

They (have to, need to, should) go (0)

So kids don't get (in trouble, grounded, time-out)

They are (five, old enough, bigger)







#### 10. Why is it bad to talk to strangers?

**General concept:** Recognizes potential danger of interacting with an unknown person

#### 2 points

They (may, might, can, could) be dangerous

They (may, might, can, could) (kidnap, steal, take, grab, nab) you

They (may, might, can, could) (trick, lie to) you

They (may, might, can, could) give you (candy, gum, treats, food) that makes you sick

#### 1 point

You don't know them; They don't know you (0)

They are dangerous; It's (not safe, dangerous); To be safe (0)

They *will* (kidnap, steal, take, grab, nab) you (0)

They *will* (trick, lie to) you (0)

They may give you (candy, gum, treats, food [no reference to candy being *harmful*]) (①)

#### 0 points

They (might, will) take you home (0)

It's a rule; (Mom, Dad, Teacher) says so

They (may, might, can, could) want to (hurt, hit, kill) you

They (may, might, can, could) be (bad, mean, scary)

They (may, might, can, could) give you (poison, drugs)

They (may, might, can, could) steal from you

They aren't your (mom, dad, family) (Q)

They *will* (hurt, hit, kill) you (0)

They are (bad, mean, scary) (0)

They will give you (poison, drugs) (0)

They will steal from you (0)

I get (in trouble, grounded, time-out)





#### 11. Why do dogs need tags on their collars?

**General concept:** Recognizes tags as a form of identification or record of health/vaccination

#### 2 points

So you know they (are healthy, had shots); It's their license

So people know it's your dog; So you know whose dog it is; To know which dog is (yours, theirs)

So people can see its (address, phone number)

So you know (it has an owner, it's not a stray)

To know who it belongs to; So you know who the owner is

So if it (is lost, runs away) you know who to call; To (return them, bring them back) if they are lost

To know (where it lives, which house it goes to)

#### 1 point

So they don't (get lost, run away); In case they (get lost, run away) (0)

To know (their, the dog's) name; To know who (they are, the dog is) (0)

So the dogcatcher won't get them; So they don't go to the pound (0)

So they don't get (taken, stolen, kidnapped) (0)

It's the law (Q)

To know which dog is which; To tell dogs apart

#### 0 points

(They, In case they) bite (you, someone) (0)

So (it, the dog) will come back (0)

For their (leash, collar); To go on a walk

So you hear (them coming, where they are at)

It's a rule; They have to (0)

To be safe (0)

So it doesn't get fleas







#### 12. Why do children need babysitters?

#### General concept: Recognizes need for adult supervision

#### 2 points

To (protect them, keep them safe); So we don't do something dangerous

Because someone needs to take care of them; Because you need someone to help you They can't take care of themselves

#### 1 point

(Kids, Children) can't (watch, baby-sit) themselves (Q)

To watch them; So someone watches them  $(\mathbf{Q})$ 

Because they're (too little, not old enough) (0)

Someone could (kidnap, steal) you; So you don't get taken (0)

Kids may (get in trouble, wreck house, make a mess); You might do things you aren't supposed to (0)

So a (robber, bad guy) doesn't get in

#### 0 points

Because they're babies; Babies will cry if left alone (Q)

They (have to, need to, should) have them  $(\mathbf{Q})$ 

To (see relatives, play, watch TV)

It's a rule; (Mom, Dad) says so

So they don't (get hurt, get sick, die); So nothing bad happens to them

do things

(Kids, Children) can't stay (alone, by themselves); So they aren't home alone (0)

So (Mom, Dad) don't worry; So parents can (relax, concentrate) (0)

Because (parent, Mom, Dad) is (out, gone, at work, on vacation) (0)

Kids might (get lost, wander off, run away) (**0**)

It's the law (Q)

So kids don't get (scared, lonely)

To feed you; To put you to bed; [Names specific caretaking behavior]

(Mom, Dad) gets in trouble if we don't (0)

Because kids (are bad, have been bad)

So they can get you (stuff, something)





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#### 13. Why do we take turns talking?

#### General concept: Recognizes that this maintains clear communication

#### 2 points

So we can communicate

To not get (mixed-up, confused); It's confusing when everyone talks

It gets too (loud, noisy) to (hear, understand); You can't (hear, understand)

So we can (hear, listen to) people; (They, People) can't hear you

#### 1 point

So (others, people) get a (chance, turn) to talk (0)

So you don't forget what you're saying (Q)

It's (polite, good manners); It's rude not to (0)

To know who's talking (0)

#### 0 points

It is (nice, good, not mean) (0)

To share (0)

Too (crowded, many people) (0)

So they don't get (mad, sad, hurt feelings)

They're friends

Can't talk and listen at the same time

So we can understand (each other, them, someone)

So we know what they are saying

So you can (ask, answer) questions *and* they can (ask, answer) questions

So we don't talk at the same time; To not interrupt (0)

It is (fair, even) (0)

To (ask, answer) a question (0)

It gets (loud, noisy) (0)

(Someone, Mom, Dad, Teacher) is already talking

To not (fight, yell, shout) (0)

Raise your hand; Say excuse me (Q)

You need to (wait, be patient) (0)

It's a rule; (Mom, Dad, Teacher) says to







#### 14. Why should we close the refrigerator door?

General concept: Recognizes importance of preserving food or conserving energy

#### 2 points

So food doesn't (spoil, rot, go bad)

So food is fresh; So food stays good

You might get (bacteria, germs) in the (food, milk)

To save (energy, electricity, natural resources); So we don't waste power

To help the environment

#### 1 point

So food is good (Q)

So food stays cold; So food doesn't (get hot, melt, thaw) (0)

To keep the cold air (in, from getting out); So it stays cold inside (0)

So the house doesn't get cold

So you don't get cold

To keep food safe (0)

To save money (0)

So food doesn't smell; So the smell doesn't come out (Q)

To keep (bugs, insects) out of food

Your (pet, dog, cat) might eat the food

#### 0 points

So food tastes better (0)

So the light (goes out, doesn't burn out) (0)

So it's not (gross, disgusting) (0)

You don't (need, want) anything

So the food doesn't fall out

It's cold (Q)

It could stop working (0)

So no one (takes, steals) the food

So someone doesn't climb inside

So you don't get (sick, a cold)





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#### 15. Why do we need to be on time?

**General concept:** Recognizes possibility of missing an activity/event or creating an inconvenience to others

#### 2 points

So we don't miss (something, important things)

So you don't get left out; So they don't start without you

It might be (over, closed); Everyone may be leaving

So (people, parents, friends, others) don't have to wait

To be responsible; So things get done; Stay on schedule

So (they, people, parents, friends) know (where you are, not to worry)

So you don't miss (school or the movie, a test and recess, [names *two* specific events])

#### 1 point

So we're (not late, early) (0)

You may (run out of time, not get another chance) (0)

So (they, people, parents, friends) don't get (mad, angry, upset) (0)

It is (polite, good manners); It is rude to be late (0)

So you don't miss school; So you don't miss the (bus, game, movie, plane, meeting, [names *one* specific event]) (0)

So you don't get fired (0)

So you aren't in a (rush, hurry) (0)

So you're not (tardy, absent, sent to the office, in trouble at school)

#### 0 points

To go (somewhere, to school, to a game, to a friend's house) (0)

It is (nice, good); It is mean to be late (0)

It's time to go; Time for (school, bed)

Hurry; Get there fast (0)

So you don't get (in trouble, grounded) (Q)

It's a rule; (Mom, Dad, Teacher) says to





#### 16. Why do we stand in line?

General concept: Recognizes that it maintains order or ensures they get a turn

#### 2 points

To (go, stay) in order; To stay organized

To go one at a time; So a crowd doesn't go at (once, the same time)

To (take, get) a turn; To wait your turn; So everyone gets a turn

So we don't get (mixed-up, confused)

#### 1 point

It's (fair, equal) (0)

So we don't fight; So (people, others) don't get mad (0)

So we don't cut; To not (cut, budge) in; It's cutting not to (0)

People are in front of you; People got there first (0)

It's (polite, good manners); It's rude not to

#### 0 points

It's nice (Q)

To get (something, tickets, food, drink) (0)

To go (somewhere, to recess, to the bathroom, to lunch, on the bus) (0)

It's a rule; (Mom, Dad, Teacher) says to

So people don't get (hurt, pushed, shoved, hit, squished) (0)

To (stay, get) out of the way; To make room for others (0)

To be safe (0)

So we don't get lost; To keep track of people; To stay with the group (0)

To know where you're going

To do something; To (ride, play, pay for) something (0)

To (wait, not rush) (0)

So (people, others, friends) don't get (sad, hurt feelings)

To not get (in trouble, sent to the principal)





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#### 17. Why do most children get shots before they go to school?

**General concept:** Recognizes that immunizations prevent people from contracting or spreading illness

#### 2 points

So you don't get (chicken pox, measles, mumps, polio, flu, [names an immunized disease])

To (keep, protect) (us, others) from getting sick

So we don't get (germs, diseases, a sickness); So we don't spread (germs, infections)

To (keep, stay) healthy

#### 1 point

So they don't get sick (0)

They're going to be around other kids (0)

Can't go to school without them; Need them for records (0)

For (allergies, asthma)

### To be healthy (0)

So you don't catch a (cold, sore throat, stomach bug) (0)

To be safe (**Q**)

It's the law

#### 0 points

Because they are sick (0)

To get (well, better) (0)

To get (a check-up, tested, medicine); To see if you're ok (0)

To get a (toy, prize, candy)

You (have, need) to; You need them (Q)

(Mom, Dad) might get in trouble (Q)

(Mom, Dad, School, Teacher) makes me; For school

For (lice, worms)







#### 18. Why should people share?

**General concept:** Recognizes importance of distributing limited resources among people

#### 2 points

There's not enough for everyone

Because some people don't have (things, stuff, [names nonspecific item])

Because some people don't have (food, money, clothing, [names basic necessity])

So one person doesn't get it all; So everyone gets some

It's (fair, equal)

It's (responsible, a responsibility)

#### 1 point

Because some people don't have (toys, candy); So everyone gets to play with the toy; [Names specific or nonessential item] (0)

It's (kind, caring, generous, thoughtful) (0)

It's (polite, good manners, not rude) (0)

So they share back; To (lend, borrow) something

So things don't get broken

So everyone gets (a turn, a try, a chance) (0)

So people don't (fight, get hurt feelings, feel sad, get angry) (0)

It makes (you, them, people) feel (good, happy) (0)

To (make, keep) friends; So people like you

#### 0 points

It is (nice, good, not mean) (0)

If you don't, it might get taken away (0)

It's a rule; (Mom, Dad, Teacher) says to

They're your friend (0)

You (like, want) to

So you don't get in trouble; They'll tell on you





#### Comprehension

#### 19. Why do children need their parents' permission to do things?

General concept: Recognizes that parental permission ensures their safety and well-being

#### 2 points

To make sure it's (safe, not dangerous); So you are safe

So you don't get (hurt, killed)

Because you could fall or you could get lost; [Describes two specific situations]

#### 1 point

So you don't get (kidnapped, taken, lost); So you don't fall; [Describes one specific situation] (0)

So (parents, they) don't worry; So they know (where you are, what you're doing) (**0**)

So you (do what's right, don't do something bad) (**Q**)

#### 0 points

To go (somewhere, to a friend's house, to a movie); To do something (0)

So you don't get in trouble (Q)

So they don't break something (0)

It's a (law, rule); Because (Mom, Dad, teacher) says to

Permission slip

So something bad doesn't happen

Kids may not know if something is (safe, dangerous)

So parents know where they are and what they are doing

So (parents, they) say it's (ok, all right); So they know they are allowed (0)

Because kids can't do some things alone; Parents may need to help them; Can't do it yourself (0)

Respectful; Shows respect (0)

We're (too little, kids); Because they're (parents, adults) (0)

Parents know best; Kids don't know what to do (Q)

It's (polite, nice)

So you don't get (grounded, time-out); So (Mom, Dad) doesn't get mad







#### 20. Why should we save water?

#### General concept: Recognizes water as a limited natural resource

#### 2 points

Because (we, everyone) could run out; (We, Everyone) might not have anymore if we don't

To save the (oceans, Earth, rainforest, planet, world)

So (we don't, everyone doesn't) use it all; So we don't use it up; It won't last forever

#### 1 point

So you don't (use it all, run out) [No reference to *all people*] (0)

(To have, So there's) enough for (others, everyone); So everyone gets some (0)

So (you, we) don't waste it (0)

So we have (electricity, power); Water gives us (power, electricity) (0)

To save (money, on bills)

In case of a (tornado, hurricane)

#### 0 points

Turn off water to brush teeth; Water yard at night (0)

You (are thirsty, need a drink); To drink; For us to drink; So we don't drink it all

To (take a bath, wash hands, brush teeth)

It's (good, healthy for you)

So it lasts longer; So there is (more, a lot); So we have some (later, when we need it) (0)

Might have a drought; It might not rain for a long time (0)

So we have (crops, food) (0)

(We, People, Plants, Fish, Animals, Living things) need it to live

So you don't (die, get sick, get dehydrated)

In case the (sink breaks, well runs dry) (0)

For fires; To put out fires; For (swimming pools, lakes)

It's hot; For the desert

It's a (law, rule); Because (Mom, Dad, teacher) says to





#### \*21. Why do you have to be 18 to vote?

General concept: Recognizes that adults have a better understanding of political issues than children

#### 2 points

(Adults, Grown-ups) understand (who, what) is good to vote for

Kids don't know enough; Adults (know more, are smarter)

#### 1 point

So you know who (is good, to vote for) (0)

So we know (what we need to, the issues) (0)

So we know how to vote (0)

Kids may (vote, pick) wrong (0)

So you don't (make a mistake, mess up, do something dumb) (0)

So you know what to do; Kids don't know what they're doing (0)

So you know what to (vote for, say) (0)

It's a (law, rule)

When you (are, turn) 18 you become (a grown-up, an adult); [Describes 18 as legal age for adulthood]

#### 0 points

Because you're (older, old enough, grown-up, (I, Kids) vote at school; Children can an adult); (We, Kids) are too young (0)

vote (0)\*

They're big enough; We are too little

Can't reach; We're (too short, not tall enough)

Need practice to vote

So you can (drive, read, write)

\*If the child says he or she votes at school, say, Yes, but why do we need to be 18 to vote for our country's president?







#### 22. Why do some cities have buses and trains?

**General concept:** Recognizes purpose of decreasing pollution or conserving energy, providing an alternative for transportation, or alleviating traffic congestion

#### 2 points

It lowers (pollution, smog); It keeps the air cleaner

It saves (gas, oil, energy)

It helps save the (Earth, air, world, planet)

#### 1 point

Saves money (Q)

So you can get around faster and not wait in traffic (0)

There would be (traffic jams, too much traffic) (0)

Some people don't have (cars, another way to get around); For when your car is (broken, in the shop) Too many (people, cars) on the road; Road too crowded (0)

Too (crowded, many people) (0)

Less accidents

It's too (far, long) to walk

#### 0 points

To go (far away, farther, to another city); To travel (0)

To get (around, places); Take people where they need to go (0)

It's faster; So we aren't late (0)

To ride on; To (take, get) a ride

So you don't have to walk; You need a ride (0)

City is big (0)

Safer (Q)

To get to (school, work)

They (need, want) them





## 14. Receptive Vocabulary

The child selects the response option that best represents the word the examiner reads aloud.

## **Materials**

Administration and Scoring Manual

Record Form

Stimulus Book 1

## Start

Ages 4:0-5:11

Item 5

Ages 6:0-7:7

Item 13

Children suspected of an intellectual disability or general intellectual deficiency should start with Item 1.

#### **Û** Reverse

If a child does not obtain a perfect score on *either* of the first two items given, administer the preceding items in **reverse** order until the child obtains perfect scores on two consecutive items.

## Discontinue

Discontinue after 3 consecutive scores of 0.

#### **General Directions**

- Read each item verbatim to the child.
- Each item may be repeated as often as necessary, but do not alter the wording in any way.
- Use the local pronunciation of each word or the pronunciation you believe to be familiar to the child.
- The child must indicate his or her choice by either pointing to or saying the number of the selected response option. If the child responds with any other type of verbalization (e.g., names the picture), say, Show me.







- If the child selects multiple response options for an item or self-corrects after his or her initial response, score only the intended response. If it is not clear which one is the intended response, say, You (said, pointed to) [insert child's response], and you (said, pointed to) [insert child's response]. Which one did you mean?
- Item 1 is a teaching item. Corrective feedback is provided if the child does not obtain a perfect score. Provide no further assistance on this subtest.

#### **Score**

- Circle the child's response for each item. Correct responses are printed in color on the Record Form and are listed in this manual.
- Score 1 point if the child gives a correct response.
- Score 0 points if the child gives an incorrect response, says that he or she does not know the answer, or does not respond.

Maximum Receptive Vocabulary Total Raw Score: 31 points

#### **Item Administration**

#### †Item 1

Turn to Item 1 in the Stimulus Book and say, Show me the foot.

Correct response [1]: Proceed to the next item.

†Incorrect response: Point to response option 1 and say, **This is the foot.** Proceed to the next item if the discontinue criterion has not been met.

#### Items 2–31

Turn to the appropriate item in the Stimulus Book. Read each item verbatim to the child.

Proceed to the next appropriate item if the discontinue criterion has not been met.





## 260 Receptive Vocabulary

## **Correct Responses**

	ltem		Correct Response
	†1.	Show me the <b>foot</b> .	1
		ne child does not obtain a perfect score,	
	poin	t to response option 1 and say, <b>This is</b>	the foot.
	2.	Show me the <b>cup</b> .	3
	3.	Show me the <b>butterfly</b> .	2
	4.	Show me <b>painting</b> .	4
4:0-5:11	5.	Show me the <b>snail</b> .	3
	6.	Show me <b>raining</b> .	2
	7.	Show me dancing.	4
	8.	Show me the <b>window</b> .	3
	9.	Show me <b>swimming</b> .	1
	10.	Show me the <b>wallet</b> .	4
	11.	Show me the <b>closet</b> .	3
	12.	Show me <b>stirring</b> .	4
6:0-7:7	13.	Show me <b>lying down</b> .	1
,	14.	Show me the <b>desert</b> .	2
	15.	Show me <b>paying</b> .	1
	16.	Show me the <b>curly</b> tail.	3
	17.	Show me the <b>telescope</b> .	4
	18.	Show me the <b>cymbals</b> .	1
	19.	Show me <b>fancy</b> .	4
	20.	Show me the girl <b>between</b> the boys.	2
	21.	Show me the bird <b>beneath</b> the tree.	1
	22.	Show me the <b>easel</b> .	1
	23.	Show me <b>shaggy</b> .	2
	24.	Show me <b>clinging</b> .	4
	25.	Show me <b>crouching</b> .	3
	26.	Show me <b>gnawing</b> .	4
	27.	Show me <b>narrow</b> .	3
	28.	Show me the <b>cylinder</b> .	3
	29.	Show me parallel.	2
	30.	Show me equivalent.	2
	31.	Show me <b>horizontal</b> .	1







## 15. Picture Naming

The child names depicted objects.



Administration and Scoring Manual

Record Form

Stimulus Book 1

#### C) Start

Ages 4:0-5:11

Item 7

Ages 6:0-7:7

Item 9

Children suspected of an intellectual disability or general intellectual deficiency should start with Item 1.

## **1** Reverse

If a child does not obtain a perfect score on *either* of the first two items given, administer the preceding items in **reverse** order until the child obtains perfect scores on two consecutive items.

## Discontinue

Discontinue after 3 consecutive scores of 0.

## **General Directions**

- There are four general response situations that require further query by the examiner: marginal responses, generalized responses, functional descriptions, and hand gestures. Provide these queries *as often as necessary*.
  - ▶ If the child provides a marginal but appropriate response for an item, such as responding "truck" to the *car* or "snippers" to the *scissors*, ask him or her to clarify the response by saying, **Yes, but what else is** it called?
  - If the child gives an appropriate generalized response to an item, such as responding "bug" to the *ladybug* or "fruit" to the *banana*, ask him or her to clarify the response by saying, **Yes, but what kind of** [*insert child's response*] is it?







- ▶ If the child gives an appropriate functional description of an item, such as responding "You play with it" to the *bear* or "It makes music" to the *guitar*, ask him or her to clarify the response by pointing to the picture and saying, **Yes, but what is it called?**
- ▶ If the child uses appropriate hand gestures for an item, such as pretending to brush his or her teeth in response to the *toothbrush*, ask him or her to clarify the response by saying, **Yes, but what is it called?**
- Common responses that require a query are followed by the notation (0) in the sample responses. All responses followed by a (0) must be queried.
- Items with sample responses that require specific query are identified with an asterisk (\*) on the Record Form and in this manual.
- Item 1 is a teaching item. Corrective feedback is provided if the child does not obtain a perfect score. Provide no further assistance on this subtest.

### Score

- Record the child's responses verbatim.
- Children are not penalized for problems with articulation on this subtest.
   A child receives credit for correct responses, despite his or her inability to pronounce words clearly.
- Use the sample responses for each item to facilitate scoring.
- The sample responses are not an exhaustive list but do provide replies that range from relatively inferior to more creditable. It is important that you evaluate unusual responses carefully and refer to the sample responses to facilitate scoring.
- Inappropriate marginal responses, generalized responses, functional descriptions, and hand gestures are scored 0 points.
- Personalized responses, such as "I have one" or "Mommy uses one," are scored 0 points. Proper or fictional names are also considered personalized responses and are scored 0 points.
- If the child provides multiple responses for an item, refer to the following:
  - Added remarks, obviously not part of the child's answer, do not affect the score. For example, score 1 point if the child responds to *star* with "A star. I wished on a star last night."
  - ▶ If the child's responses vary in quality, with no one answer spoiling the entire response, score the best response. For example, if the child responds to *shell* with "A crab with a shell," the best response, "Shell," is scored 1 point.







- A 1-point response to an item accompanied by a spoiled response is scored 0 points. For example, score 0 points if the child responds to *pineapple* with "A pineapple" but then spoils the response with "No wait, they're called pine cones."
- Score 1 or 0 points according to the sample responses.

Maximum Picture Naming Total Raw Score: 24 points

#### **Item Administration**

#### †Item 1. Car

Turn to Item 1 in the Stimulus Book. Point to the picture on the page and say, What is this?

Correct response (Car; Auto; Automobile): Proceed to the next item.

†Incorrect response: Say, **This is a car.** Proceed to the next item if the discontinue criterion has not been met.

## 4:0-7:7 Items 2-24

Turn to the appropriate item. Point to the picture on the page and say, What is this?

This instruction may be shortened or eliminated when the child understands the task. Provide queries *as often as necessary* for marginal responses, generalized responses, functional descriptions, and hand gestures, but do not query responses that are clearly incorrect.

Proceed to the next appropriate item if the discontinue criterion has not been met.

#### Sample Responses

ltem	1 Point	0 Points
†1.	Car; Auto; Automobile	Vehicle (0)
		Truck (Q)
†If the	e child does not obtain a perfect score, say	, This is a car.
2.	Bear; Teddy bear;	Teddy (0)
	[Names any type of bear]	Stuffed animal (Q)
		Animal (0)
		Toy ( <b>Q</b> )
3.	Banana; 'Nana; Plantain	Fruit (Q)
4.	Balloon	Toy ( <b>Q</b> )
		Bubble







## **264 Picture Naming**

## Sample Responses (continued)

	Item	1 Point	0 Points
	5.	Star; Starfish	Sun (Q)
			Sparkle; Twinkle
	6.	Clock	Tick tock; [Demonstrates clock] (0)
4:0-5:11	7.	Scissors; Shears	Clippers; Trimmers; Cutters; Snippers (0)
		(Hedge, Bush) clippers	Knife
	*8.	Toothbrush	Brush; Brush teeth (0)
			Teeth (Q)
			Toothpaste (Q)*
	* If th	e child responds <i>toothpaste</i> , say, <b>Yes, but w</b>	hat is the toothpaste on?
6:0-7:7	9.	Ladybug; Ladybird	Bug; Insect (0)
0.0 7.1			Spider
	10.	Guitar; Ukulele	Instrument (0)
			Banjo; Violin
	11.	Kangaroo; Wallaby	Animal (0)
			Roo (Q)
	12.	Shell; Seashell; Clam	Crab; Snail
	13.	Broom; Broomstick;	Sweep; Sweeper (0)
		[Names any type of broom]	Clean; Cleaner (Q)
			Brush (Q)
			Mop
	14.	Caterpillar; Centipede;	Worm; Larvae; Bug; Insect (0)
		Millipede	Butterfly (0)
	15.	Microphone; Mic	Bullhorn; Megaphone (Q)
			Speaker
	16.	Pineapple	Fruit (Q)
			Pine cone
			Peach; Apple
	17.	Nail; Pin	Needle; Screw (0)
			Tool (Q)
			Pencil
	18.	Teapot; Kettle; Coffee pot	(Tea, Coffee) (maker, thing) (Q)
		(Coffee, Tea, Steam) kettle; [Names any	(For, Pours) tea (Q)
		type of pot/kettle]	Teacup (Q)
			Tea
			Steam;
	19.	Globe	Planet; World; Map; Earth (0)
			Where we live (0)







## Sample Responses (continued)

Item	1 Point	0 Points
20.	Xylophone; Glockenspiel	Instrument (Q)
		Chimes; Bells (0)
21.	Thermometer	Temperature; Temperature thing (0)
		(Blood, Air) thing (0)
22.	Harp	Instrument (Q)
		Violin
23.	Stethoscope; Stethophone	Heart listener (Q)
		Necklace; Telescope
24.	Tripod	Stand (Q)
		(Camera, Video camera, Telescope) (holder, stand) ( <mark>Q</mark> )
		Legs















## **Norms and Conversion Tables**





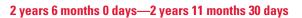


 Table A.1
 Scaled Score Equivalents of Total Raw Scores for Subtests, by Age Group

Ages 2:6–2:8		6–2:8								Ag	Ages 2:9–2:11	=			
RV BD PM IN OA ZL	IN 0A	0A		77		PN	Scaled Score	RV	BD	PM	Z	0A	717	PN	Scaled Score
0 - 0 -	- 0	ı		I	1	I	1	0	0	ı	0	ı	I	I	1
_ 0 0	I	0 -	0	I		0	2	I	I	I	I	0	I	0	2
1 1	I	1	1	I		I	က	-	-	0	-	I	I	I	က
1 2 0 0	1	I		0		<b>—</b>	4	2	2	I	2	I	0	-	4
2 3 - 2 1 -		2 1 -	1	I		2	5	က	3-4	_	က	1	I	2	2
3 4 1 1	1 1		- 1	1	1	3	9	4	2	I	I	I	-	က	9
4 5 - 3 - 2	က		- 2	2		4	7	9-9	2-9	2	4	2	2	4-5	7
5-6 6-7 2 4 2 3			2 3	က		2	œ	7	∞	က	2	က	က	9	<b>∞</b>
7 8 3 5 - 4	5		- 4	4		9	6	8-9	6	4	2-9	4	4	7	6
8–9 9–10 4–5 6–7 3 5	6-7 3	3		2		7	10	10	10-11	9-6	8-8	5	2	8-9	10
10 11 6 8–9 4 6	8-9 4	4		9		8-9	11	11–12	12	7	10	9	9	10	1
11-12 12 7-8 10 5 7	10		5 7	7		10	12	13-14	13-14	8-9	11–12	7-8	7	=	12
13–14 13–14 9 11–12 6–7 –	11–12 6–7	L-9		I		11	13	15-16	15	10	13	9-10	∞	12	13
15-16 15 10-11 13 8-9 8	13 8–9	8-8		∞		12–13	14	17–18	16	11–12	14-15	11–12	6	13-14	14
17–18 16 12 14–15 10–11 9	14-15 10-11	10-11		6		14	15	19	17	13	16	13-15	10	15	15
19 17 13–14 16 12–14 10	4 16 12–14	12–14		10		15	16	20–21	18	14-15	17–18	16–18	I	16	16
20–21 18 15 17–18 15–17 –	17–18 15–17	15–17		I		16-17	17	22–23	19	16	19	19–21	Ξ	17–18	17
22–23 19 16–17 19 18–21 11	19 18–21	18-21		1		18	18	24	20	17–18	20	22–24	I	19	8
24-31 20-34 18-35 20-29 22-38 12-20	20-29 22-38	22–38		12–20		19–24	19	25–31	21–34	19–35	21–29	25–38	12–20	20-24	19





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Scaled Score Equivalents of Total Raw Scores for Subtests, by Age Group (continued) Table A.1

			Ages 3:(	es 3:0–3:2							Aç	Ages 3:3–3:5	5:			
Scaled Score	RV	BD	PM	2	0A	77	N.	Scaled Score	RV	BD	PM	2	0A	72	N	Scaled Score
-	0	0	ı	0	ı	ı	ı	1	0	0-1	0	0	0	ı	0	-
2	ı	-	0	-	0	I	0	2	-	2	ı	-	I	0	-	2
က	-	2	I	2	I	0	-	က	2	3-4	-	2	-	ı	2	က
4	2	3-4	-	က	-	I	2	4	က	2	2	3-4	I	<b>—</b>	က	4
5	က	2	2	4	I	-	က	2	4	L-9	က	2	2	2	4	2
9	4-5	2-9	ı	2	2	2	4	9	9-9	œ	ı	9	က	က	9-6	9
7	9	∞	က	9	က	က	9-9	7	7-8	6	4	7	4	4	7	7
<b>co</b>	7-8	6	4	7	4	4	7	œ	6	10-11	2	8	2	2	œ	œ
6	9-10	10-11	2	8-8	2	2	œ	6	10-11	12	9	9-10	<i>L</i> -9	9	6	6
10	1	12	2-9	10	2-9	9	9–10	10	12-13	13-14	7-8	11–12	8-9	7	10-11	10
#	12–13	13–14	∞	11–12	8-9	7	11	11	14-15	15	6	13-14	10-11	œ	12	11
12	14-15	15	9-10	13-14	10-11	œ	12	12	16	16	10-11	15	12–13	6	13	12
13	16-17	16	Ξ	15	12-13	6	13	13	17–18	17	12	16	14–16	10	14	13
14	18-19	17	12–13	16	14-15	10	14-15	14	19	18	13-14	17–18	17–19	I	15–16	14
15	20	I	14-15	17–18	16–18	1	16	15	20–21	1	15–16	19	20-22	11	17	15
16	21–22	18	16	19	19–22	Ξ	17	16	22–23	19	17	20	23-25	ı	18	16
17	23	19	17–18	20	23–25	I	18	17	24	20	18-19	21	26-28	12	19	17
18	24-25	20	19–20	21	26-28	12	19-20	18	25-26	21	20-21	22	29–31	ı	20	18
19	26–31	21–34	21–35	22–29	29–38	13–20	21–24	19	27–31	22–34	22–35	23–29	32–38	13–20	21–24	19







Scaled Score Equivalents of Total Raw Scores for Subtests, by Age Group (continued) Table A.1

			Ages 3:6–3:8	9-3:8							Ag	Ages 3:9–3:11	11			
Scaled								Scaled								Scaled
Score	RV	BD	PM	Z	0A	ZL	PN	Score	RV	BD	PM	N	0A	Zľ	PN	Score
1	0	0-2	0	1-0	0	0	0	1	0	0-4	1-0	0-2	0	0	1-0	1
2	-	3-4	-	2	I	I	1–2	2	1-2	2	2	3-4	I	-	2	2
က	2–3	2	2	3-4	-	-	က	က	3-4	<u>1</u> -9	ı	2	-	2	3-4	က
4	4	2-9	က	2	I	2	4	4	2	∞	လ	9	2	က	2	4
2	9-9	80	I	9	2	က	2	2	2-9	6	4	7	က	4	9	2
9	7–8	6	4	7	3	4	<i>L</i> -9	9	8-9	10-11	5	8-9	4	5	7	9
7	6	10-11	2	œ	4	2	œ	7	10	12	9	10	2-6	9	8-9	7
œ	10-11	12	9	9-10	9-9	9	6	œ	11–12	13	7	11–12	7-8	7	10	œ
6	12–13	13	7	11–12	7-8	7	10	6	13-14	14	8-9	13-14	9-10	I	=	6
10	14	14-15	8-9	13–14	9–11	œ	11	10	15	15-16	10	15-16	11–13	80	12	10
=	15–16	16	10	15–16	12–13	I	12–13	1	16–17	17	11	17	14-16	6	13–14	=
12	17	17	11–12	17	14–16	6	14	12	18-19	18	12–13	18	17–19	10	15	12
13	18-19	18	13	18	17–19	10	15-16	13	20	19	14	19	20-22	I	16	13
14	20	19	14-15	19	20-22	=	17	14	21	20	15-16	20	23-24	=	17	14
15	21–22	I	16	20	23–24	1	18	15	22–23	21	17	21	25-27	12	18	15
16	23	20	17–18	21	25–27	12	19	16	24	I	18–19	22	28-30	I	19	16
17	24-25	21	19-20	22	28-30	I	20	17	25	22	20	23	31–33	13	20	11
18	26	22	21	23	31–33	13	21	8	56	23	21–22	24	34 - 35	I	21–22	18
19	27–31	23-34	22-35	24-29	34 - 38	14 - 20	22–24	19	27-31	24-34	23-35	25-29	36 - 38	14 - 20	23-24	19







Scaled Score Equivalents of Total Raw Scores for Subtests, by Age Group (continued) Table A.1

# Ages 4:0–4:2

								'										
Scaled	;	i	;	1	i	i	1	;	i	;	!	:	;	i	i	;		Scaled
Score	BD	2	MR	BS	PM	ıs	PC	CA	Zľ	0A	ΛC	AC	00	R	PN	CAR	CAS	Score
_	9-0	0-4	0	0	0-1	0	0	0	0	0	0	ı	ı	0-1	0-1	0	0	-
2	2-9	2	I	_	2	ı	I	-	-	-	-	ı	0	2–3	2-3	I	I	2
က	8	9	-	2	က	-	-	2–3	2	2	2	0	I	4-5	4	-	-	က
4	6	7-8	2	လ	4	2	I	4-5	က	လ	က	ı	-	9	2-6	2	2	4
2	10	6	က	4-5	2	က	2	8-9	4	4	4	-	2	7–8	7	က	က	5
9	11–12	10-11	4	2-9	9	4	က	9–11	5	2-6	22	2	က	9–10	∞	4-5	4-5	9
7	13	12	2	8-9	7	2	4	12-15	9	7-8	2-9	3-4	4	11–12	6	L-9	2-9	7
<b>∞</b>	14	13-14	9	10-12	8-9	L-9	9-6	16-18	7	9-10	88	9-6	2	13	10-11	<b>∞</b>	8-9	œ
6	15	15	7-8	13-15	10	8-10	7	19-22	∞	11–13	10-11	7-9	2-9	14-15	12	9-10	10-11	6
10	16–17	16-17	6	16–17	11	11–14	8-9	23-25	6	14-15	12–13	10-12	8-9	16–17	13	11–12	12–13	10
Ξ	18	18	10-11	18–19	12	15–18	10	26–29	ı	16–18	14–16	13–15	10–12	18–19	14	13–14	14-15	11
12	19	19	12	20-22	13	19–21	11–12	30-33	10	19-21	17–18	16–18	13-15	20	15	15-17	16-17	12
13	20	20	13–14	23–24	14-15	22–24	13-14	34-36	=	22–24	19-20	19–22	16–18	21	16-17	18–19	18-19	13
14	21	21	15-16	25-26	16	25–27	15	37-40	I	25-27	21–23	23–25	19–20	22–23	18	20–21	20-21	14
15	22	22	17–18	27–29	17–18	28-30	16-17	41-44	12	28-29	24–25	26-29	21–23	24	19	22–23	22–23	15
16	23	23	19	30–31	19–20	31–32	18	45-47	13	30–32	26–28	30-32	24-25	25	20	24-25	24–25	16
17	I	24	20-21	32-33	21	33-34	19–20	48-51	I	33-34	29–30	33-36	26-27	56	21	26-27	26-27	17
<b>e</b>	24	25	22	34-36	22–23	35-36	21	52-55	14	35-36	31–34	37–39	28-30	27	22	28-29	28-29	18
19	25-34	26-29	23–26	37-66	24-35	37-40	22–27	96-99	15-20	37–38	35-43	40-72	31-40	28-31	23-24	30-48	30-48	19



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Scaled Score Equivalents of Total Raw Scores for Subtests, by Age Group (continued) Table A.1

	Scaled Score	1	2	က	4	4 5	<b>9</b> 9	7 8	<b>8</b>	12 9	14 10	11 11	18 <b>12</b>	20 <b>13</b>	22 14	.24 <b>15</b>	.26 <b>16</b>	<b>11</b> 82	30 18	48 19
	CAS	0	ı	_	2	3-4	2-6	7–8	9-10	11–12	13–14	15–16	17–18	19–20	21–22	23–24	25–26	27–28	29–30	31–48
	CAR	0	I	_	2	3-4	2-6	7–8	9 - 10	11–12	13-14	15–16	17–18	19–20	21–22	23–24	25–26	27–28	29-30	31-48
	PN	0-2	က	4-5	9	7-8	6	10	=	12–13	14	15	16	17	18	19	20	21	22	23-24
	RV	0-2	3-4	2	L-9	8-8	10-11	12-13	14	15-16	17–18	19–20	21	22	23	24	25	26	27	28-31
	00	0	I	_	2	က	4	2	L-9	8-9	10-11	12–14	15-17	18–19	20-22	23–24	25–26	27–29	30-31	32-40
	AC	1	ı	0	_	2	က	4-5	8-9	9–11	12-15	16–18	19–21	22–25	26–28	29–32	33–36	37–39	40-43	44-72
	λC	0	-	2	လ	4	2-6	7-8	9-10	11–12	13-14	15–17	18-19	20–21	22-24	25-26	27–29	30-31	32-34	35-43
i5	0A	0	_	2	လ	4	2-6	7-9	10-12	13-15	16–18	19–20	21–23	24-26	27–29	30-31	32–34	35-36	37	38
Ages 4:3-4:5	ZL	0-1	2	3	4	2	9	7	<b>∞</b>	I	6	10	=	I	12	I	13	I	14	15-20
Αξ	CA	0	1-2	3-4	2-2	8-10	11–13	14-17	18-21	22-24	25–28	29–32	33-35	36-39	40-43	44-46	47-50	51-54	55-58	29-96
	PC	0	I	_	I	2	က	4	9-9	7	8-9	10	11–12	13–14	15	16-17	18–19	20	21	22–27
	IS	0	ı	_	2	က	4-5	<i>L</i> -9	8-10	11–13	14-16	17–19	20-22	23–25	26–28	29–31	32–33	34 - 35	36	37-40
	PM	0-2	က	4	2	9	7	œ	6	10	11–12	13	14	15-16	17	18–19	20–21	22	23-24	25-35
	BS	0	-	2	လ	4-6	7-8	9–11	12–14	15-16	17–19	20-21	22–24	25-26	27–28	29–31	32–33	34-36	37–38	39-66
	MR	0	ı	-	2	က	4	2	2-9	∞	9-10	11	12–13	14	15-16	17–18	19	20–21	22	23-26
	2	0-2	9	7–8	6	10-11	12	13-14	15	16	17–18	19	20	21	22	23	24	25	26	27–29
	BD	9-0	7–8	6	10	Ξ	12–13	14	15	16	17–18	19	20	21	22	23	24	I	25	26 - 34
	Scaled Score	-	2	က	4	2	9	7	œ	6	10	11	12	13	14	15	16	17	81	19

272



Scaled Score Equivalents of Total Raw Scores for Subtests, by Age Group (continued) Table A.1

# Ages 4:6-4:8

								'  										
Scaled Score	80	2	MR	BS	PM	S	PC	CA	717	0A	ΛC	AC	03	W.	A	CAR	CAS	Scaled Score
-	1-0	9-0	0	0	0-2	0	0	0-1	0-1	0	0-1		0	0-2	0-2	0	0	1
2	8-9	7-8	I	-	က	I	_	2-3	2	-	2	I	<b>—</b>	3-4	3-4	<b>—</b>	-	2
က	10	6	-	2	4	<b>—</b>	I	4-5	3	2	က	0	2	9-6	2	2	2	က
4	Ξ	10-11	2	3-4	2	2	2	8-9	4	3-4	4	-	က	7–8	2-9	က	က	4
2	12	12	က	2-7	9	3-4	က	9-12	2	2-6	2	2	4	9-10	<b>∞</b>	4-5	4-5	2
9	13-14	13–14	4	8-10	7	2-6	4	13–16	9	7-8	2-9	3-4	2	11–12	9-10	L-9	2-9	9
7	15	15	9-9	11–13	œ	7–9	2	17–19	7	9–11	8-8	2-2	2-9	13-14	Ξ	8-9	8-9	7
00	16	16	7	14-15	9-10	10-12	2-9	20-23	8	12–14	10-11	8-10	8-9	15	12	10-11	10-11	00
6	17	17	8-9	16-18	Ξ	13-15	∞	24-27	6	15-17	12–13	11–14	10-11	16-17	13	12–13	12-13	6
10	18	18	10	19-21	12	16-18	6	28-30	ı	18-19	14-15	15-17	12–13	18-19	14-15	14-15	14-15	10
11	19	19	11–12	22–23	13–14	19–21	10	31–34	10	20-22	16–18	18-20	14–16	20	16	16–17	16–17	11
12	20	20	13	24-26	15	22-24	11–12	35-38	=	23-25	19-20	21–24	17–19	21	17	18–19	18-19	12
13	21	21	14-15	27–28	16-17	25–26	13-14	39-41	I	26-28	21–23	25–27	20-22	22	18	20-21	20-21	13
14	22	22	16	29–31	18	27–29	15-16	42-45	12	29–31	24-25	28-31	23–24	23	19	22–23	22–23	14
15	23	23	17–18	32–33	19-20	30-31	17–18	46-49	I	32–33	26-27	32-35	25-26	24	20	24-25	24-25	15
16	24	24	19	34–36	21	32–33	19	50-52	13	34-35	28–30	36–39	27–29	25	21	26–27	26-27	16
17	25	25	20-21	37–38	22–23	34 - 35	20–21	53-56	I	36	31–32	40-43	30-31	26	22	28-29	28-29	17
18	26	26	22	39-41	24-25	36	22	27-60	14	37	33-35	44-47	32	27	I	30-31	30-31	8
19	27–34	27–29	23–26	42–66	26–35	37–40	23–27	61–96	15-20	38	36-43	48–72	33-40	28–31	23–24	32–48	32-48	19







Scaled Score Equivalents of Total Raw Scores for Subtests, by Age Group (continued) Table A.1

							Age	Ages 4:9–4:11	:11								
BD	2	MR	BS	PM	SI	PC	CA	72	0A	ΛC	AC	00	R	A	CAR	CAS	Scaled Score
2-0	2-0	0	0	0-2	0	0	0-2	0-1	0	0-1	1	0	0-3	0-3	0	0	1
8-8	8-9	ı	-	က	-	-	3-4	2	-	2	0	-	4-5	4-5	-	-	2
10	10	-	2–3	4	2	I	2-7	က	2	က	-	2	2-9	9	2	2	က
Ξ	11–12	2	4-5	2	က	2	8-10	4	3-4	4	2	က	8-9	7	3-4	3-4	4
12–13	13-14	3-4	8-9	2-9	4-5	က	11–14	2	2-7	9-6	က	4-5	10-11	8-8	2-6	2-6	J.
14	15	2	9–11	∞	8-9	4	15–18	9	8-10	7–8	4-6	2-9	12–13	10	7-8	7–8	9
15	16	2-9	12–14	6	9–11	2	19–22	7	11–13	9-10	7-9	8-9	14	11–12	9-10	9–11	7
16-17	17	8	15-17	10	12–14	2-9	23-25	œ	14-16	11–13	10-12	10-11	15-16	13	11–12	12-13	œ
92	18	9-10	18-20	11–12	15-17	8-9	26-29	6	17–19	14-15	13-16	12–13	17–18	14	13-14	14-15	6
19	19	Ξ	21–23	13	18-20	10	30 - 33	10	20-22	16-17	17–19	14 - 15	19-20	15	15-16	16-17	10
20	20	12	24-26	14–15	21–22	1	34-36	ı	23-24	18–19	20-23	16–18	21	16	17–18	18–19	11
21	21	13-14	27–28	16	23-25	12–13	37-40	Ξ	25-27	20-21	24-26	19-21	22	17	19-20	20	12
22	22	15	29–31	17–18	26-27	14-15	41-44	12	28-29	22-24	27-30	22–24	23	18	21–22	21–22	13
23	ı	16-17	32-34	19	28-29	16-17	45-48	ı	30-31	25-26	31 - 34	25-26	24	19	23-24	23-24	14
24	23	18-19	35-36	20-21	30-32	18	49-51	13	32-34	27–28	35-38	27–28	25	20	25-26	25-26	15
25	24	20	37–39	22	33	19–20	52-55	ı	35	29–31	39-42	29–30	26	21	27–28	27–28	16
26	25	21–22	40-41	23-24	34 - 35	21	26-58	14	36	32-33	43-46	31–32	27	22	29-30	29-30	17
27	26	23	42-43	25-26	36	22	59-62	15	37	34-35	47-50	33	28	I	31–32	31–32	18
28-34	27–29	24-26	44-66	27-35	37-40	23-27	96-89	16-20	38	36 - 43	51–72	34 - 40	29–31	23–24	33-48	33-48	19

274



Scaled Score Equivalents of Total Raw Scores for Subtests, by Age Group (continued) Table A.1

Ages 5:0–5:2

								)										
Scaled Score	BD	2	MR	BS	PM	S	PC	CA	71	OA	ΛC	AC	03	N.	P	CAR	CAS	Scaled Score
-	8-0	8-0	0	0-1	0-3	0	0	0-3	0-2	0-1	0-1		0	0-3	0-3	0	0	-
2	6	6	-	2–3	4	-	-	4 - 5	က	2	2	0	-	4-5	4-5	-	_	2
က	10	10	2	4-5	2	2	I	8-9	4	လ	လ	-	2	8-9	L-9	2-3	2–3	က
4	11–12	11–12	က	2-9	9	3-4	2	9-12	2	4-5	4	2-3	3-4	9-10	∞	4-5	4-5	4
Z.	13-14	13-14	4	8-10	7	2-7	က	13-16	9	8-9	2-7	4-5	2-6	11–12	9-10	L-9	L-9	2
9	15	15	2-6	11–13	œ	8-10	4-5	17–20	7	9–11	8-9	8-9	7-8	13	Ξ	8-9	8-10	9
7	16	16	7	14-16	9-10	11–13	9	21–24	<b>∞</b>	12–14	10-12	9-11	9-10	14-15	12–13	10-11	11–12	7
<b>∞</b>	17	17–18	8-9	17–19	Ξ	14-16	7-8	25-27	ı	15-17	13-14	12-14	11–12	16-17	14	12-13	13-14	<b>∞</b>
6	18-19	19	10	20-22	12	17–19	9–10	28-31	6	18-21	15-16	15-18	13-14	18-19	15	14-15	15-16	6
10	20	20	11–12	23–25	13–14	20–21	11	32–35	10	22–24	17–18	19–21	15-17	20-21	16	16-17	17–18	10
11	21	21	13	26–28	15	22–24	12–13	36–39	ı	25–26	19–21	22–25	18–19	22	17	18–19	19–20	11
12	22	I	14-15	29–31	16-17	25-26	14	40-42	=	27–29	22–23	26-29	20-22	23	18	20-21	21–22	12
13	23	22	16	32–34	18	27–28	15-16	43-46	12	30-31	24-25	30-32	23-24	24	19	22–23	23-24	13
14	24	23	17–18	35-37	19-20	29-30	17	47-49	I	32-33	26-27	33-36	25-26	22	20	24-25	25–26	14
15	25	24	19	38–39	21–22	31–32	18-19	50-53	13	34	28–29	37-40	27–29	56	21	26-27	27	15
16	26	ı	20	40-41	23	33-34	20	54-57	I	35	30-32	41-44	30-31	I	ı	28-29	28–29	16
17	27	25	21–22	42-44	24-25	35	21	58-60	14	36	33-34	45-49	32-33	27	22	30-31	30-31	17
92	28	26	23	45-46	26-27	36	22	61-64	15	37	35-36	50-53	34	28	I	32–33	32–33	18
19	29–34	27–29	24-26	47–66	28-35	37-40	23–27	96-49	16-20	38	37–43	54–72	35-40	29–31	23–24	34-48	34-48	19



275

Scaled Score Equivalents of Total Raw Scores for Subtests, by Age Group (continued)

Table A.1

								Ag	Ages 5:3–5:5	5:5								
Scaled Score	BD	2	MR	BS	PM	S	PC	CA	717	04	ΛC	AC	9	RV	P	CAR	CAS	Scaled Score
1	8-0	8-0	0	0-2	0-3	0	0	0-5	0-2	0-1	0-1	0	0	0-4	0-4	0	0	-
	6	6	_	3-4	4	-	-	2-9	က	2	2	-	_	9-6	9-6	1–2	1–2	2
	10-11	10-11	2	9-6	2	2–3	2	8-10	4	3-4	က	2	2	7–9	7-8	3-4	3-4	က
	12	12	3-4	7–8	9	4-6	က	11–14	2	2-6	4-5	3-4	3-4	10-11	6	9-6	9-6	4
	13-14	13-14	2	9–12	7-8	7-8	4	15-18	9	7-9	8-9	2-7	9-6	12-13	10	7–8	7–8	D.
	15	15	2-9	13-15	6	9–11	2-6	19–22	7	10-12	9–10	8-10	7–9	14	11–12	9–10	9–10	9
	16-17	16	∞	16-18	10	12–14	7	23–26	8	13-16	11–13	11–13	10-11	15-16	13	11–12	11–13	7
	18	17–18	9-10	19-22	11–12	15–17	8-9	27–29	I	17–19	14-15	14–16	12-13	17–18	14	13-14	14-15	œ
	19-20	19-20	Ξ	23-25	13	18-20	10-11	30 - 33	6	20-22	16-18	17-20	14-16	19-20	15	15-16	16-17	6
	21	21	12–13	26-28	14-15	21–23	12	34 - 37	10	23-25	19-20	21–23	17–19	21	16	17–18	18–19	10
	22	ı	14	29–31	16	24-25	13-14	38-41	Ξ	26-28	21–22	24-27	20-21	22–23	17	19–20	20–21	11
	23	22	15–16	32-34	17–18	26-27	15	42-44	I	29-30	23-24	28-31	22–23	24	18	21–22	22–23	12
	24	ı	17	35-36	19	28-29	16-17	45-48	12	31–32	25-26	32-35	24-25	25	19	23-24	24-25	13
	25	23	18	37–39	20-21	30-31	18	49-51	I	33	27–28	36-39	26-27	26	20	25-26	26-27	14
	26	24	19-20	40-42	22	32–33	19-20	52-55	13	34	29-30	40-43	28-30	ı	21	27–28	28	15
	27	25	21	43-44	23–24	34	21	26-58	ı	35	31–33	44-47	31–32	27	ı	29–30	29-30	16
	28	56	22	45-46	25-26	35	22	59-62	14	36	34 - 35	48-51	33	I	22	31–32	31–32	17
	29	27	23-24	47-48	27	36	23	63-65	15	37	36-37	52-56	34	28	I	33-34	33-34	18
	30-34	28-29	25-26	49-66	28-35	37-40	24-27	96 - 99	16-20	38	38-43	57-72	35 - 40	29–31	23-24	35-48	35-48	19







Scaled Score Equivalents of Total Raw Scores for Subtests, by Age Group (continued) Table A.1

## Ages 5:6–5:8

								'										
Scaled																		Scaled
Score	BD	Z	MR	BS	PM	SI	PC	CA	Zľ	0A	VC	AC	00	RV	PN	CAR	CAS	Score
1	6-0	6-0	0	0-3	0-3	0	0	9-0	0-2	0-2	0-1	0	0	0-4	0-4	1-0	0	1
2	10	10	_	4-5	4	1–2	-	7–8	က	3-4	2	-	_	9-9	2-6	2–3	1–2	2
က	Ξ	11–12	2–3	L-9	2	3-4	2	9-11	4	2-6	3-4	2-3	2-3	7-9	7-8	4-5	3–5	က
4	12–13	13	4	8-10	9	2-2	က	12-15	2	7-9	2-6	4-6	4-5	10-12	6	L-9	L-9	4
2	14	14-15	9-9	11–13	7–8	8-10	4-5	16-19	9	10-11	7-9	7-9	8-9	13	10-11	8-9	8-9	2
9	15–16	16	7-8	14-17	6	11–13	2-9	20-23	7	12-14	10-12	10–12	9–10	14-15	12	10-11	10-11	9
7	17	17	6	18-20	10-11	14-16	œ	24-27	<b>∞</b>	15-17	13-14	13-15	11–12	16-17	13	12-13	12-14	7
œ	18-19	18	10-11	21–24	12	17–19	9-10	28-31	6	18-20	15-17	16-18	13-15	18-19	14-15	14-15	15-16	œ
6	20	19-20	12	25-27	13-14	20-22	11–12	32-35	10	21–23	18-19	19–22	16–18	20	16	16-17	17–18	6
10	21	21	13–14	28-30	15	23–24	13	36 - 39	11	24–27	20–21	23-25	19–21	21–22	17	18–19	19–20	10
11	22–23	ı	15	31–33	16–17	25–26	14-15	40-43	ı	28–29	22–24	26-29	22–23	23	18	20	21–22	11
12	24	22	16	34-36	18	27–28	16	44-46	12	30-31	25–26	30-33	24-25	24	19	21–22	23–24	12
13	25	23	17–18	37–39	19-20	29-30	17–18	47-50	ı	32	27–28	34-37	26-27	25	20	23-25	25–26	13
14	26	24	19	40-42	21–22	31–32	19	51-53	13	33	29-30	38-41	28-29	56	I	26-27	27–28	14
15	27	25	20	43-44	23	33	20	54-57	I	34	31–32	42-45	30–31	27	21	28–29	29–30	15
16	28	ı	21–22	45-47	24-25	34	21	28-60	14	35	33-34	46-49	32	I	I	30-31	31	16
17	29	26	23	48-49	26-27	35	22	61-63	I	36	35-36	50-54	33	28	22	32–33	32–33	17
18	30	27	24	50-51	28	36	23	64-66	15	37	37–38	55-58	34	I	23	34-35	34	18
19	31–34	28-29	25-26	52-66	29-35	37-40	24-27	96-/9	16-20	38	39-43	59–72	35 - 40	29-31	24	36-48	35 - 48	19



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9

35 36–48

24

29 30–31

36 - 40

33-34

33–34 35–36 37–48

23

52-56 57-60

36-37 38-39 40-43

37

15

63-65

23

27

50 - 51

30

28–29

52–53 54–66

24 25–26

27 28–29

32-34

18

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Scaled Score Equivalents of Total Raw Scores for Subtests, by Age Group (continued) Table A.1

	Scaled Score	1	2	က	4	2	9	7	<b>∞</b>	6	10	11	12	13	14	15	16
	CAS	0-1	2–3	4-5	8-9	9-10	11–12	13-14	15-17	18–19	20-21	22–23	24-25	26-27	28-29	30-31	32
	CAR	0-1	2–3	4-5	<i>L</i> -9	8-9	10-11	12-13	14-15	16-17	18-19	20-21	22–23	24-25	26-28	29-30	31–32
	PN	0-4	9-6	7-8	9-10	Ξ	12	13-14	15	16	17	18	19	20	21	I	22
	RV	0-5	<b>L</b> -9	8-10	11–12	13-14	15–16	17	18-19	20–21	22–23	24	25	26	27	I	28
	00	0	1–2	3-4	9-6	7–9	10-12	13-14	15-16	17–19	20-22	23–24	25-26	27–28	29-30	31–32	33
	AC	0-1	2–3	4-5	<b>2</b> -9	8-10	11–13	14-17	18-20	21–24	25-27	28-31	32-35	36 - 39	40-43	44-47	48-51
	VC	0-2	လ	4-5	8-9	9-11	12–13	14-16	17–18	19-21	22–23	24-25	26-27	28-29	30-31	32–33	34-35
:11	0A	0-3	4-6	7–9	10-11	12-14	15–17	18-19	20-22	23-25	26-28	29–31	32	33	34	35	36
Ages 5:9–5:11	72	0-3	4	2	9	I	7	<b>∞</b>	6	10	Ξ	ı	12	13	I	14	I
Ag	CA	2-0	8-10	11–13	14-17	18-21	22–25	26-29	30-33	34 - 37	38-41	45-44	45-48	49-51	52-55	26-58	59-65
	PC	0-1	2	က	4 - 5	<b>2</b> -9	œ	9-10	11–12	13	14-15	16	17	18-19	20	21	22
	S	0-1	2–3	4-5	8-9	9–11	12–14	15-17	18-20	21–23	24-25	26–28	29-30	31	32–33	34	35
	PM	0-3	4	2	<i>L</i> -9	8-9	10	1	12–13	14-15	16	17–18	19	20-21	22	23–24	25-26
	BS	0-4	9-6	7–8	9-12	13-15	16–19	20-23	24-26	27–29	30-33	34-36	37–39	40-42	43-44	45-47	48-49
	MR	0-1	2	3	4-5		8-9	10	11–12	13	14-15	16	17	18–19	20	21	22
	2	0-10	Ξ	12-13	14-15	16	17	18	19	20	21	22	23	24	25	I	26
	BD	6-0	10	11–12	13–14	15	16–17	18	19-20	21	22	23	24-25	56	27	28	29
	Scaled Score	1	2	က	4	5	9	7	00	6	10	11	12	13	14	15	16



Scaled Score Equivalents of Total Raw Scores for Subtests, by Age Group (continued) Table A.1

### Ages 6:0–6:3

Scaled																		Scaled
Score	BD	Z	MR	BS	PM	SI	PC	CA	77	0A	VC	AC	00	RV	PN	CAR	CAS	Score
-	0-10	0-11	0-1	9-0	0-3	0-2	0-2	8-0	0-3	9-0	0-2	0-1	0-1	9-0	0-2	0-2	1-0	1
2	Ξ	12–13	2	<b>2</b> -9	4-5	3-4	က	9-11	4	8-9	3-4	2-3	2-3	7–8	9	3-4	2-4	2
က	12-13	14	3-4	8-10	9	2-2	4-5	12-14	2	9–11	2-6	4-6	4-5	9–11	7-9	9-6	9-6	ო
4	14	15-16	9-6	11–14	7–8	8-10	<b>/</b> -9	15–18	9	12-14	7-9	7-9	2-9	12–13	10	7–8	7–8	4
5	15–16	17	7–8	15–18	6	11–13	<b>∞</b>	19–23	7	15–17	10-12	10-12	8-10	14-15	11–12	9-10	9–11	5
9	17	18	9-10	19–21	10-11	14-15	9-10	24-27	∞	18–19	13–15	13–15	11–13	16	13	11–12	12–13	9
7	18-19	19	1	22–25	12	16–18	11–12	28-31	6	20-22	16-17	16-19	14-16	17–18	14	13-14	14-15	7
<b>∞</b>	20	20	12–13	26-29	13-14	19–21	13	32-35	10	23-25	18-20	20-22	17–18	19-20	15-16	15-16	16–18	<b>∞</b>
6	21–22	21	14	30–32	15	22–24	14	36-39	Ξ	26-27	21–22	23-26	19–21	21	17	17–18	19-20	6
10	23	22	15–16	33–35	16-17	25–27	15–16	40-42	I	28-30	23–25	27-30	22–24	22–23	18	19-20	21–22	10
1	24-25	23	17	36-38	18–19	28–29	17	43-46	12	31–32	26-27	31–34	25–26	24	19	21	23–24	11
12	26	24	18	39-41	20	30-31	18	47-50	13	33	28-29	35-37	27–28	25	20	22–23	25–26	12
13	27	25	19-20	42-44	21–22	32	19	51-53	ı	34	30-31	38-41	53	26	ı	24-26	27–28	13
14	28	I	21	45-47	23	33	20	54-57	14	35	32-33	42-46	30-31	27	21	27–28	29–30	14
15	29	26	22	48-50	24-25	34	21	28-60	I	36	34	47-50	32	28	I	29–30	31–32	15
16	30	I	23	51–52	26–27	35	22	61–63	15	37	35–36	51–54	33	I	22	31–32	33	16
17	31	27	24	53-54	28	36	23	64 - 66	16	I	37–38	55-58	34-35	29	23	33-34	34-35	17
18	32	28	25	22	29-30	37	24	69-/9	I	38	39-40	59-62	36	I	I	35-36	36	18
19	33–34	29	26	99-99	31–35	38-40	25–27	96-02	17–20	ı	41–43	63–72	37-40	30-31	24	37-48	37–48	19



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Scores fo
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Equivalents
Scaled Score Equivalents

Table A.1

	Scaled Score	1	2	က	4	5	9	7	œ	6	10	11	12	13	14	15	16	17	18	19
	CAS	0-2	3-4	2-7	8-9	10-12	13–14	15–16	17–19	20–21	22–23	24-25	26-27	28-29	30-31	32–33	34-35	36	37–38	39–48
	CAR	0-2	3-4	9-9	7–8	9-10	11–13	14-15	16-17	18	19-20	21–22	23-24	25–26	27–29	30–31	32–33	34-35	36-37	38-48
	PN	0-5	2-9	8-9	10-11	12	13-14	15	16	17–18	19	20	I	21	I	22	I	23	I	24
	RV	9-0	7-9	10-12	13-14	15-16	17	18-19	20-21	22	23–24	25	26	27	I	28	I	29	I	30–31
	00	0-2	3-4	9-9	7–9	10-12	13–15	16-17	18-20	21–23	24-25	26–27	28-29	30-31	32	33	34	35-36	37	38-40
	AC	0-2	3-4	2-7	8-11	12–14	15–17	18-21	22-25	26-28	29–32	33–36	37-40	41-44	45-48	49-52	53-57	58-61	62-64	65–72
	VC	0-3	4-5	8-9	9-10	11–13	14-16	17–19	20-21	22–24	25–26	27–28	29-30	31–32	33-34	35	36-37	38	39-40	41–43
2:7	0A	8-0	9-11	12-14	15-17	18-19	20-21	22–23	24-25	26-28	29-30	31–32	33	34	35	36	37	I	38	ı
Ages 6:4–6:7	72	0-4	2	9	7	8	6	ı	10	1	12	13	I	14	I	15	16	I	17	18–20
Ā	CA	6-0	10-12	13-15	16-20	21–24	25–28	29–32	33-37	38-41	42-44	45-48	49-52	53-55	26-59	60-62	63-65	89-99	02-69	71–96
	PC	0-3	4	9-9	7–8	9 - 10	11–12	13	14	15	16-17	18	19	20	21	22	I	23	24	25–27
	S	0-2	3–5	8-9	9–11	12-14	15–16	17–19	20-22	23–25	26–28	29–30	31–32	33	34	35	36	37	38	39–40
	PM	0-3	4 - 5	2-9	<b>∞</b>	9-10	Ξ	12-13	14	15-16	17–18	19	20-21	22–23	24	25–26	27–28	29–30	31	32–35
	BS	9-0	7-9	10-12	13-16	17–20	21–24	25-27	28-31	32–35	36-38	39-41	42-44	45-47	48-50	51–52	53-54	55-56	22	28–66
	MR	0-2	က	4-5	2-9	8-9	10-11	12	13-14	15	16-17	18	19	20-21	22	23	24	I	25	26
	Z	0-13	14	15	16	17	18	19	20	21	22		24	25	26	I	27	I	28	29
	BD	0-11	12	13-14	15	16-17	92	19-20	21	22–23	24	25–26	27	28	29	30	31	32	33	34
	Scaled Score	-	2	က	4	2	9	7	00	6	10	11	12	13	14	15	16	17	18	19



 Table A.1
 Scaled Score Equivalents of Total Raw Scores for Subtests, by Age Group (continued)

# Ages 6:8–6:11

Scaled																		Scaled
Score	BD	≥	MR	BS	PM	SI	PC	CA	72	0A	ΛC	AC	00	RV	PN	CAR	CAS	Score
-	0-11	0-14	0-3	8-0	0-4	0-2	0-4	0-11	0-4	6-0	0-4	0-3	0-3	<i>L</i> -0	0-5	0-3	0-2	1
2	12-13	15	4	9-11	2	3–5	2	12-14	2	10-11	9-6	4-5	4-5	8—8	<i>L</i> -9	4-5	3–5	2
က	14	16	2-6	12-14	L-9	8-9	2-9	15-17	9	12-14	7-9	8-9	8-9	10-13	8-9	L-9	2-9	က
4	15-16	17	7-8	15-18	œ	9–12	8-9	18-21	7	15-17	10-11	9-12	9–11	14-15	10-12	8-9	8-10	4
5	17	18	9-10	19–22	9-10	13-15	10-11	22-25	œ	18-19	12-14	13-16	12-14	16-17	13	10-11	11–12	5
9	18–19	19	11–12	23-26	11–12	16–17	12–13	26–30	6	20-22	15–17	17–19	15–17	18	14	12–13	13–15	9
7	20	20	13	27–29	13	18-20	14	31–34	ı	23-24	18-20	20-23	18-19	19-20	15	14-15	16-17	7
œ	21–22	21	14-15	30 - 33	14-15	21–23	15	35-38	10	25-26	21–23	24-27	20-22	21	16-17	16-17	18-19	œ
6	23	22	16	34-37	16-17	24-26	16	39-42	Ξ	27-28	24-26	28-31	23-25	22–23	18	18-19	20-22	6
10	24-25	23	17–18	38-41	18–19	27–28	17	43-46	12	29-30	27–28	32–35	26–27	24-25	19	20–21	23–24	10
=	26-27	24	19	42-44	20	29–30	18	47-50	13	31–32	29–30	36–39	28–29	26	20	22–23	25–26	11
12	28	25	20	45-47	21–22	31–32	19	51-54	I	33	31–32	40-43	30	27	I	24-25	27–28	12
13	29	26	21	48-50	23–24	33	20	55-57	14	34	33	44-47	31	ı	21	26–27	29–30	13
14	30	I	22	51-52	25-26	34	21	28-60	15	32	34	48-51	32	28	ı	28-30	31–32	14
15	31	27	23	53-54	27	35	22	61-63	I	36	35–36	52-55	33	I	22	31–32	33–34	15
16	32	I	24	55-56	28–29	36	ı	64-66	16	37	37–38	26-59	34	29	I	33-34	35-36	16
11	33	28	I	22	30-31	37	23	69-19	17	I	39	60-63	35-36	1	23	35	37	17
8	34	I	25	58-59	32–33	38	24	70-71	I	38	40	64-66	37	30	I	36-37	38-39	18
19	I	29	26	99-09	34-35	39-40	25–27	72–96	18–20	Ι	41–43	67–72	38-40	31	24	38-48	40-48	19







Scaled Score Equivalents of Total Raw Scores for Subtests, by Age Group (continued) Table A.1

7:3
es 7:0-
Age

								2.		2								
Scaled Score	BD	2	MR	BS	PM	SI	PC	CA	72	0.4	λC	AC	00	RV	PN	CAR	CAS	Scaled Score
-	0-12	0-15	0-4	0-10	0-5	0-2	0-2	0-12	0-4	0-10	0-5	0-4	0-4	8-0	9-0	0-3	0-3	-
2	13-14	16	2	11–13	9	3–5	L-9	13-15	2	11–13	2-9	2-6	2-6	9-10	7-8	4-5	4-5	2
က	15	17	<i>L</i> -9	14-16	7-8	6-9	œ	16–18	9	14-15	8-10	7-9	7-9	11–13	9-10	2-9	8-9	က
4	16	18	8-9	17–20	6	10-13	9-10	19-22	7	16–18	11–12	10-13	10-12	14-16	11–13	8-9	9–11	4
.c	17–18	19	10-11	21–23	10-11	14-15	11–12	23-26	8	19-21	13-15	14-17	13-15	17	14	10-11	12-13	2
9	19	20	12–13	24-27	12	16–18	13	27–31	6	22–23	16–18	18-21	16–18	18	15	12-14	14-15	9
7	20-21	21	14	28-31	13-14	19–21	14	32-35	10	24-25	19-21	22-25	19-20	19-20	16	15-16	16–18	7
<b>∞</b>	22–23	22	15-16	32–35	15-16	22–24	15-16	36-39	11	26-27	22–24	26-29	21–23	21–22	17	17–18	19-20	œ
6	24	I	17	36-39	17–18	25-27	17	40-44	12	28-29	25-27	30-33	24-26	23	18	19-20	21–22	6
10	25–26	23	18–19	40-42	19	28-29	18	45-48	ı	30–31	28-29	34-37	27–28	24-25	19	21–22	23–25	10
Ξ	27–28	24	20	43-45	20–21	30–31	19	49-51	13	32	30-31	38-41	29-30	26	20	23–24	26-27	11
12	29	25	21	46-48	22–23	32	20	52-55	I	33	32–33	42-45	31	27	I	25–26	28-29	12
13	30	26	22	49-51	24-25	33	21	26-59	14	34	34	46-50	32	28	21	27–28	30-31	13
14	31	I	23	52-53	26-27	34	22	60-62	15	35	35	51-54	33	I	22	29-30	32–33	14
15	32	27	ı	54-55	28	35	I	63-65	I	36	36	25-58	34	29	I	31–32	34-35	15
16	I	I	24	26-57	29–30	36	23	89-99	16	37	37–38	59–61	35	I	23	33-34	36–37	16
11	33	28	I	58-59	31–32	37	I	02-69	17	I	39	62-65	36	30	I	35-36	38	17
8	34	I	25	09	33-34	38	24	71–72	I	38	40	89-99	37	I	24	37–38	39-40	18
19	I	29	26	61-66	35	39-40	25–27	73-96	18-20	I	41-43	69-72	38-40	31	ı	39-48	41–48	19



Scaled Score Equivalents of Total Raw Scores for Subtests, by Age Group (continued) Table A.1

### Ages 7:4–7:7

Scaled																		Scaled
Score	BD	Z	MR	BS	PM	SI	PC	CA	Zľ	0A	VC	AC	CO	RV	PN	CAR	CAS	Score
1	0-13	0-15	0-2	0-11	0-5	0-3	9-0	0-13	0-4	0-13	9-0	0-4	0-5	8-0	<i>L</i> -0	0-3	0-3	-
2	14	16	9	12-14	9	4-6	7–8	14–16	2	14-15	7–8	9-9	<b>L</b> -9	9-10	8-9	4-5	4-6	2
က	15-16	17	7-8	15-17	7–8	7–10	6	17–19	9	16-17	9-10	7-9	8-10	11–13	10-11	<b>2</b> -9	7–9	က
4	17	18	6	18-21	6	11–13	10-11	20-24	7	18-20	11–13	10-13	11–13	14-16	12–13	8-9	10-11	4
5	18-19	19	10-11	22-24	10-11	14-15	12	25-28	œ	21–22	14-16	14-18	14-16	17	14	10-12	12-14	5
9	20	20	12–13	25–28	12–13	16–18	13	29–32	6	23-24	17–19	19–22	17–19	18–19	15	13–14	15–16	9
7	21–22	21	14-15	29-32	14-15	19–21	14-15	33-36	10	25-26	20-22	23-27	20-21	20	16	15-16	17–18	7
00	23	22	16	33-36	16	22-25	16	37-40	11	27–28	23-25	28-31	22–24	21–22	17	17–18	19-21	<b>∞</b>
6	24-25	I	17–18	37-40	17–18	26-28	17	41-45	12	29-30	26-28	32-35	25-26	23-24	18	19-21	22–23	6
10	26-27	23	19	41-43	19–20	29–30	18	46-49	13	31	29–30	36-40	27–28	25	19	22–23	24-25	10
11	28	24	20	44-46	21–22	31–32	19	50-53	I	32	31–32	41-44	29-30	26	20	24-25	26-28	11
12	29	25	21	47-49	23–24	33	20	54-57	14	33	33-34	45-48	31	27	I	26–27	29–30	12
13	30	26	22	50-52	25–26	34	21	28-60	I	34	32	49-53	32	28	21	28–29	31–32	13
14	31	I	23	53-54	27–28	35	22	61–63	15	35	36	54-57	33	I	22	30-31	33-34	14
15	32	27	I	55-56	29	36	I	64-66	16	36	37	28-60	34	29	I	32–33	35-36	15
16	I	ı	24	57-58	30-31	37	23	69-29	I	37	38	61-64	35	I	23	34	37–38	16
17	33	28	I	29 - 60	32–33	I	I	70-71	17	I	39	65-67	36	30	I	35-36	39	17
18	34	I	25	61	34	38	24	72–73	18	38	40	02-89	37	I	24	37–38	40-41	18
19	ı	29	26	62–66	35	39–40	25–27	74–96	19–20	ı	41–43	71–72	38-40	31	ı	39–48	42–48	19







Table A.2 VCI Equivalents of Sums of Scaled Scores for Ages 2:6–3:11

**Table A.3** VSI Equivalents of Sums of Scaled Scores for Ages 2:6–3:11

Sum of Scaled		Percentile		dence rval	Sum of Scaled		Percentile		dence rval
Scores	VCI	Rank	90%	95%	Scores	VSI	Rank	90%	95%
2	45	<0.1	43-54	42-55	2	45	<0.1	44-58	42-60
3	50	< 0.1	47-59	46-60	3	50	<0.1	48-63	47-64
4	54	0.1	51-62	50-64	4	54	0.1	52-66	50-68
5	58	0.3	55-66	54-67	5	58	0.3	55-70	54-71
6	61	0.5	58-69	57–70	6	61	0.5	58-73	57-74
7	65	1	61–73	60-74	7	64	1	61–75	59-77
8	68	2	64-76	63-77	8	67	1	63-78	62-79
9	71	3	67–78	66-80	9	70	2	66-81	65-82
10	74	4	70-81	69-82	10	73	4	69-83	67-85
11	76	5	72-83	71–84	11	75	5	70-85	69-86
12	79	8	75-86	73-87	12	78	7	73-88	72-89
13	82	12	77-89	76-90	13	80	9	75-89	74-91
14	84	14	79-91	78-92	14	83	13	78-92	76-94
15	87	19	82-93	81-95	15	86	18	80-95	79-96
16	89	23	84-95	83-96	16	89	23	83-97	82-99
17	92	30	87–98	86-99	17	91	27	85-99	83-101
18	95	37	90-101	89-102	18	94	34	87–102	86-103
19	98	45	92-104	91–105	19	97	42	90-105	89-106
20	100	50	94-106	93-107	20	100	50	93-107	91–109
21	103	58	97–108	96-110	21	103	58	95–110	94–111
22	106	66	100-111	99–112	22	106	66	98-113	97-114
23	109	73	103-114	102-115	23	109	73	101–115	99-117
24	111	77	105–116	104-117	24	112	79	103-118	102-119
25	114	82	107–119	106-120	25	115	84	106-121	105-122
26	117	87	110-122	109–123	26	118	88	109-123	107–125
27	120	91	113-124	112–126	27	121	92	111-126	110-127
28	123	94	116-127	115–128	28	124	95	114-129	113-130
29	126	96	119–130	118–131	29	127	96	117–131	115-133
30	129	97	122–133	120-134	30	129	97	119–133	117–134
31	132	98	124-136	123–137	31	132	98	121–136	120-137
32	135	99	127–139	126-140	32	135	99	124-138	122-140
33	138	99	130–141	129–142	33	138	99	127-141	125-142
34	141	99.7	133–144	132–145	34	141	99.7	129-144	128-145
35	144	99.8	136–147	135–148	35	145	99.9	133–147	131–149
36	147	99.9	139–150	137–151	36	148	99.9	135-150	134–151
37	151	>99.9	142–154	141–155	37	151	>99.9	138-153	137–154
38	155	>99.9	146–157	145–158	38	155	>99.9	142–156	140-158







**Table A.4** WMI Equivalents of Sums of Scaled Scores for Ages 2:6–3:11

Sum of Scaled		Percentile		dence rval
Scores	WMI	Rank	90%	95%
2	45	<0.1	43-57	42-58
3	50	<0.1	48-61	46-63
4	54	0.1	51-65	50-66
5	58	0.3	55-68	54-70
6	61	0.5	58-71	56-73
7	64	1	61-74	59-75
8	67	1	63-77	62-78
9	70	2	66-79	65-81
10	72	3	68-81	66-83
11	74	4	70-83	68-84
12	76	5	71–85	70-86
13	79	8	74-88	73-89
14	82	12	77-90	76-92
15	84	14	79-92	77-93
16	87	19	81-95	80-96
17	90	25	84-98	83-99
18	94	34	88-101	87-103
19	97	42	91-104	89-105
20	100	50	93-107	92-108
21	103	58	96-109	95-111
22	107	68	100-113	98-114
23	110	75	102-116	101-117
24	113	81	105-119	104-120
25	116	86	108-121	107-123
26	118	88	110-123	108-124
27	121	92	112-126	111–127
28	124	95	115-129	114-130
29	126	96	117-130	116-132
30	129	97	120-133	118-134
31	131	98	121–135	120-136
32	134	99	124-138	123-139
33	137	99	127-140	126-142
34	140	99.6	130-143	128-144
35	143	99.8	132-146	131–147
36	146	99.9	135-149	134-150
37	150	>99.9	139-152	137–154
38	155	>99.9	143–157	142–158







 Table A.5
 FSIQ Equivalents of Sums of Scaled Scores for Ages 2:6–3:11

Sum of Scaled		Percentile		dence rval	Sum of Scaled		Percentile		dence rval
Scores	FS10	Rank	90%	95%	Scores	FSIQ	Rank	90%	95%
5	40	<0.1	38-47	37–48	36	82	12	78-87	77–88
6	42	<0.1	40-49	39-50	37	84	14	80-89	79-90
7	44	<0.1	42-51	41-52	38	85	16	81-90	80-91
8	46	<0.1	43-53	43-54	39	86	18	82-91	81-92
9	47	<0.1	44-54	43-55	40	87	19	83-92	82-93
10	49	<0.1	46-56	45-57	41	89	23	85-94	84-95
11	51	0.1	48-58	47-59	42	90	25	86-95	85-96
12	52	0.1	49-59	48-60	43	91	27	87-96	86-97
13	54	0.1	51-61	50-61	44	93	32	89-98	88-99
14	55	0.1	52-62	51-62	45	94	34	90-99	89-100
15	56	0.2	53-62	52-63	46	96	39	91–101	91–102
16	58	0.3	55-64	54-65	47	97	42	92-102	91–103
17	59	0.3	56-65	55-66	48	98	45	93-103	92-104
18	60	0.4	57-66	56-67	49	99	47	94-104	93-105
19	61	0.5	58-67	57-68	50	100	50	95-105	94-106
20	63	1	60-69	59-70	51	102	55	97–107	96-108
21	64	1	61–70	60-71	52	103	58	98-108	97-109
22	65	1	62-71	61–72	53	105	63	100-110	99-110
23	66	1	63-72	62-73	54	106	66	101-110	100-111
24	67	1	64-73	63-74	55	108	70	103-112	102-113
25	68	2	65-74	64-75	56	109	73	104-113	103-114
26	69	2	66-75	65-76	57	110	75	105-114	104-115
27	71	3	67–77	67–78	58	112	79	107-116	106-117
28	72	3	68-78	67–79	59	113	81	108-117	107–118
29	73	4	69-79	68-80	60	114	82	109-118	108-119
30	75	5	71–81	70-82	61	116	86	111–120	110-121
31	76	5	72-82	71–83	62	117	87	112-121	111–122
32	77	6	73-83	72-84	63	118	88	113-122	112-123
33	79	8	75-85	74-85	64	119	90	114-123	113-124
34	80	9	76-86	75-86	65	121	92	115-125	115-126
35	81	10	77–86	76–87	66	122	93	116–126	115–127







 Table A.5
 FSIQ Equivalents of Sums of Scaled Scores for Ages 2:6–3:11 (continued)

Sum of Scaled		Percentile		dence rval
Scores	FSIQ	Rank	90%	95%
67	124	95	118–128	117–129
68	125	95	119–129	118-130
69	127	96	121–131	120-132
70	128	97	122-132	121–133
71	130	98	124-134	123-134
72	131	98	125–134	124-135
73	133	99	127-136	126-137
74	134	99	128-137	127-138
75	136	99	130-139	129-140
76	137	99	131–140	130-141
77	138	99	132–141	131–142
78	140	99.6	134-143	133-144
79	141	99.7	135–144	134-145
80	142	99.7	136-145	135-146
81	144	99.8	138-147	137–148
82	145	99.9	138–148	138–149
83	146	99.9	139–149	139-150
84	147	99.9	140-150	139–151
85	149	99.9	142-152	141–153
86	150	>99.9	143-153	142-154
87	151	>99.9	144-154	143-155
88	152	>99.9	145–155	144-156
89	154	>99.9	147–157	146-157
90	155	>99.9	148-158	147-158
91	156	>99.9	149–158	148-159
92	157	>99.9	150-159	149-160
93	158	>99.9	151-160	150-161
94	160	>99.9	153-162	152-163
95	160	>99.9	153–162	152–163







**Table A.6** VCI Equivalents of Sums of Scaled Scores for Ages 4:0–7:7

**Table A.7** VSI Equivalents of Sums of Scaled Scores for Ages 4:0–7:7

Sum of Scaled		Percentile		dence rval	Sum Scal			Percentile		dence erval
Scores	VCI	Rank	90%	95%	Sco		VSI	Rank	90%	95%
2	45	<0.1	43-54	42-55	2		45	<0.1	44-58	42-60
3	53	0.1	50-61	49-63	3		50	<0.1	48-63	47-64
4	59	0.3	56-67	55-68	4		54	0.1	52-66	50-68
5	63	1	60-71	58-72	5		58	0.3	55-70	54-71
6	66	1	62-74	61-75	6		61	0.5	58-73	57-74
7	69	2	65–77	64-78	7		64	1	61–75	59-77
8	71	3	67–78	66-80	8		67	1	63-78	62-79
9	73	4	69-80	68-81	9		70	2	66-81	65-82
10	75	5	71-82	70-83	10	)	73	4	69-83	67-85
11	77	6	73-84	72–85	11		75	5	70-85	69-86
12	79	8	75-86	73-87	12	2	78	7	73-88	72-89
13	81	10	76-88	75-89	13	}	80	9	75-89	74-91
14	83	13	78-90	77–91	14	ļ	83	13	78-92	76-94
15	85	16	80-92	79-93	15	i	86	18	80-95	79-96
16	88	21	83-94	82–95	16	i	89	23	83-97	82-99
17	90	25	85-96	84-97	17	,	91	27	85-99	83-101
18	93	32	88-99	87–100	18	}	94	34	87–102	86-103
19	96	39	91–102	89-103	19	)	97	42	90-105	89-106
20	99	47	93-105	92-106	20	)	100	50	93-107	91–109
21	102	55	96–108	95–109	21		103	58	95–110	94–111
22	105	63	99-110	98-111	22	2	106	66	98-113	97–114
23	108	70	102-113	101-114	23	}	109	73	101-115	99–117
24	111	77	105-116	104-117	24	ļ	112	79	103-118	102-119
25	114	82	107-119	106-120	25	i	115	84	106-121	105-122
26	117	87	110-122	109–123	26	i	118	88	109–123	107–125
27	120	91	113-124	112-126	27	'	121	92	111–126	110-127
28	123	94	116-127	115–128	28	3	124	95	114-129	113-130
29	126	96	119–130	118–131	29	)	127	96	117–131	115–133
30	129	97	122–133	120-134	30	)	129	97	119–133	117–134
31	132	98	124-136	123–137	31		132	98	121–136	120-137
32	135	99	127–139	126-140	32		135	99	124-138	122-140
33	137	99	129-140	128-142	33		138	99	127–141	125-142
34	140	99.6	132–143	131–144	34		141	99.7	129-144	128-145
35	143	99.8	135–146	134–147	35		145	99.9	133–147	131–149
36	146	99.9	138–149	136–150	36		148	99.9	135–150	134–151
37	150	>99.9	141–153	140-154	37		151	>99.9	138–153	137–154
38	155	>99.9	146–157	145–158	38	}	155	>99.9	142–156	140–158







**Table A.8** FRI Equivalents of Sums of Scaled Scores for Ages 4:0–7:7

Sum of				dence rval
Scaled Scores	FRI	Percentile Rank	90%	95%
2	45	<0.1	43-55	42-56
3	51	0.1	48-60	47-62
4	55	0.1	52-64	51-65
5	59	0.3	56-68	55-69
6	62	1	59-71	57-72
7	65	1	61–74	60-75
8	67	1	63-75	62-77
9	69	2	65-77	64-78
10	72	3	68-80	67-81
11	74	4	70-82	69-83
12	77	6	73-85	71–86
13	79	8	74-87	73-88
14	82	12	77-89	76-90
15	85	16	80-92	79-93
16	88	21	83-95	82-96
17	91	27	86-98	84-99
18	94	34	88-100	87-102
19	97	42	91-103	90-104
20	100	50	94-106	93-107
21	103	58	97-109	96-110
22	106	66	100-112	98-113
23	109	73	102-114	101-116
24	111	77	104-116	103-117
25	114	82	107-119	106-120
26	117	87	110-122	109-123
27	121	92	113-126	112-127
28	124	95	116-128	115-130
29	127	96	119–131	118-132
30	130	98	122-134	121–135
31	133	99	125-137	123-138
32	136	99	127-140	126-141
33	139	99.5	130-142	129-144
34	142	99.7	133–145	132-146
35	145	99.9	136-148	135–149
36	148	99.9	139–151	137–152
37	151	>99.9	141–153	140-155
38	155	>99.9	145–157	144–158







**Table A.9** WMI Equivalents of Sums of Scaled Scores for Ages 4:0–7:7

Sum of Scaled		Percentile		dence rval
Scores	WMI	Rank	90%	95%
2	45	<0.1	43-57	42-58
3	50	<0.1	48-61	46-63
4	54	0.1	51-65	50-66
5	58	0.3	55-68	54-70
6	61	0.5	58-71	56-73
7	64	1	61–74	59-75
8	67	1	63-77	62-78
9	70	2	66-79	65-81
10	72	3	68-81	66-83
11	74	4	70-83	68-84
12	76	5	71–85	70-86
13	79	8	74-88	73-89
14	82	12	77-90	76-92
15	84	14	79-92	77-93
16	87	19	81-95	80-96
17	90	25	84-98	83-99
18	94	34	88-101	87-103
19	97	42	91-104	89-105
20	100	50	93-107	92-108
21	103	58	96-109	95-111
22	107	68	100-113	98-114
23	110	75	102-116	101-117
24	113	81	105-119	104-120
25	116	86	108-121	107-123
26	118	88	110-123	108-124
27	121	92	112-126	111–127
28	124	95	115-129	114-130
29	126	96	117-130	116-132
30	129	97	120-133	118-134
31	131	98	121-135	120-136
32	134	99	124-138	123-139
33	137	99	127-140	126-142
34	140	99.6	130-143	128-144
35	143	99.8	132-146	131-147
36	146	99.9	135-149	134-150
37	150	>99.9	139-152	137–154
38	155	>99.9	143-157	142–158







**Table A.10** PSI Equivalents of Sums of Scaled Scores for Ages 4:0–7:7

Sum of Scaled		Percentile		dence rval
Scores	PSI	Rank	90%	95%
2	45	<0.1	45-61	43-62
3	52	0.1	51-67	49-68
4	57	0.2	55-71	54-72
5	61	0.5	59-74	57-76
6	64	1	61-77	60-79
7	66	1	63-79	61-80
8	68	2	65-80	63-82
9	71	3	67-83	66-85
10	73	4	69-85	67-86
11	75	5	71-86	69-88
12	77	6	72-88	71–90
13	79	8	74-90	72-91
14	83	13	77-93	76-95
15	86	18	80-96	78-97
16	89	23	83-98	81-100
17	91	27	84-100	83-102
18	94	34	87-103	85-104
19	97	42	90-105	88-107
20	100	50	92-108	91-109
21	103	58	95-110	93-112
22	106	66	97–113	96-115
23	109	73	100-116	98-117
24	112	79	102-118	101-120
25	115	84	105-121	103-122
26	117	87	107-123	105-124
27	121	92	110-126	109-128
28	124	95	113-129	111-130
29	127	96	115-131	114-133
30	130	98	118-134	116-135
31	133	99	120-136	119–138
32	136	99	123-139	121-140
33	139	99.5	126-141	124-143
34	142	99.7	128-144	127-146
35	145	99.9	131-147	129-148
36	148	99.9	133-149	132-151
37	151	>99.9	136-152	134-153
38	155	>99.9	139–155	138–157







 Table A.11
 FSIQ Equivalents of Sums of Scaled Scores for Ages 4:0–7:7

Sum of Scaled		Percentile		dence rval	Sum of Scaled		Percentile		dence rval
Scores	FSIQ.	Rank	90%	95%	Scores	FSIQ	Rank	90%	95%
6	40	<0.1	38-47	37–48	46	82	12	78-87	77–88
7	42	<0.1	40-49	39-50	47	83	13	79-88	78-89
8	44	<0.1	42-51	41-52	48	85	16	81-90	80-91
9	46	<0.1	43-53	43-54	49	86	18	82-91	81-92
10	48	<0.1	45-55	44-56	50	87	19	83-92	82-93
11	50	<0.1	47-57	46-58	51	89	23	85-94	84-95
12	51	0.1	48-58	47-59	52	90	25	86-95	85-96
13	52	0.1	49-59	48-60	53	91	27	87-96	86-97
14	53	0.1	50-60	49-61	54	93	32	89-98	88-99
15	55	0.1	52-62	51-62	55	94	34	90-99	89–100
16	56	0.2	53-62	52-63	56	96	39	91–101	91–102
17	57	0.2	54-63	53-64	57	97	42	92-102	91–103
18	58	0.3	55-64	54-65	58	98	45	93-103	92-104
19	59	0.3	56-65	55-66	59	99	47	94-104	93-105
20	60	0.4	57-66	56-67	60	100	50	95–105	94-106
21	61	0.5	58-67	57-68	61	101	53	96-106	95-107
22	62	1	59-68	58-69	62	102	55	97–107	96-108
23	63	1	60-69	59-70	63	103	58	98-108	97-109
24	64	1	61–70	60-71	64	104	61	99-109	98-109
25	65	1	62–71	61–72	65	105	63	100-110	99–110
26	66	1	63-72	62-73	66	107	68	102-111	101-112
27	67	1	64-73	63-74	67	108	70	103-112	102-113
28	68	2	65-74	64-75	68	110	75	105-114	104-115
29	69	2	66-75	65-76	69	111	77	106-115	105-116
30	69	2	66–75	65–76	70	112	79	107–116	106-117
31	70	2	66-76	66-77	71	113	81	108-117	107–118
32	71	3	67–77	67–78	72	114	82	109-118	108-119
33	72	3	68-78	67–79	73	115	84	110-119	109-120
34	73	4	69-79	68-80	74	117	87	112-121	111–122
35	73	4	69-79	68-80	75	118	88	113-122	112–123
36	74	4	70-80	69-81	76	120	91	114-124	114-125
37	75	5	71–81	70-82	77	121	92	115–125	115–126
38	76	5	72-82	71–83	78	122	93	116-126	115-127
39	76	5	72-82	71–83	79	123	94	117–127	
40	77	6	73–83	72–84	80	124	95		117–129
41	78	7	74-84	73-85	81	125	95	119–129	
42	79	8	75–85	74-85	82	126	96	120-130	119–131
43	79	8	75-85	74-85	83	127	96		120-132
44	80	9	76-86	75-86	84	128	97		121–133
45	81	10	77-86	76-87	85	129	97	123-133	122-133







Table A.11 FSIQ Equivalents of Sums of Scaled Scores for Ages 4:0–7:7 (continued)

Sum of Scaled		Percentile		dence rval
Scores	FSIQ.	Rank	90%	95%
86	130	98	124-134	123-134
87	131	98	125-134	124-135
88	132	98	126-135	125-136
89	133	99	127-136	126-137
90	134	99	128-137	127-138
91	135	99	129-138	128-139
92	136	99	130-139	129-140
93	137	99	131-140	130-141
94	138	99	132-141	131-142
95	139	99.5	133-142	132-143
96	140	99.6	134-143	133-144
97	141	99.7	135-144	134-145
98	142	99.7	136-145	135-146
99	143	99.8	137-146	136-147
100	144	99.8	138-147	137-148
101	145	99.9	138-148	138-149
102	146	99.9	139-149	139-150
103	147	99.9	140-150	139-151
104	148	99.9	141-151	140-152
105	149	99.9	142-152	141–153
106	150	>99.9	143-153	142-154
107	151	>99.9	144-154	143-155
108	153	>99.9	146-156	145-157
109	154	>99.9	147–157	146-157
110	155	>99.9	148-158	147–158
111	156	>99.9	149-158	148-159
112	158	>99.9	151-160	150-161
113	159	>99.9	152-161	151-162
114	160	>99.9	153–162	152–163







 Table A.12
 Prorated Sums of Scaled Scores for Deriving the FSIQ, by Age Band

#### Ages 2:6-3:11

	Ages 2	2:6–3:11	
Sum of 4 Scaled Scores	Prorated Sum of Scaled Scores <sup>a</sup>	Sum of 4 Scaled Scores	Prorated Sum of Scaled Scores <sup>a</sup>
4	5	45	56
5	6	46	58
6	8	47	59
7	9	48	60
8	10	49	61
9	11	50	63
10	13	51	64
11	14	52	65
12	15	53	66
13	16	54	68
14	18	55	69
15	19	56	70
16	20	57	71
17	21	58	73
18	23	59	74
19	24	60	75
20	25	61	76
21	26	62	78
22	28	63	79
23	29	64	80
24	30	65	81
25	31	66	83
26	33	67	84
27	34	68	85
28	35	69	86
29	36	70	88
30	38	71	89
31	39	72	90
32	40	73	91
33	41	74	93
34	43	75	94
35	44	76	95
36	45		
37	46		
38	48		
39	49		
40	50		
41	51		
42	53		
43	54		
44	55		

 $<sup>^{\</sup>rm a}$  Prorated sums of scaled scores were calculated by multiplying the sums of scaled scores for 4 subtests by  $^{5}\!\!/_{\!\!4}.$ 







Table A.12 Prorated Sums of Scaled Scores for Deriving the FSIQ, by Age Band (continued)

Ages 4:0-7:7

		Ages 4	1:0-7:7		
	Prorated Sum		Prorated Sum		Prorated Sum
Sum of 5	of Scaled	Sum of 5	of Scaled	Sum of 5	of Scaled
<b>Scaled Scores</b>	Scores <sup>b</sup>	<b>Scaled Scores</b>	Scores <sup>b</sup>	Scaled Scores	Scores <sup>b</sup>
5	6	46	55	87	104
6	7	47	56	88	106
7	8	48	58	89	107
8	10	49	59	90	108
9	11	50	60	91	109
10	12	51	61	92	110
11	13	52	62	93	112
12	14	53	64	94	113
13	16	54	65	95	114
14	17	55	66		
15	18	56	67		
16	19	57	68		
17	20	58	70		
18	22	59	71		
19	23	60	72		
20	24	61	73		
21	25	62	74		
22	26	63	76		
23	28	64	77		
24	29	65	78		
25	30	66	79		
26	31	67	80		
27	32	68	82		
28	34	69	83		
29	35	70	84		
30	36	71	85		
31	37	72	86		
32	38	73	88		
33	40	74	89		
34	41	75	90		
35	42	76	91		
36	43	77	92		
37	44	78	94		
38	46	79	95		
39	47	80	96		
40	48	81	97		
41	49	82	98		
42	50	83	100		
43	52	84	101		
44	53	85	102		
45	54	86	103		

<sup>&</sup>lt;sup>b</sup> Prorated sums of scaled scores were calculated by multiplying the sums of scaled scores for 5 subtests by %.







 Table A.13
 Age Equivalents of Total Raw Scores

	,																	
V								Subtest	Subtest/Process Score	s Score								٨
Age Equivalent	BD	Z	MR	BS	PM	S	PC	cy	77	0A	VC	AC	00	RV	PN	CAR	CAS	Age Equivalent
<2:6	8-0	0-5			0-3				0-4	0-2				7-0	9-0			<2:6
5:6																		5:6
2:7	6	9			4					က				8	7			2:7
2:8		7												6				2:8
2:9	10				2				2	4								2:9
2:10		80								5				10	80			2:10
2:11	1	6																2:11
3:0					9										6			3:0
3:1	12	10							9	9				1				3:1
3:2										7								3:2
3:3					7										10			3:3
3:4	13	=							7	œ				12				3:4
3:5		12												13				3:5
3:6	14				8					6					11			3:6
3:7		13												14				3:7
3:8		14			6					10								3:8
3:9	15								8	Ξ								3:9
3:10		15			10					12				15	12			3:10
3:11										13								3:11

0158984935 Book.indb 296

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 Table A.13
 Age Equivalents of Total Raw Scores (continued)

Age								Subtest	/Proces	Subtest/Process Score								Age
Equivalent	BD	2	MR	BS	PM	SI	PC	CA	77	0A	ΛC	AC	00	R	PN	CAR	CAS	Equivalent
<4:0			8-0	0-15		0-10	2-0	0-22			0-11	6-0	2-0			0-10	0-11	<4:0
4:0	16	16																4:0
4:1				16		1	8	23		14	12	10	8	16	13	11	12	4:1
4:2						12-13		24		15		1	6			12		4:2
4:3	17	17	6	17	1	14		25	6		13	12		17			13	4:3
4:4				18		15	6	26		16		13	10			13		4:4
4:5								27		17		14	1					4:5
4:6	18	18	10	19	12	16		28		18	14	15		18	14	14	14	4:6
4:7				20		17		29				16	12					4:7
4:8										19	15		13				15	4:8
4:9				21		18		30				17		19	15	15		4:9
4:10	19	19		22		19	10	31		20	16	18	14				16	4:10
4:11			11					32		21								4:11
2:0				23	13	20		33		22	17	19	15	20		16	17	2:0
5:1	20	20		24			Ξ		10			20	16					5:1
5:2				25				34		23	18							5:2
5:3			12		14	21		35				21	17		16	17	18	5:3
5:4				26		22	12			24	19	22	18	21				5:4
5:5				27				36										5:2
9:9	21		13	28	15	23		37		25	20	23	19				19	9:6
5:7		21					13					24				18		5:7
5:8				29				38		26	21		20					2:8
5:9			14	30		24		39	1	27		25			17		20	5:9
5:10	22			31			14				22	26	21	22				5:10
5:11				32				40										5:11

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Table A.13 Age Equivalents of Total Raw Scores (continued)

Age								Subtest/Process Score	/Proces	s Score								Age
Equivalent	BD	2	MR	BS	PM	SI	S	CA	717	0A	ΛC	AC	00	S.	PN	CAR	CAS	Equivalent
0:9			15	33	16	25	15			28	23	27	22				21	0:9
6:1								41										6:1
6:2	23			34							24	28	23	23	18	19		6:2
6:3				35		26												6:3
6:4		22	16		17		16	42		29	25	29	24				22	6:4
6:5												30						6:5
9:9				36		27		43				31				20		9:9
6:7				37							26		25					6:7
8:9	24		17	38	18		17	44	12			32					23	8:9
6:9																		6:9
6:10				39		28				30	27	33	26	24				6:10
6:11								45										6:11
7:0	25		18	40							28	34			19	21	24	7:0
7:1												35						7:1
7:2		23		41	19			46					27					7:2
7:3												36						7:3
7:4	56		19	42		29	18	47		31	29	37	28	25		22	25	7:4
7:5								48				38						7:5
9:2									13			39						9:2
1:1	27			43	20	30		49			30	40				23		1:1
T:L<	28-34	28-34 24-29	20-26	44 - 66	21–35	31-40 19-27	19–27	50 - 96	50-96 14-20	32-38	31-43	41–72	29-40 26-31	26-31	20-24	24-48	26-48	<i>L:L</i> <



0158984935 Book.indb 298 1/13/20 8:49 PM





#### **Critical Value and Base Rate Tables for Score Difference Comparisons**





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Critical Values for Statistically Significant Differences Between Each Primary Index Score and the Mean Primary Index Score or FSIQ, by Age Group and Age Band Table B.1

			•		,		,				
			Mean Primary	Mean Primary Index Score Comparisons	Comparisons			FS	FSIQ Comparisons	suc	
Age Group/	Significance										
Age Band	Level	VCI-MIS	VSI-MIS	FRI-MIS	WMI-MIS	PSI-MIS	VCI-FSI0	VSI-FSI0	FRI-FSI0	WMI-FSIQ	PSI-FSI0
2:6–2:11	10.	9.49	10.76		10.14		9.25	9.93		11.74	
	.05	7.74	8.77		8.27		7.54	8.10		9.57	
	.10	98.9	7.78		7.34		69.9	7.19		8.49	
	.15	6.31	7.16		6.75		6.16	6.61		7.81	
3:0-3:5	.01	9.37	12.08		10.04		9.70	10.89		12.00	
	.05	7.65	9.85		8.19		7.91	8.88		9.79	
	.10	6.78	8.74		7.27		7.02	7.88		8.69	
	.15	6.24	8.04		89.9		6.45	7.25		7.99	
3:6-3:11	.01	9.37	10.66		9.72		60'6	9.62		11.77	
	.05	7.65	8.69		7.93	_	7.42	7.85		9.60	
	.10	6.78	7.71		7.03		6.58	96.9		8.52	
	.15	6.24	7.09		6.47		6.05	6.40		7.83	
4:0-4:5	.01	10.31	13.07	12.04	14.04	14.91	9.95	13.09	12.74	15.08	15.29
	.05	8.58	10.87	10.02	11.67	12.40	8.28	10.89	10.60	12.54	12.71
	.10	7.74	9.81	9.04	10.54	11.20	7.47	9.83	9.57	11.32	11.48
	.15	7.21	9.14	8.42	9.81	10.42	96.9	9.15	8.91	10.54	10.68
4:6-4:11	.01	10.80	12.47	11.39	12.47	15.26	10.36	12.30	12.51	13.40	15.88
	.05	8.98	10.37	9.48	10.37	12.69	8.62	10.23	10.40	11.14	13.21
	.10	8.11	9.36	8.55	9.36	11.46	7.78	9.23	9.39	10.06	11.92
	.15	7.55	8.72	7.96	8.72	10.67	7.24	8.60	8.74	9.37	11.10
5:0-5:5	.01	10.72	12.40	10.72	12.40	14.77	10.22	12.78	11.59	13.45	15.22
	.05	8.92	10.31	8.92	10.31	12.28	8.50	10.63	9.64	11.19	12.66
	.10	8.05	9.31	8.05	9.31	11.09	7.67	9.60	8.70	10.10	11.43
	.15	7.49	8.67	7.49	8.67	10.32	7.14	8.93	8.10	9.40	10.64
5:6-5:11	.01	10.92	13.07	11.50	13.55	15.34	10.16	13.54	12.38	14.60	15.50
	.05	9.08	10.87	9.57	11.27	12.76	8.45	11.26	10.29	12.14	12.89
	.10	8.20	9.81	8.64	10.17	11.52	7.63	10.17	9.29	10.96	11.64
	.15	7.63	9.14	8.04	9.47	10.73	7.10	9.46	8.65	10.21	10.84
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*Note.* MIS = mean primary index score.



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Critical Values for Statistically Significant Differences Between Each Primary Index Score and the Mean Primary Index Score or FSIQ, by Age Group and Age Band (continued) Table B.1

			Mean Primary	r Index Score	Mean Primary Index Score Comparisons			FS	FSIQ Comparisons	su	
Age Group/ Age Band	Significance Level	VCI-MIS	VSI-MIS	FRI-MIS	WMI-MIS	PSI-MIS	VCI-FSIQ	VSI-FSIQ	FRI-FSIO	WMI-FSIO	PSI-FSI0
6:0-6:11	10.	10.92	14.48	12.57	11.51	14.91	10.25	14.88	13.43	12.71	14.94
	.05	9.08	12.05	10.46	9.57	12.40	8.53	12.37	11.17	10.57	12.43
	.10	8.20	10.87	9.44	8.64	11.20	7.70	11.17	10.08	9.54	11.22
	.15	7.63	10.12	8.79	8.04	10.42	7.17	10.40	9.39	8.88	10.45
7:1-0:1	.01	10.88	13.52	12.01	12.01	15.32	10.22	14.05	12.61	13.31	15.44
	.05	9.05	11.24	9.99	9.99	12.74	8.50	11.69	10.49	11.07	12.84
	.10	8.17	10.15	9.02	9.02	11.50	7.67	10.55	9.47	9.99	11.59
	.15	7.61	9.45	8.39	8.39	10.71	7.14	9.82	8.82	9.30	10.79
2:6-3:11	.01	9.42	11.19		9.97		9.35	10.19		11.80	
	.05	7.68	9.13		8.13		7.63	8.31		9.63	
	.10	6.81	8.10		7.21		6.77	7.37		8.54	
	.15	6.27	7.45		6.63		6.22	6.78		7.85	
4:0-7:7	.01	10.76	13.19	11.73	12.69	15.09	10.19	13.46	12.56	13.77	15.36
	.05	8.95	10.97	9.76	10.55	12.55	8.48	11.20	10.45	11.45	12.77
	.10	8.08	9.90	8.81	9.53	11.33	7.65	10.11	9.43	10.34	11.53
	.15	7.52	9.22	8.20	8.87	10.55	7.12	9.41	8.78	9.63	10.74

Note. MIS = mean primary index score.



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Differences Between Each Primary Index Score and the Mean Primary Index Score or the FSIQ Obtained by Various Base Rates of the Normative Sample, by Overall Sample and FSIQ Ability Level **Table B.2** 

		9	(D)						=		an	
		Base	Rate	25	9	2	7	_	Mean	SD	Median	
		PSI > FSIO	<del>(</del> +	9.0	16.0	20.0	24.0	28.0	9.9	7.0	9.0	
	PSI	PSI < FSI0	Î	8.0	17.0	23.0	28.5	32.5	11.1	8.1	9.0	
	Ь	PSI > MIS	ŧ	7.2	13.0	16.4	19.9	25.3	8.1	6.2	7.0	
		PSI < MIS	I	7.2	14.0	17.2	23.2	24.9	8.7	6.5	7.4	
		WMI > FSIQ	<del>(</del> +	8.0	15.0	20.0	24.0	27.0	9.6	8.9	8.0	
	WMI	WMI < FSIQ	I	7.0	15.0	20.0	24.0	27.0	9.6	7.2	8.0	
	M	WMI < MIS WMI > MIS WMI > FSIQ WMI > FSIQ	ŧ	9.9	12.3	15.0	18.6	20.8	9.7	5.4	6.7	
		WMI < MIS	Î	6.2	12.6	15.7	18.8	21.3	7.7	2.7	6.4	
•		RI > FSIO	+	7.0	13.0	16.0	20.0	23.0	8.3	5.8	7.0	
Sample	æ	FRI < FSIO	I	7.0	14.0	18.0	23.0	26.0	8.9	9.9	7.0	FSI0 ≤ 79
Overall Sample	ш	FRI > MIS	<del>(</del> +	0.9	11.7	14.9	18.0	19.5	7.0	5.2	6.0	FSIO
		RI < MIS	I	6.2	12.2	15.6	19.5	22.2	9.7	5.7	6.4	
		VSI > FSIO	ŧ	6.5	12.0	16.0	21.0	25.5	8.3	6.3	7.0	
	NSI	VSI < FSIQ	Î	7.0	13.0	16.0	20.0	22.0	8.1	5.6	7.0	
	>	VSI > MIS	÷	5.7	12.0	15.1	19.7	22.7	7.5	5.8	6.2	
		VSI < MIS	I	5.8	11.3	14.0	16.9	19.1	8.9	5.0	5.7	
		VCI > FSIQ	<del>(</del> +	5.0	11.0	13.0	16.0	18.0	6.9	4.8	0.9	
	VCI	VCI < FSIQ	I	5.0	10.5	13.0	17.0	19.0	8.9	5.0	0.9	
	>	VCI < MIS VCI > MIS VCI < FSIQ VCI > FSIQ	ŧ	0.9	11.4	14.9	18.3	21.2	7.1	5.4	0.9	
			Î	5.8	11.2	14.6	17.9	21.2	7.1	5.4	0.9	
		Base	Rate	25	10	2	2	1	Mean	as	<b>Nedian</b>	

	Base	Rate	25	10	2	2	_	Mean	as	Median
	PSI > FSIQ	£	14.0	21.0	24.0	28.0	33.0	11.0	7.7	9.0
PSI	PSI < FSIQ	Î	2.0	11.0	13.0	23.0	32.0	9.4	7.9	8.0
ă	PSI > MIS	÷	9.9	11.8	16.2	17.4	22.6	7.6	5.4	6.4
	PSI < MIS	I	9.9	14.4	16.0	24.2	29.8	9.3	7.2	7.4
	WMI < FSIQ WMI > FSIQ	ŧ	14.0	21.0	24.0	30.0	31.0	10.9	7.7	9.0
WMI		I	0.0	3.0	7.0	10.0	12.0	4.8	3.5	3.0
>	WMI > MIS	ŧ	7.8	13.0	15.3	17.4	18.4	9.7	5.0	6.9
	WMI < MIS	Î	3.8	7.0	9.0	13.6	14.0	4.7	3.4	4.0
	FRI > FSIO	ŧ	13.0	19.0	21.0	24.0	32.0	10.3	7.0	9.0
Œ	FRI < FSIO	I	0.0	7.0	10.0	14.0	23.0	9.9	5.6	5.0
_	FRI > MIS	ŧ	7.4	12.4	13.8	19.4	20.4	7.2	5.6	7.3
	RI < MIS	I	5.4	13.6	15.8	22.0	28.2	7.7	6.5	5.7
	VSI > FSIQ	£	11.0	15.0	18.0	28.0	30.0	9.1	6.1	8.0
NSI	VSI < FSIQ	Î	0.0	0.9	9.0	12.0	15.0	5.7	4.3	4.5
>	VSI > MIS	£	5.6	8.8	12.6	16.0	17.6	0.9	4.6	5.8
	VSI < MIS	I	5.3	10.3	13.7	14.8	16.8	6.3	4.6	5.3
	VCI > FSIQ	ŧ	9.0	13.0	16.0	20.0	23.0	7.6	5.3	0.9
NCI	VCI < FSIQ	I	1.0	3.0	7.0	13.0	15.0	4.2	4.0	3.0
	CI < MIS VCI > MIS VCI < FSIQ VCI > FSIQ	ŧ	3.4	9.6	11.8	16.6	17.2	9.9	5.0	5.7
	VCI < MIS	Î	7.0	11.6	15.2	16.8	17.8	7.0	4.7	6.4

Base Rate

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Mean SD Median

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Differences Between Each Primary Index Score and the Mean Primary Index Score or the FSIQ Obtained by Various Base Rates of the Normative Sample, by Overall Sample and FSIQ Ability Level (continued) **Table B.2** 

										80 ≤ FS	80 ≤ FS10 ≤ 89										
		>	CI			×	NSI			E	FRI			WMI	M			ă	PSI		
ΛCI	< MIS	VCI > MIS	CI <mis vci="">MIS VCI<fsiq vci="">FSIQ</fsiq></mis>	VCI > FSIQ	VSI < MIS	VSI > MIS	VSI < FSIQ	VSI > FSIQ	RI < MIS	FRI > MIS	FRI < FSIO	FRI > FSIO	WMI < MIS	WMI > MIS	WMI < FSIQ	WMI <mis wmi="">MIS WMI&gt;FSIQ WMI&gt;FSIQ</mis>	PSI < MIS	PSI > MIS	PSI < FSI0	PSI > FSIO	Base
	Î	ŧ	I	<b>÷</b>	I	<del>(</del> +)	Î	ŧ	I	<del>(</del> +)	I	÷	Î	ŧ	I	<del>(+</del> )	I	<del>(+</del> )	Î	£	Rate
l	7.0	3.8	2.0	8.0	5.0	5.3	1.0	10.0	7.2	3.6	4.0	9.0	4.4	7.3	2.0	13.0	4.6	8.0	0.0	12.0	25
_	13.0	9.0	0.9	13.0	10.0	10.2	7.0	17.0	12.4	9.4	8.0	15.0	10.3	12.8	0.9	20.0	10.6	13.4	0.9	20.0	10
_	9.91	12.2	10.0	15.0	12.8	16.8	10.0	21.0	15.6	14.2	12.0	22.0	13.8	16.0	12.0	23.0	14.2	16.6	10.0	22.0	2
7	20.3	16.0	13.0	17.0	15.3	20.2	13.0	27.0	17.2	18.2	15.0	26.0	17.0	19.2	17.0	27.0	16.0	18.6	12.0	26.0	2
7	25.3	18.3	16.0	21.0	19.2	23.2	18.0	31.0	20.0	20.2	17.0	26.0	21.3	21.8	21.0	29.0	17.4	24.4	15.0	29.0	-
Mean	7.4	6.1	5.2	7.4	6.4	6.7	6.1	8.6	7.5	6.4	6.9	9.4	6.7	7.9	6.7	11.0	6.4	7.8	6.5	11.2	Mean
	5.9	4.8	4.1	5.1	5.3	2.7	5.2	7.3	5.2	5.6	4.3	9.9	5.3	5.5	2.7	7.4	5.1	5.8	4.2	7.1	as
	5.9	4.8	4.0	7.0	5.1	4.9	5.0	8.0	9.9	4.8	0.9	8.0	5.6	6.8	5.0	10.0	5.4	6.8	0.9		Median
										90 ≤ FSIQ ≤ 109	<b>0</b> ≤ 10	_									

	Base	Rate	25	10	2	7	-	Mean	as	Median
	PSI > FSIO	£	9.0	16.0	19.0	24.0	29.0	9.6	6.9	8.0
PSI	PSI < FSI0	Î	7.0	12.0	16.0	21.0	23.0	8.8	0.9	8.0
ă	PSI > MIS	÷	8.0	13.8	16.8	20.6	26.8	8.2	6.3	7.2
	SIM > ISA	1	5.8	12.2	14.6	18.6	23.0	8.0	2.7	6.9
	WMI > FSIQ	ŧ	8.0	14.0	18.0	23.0	26.0	9.4	6.5	8.0
WMI	WMI < FSIQ	I	7.0	14.0	18.0	23.0	24.0	9.1	6.3	8.0
8	WMI > MIS	ŧ	6.7	12.4	15.0	18.6	20.8	7.8	5.5	6.9
	WMI < MIS	Î	6.4	12.7	16.0	18.6	20.8	7.9	5.5	9.9
	FS10	£	7.0	13.0	16.0	19.0	20.0	7.9	5.3	7.0
æ	FRI < FSIO	I	0.9	13.0	17.0	21.0	25.0	8.5	6.3	7.5
ш	FRI > MIS	ŧ	0.9	11.6	14.6	17.6	19.0	7.0	5.0	5.8
	RI < MIS	I	6.4	12.2	16.0	19.6	22.2	9.7	5.8	6.4
	VSI > FSIO	ŧ	0.9	12.0	16.0	19.0	22.0	7.9	5.9	7.0
VSI	VSI < FSIQ	Î	7.0	12.0	15.0	19.0	21.0	9.7	5.2	6.5
>	VSI > MIS	£	5.5	11.7	14.2	17.7	21.2	7.4	5.6	6.2
	VSI < MIS	1	6.3	11.8	14.6	17.7	20.4	6.9	5.0	5.7
	VCI > FSIQ	ŧ	5.5	11.0	13.0	16.0	17.0	6.9	4.5	0.9
VCI	VCI < FSIQ	I	5.0	10.0	12.0	15.0	17.0	6.5	4.6	0.9
>	VCI < MIS VCI > MIS VCI < FSIQ VCI > FSIQ	ŧ	5.8	11.0	14.2	17.2	20.7	6.9	5.1	5.8
	VCI < MIS	Î	5.6	11.3	14.2	17.6	21.0	7.0	5.4	2.7
	Base	Rate	<b>25</b> 5.6 5.8 5	10	2	7	-	Mean	as	Median

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303

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Differences Between Each Primary Index Score and the Mean Primary Index Score or the FSIQ Obtained by Various Base Rates of the Normative Sample, by Overall Sample and FSIQ Ability Level *(continued)* Table B.2

Median Mean SD 25 10 5 2 PSI > FSIO 13.0 22.0 26.0 8.0 9.9 10.0 ŧ PSI > MIS PSI < FSIQ 23.0 25.0 33.0 12.0 I PSI 29.0 14.8 19.8 ŧ PSI < MIS 22.2 25.0 9.2 14.8 18.6 9.2 6.2 8.5 FRI > FSIQ WMI < MIS WMI > MIS WMI < FSIQ WMI > FSIQ 19.0 20.0 11.0 8.9 ŧ 12.0 20.0 27.0 28.0 10.9 7.5 10.0 M 20.2 10.3 13.6 18.2 5.0 7.1 20.8 21.3 8.1 5.8 6.7 16.3 14.7 4.0 15.0 17.0 7.5 ŧ 110 ≤ FSIQ ≤ 119 FRI < FSIO 18.0 27.0 29.0 9.8 15.0 I 歪 FRI > MIS 13.0 15.6 18.2 18.8 7.0 5.4 ŧ RI < MIS 13.6 18.8 22.0 4.0 10.8 7.2 5.6 5.6 I VSI < FSIQ VSI > FSIQ 10.0 15.0 19.0 24.0 6.5 ŧ 19.0 22.0 24.0 9.6 16.0 6.0 Î VSI VSI < MIS VSI > MIS 16.4 22.6 6.2 8.3 6.5 26.7 ŧ 11.3 13.7 16.7 20.4 7.2 4.9 VCI < FSIQ VCI > FSIQ 11.0 14.0 17.0 6.1 4.8 ŧ 15.0 12.0 19.0 22.0 7.8 5.2 7.0 8.0 I 2 VCI > MIS 7.4 16.8 21.6 23.8 8.2 £ VCI < MIS 10.2 12.3 17.6 18.6 8.9 5.2 6.5 Î Median Mean Base Rate SD 25 10 5

		Base	Rate	25	10	2	2	-	Mean	SD	Median
		PSI > FSI0	ŧ	0.0	7.0	12.0	14.0	19.0	8.9	6.2	7.0 <b>N</b>
		PSI < FSIQ P	Î	23.0	30.0	33.0	37.0	39.0	18.5	9.6	17.0
	PSI	PSI > MIS	£	5.0	12.2	17.2	18.2	24.6	10.0	6.7	9.8
		PSI < MIS	1	13.0	23.0	26.0	30.2	31.6	12.6	8.1	12.4
		WMI > FSIQ	£	0.0	7.0	11.0	14.0	19.0	7.2	5.5	7.0
	MI	WMI < FSIQ WMI > FSIQ	I	14.0	24.0	26.0	35.0	40.0	11.9	9.3	9.0
	WMI	WMI < MIS WMI > MIS	ŧ	5.2	13.2	16.2	18.4	21.0	6.9	5.7	4.9
		WMI < MIS	Î	7.4	14.2	18.2	23.7	24.6	9.4	8.9	7.7
		FRI > FSIO	ŧ	1.0	5.0	9.0	13.0	14.0	5.2	4.1	4.0
FSIQ ≥ 120	Œ	FRI < FSIO	I	16.0	21.0	24.0	27.0	31.0	12.4	7.7	11.5
FS10	_	FRI > MIS	ŧ	6.4	12.0	14.8	18.0	19.0	9.7	5.0	6.4
		RI < MIS	I	8.9	13.0	16.0	22.2	22.2	8.2	0.9	8.9
		VSI > FSIQ	£	1.0	8.0	10.0	13.0	21.0	7.0	5.0	5.0
	NSI	VSI < FSIQ	Î	12.0	18.0	21.0	23.0	25.0	9.9	6.2	9.0
	-	VSI > MIS	÷	8.3	14.7	17.4	21.8	27.4	8.5	6.5	7.0
		VSI < MIS	1	4.7	10.7	14.4	16.4	17.4	8.9	5.1	5.6
		VCI < FSIQ VCI > FSIQ	ŧ	1.0	5.0	9.0	13.0	19.0	0.9	4.8	5.0
	VCI	VCI < FSIO	I	10.0		19.0				6.3	7.0
	_	/CI < MIS VCI > MIS	ŧ	9.8		16.6				0.9	8.9
		VCI < MIS	Î	4.0	10.0	12.8	19.0	22.2	8.1	5.6	9.9

Median

Mean SD





Base

Rate

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Critical Values for Statistically Significant Differences Between Subtest Scaled Scores and the Mean Scaled Score for the Primary Index or FSIQ Subtests, by Age Group and Age Band Table B.3

		=	z	S	S	RV		<u> </u>	BD	0	0A	2	Æ
Age Group/ Age Band	Significance Level	MSS-I	MSS-F	MSS-I	MSS-F	MSS-I	MSS-F	MSS-I	MSS-F	MSS-I	MSS-F	MSS-I	MSS-F
2:6–2:11	10.	2.65	2.62			2.76	2.73	2.97	2.91	3.44	3.35		
	.05	2.22	2.20			2.31	2.28	2.49	2.44	2.88	2.80		
	.10	2.02	2.00			2.10	2.08	2.26	2.22	2.62	2.55		
	.15	1.88	1.86			1.96	1.94	2.11	2.07	2.44	2.38		
3:0-3:5	.01	2.55	2.54			2.55	2.54	3.61	3.51	3.44	3.36		
	.05	2.14	2.13			2.14	2.13	3.02	2.94	2.88	2.81		
	.10	1.94	1.93			1.94	1.93	2.75	2.67	2.62	2.56		
	.15	1.81	1.80			1.81	1.80	2.56	2.49	2.45	2.38		
3:6-3:11	.01	2.63	2.58		_	2.63	2.58	3.32	3.22	2.95	2.88		
	.05	2.20	2.16			2.20	2.16	2.78	2.70	2.47	2.41		
	.10	2.00	1.97			2.00	1.97	2.53	2.45	2.24	2.19		
	.15	1.87	1.83			1.87	1.83	2.36	2.29	2.09	2.04		
4:0-4:5	.01	3.28	3.12	2.30	2.27			3.72	3.51	3.50	3.94	3.14	3.00
	.05	2.79	2.65	1.96	1.93			3.17	2.99	2.98	3.35	2.67	2.55
	.10	2.56	2.44	1.79	1.77			2.91	2.74	2.73	3.07	2.46	2.34
	.15	2.41	2.29	1.69	1.67			2.74	2.58	2.57	2.90	2.31	2.21
4:6-4:11	.01	3.38	3.22	2.43	2.41			3.91	3.69	3.02	3.43	2.88	2.8
	.05	2.87	2.74	2.07	2.05			3.33	3.14	2.57	2.92	2.45	2.38
	.10	2.64	2.52	1.90	1.88			3.05	2.88	2.36	2.68	2.25	2.18
	.15	2.48	2.37	1.79	1.77			2.87	2.71	2.22	2.52	2.12	2.06
5:0-2:2	.01	3.13	2.99	2.75	2.66			3.49	3.30	3.37	3.81	3.02	2.89
	.05	2.66	2.54	2.34	2.26			2.97	2.81	2.87	3.24	2.57	2.46
	.10	2.44	2.34	2.15	2.08			2.72	2.58	2.64	2.97	2.36	2.26
	.15	2.30	2.20	2.02	1.96			2.56	2.43	2.48	2.80	2.22	2.13
1003	-	-	٠	•	-		Ę	-	,	1	-		

Note. MSS-I = mean scaled score of the primary index subtests; MSS-F = mean scaled score of the FSIQ subtests.





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Mean Scaled Score for the Primary Index or FSIQ Subtests, by Age Group and Age Band (continued) Critical Values for Statistically Significant Differences Between Subtest Scaled Scores and the Table B.3

MSS-I         MSS-I <th< th=""><th></th><th></th><th></th><th>PC</th><th><b>B</b></th><th>PM</th><th>2</th><th>72</th><th>8</th><th>BS</th><th>Ö</th><th>CA</th><th></th></th<>				PC	<b>B</b>	PM	2	72	8	BS	Ö	CA	
.01       2.85       2.81       2.76       3.32         .05       .05       2.39       2.35       2.31       2.78         .10       .10       2.17       2.14       2.10       2.52         .10       .01       2.03       2.00       1.96       2.35         .05       .07       2.03       2.01       2.11       2.53         .10       .03       2.03       2.01       2.11       2.53         .10       .01       2.03       2.01       2.11       2.53         .01       .01       2.03       2.01       2.11       2.53         .05       .05       1.89       1.87       1.97       2.36         .10       .05       2.38       2.36       2.31       2.41         .10       3.28       3.69       3.14       3.01       4.12       4.62         .05       2.79       3.14       3.00       4.12       4.62         .10       2.56       2.88       2.46       2.34       3.21       3.61         .11       2.41       2.71       2.31       3.01       3.60       4.07         .10       2.57       2.52	Age Grou Age Ban	Sig	MSS-I		MSS-I	MSS-F	MSS-I		MSS-I	MSS-F	MSS-I	MSS-F	
.05       2.39       2.35       2.31       2.78         .10       .10       2.17       2.14       2.10       2.52         .10       .11       2.03       2.00       1.96       2.35         .01       2.03       2.00       1.96       2.35         .10       2.03       2.01       2.11       2.53         .10       2.03       2.01       2.11       2.53         .10       2.03       2.01       2.11       2.53         .10       2.38       2.36       2.83       3.40         .10       3.28       3.69       1.68       2.01       2.41         .10       3.28       3.69       3.14       3.00       4.12       4.62         .10       2.56       2.88       2.46       2.34       3.21       3.61         .10       3.02       3.49       3.13       3.01       3.60       4.07         .10       2.56       2.88       2.46       2.34       3.21       3.61         .10       3.02       3.43       3.13       3.01       3.60       4.07         .10       2.36       2.52       2.50       2.39       2.31 </td <td>2:6-2:1</td> <td>·</td> <td></td> <td></td> <td>2.85</td> <td>2.81</td> <td>2.76</td> <td>3.32</td> <td></td> <td></td> <td></td> <td></td> <td></td>	2:6-2:1	·			2.85	2.81	2.76	3.32					
.10       2.17       2.14       2.10       2.52         .15       .01       2.03       2.00       1.96       2.35         .01       2.03       2.00       1.96       2.35         .05       2.03       2.01       2.77       3.33         .05       1.0       2.23       2.21       2.32       2.79         .10       2.03       2.01       2.11       2.53         .10       2.38       2.36       2.83       3.40         .10       3.28       3.69       3.14       3.00       4.12       4.62         .10       2.56       2.88       2.46       2.34       3.21       3.61         .10       2.56       2.88       2.46       2.34       3.21       3.61         .10       2.56       2.88       2.46       2.34       3.21       3.61         .10       2.51       2.21       2.21       3.03       3.46         .10       2.56       2.88       2.46       2.34       3.21       3.61         .10       2.51       2.21       2.25       2.26       2.34       3.13       3.01       3.60       4.07         .10 </td <td></td> <td>.05</td> <td></td> <td></td> <td>2.39</td> <td>2.35</td> <td>2.31</td> <td>2.78</td> <td></td> <td></td> <td></td> <td></td> <td></td>		.05			2.39	2.35	2.31	2.78					
.15       2.03       2.00       1.96       2.35         .01       2.66       2.64       2.77       3.33         .05       .10       2.23       2.79       3.33         .10       2.23       2.21       2.32       2.79         .10       1.89       1.87       1.97       2.36         .05       2.03       2.01       2.11       2.53         .10       2.38       2.36       2.83       3.40         .10       3.28       3.69       3.14       3.00       4.12       4.62         .10       3.26       2.88       2.46       2.34       3.21       3.61         .10       2.56       2.88       2.46       2.34       3.21       3.61         .10       2.56       2.88       2.46       2.34       3.21       3.61         .10       2.56       2.88       2.46       2.34       3.21       3.61         .10       2.51       2.21       2.21       3.06       3.46         .10       2.56       2.88       2.46       2.34       3.21       3.61         .10       2.51       2.25       2.26       2.56       2.81<		.10			2.17	2.14	2.10	2.52					
.01       2.66       2.64       2.77       3.33         .05       .10       2.23       2.21       2.32       2.79         .10       .10       2.03       2.01       2.11       2.53         .11       .13       1.89       1.87       1.97       2.36         .01       .05       .20       1.98       2.37       2.85         .10       .278       2.00       1.98       2.37       2.85         .10       .279       3.14       3.00       4.12       4.62         .05       2.79       3.14       2.67       2.55       3.50       3.93         .10       2.56       2.88       2.46       2.34       3.21       3.61         .15       2.41       2.71       2.31       2.21       3.60       4.07         .15       2.57       2.92       2.66       2.56       3.06       3.46         .10       2.36       2.52       2.30       2.21       2.65       2.99         .10       2.36       2.57       2.32       2.99       3.16       3.18         .11       2.22       2.52       2.30       2.21       2.65       2.99 <td></td> <td>.15</td> <td></td> <td></td> <td>2.03</td> <td>2.00</td> <td>1.96</td> <td>2.35</td> <td></td> <td></td> <td></td> <td></td> <td></td>		.15			2.03	2.00	1.96	2.35					
.05       .05       2.23       2.21       2.32       2.79         .10       .10       2.03       2.01       2.11       2.53         .01       .11       1.89       1.87       1.97       2.36         .01       .02       1.89       1.87       1.97       2.36         .05       .01       2.38       2.36       2.36       2.36         .10       .10       2.28       2.00       1.98       2.37       2.85         .10       .16       1.81       1.80       2.15       2.59         .16       .181       1.80       2.15       2.59         .16       .279       3.14       3.00       4.12       4.62         .05       2.79       3.14       3.00       4.12       4.62         .10       2.56       2.88       2.46       2.34       3.21       3.40         .11       2.41       2.71       2.31       3.21       3.61       4.07         .10       2.57       2.92       2.66       2.56       3.06       3.46       3.18         .10       2.75       2.52       2.30       2.21       2.65       2.91       3.18	3:0-3:5	•			2.66	2.64	2.77	3.33					
.10       2.03       2.01       2.11       2.53         .15       1.89       1.87       1.97       2.36         .01       2.38       2.36       2.36       3.40         .05       2.39       2.37       2.85         .10       3.28       3.69       1.68       2.01       2.41         .01       3.28       3.69       3.14       3.00       4.12       4.62         .05       2.79       3.14       2.67       2.55       3.50       3.93         .10       2.56       2.88       2.46       2.34       3.21       3.61         .15       2.41       2.71       2.31       2.21       3.60       4.07         .01       3.02       3.43       3.13       3.01       3.60       4.07         .05       2.57       2.32       2.66       2.56       3.06       3.46         .10       2.36       2.68       2.44       2.35       2.81       3.18         .10       2.75       3.11       3.02       2.89       3.71       4.18         .01       2.75       3.46       2.75       2.46       3.16       3.56         .01		.05			2.23	2.21	2.32	2.79					
.15       1.89       1.87       1.97       2.36         .01       2.38       2.36       2.83       3.40         .05       .10       2.38       2.36       2.85       3.40         .10       .15       1.81       1.80       2.15       2.85         .01       3.28       3.69       3.14       3.00       4.12       4.62         .05       2.79       3.14       2.67       2.55       3.50       3.93         .10       2.56       2.88       2.46       2.34       3.21       3.61         .15       2.41       2.71       2.31       2.21       3.03       3.40         .01       3.02       3.43       3.13       3.01       3.60       4.07         .05       2.57       2.92       2.66       2.56       3.06       3.46         .10       2.36       2.68       2.44       2.35       2.81       3.18         .15       2.22       2.52       2.30       2.21       2.65       2.99         .15       2.34       2.65       2.89       3.71       4.18         .01       2.75       3.46       3.16       3.56       2.99		.10			2.03	2.01	2.11	2.53					
.01       2.38       2.36       2.83       3.40         .05       .05       .18       2.37       2.85         .10       .10       1.81       1.80       2.15       2.85         .10       3.28       3.69       3.14       3.00       4.12       4.62         .05       2.79       3.14       2.67       2.55       3.50       3.93         .10       2.56       2.88       2.46       2.34       3.21       3.61         .15       2.41       2.71       2.31       2.21       3.03       3.40         .01       3.02       3.43       3.13       3.01       3.60       4.07         .05       2.57       2.92       2.66       2.56       3.06       3.46         .10       2.36       2.68       2.44       2.35       2.81       3.18         .15       2.22       2.52       2.30       2.21       2.65       2.99         .01       2.75       3.11       3.02       2.89       3.71       4.18         .05       2.34       2.57       2.46       3.16       3.56       2.99         .01       2.75       3.26       2.57<		.15			1.89	1.87	1.97	2.36					
.05     .05       .10     .2.00     1.98     2.37     2.85       .10     .15     .1.69     1.69     2.15     2.59       .11     .18     .18     .2.15     2.59       .01     .3.28     3.69     3.14     3.00     4.12     4.62       .05     2.79     3.14     2.67     2.55     3.50     3.93       .10     2.56     2.88     2.46     2.34     3.21     3.61       .11     3.02     3.43     3.13     3.01     3.60     4.07       .05     2.57     2.92     2.66     2.56     3.06     4.07       .05     2.57     2.92     2.66     2.56     3.06     3.46       .10     2.36     2.68     2.44     2.35     2.81     3.18       .15     2.22     2.52     2.30     2.21     2.65     2.99       .01     2.75     3.11     3.02     2.89     3.71     4.18       .05     2.34     2.57     2.46     3.16     3.56       .05     2.34     2.57     2.46     3.16     3.56       .07     2.75     2.46     2.57     2.46     3.16     3.56       .07 </td <td>3:6-3:1</td> <td>-</td> <td></td> <td></td> <td>2.38</td> <td>2.36</td> <td>2.83</td> <td>3.40</td> <td></td> <td></td> <td></td> <td></td> <td></td>	3:6-3:1	-			2.38	2.36	2.83	3.40					
.10     1.81     1.80     2.15     2.59       .15     1.69     1.68     2.01     2.41       .01     3.28     3.69     3.14     3.00     4.12     4.62       .05     2.79     3.14     2.67     2.55     3.50     3.93       .10     2.56     2.88     2.46     2.34     3.21     3.61       .15     2.41     2.71     2.31     2.21     3.03     3.40       .01     3.02     3.43     3.13     3.01     3.60     4.07       .05     2.57     2.92     2.66     2.56     3.06     3.46       .10     2.36     2.68     2.44     2.35     2.81     3.18       .15     2.22     2.52     2.30     2.21     2.65     2.99       .01     2.75     3.11     3.02     2.86     3.71     4.18       .05     2.34     2.57     2.46     2.46     3.16     3.56       .07     2.15     2.57     2.46     3.16     3.56       .07     2.15     2.57     2.46     3.16     3.56       .08     2.34     2.57     2.46     3.16     3.56       .09     2.35     2.26     2.		.05			2.00	1.98	2.37	2.85					
.15       1.69       1.68       2.01       2.41         .01       3.28       3.69       3.14       3.00       4.12       4.62         .05       2.79       3.14       2.67       2.55       3.50       3.93         .10       2.56       2.88       2.46       2.34       3.21       3.61         .15       2.41       2.71       2.31       2.21       3.60       4.07         .05       2.57       2.92       2.66       2.56       3.06       3.46         .10       2.36       2.68       2.44       2.35       2.81       3.18         .10       2.36       2.52       2.52       2.30       2.21       2.65       2.99         .15       2.75       3.11       3.02       2.89       3.71       4.18         .01       2.75       3.11       3.02       2.89       3.71       4.18         .05       2.34       2.65       2.57       2.46       3.16       3.56         .05       2.34       2.65       2.57       2.46       3.16       3.56         .07       2.34       2.65       2.57       2.46       3.16       3.56		.10			1.81	1.80	2.15	2.59					
.01         3.28         3.69         3.14         3.00         4.12         4.62           .05         2.79         3.14         2.67         2.55         3.50         3.93           .10         2.56         2.88         2.46         2.34         3.21         3.61           .15         2.41         2.71         2.31         2.21         3.03         3.40           .01         3.02         3.43         3.13         3.01         3.60         4.07           .05         2.57         2.92         2.66         2.56         3.06         3.46           .10         2.36         2.68         2.44         2.35         2.81         3.18           .15         2.22         2.52         2.30         2.21         2.65         2.99           .01         2.75         3.11         3.02         2.89         3.71         4.18           .05         2.34         2.65         2.57         2.46         3.16         3.56           .07         2.15         2.46         3.16         3.56         3.09         3.26           .08         2.34         2.65         2.57         2.46         3.16		.15			1.69	1.68	2.01	2.41					
.05       2.79       3.14       2.67       2.55       3.50       3.93         .10       2.56       2.88       2.46       2.34       3.21       3.61         .15       2.41       2.71       2.31       2.21       3.03       3.40         .01       3.02       3.43       3.13       3.01       3.60       4.07         .05       2.57       2.92       2.66       2.56       3.06       3.46         .10       2.36       2.68       2.44       2.35       2.81       3.18         .15       2.22       2.52       2.30       2.21       2.65       2.99         .01       2.75       3.11       3.02       2.89       3.71       4.18         .05       2.34       2.65       2.57       2.46       3.16       3.56         .10       2.15       2.43       2.56       2.90       3.26	4:0-4:5		3.28	3.69	3.14	3.00	4.12	4.62	3.72	3.51	4.65	5.22	
.10         2.56         2.88         2.46         2.34         3.21         3.61           .15         2.41         2.71         2.31         2.21         3.03         3.40           .01         3.02         3.43         3.13         3.01         3.60         4.07           .05         2.57         2.92         2.66         2.56         3.06         3.46           .10         2.36         2.68         2.44         2.35         2.81         3.18           .15         2.22         2.52         2.30         2.21         2.65         2.99           .01         2.75         3.11         3.02         2.89         3.71         4.18           .05         2.34         2.65         2.57         2.46         3.16         3.56           .10         2.15         2.43         2.57         2.46         3.16         3.56           .10         2.15         2.43         2.57         2.46         3.16         3.56		.05	2.79	3.14	2.67	2.55	3.50	3.93	3.17	2.99	3.96	4.44	
.15         2.41         2.71         2.31         2.21         3.03         3.40           .01         3.02         3.43         3.13         3.01         3.60         4.07           .05         2.57         2.92         2.66         2.56         3.06         3.46           .10         2.36         2.68         2.44         2.35         2.81         3.18           .15         2.22         2.52         2.30         2.21         2.65         2.99           .01         2.75         3.11         3.02         2.89         3.71         4.18           .05         2.34         2.65         2.57         2.46         3.16         3.56           .10         2.15         2.43         2.57         2.46         3.16         3.56           .10         2.15         2.43         2.57         2.46         3.16         3.56		.10	2.56	2.88	2.46	2.34	3.21	3.61	2.91	2.74	3.64	4.08	
.01 3.02 3.43 3.13 3.01 3.60 4.07 .05 2.57 2.92 2.66 2.56 3.06 3.46 .10 2.36 2.68 2.44 2.35 2.81 3.18 .15 2.22 2.52 2.30 2.21 2.65 2.99 .01 2.75 3.11 3.02 2.89 3.71 4.18 .05 2.34 2.65 2.57 2.46 3.16 3.56 .10 2.15 2.43 2.36 2.26 2.90 3.26		.15	2.41	2.71	2.31	2.21	3.03	3.40	2.74	2.58	3.42	3.84	
.05     2.57     2.92     2.66     2.56     3.06     3.46       .10     2.36     2.68     2.44     2.35     2.81     3.18       .15     2.22     2.52     2.30     2.21     2.65     2.99       .01     2.75     3.11     3.02     2.89     3.71     4.18       .05     2.34     2.65     2.57     2.46     3.16     3.56       .10     2.15     2.43     2.36     2.26     2.90     3.26	4:6-4:1	-	3.02	3.43	3.13	3.01	3.60	4.07	3.71	3.52	4.64	5.23	
.10     2.36     2.68     2.44     2.35     2.81     3.18       .15     2.22     2.52     2.30     2.21     2.65     2.99       .01     2.75     3.11     3.02     2.89     3.71     4.18       .05     2.34     2.65     2.57     2.46     3.16     3.56       .10     2.15     2.43     2.36     2.26     2.90     3.26		.05	2.57	2.92	2.66	2.56	3.06	3.46	3.16	2.99	3.95	4.45	
.01 2.75 3.11 3.02 2.89 3.71 4.18 .05 2.35 2.36 2.37 2.46 3.16 3.56 2.99 10 2.15 2.43 2.36 2.26 2.26 2.90 3.26		.10	2.36	2.68	2.44	2.35	2.81	3.18	2.90	2.75	3.63	4.08	
.01 2.75 3.11 3.02 2.89 3.71 4.18		.15	2.22	2.52	2.30	2.21	2.65	2.99	2.73	2.59	3.42	3.84	
2.34     2.65     2.57     2.46     3.16     3.56       2.15     2.43     2.36     2.26     2.90     3.26	5:0-2:5	-	2.75	3.11	3.02	2.89	3.71	4.18	3.71	3.50	4.64	5.22	
2.15 2.43 2.36 2.26 2.90 3.26		.05	2.34	2.65	2.57	2.46	3.16	3.56	3.16	2.98	3.95	4.44	
		.10	2.15	2.43	2.36	2.26	2.90	3.26	2.90	2.73	3.63	4.07	
2.02 2.29 2.22 2.13 2.73 3.07		.15	2.02	2.29	2.22	2.13	2.73	3.07	2.73	2.58	3.42	3.84	

Note. MSS-I = mean scaled score of the primary index subtests; MSS-F = mean scaled score of the FSIQ subtests.



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Mean Scaled Score for the Primary Index or FSIQ Subtests, by Age Group and Age Band (continued) Critical Values for Statistically Significant Differences Between Subtest Scaled Scores and the Table B.3

		=	2	0,	SI	-	RV	8	BD	0	0A		MR
Age Group/ Age Band	Significance Level	MSS-I	MSS-F										
5:6-5:11	.01	3.38	3.23	2.75	2.69			3.49	3.33	3.38	3.83	3.02	2.92
	.05	2.88	2.75	2.34	2.29			2.97	2.83	2.88	3.26	2.57	2.49
	.10	2.64	2.52	2.15	2.10			2.73	2.60	2.64	2.99	2.36	2.28
	.15	2.49	2.38	2.03	1.98			2.57	2.45	2.49	2.82	2.22	2.15
6:0-6:11	.01	3.29	3.13	2.77	2.69			3.73	3.52	4.32	4.85	3.15	3.01
	.05	2.80	2.67	2.36	2.29			3.17	3.00	3.68	4.13	2.68	2.56
	.10	2.57	2.45	2.17	2.10			2.91	2.75	3.37	3.79	2.46	2.35
	.15	2.42	2.30	2.04	1.98			2.74	2.59	3.18	3.57	2.32	2.22
7:0-7:7	.01	3.27	3.13	2.76	2.68			3.50	3.32	3.91	4.41	3.27	3.13
	.05	2.79	2.66	2.35	2.28			2.97	2.83	3.33	3.75	2.79	2.66
	.10	2.56	2.44	2.16	2.09			2.73	2.59	3.06	3.44	2.56	2.44
	.15	2.41	2.30	2.03	1.97			2.57	2.44	2.88	3.24	2.41	2.30
2:6-3:11	.01	2.60	2.58			2.65	2.62	3.31	3.23	3.29	3.21		
	.05	2.18	2.16			2.22	2.19	2.78	2.70	2.76	2.69		
	.10	1.98	1.96			2.01	1.99	2.52	2.46	2.50	2.44		
	.15	1.85	1.83			1.88	1.86	2.35	2.29	2.34	2.28		
4:0-7:7	.01	3.30	3.15	2.63	2.57			3.63	3.44	3.61	4.07	3.08	2.96
	.05	2.81	2.68	2.23	2.18			3.09	2.93	3.07	3.46	2.62	2.52
	.10	2.58	2.46	2.05	2.00			2.84	2.69	2.82	3.18	2.41	2.31
	.15	2.43	2.32	1.93	1.89			2.67	2.53	2.65	2.99	2.27	2.18

Note. MSS-I = mean scaled score of the primary index subtests; MSS-F = mean scaled score of the FSIQ subtests.

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Mean Scaled Score for the Primary Index or FSIQ Subtests, by Age Group and Age Band (continued) Critical Values for Statistically Significant Differences Between Subtest Scaled Scores and the Table B.3

		_	PC	۵.	PM		71		BS	3	CA
Age Group/ Age Band	Significance Level	MSS-I	MSS-F								
5:6-5:11	10.	2.89	3.29	3.13	3.02	3.91	4.41	4.02	3.80	4.31	4.85
	.05	2.46	2.80	2.67	2.57	3.33	3.76	3.42	3.23	3.67	4.13
	.10	2.26	2.57	2.45	2.36	3.06	3.45	3.14	2.97	3.36	3.79
	.15	2.13	2.42	2.31	2.22	2.88	3.25	2.96	2.79	3.17	3.57
6:0-6:11	.01	3.73	4.19	2.77	2.69	3.51	3.95	4.04	3.79	4.32	4.85
	.05	3.17	3.57	2.36	2.29	2.99	3.36	3.44	3.23	3.68	4.13
	.10	2.91	3.28	2.17	2.10	2.74	3.08	3.15	2.96	3.37	3.79
	.15	2.74	3.08	2.04	1.98	2.58	2.90	2.97	2.79	3.18	3.57
7:0-7:7	.01	3.27	3.70	2.76	2.68	3.50	3.94	4.03	3.79	4.31	4.85
	.05	2.79	3.15	2.35	2.28	2.97	3.36	3.43	3.23	3.67	4.13
	.10	2.56	2.89	2.16	2.09	2.73	3.08	3.15	2.96	3.37	3.79
	.15	2.41	2.72	2.03	1.97	2.57	2.90	2.96	2.79	3.17	3.57
2:6-3:11	.01			2.65	2.62	2.78	3.34				
	.05			2.22	2.19	2.33	2.80				
	.10			2.01	1.99	2.12	2.54				
	.15			1.88	1.86	1.98	2.37				
4:0-7:7	.01	3.16	3.58	3.00	2.89	3.72	4.19	3.89	3.66	4.48	5.03
	.05	2.69	3.04	2.55	2.46	3.16	3.57	3.31	3.12	3.81	4.29
	.10	2.47	2.79	2.34	2.26	2.90	3.27	3.04	2.86	3.50	3.93
	.15	2.33	2.63	2.21	2.12	2.73	3.08	2.86	2.69	3.29	3.70

Note: MSS-I = mean scaled score of the primary index subtests; MSS-F = mean scaled score of the FSIQ subtests.







Differences Between Subtest Scaled Scores and the Mean Scaled Score for the Primary Index or FSIQ Subtests Obtained by Various Base Rates of the Normative Sample **Table B.4** 

		Base	Rate	25	9	വ	7	1	Mean	SD	Median		Base	Rate	25	9	വ	7	-	Mean	SD	Median											
		BD > MSS-F	(+)	1.3	5.6	3.6	2.0	5.6	1.7	1.4	1.3		PM > MSS-F	ŧ	1.4	2.7	3.5	4.4	4.8	1.6	1.2	1.3											
<u> </u>	֓֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	BD < MSS-I BD > MSS-I BD < MSS-F BD > MSS-F	<u>(</u>	1.3	2.5	3.2	4.2	5.0	1.6	1.2	1.4	PM	PM < MSS-F	I	1.3	2.8	3.7	4.9	5.8	9.	1.5	1.5											
"	֓֓֓֓֓֜֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֟֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	BD > MSS-I	(+)	1.2	5.6	3.7	5.0	5.8	1.7	1.5	1.3	<u>-</u>	PM > MSS-I	ŧ	1.4	2.7	3.4		4.8	1.7	1.2	1.3											
			Î	1.4	2.5	3.2	4.3	4.8	1.6	1.2	1.3		OA>MSS-  OA <mss-f oa="">MSS-F MR<mss-i mr=""> MSS-I MR &gt; MSS-F MR &gt; MSS-F MR &gt; MSS-F PC &lt; MSS-F PC &gt; MSS-F PC &gt; MSS-F PM &gt; MSS</mss-i></mss-f>	Î	1.4	2.7	3.7	5.0	6.1	1.8	1.5	1.5		Base	Rate	25	10	2	7	-	Mean	SD	Median
		RV > MSS-I RV < MSS-F RV > MSS-F	<del>(</del> +	1.4	5.6	3.2	3.8	4.5	1.6	1:	1.4		PC> MSS-F	÷	1.8	3.2	3.9	4.8	5.2	2.0	1.3	1.7		CA > MSS-I CA < MSS-F CA > MSS-F	÷	1.8	3.7	4.5	5.8	9.9	2.3	7.1	7.n
2		RV < MSS-F	Ī	1.2	2.6	3.2	4.1	4.5	1.6	1.2	1.4	PC	PC < MSS-F	ĵ	1.7	3.3	4.5	2.8	7.1	2.3	1.7	2.0	CA	CA < MSS-F	Ĩ	2.0	3.7	4.7	6.1	6.5	2.3	1.7	7.D
ľ		RV > MSS-I	(+)	1.3	2.8	3.3	3.9	4.6	1.7	1.2	1.5	_	PC > MSS-I	÷	1.6	2.8	3.5	4.2	4.9	1.8	1.2	1.5		CA>MSS-I	÷	1.6	3.2	4.1	5.2	6.1	2.0	1.5	<u>`</u>
		RV < MSS-I	I	1.3	2.7	3.5	4.0	4.6	1.7	1.2	1.3		F PC < MSS-	I	1.5	2.9	4.1	5.2	6.7	2.0	1.6	1.7		F CA < MSS-I	I	1.8	3.3	4.3	5.0	5.9	2.0	7.5	`.'
		SI > MSS-F	<del>(</del> +	1.3	2.5	3.0	3.6	4.7	1.5	1.	1.3		F MR > MSS-I	ŧ	1.3	2.5	3.3		4.5	1.6	1.	1.3		F BS > MSS-F	ŧ	1.5	2.7	3.7	4.8	9.6	1.8	4.1	ი.
	) I	SI < MSS-F	(	1.2	2.5	3.5	4.4	4.8	1.6	1.3	1.3	MR	I MR < MSS-	Î	1.3	2.7	3.4	4.6	5.3	1.7	1.3	1.5	BS	BS < MSS-F	Î	1.5	2.8	3.8	4.8	5.7	1.8	7.7	<del>-</del>
7		SI > MSS-I	<del>(</del> +)	1.4	5.6	3.4	4.4	5.0	1.6	1.2	1.3	_	I MR > MSS-	ŧ	1.4	2.5	3.5		4.7	1.7	1.2	1.5	_	I BS > MSS-I	÷	1.5	2.8	3.7	4.6	5.8	1.8	1.4	<u>٥</u> .
		I-SSW>IS	Ī	1.2	2.7	3.7	4.8	5.5	1.7	1.4	1.3		F MR < MSS-	Î	1.4	2.8	3.7	4.6	2.8	1.8	1.4	1.5		BS < MSS-I	I	1.6	2.8	3.7	4.8	2.8	1.8	1.4	٥. -
		IN < MSS-F IN > MSS-F	+	1.3	2.4	3.2	3.8	4.3	1.5	1:1	1.3		F 0A > MSS-I	ŧ	1.5	3.0	4.0	5.2	5.9	1.9	1.5	1.5		: ZL > MSS-F	ŧ	1.8	3.6	4.7	0.9	6.7	2.3	1.7	<u>о</u> .
2			Î	1.0	2.3	3.2	4.2	5.0	1.6	1.3	1.2	0A	I OA < MSS-	I	1.6	3.2	4.0	2.0	5.3	2.0	1.4	1.7	71	ZL < MSS-F	I	1.7	3.3	4.3	5.6	9.9	2.1	1.6	o. -
		IN > MSS-I	+	1.4	5.6	3.2	4.1	4.5	1.6	1.2	1.4	_		ŧ	1.4	2.8	3.7		5.5	— —	1.4	1.5		I ZL>MSS-I	ŧ	1.5	3.2	4.1	5.1	5.8	2.0	7.7	ο.
		IN < MSS-I	I	1.2	2.5	3.4	4.5	5.2	1.7	1.3	1.3		0A < MSS-I	Î	1.5	3.0	3.7	4.7	2.1	1.8	1.4	1.5		ZL < MSS-I	I	1.5	2.9	3.7	4.8	5.6	1.8	1.4	
		Base	Rate	22	9	2	7	1	Mean	SD	Median		Base	Rate	25	10	2	7	-	Mean	SD	Median		Base	Rate	25	9	2	7	-	Mean	SD	Median

Note. MSS-I = mean scaled score of the primary index subtests; MSS-F = mean scaled score of the FSIQ subtests.



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Critical Values for Statistically Significant Differences Between Primary Index Scores, by Age Group and Age Band Table B.5

							ı												ı							
		WMI-PSI													19.74	14.99	12.54	11.02	18.96	14.40	12.05	10.58	18.55	14.10	11.79	10.36
		FRI-PSI													18.14	13.78	11.53	10.13	18.16	13.79	11.54	10.13	17.30	13.14	10.99	9.62
		FRI-WMI													17.31	13.15	11.00	99.6	15.48	11.76	9.84	8.64	14.98	11.38	9.52	8.36
suo		VSI-PSI													18.95	14.39	12.04	10.58	18.96	14.40	12.05	10.58	18.55	14.10	11.79	10.36
ore Compariso		VSI-WMI	16.41	12.46	10.43	9.16	17.73	13.47	11.27	9.90	15.95	12.12	10.14	8.90	18.15	13.79	11.54	10.13	16.42	12.47	10.44	9.16	16.42	12.47	10.44	9.16
Primary Index Score Comparisons		VSI-FRI													16.41	12.46	10.43	9.16	15.48	11.76	9.84	8.64	14.98	11.38	9.52	8.36
Prin		VCI-PSI													16.86	12.81	10.72	9.41	17.73	13.47	11.27	9.90	17.30	13.14	10.99	9.65
		VCI-WMI	14.47	10.99	9.20	8.08	13.40	10.18	8.52	7.48	13.95	10.60	8.87	7.79	15.96	12.12	10.14	8.91	14.98	11.38	9.52	8.36	14.98	11.38	9.52	8.36
		VCI-FRI													13.94	10.59	98.8	7.78	13.95	10.60	8.87	7.79	13.39	10.17	8.51	7.47
		VCI-VSI	15.47	11.75	9.83	8.63	16.86	12.81	10.72	9.41	15.47	11.75	9.83	8.63	14.98	11.38	9.52	8.36	14.98	11.38	9.52	8.36	14.98	11.38	9.52	8.36
'	Significance	Level	10.	.05	.10	.15	.01	.05	.10	.15	.01	.05	.10	.15	.01	.05	.10	.15	.01	.05	.10	.15	.01	.05	.10	.15
	Age Group/	Age Band	2:6–2:11				3:0-3:5				3:6-3:11				4:0-4:5				4:6-4:11				5:0-5:5			







Critical Values for Statistically Significant Differences Between Primary Index Scores, by Age Group and Age Band (continued) Table B.5

	SI FRI-WMI FRI-PSI WMI-PSI	16.41	12.47 13.79	10.43 11.54	9.16	15.48 18.55	11.76 14.10	9.84 11.79	8.64 10.36	15.47 18.56	11.75 14.10	9.83 11.80	8.63 10.36					15.88 18.15	12.06 13.79		
Primary Index Score Comparisons	VSI-WMI VSI-PSI				9.89 10.80					16.85 19.73	12.80 14.			16.72	12.70	10.63	9.33	17.15 19.		10.90 12.25	
rimary Index So	VSI-FRI	15.95	12.12	10.14	8.90	18.16	13.79	11.54	10.13	16.85	12.80	10.71	9.41					16.34	12.42	10.39	
P	VCI-PSI	17.73	13.47	11.27	9.90	17.30	13.14	10.99	9.62	17.73	13.47	11.27	9.90					17.44	13.25	11.09	
	VCI-WMI	15.94	12.11	10.13	8.90	13.95	10.60	8.87	7.79	14.47	10.99	9.20	8.08	13.95	10.60	8.87	7.79	15.06	11.44	9.57	:
	VCI-FRI	13.95	10.60	8.87	7.79	14.98	11.38	9.52	8.36	14.47	10.99	9.20	8.08					14.13	10.73	8.98	
	VCI-VSI	15.47	11.75	9.83	8.63	16.87	12.81	10.72	9.41	15.94	12.11	10.13	8.90	15.96	12.12	10.14	8.91	15.55	11.81	9.89	0
	Significance Level	.01	.05	.10	.15	.01	.05	.10	.15	.01	.05	.10	.15	.01	.05	.10	.15	.01	.05	.10	!
	Age Group/ Age Band	5:6-5:11				6:0-6:11				7:0-7:7				2:6-3:11				4:0-7:7			







Table B.6 Base Rates of Normative Sample Obtaining Various Differences Between Primary Index Scores, by Overall Sample and FSIQ Ability Level

#### **Overall Sample Primary Index Score Comparison** VCI-VSI VCI-FRI VCI-WMI VCI-PSI VSI-FRI VCI < VSI VCI > VSI VCI < FRI VCI > FRI VCI < WMI VCI > WMI VCI < PSI VCI > PSI VSI < FRI VSI > FRI Difference Difference (-)(+)(-)(+)(-)(+)(-)(+)(-)(+) ≥40 0.2 ≥40 0.7 0.4 0.4 0.5 0.4 0.7 0.6 0.0 0.5 39 0.9 0.2 0.4 0.5 0.6 0.6 0.7 0.6 0.1 0.6 39 38 0.9 0.3 0.5 0.9 0.8 0.7 0.9 0.8 0.4 0.8 38 37 0.4 0.8 37 1.1 0.4 0.5 0.9 0.8 0.8 1.3 1.1 36 1.2 0.4 0.7 1.0 0.9 1.2 1.6 1.2 0.5 1.0 36 35 1.3 0.4 0.7 1.1 1.2 1.4 1.6 1.8 0.5 1.1 35 34 1.4 0.5 0.9 2.2 2.5 0.5 34 1.2 1.4 1.5 1.3 1.5 0.9 2.2 2.3 2.5 0.7 33 0.6 1.3 1.4 1.8 33 0.7 2.2 32 1.6 0.8 1.0 1.5 1.5 2.5 2.4 2.9 32 31 1.8 1.1 1.3 1.5 1.6 2.6 3.1 3.0 0.9 2.3 31 30 2.1 1.2 1.5 1.5 1.9 2.9 3.3 3.2 1.2 2.9 30 29 2.3 29 1.8 1.6 2.1 2.8 3.6 3.7 3.9 1.4 3.3 2.8 2.2 2.4 28 28 2.2 3.6 3.6 4.4 4.5 1.8 3.3 27 3.2 2.3 2.5 2.5 3.8 4.4 5.1 4.5 2.5 4.5 27 26 3.7 3.1 2.8 3.7 4.3 5.2 5.4 6.2 2.9 4.7 26 25 3.8 3.5 25 4.4 3.6 3.6 4.8 5.5 6.2 6.5 5.0 24 5.2 3.8 4.3 4.3 5.4 7.4 4.2 6.9 24 6.6 6.5 23 5.8 4.9 5.0 6.4 6.2 7.5 7.5 8.0 4.5 7.2 23 22 6.8 5.8 5.7 6.6 7.1 8.1 9.3 9.0 5.0 7.3 22 21 7.9 5.9 6.6 6.8 8.6 9.4 10.6 9.2 6.09.6 21 20 8.4 8.2 6.7 9.4 9.6 10.3 11.1 11.5 8.0 9.9 20 19 19 9.9 8.6 8.4 9.7 10.7 11.4 12.5 12.8 8.4 10.2 10.9 18 9.4 10.0 10.0 11.9 12.4 14.3 12.8 9.2 12.7 18 17 11.3 11.9 10.4 13.6 13.4 14.1 14.8 15.5 11.2 13.3 17 16 13.2 13.2 11.9 14.2 14.6 15.5 17.2 16.8 11.5 13.4 16 15 14.9 13.7 14.5 18.0 17.2 13.3 17.5 15 14.1 16.4 16.8 14 15.9 17.1 14.3 18.9 15.9 17.8 14 17.5 19.0 18.5 21.5 13 18.4 18.3 16.5 17.6 21.2 20.6 22.5 23.1 16.0 18.2 13 12 20.4 19.5 19.5 22.7 23.4 19.2 22.7 12 18.2 22.5 23.1 11 20.9 23.4 20.0 23.5 25.2 24.4 23.6 26.7 22.4 23.2 11 10 24.3 24.8 23.9 23.6 27.1 25.2 28.2 27.9 23.0 23.9 10 9 26.1 26.3 26.6 25.2 28.9 27.1 30.1 28.2 27.4 28.8 9 8 27.2 30.8 27.3 30.2 30.8 30.6 30.5 32.6 31.1 29.2 8 7 32.2 32.0 32.6 30.6 34.2 31.9 34.5 34.6 31.5 29.8 7 6 33.9 34.2 35.8 31.5 35.4 34.4 35.9 35.0 35.9 36.5 6 5 35.2 40.2 36.5 37.0 38.8 38.5 36.3 40.5 38.7 36.6 5 4 39.9 41.6 42.9 37.3 42.4 40.9 43.4 41.1 39.3 38.8 4 3 41.5 43.8 44.5 39.6 44.8 3 43.5 43.0 44.6 41.4 44.2



2

1

Mean

SD

Median

43.3

48.2

11.5

8.9

10.0

49.2

50.8

11.0

7.9

9.0

45.1

50.8

10.6

8.1

9.0

45.6

46.2

11.8

8.6

11.0

46.4

50.4

11.9

8.8

10.0

46.0

48.1

12.6

9.2

11.0

44.9

51.4

12.4

9.6

10.0

47.7

47.8

13.3

9.3

11.0

45.1

47.5

12.3

9.1

10.0

47.1

47.6

11.3

7.7

9.0

2

1

Mean

SD

Median



Table B.6 Base Rates of Normative Sample Obtaining Various Differences Between Primary Index Scores, by Overall Sample and FSIQ Ability Level (continued)

## Overall Sample (continued)

				Primary	Index S	core Con	nparison				
	VSI-	WMI	VSI-	-PSI	FRI-	WMI	FRI-	-PSI	WMI	I–PSI	
	VSI < WMI	VSI > WMI	VSI < PSI	VSI > PSI	FRI < WMI	FRI > WMI	FRI < PSI	FRI > PSI	WMI < PSI	WMI > PSI	
Difference	(–)	(+)	()	(+)	(-)	(+)	(-)	(+)	(-)	(+)	Difference
≥40	0.4	0.5	0.8	1.0	0.5	0.2	0.7	0.6	0.5	0.6	≥40
39	0.4	0.6	0.8	1.2	0.7	0.2	0.8	0.6	0.5	0.7	39
38	0.4	0.8	0.9	1.6	0.7	0.3	0.8	0.8	0.5	0.9	38
37	0.5	1.1	1.1	1.6	0.7	0.4	0.9	0.8	0.7	1.0	37
36	0.5	1.4	1.4	1.8	1.1	0.4	1.1	1.1	1.0	1.0	36
35	0.6	1.4	1.5	2.1	1.4	0.5	1.2	1.6	1.3	1.4	35
34	0.6	1.8	1.5	2.1	1.5	0.5	1.2	1.9	1.5	1.7	34
33	0.9	2.1	1.6	2.4	1.7	1.1	1.5	2.6	1.8	2.2	33
32	1.1	2.3	1.7	3.0	1.8	1.2	1.8	2.8	1.9	2.6	32
31	1.3	2.6	2.0	3.0	2.5	1.4	2.0	3.0	2.5	3.0	31
30	2.1	3.0	2.5	3.5	2.5	2.2	2.8	3.7	3.3	3.5	30
29	2.3	3.4	3.1	3.9	2.7	2.2	3.2	4.2	3.3	3.8	29
28	2.6	4.0	3.4	3.9	3.6	2.2	3.5	4.7	3.5	4.0	28
27	3.9	4.8	3.8	5.0	4.0	3.5	5.1	6.0	4.6	5.0	27
26	4.2	4.8	4.6	5.9	4.4	3.6	5.5	6.3	4.8	5.4	26
25	4.9	5.4	4.8	6.1	5.1	3.9	6.0	6.6	5.6	6.1	25
24	6.5	6.2	5.5	7.3	5.5	5.6	8.1	7.4	6.2	7.0	24
23	6.7	6.4	6.1	8.6	5.9	5.8	8.5	8.4	6.8	7.4	23
22	7.4	7.5	6.5	8.7	7.5	6.5	8.7	8.5	7.9	8.4	22
21	8.5	9.5	8.0	10.1	9.1	8.3	11.0	9.2	9.5	10.4	21
20	9.1	9.6	9.5	11.7	9.7	9.5	11.8	11.4	10.5	11.2	20
19	10.8	11.4	9.5	11.9	10.6	10.8	12.2	11.5	11.7	12.0	19
18	11.8	13.2	12.1	14.6	12.3	11.7	14.9	12.8	13.6	13.3	18
17	13.5	13.7	13.5	15.3	12.8	12.7	15.9	16.1	15.0	13.8	17
16	16.1	15.0	13.6	15.5	14.5	15.0	16.2	16.2	16.5	16.5	16
15	16.6	17.4	16.5	19.2	17.1	16.0	19.5	17.6	18.2	17.6	15
14	18.5	18.2	19.0	20.6	17.2	18.2	20.2	19.5	18.8	19.5	14
13	20.6	19.9	19.7	20.7	19.5	20.4	20.7	19.8	21.3	22.0	13
12	22.7	22.6	22.9	24.9	22.5	22.9	25.0	23.8	23.8	23.8	12
11	24.3	24.1	25.2	25.7	23.0	25.1	25.5	26.5	24.2	25.6	11
10	27.1	25.9	25.4	26.3	26.9	27.0	26.7	26.7	26.4	28.0	10
9	30.1	29.3	30.2	31.5	30.6	29.7	31.5	29.4	30.3	30.1	9
8	31.4	30.3	32.4	32.9	31.2	31.0	31.5	31.6	30.7	31.6	8
7	34.2	31.9	32.5	33.3	35.3	33.5	32.5	31.9	33.3	34.2	7
6	37.0	34.6	38.1	37.6	37.3	37.2	38.2	36.9	36.4	36.7	6
5	38.0	36.9	39.5	39.4	39.2	37.5	38.2	39.2	37.8	37.7	5
4	41.1	39.5	39.6	39.5	41.4	41.2	39.1	39.7	40.4	41.0	4
3	45.4	42.2	45.1	46.0	44.5	45.2	44.5	43.9	43.8	44.7	3
2	45.7	45.4	46.1	46.5	47.1	46.2	44.8	46.5	46.8	44.9	2
1	49.4	46.8	46.4	47.0	48.3	48.6	47.5	46.6	48.9	47.7	1
Mean	12.1	12.8	12.9	13.7	12.5	12.1	13.3	13.5	12.6	13.2	Mean
SD	8.5	9.2	8.6	9.4	8.7	8.2	9.2	9.3	9.1	9.2	SD
Median	10.0	11.0	11.0	12.0	10.0	11.0	12.0	12.0	10.0	11.0	Median





**Table B.6** Base Rates of Normative Sample Obtaining Various Differences Between Primary Index Scores, by Overall Sample and FSIQ Ability Level (continued)

## **FSIQ** ≤ **79**

				Primary	Index So	core Con	nparison				-
	VCI-	-VSI	VCI-	-FRI	VCI-	WMI	VCI-	-PSI	VSI-	-FRI	
	VCI < VSI	VCI > VSI	VCI < FRI	VCI > FRI	VCI < WMI	VCI > WMI	VCI < PSI	VCI > PSI	VSI < FRI	VSI > FRI	
Difference	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)	()	(+)	Difference
≥40	0.0	0.0	0.0	0.0	0.7	0.0	0.0	1.1	0.0	1.1	≥40
39	0.0	0.0	0.0	0.0	0.7	0.0	0.0	1.1	0.0	2.3	39
38	0.0	0.0	0.0	0.0	0.7	0.0	0.0	1.1	0.0	2.3	38
37	0.0	0.7	0.0	0.0	0.7	0.0	0.0	1.1	0.0	2.3	37
36	0.0	0.7	0.0	0.0	0.7	0.0	0.0	1.1	0.0	2.3	36
35	0.0	0.7	0.0	1.1	0.7	0.0	0.0	1.1	0.0	2.3	35
34	0.0	0.7	0.0	1.1	0.7	0.0	1.1	2.3	0.0	2.3	34
33	0.0	0.7	0.0	1.1	0.7	0.0	1.1	2.3	0.0	2.3	33
32	0.0	2.2	1.1	1.1	0.7	0.0	1.1	2.3	0.0	3.4	32
31	0.7 0.7	2.2	1.1 1.1	1.1	0.7 1.4	0.7	1.1 2.3	2.3 3.4	0.0	3.4	31 30
30 29	0.7	2.2	1.1	1.1	2.9	0.7	3.4	3.4	0.0 0.0	3.4	29
28	0.7	2.2	2.3	2.3	4.3	0.7	3.4	3.4 4.6	0.0	3.4	28
27	0.7	2.2	2.3	2.3	4.3	0.7	4.6	5.7	1.1	3.4	27
26	1.4	2.9	2.3	2.3	5.0	1.4	5.7	6.9	1.1	4.6	26
25	2.9	2.9	3.4	2.3	6.5	1.4	5.7	6.9	2.3	6.9	25
24	3.6	2.9	4.6	3.4	6.5	2.2	6.9	6.9	5.7	6.9	24
23	4.3	2.9	5.7	3.4	7.9	2.9	8.0	6.9	5.7	6.9	23
22	4.3	3.6	5.7	5.7	9.4	2.9	12.6	8.0	5.7	6.9	22
21	5.8	5.0	6.9	5.7	12.9	2.9	16.1	8.0	6.9	6.9	21
20	5.8	5.0	6.9	8.0	14.4	2.9	16.1	10.3	8.0	6.9	20
19	7.2	5.8	8.0	9.2	15.8	3.6	17.2	11.5	9.2	8.0	19
18	7.9	6.5	9.2	10.3	17.3	3.6	19.5	11.5	10.3	10.3	18
17	9.4	8.6	12.6	10.3	18.7	5.8	20.7	14.9	10.3	12.6	17
16	10.1	8.6	16.1	10.3	20.9	7.9	20.7	16.1	11.5	13.8	16
15	10.8	9.4	18.4	10.3	20.9	9.4	21.8	16.1	12.6	17.2	15
14	13.7	9.4	24.1	11.5	23.0	10.1	24.1	17.2	16.1	20.7	14
13	14.4	10.1	27.6	11.5	28.8	10.8	24.1	17.2	16.1	20.7	13
12	18.0	12.2	29.9	12.6	30.9	14.4	26.4	17.2	20.7	21.8	12
11	18.7	14.4	31.0	16.1	33.8	15.1	27.6	17.2	25.3	24.1	11
10	22.3	15.8	31.0	18.4	34.5	16.5	29.9	17.2	28.7	25.3	10
9	26.6	19.4	34.5	18.4	36.7	18.7	35.6	18.4	31.0	27.6	9
8	28.1	21.6	36.8	23.0	38.8	21.6	35.6	24.1	35.6	28.7	8
7	38.1	23.7	36.8	25.3	41.7	24.5	36.8	28.7	37.9	29.9	7
6	41.7	27.3	41.4	27.6	43.2	25.9	40.2	29.9	40.2	34.5	6
5	45.3	29.5	44.8	29.9	45.3	28.1	43.7	32.2	41.4	34.5	5
4 3	51.1 54.0	36.0 38.1	46.0 48.3	32.2 32.2	47.5 53.2	30.2 34.5	47.1 48.3	33.3 36.8	43.7 44.8	36.8 41.4	4 3
2	54.0 55.4	38.1 41.0	48.3	32.2 34.5	54.7	34.5 36.7	48.3 50.6	36.8 40.2	44.8	41.4	2
1	56.8	41.0	54.0	34.5 37.9	57.6	38.1	54.0	40.2	52.9	41.4	1
Mean	9.9	10.2	11.9	11.2	13.0	9.8	13.2	13.1	10.8	12.9	Mean
SD	6.6	8.0	7.5	8.5	8.6	6.8	9.0	10.2	7.1	9.8	SD
Median	7.0	8.0	13.0	8.0	12.5	8.0	11.0	8.0	10.0	11.0	Median
inculuii	7.0	0.0	10.0	0.0	12.0	0.0	11.0	0.0	10.0	11.0	inicalan







Table B.6 Base Rates of Normative Sample Obtaining Various Differences Between Primary Index Scores, by Overall Sample and FSIQ Ability Level (continued)

## **FSIQ** ≤ 79 (continued)

				Primary	Index S	core Con	nparison				
	VSI-	WMI	VSI-	-PSI	FRI-	WMI	FRI-	-PSI	WMI	–PSI	
	VSI < WMI	VSI > WMI	VSI < PSI	VSI > PSI	FRI < WMI	FRI > WMI	FRI < PSI	FRI > PSI	WMI < PSI	WMI > PSI	
Difference	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)	Difference
≥40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	≥40
39	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	39
38	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	38
37	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0	37
36	0.0	0.0	1.1	0.0	1.1	0.0	0.0	2.3	0.0	0.0	36
35	0.0	0.0	1.1	1.1	1.1	0.0	0.0	3.4	0.0	0.0	35
34	0.0	0.0	1.1	1.1	1.1	0.0	0.0	5.7	0.0	0.0	34
33	0.0	0.0	2.3	1.1	2.3	0.0	0.0	5.7	0.0	0.0	33
32	0.0	0.0	2.3	1.1	2.3	0.0	0.0	5.7	0.0	1.1	32
31	0.0	0.0	2.3	1.1	3.4	0.0	1.1	5.7	0.0	2.3	31
30	0.0	0.7	2.3	1.1	3.4	0.0	2.3	5.7	0.0	3.4	30
29	0.7	0.7	2.3	1.1	3.4	0.0	4.6	6.9	0.0	5.7	29
28	0.7	0.7	2.3	1.1	5.7	0.0	5.7	8.0	0.0	5.7	28
27	0.7	0.7	2.3	2.3	5.7	1.1	5.7	9.2	0.0	5.7	27
26	0.7	0.7	2.3	2.3	6.9	1.1	5.7	10.3	0.0	5.7	26
25	1.4	0.7	3.4	3.4	6.9	1.1	6.9	11.5	0.0	6.9	25
24	2.9	1.4	4.6	5.7	8.0	2.3	6.9	11.5	0.0	8.0	24
23	3.6	1.4	5.7	9.2	9.2	2.3	6.9	11.5	0.0	11.5	23
22	3.6	1.4	8.0	10.3	9.2	2.3	9.2	12.6	1.1	13.8	22
21	4.3	2.2	9.2	11.5	12.6	5.7	10.3	13.8	2.3	14.9	21
20	6.5	2.2	9.2	13.8	13.8	5.7	13.8	13.8	2.3	17.2	20
19	7.2	3.6	9.2	16.1	13.8	5.7	14.9	14.9	4.6	17.2	19
18	7.9	3.6	9.2	17.2	13.8	8.0	14.9	14.9	5.7	17.2	18
17	15.1	4.3	11.5	17.2	14.9	8.0	16.1	14.9	5.7	18.4	17
16	15.8	4.3	12.6	18.4	17.2	10.3	16.1	14.9	5.7	20.7	16
15	16.5	7.2	12.6	20.7	21.8	12.6	17.2	14.9	5.7	20.7	15
14	20.9	8.6	20.7	21.8	21.8	12.6	19.5	19.5	5.7	23.0	14
13	20.9	9.4	25.3	23.0	25.3	12.6	20.7	20.7	12.6	24.1	13
12	23.7	12.9	27.6	25.3	26.4	14.9	24.1	21.8	12.6	24.1	12
11	27.3	13.7	28.7	27.6	28.7	17.2	25.3	24.1	13.8	28.7	11
10	28.8	17.3	31.0	28.7	32.2	19.5	25.3	24.1	16.1	28.7	10
9	36.0	20.1	32.2	33.3	34.5	20.7	29.9	26.4	17.2	31.0	9
8	36.0	21.6	35.6	33.3	36.8	21.8	29.9	29.9	17.2	33.3	8
7	38.1	24.5	36.8	34.5	40.2	23.0	33.3	29.9	27.6	35.6	7
6	41.7	28.1	36.8	35.6	40.2	27.6	36.8	32.2	27.6	37.9	6
5	42.4	30.2	40.2	42.5	42.5	28.7	36.8	33.3	29.9	40.2	5
4	46.8	33.8	40.2	44.8	42.5	33.3	37.9	35.6	33.3	43.7	4
3	48.9	35.3	43.7	46.0	44.8	35.6	41.4	36.8	35.6	46.0	3
2	48.9	37.4	44.8	47.1	51.7	39.1	42.5	42.5	41.4	47.1	2
1	54.0	41.0	44.8	48.3	51.7	44.8	50.6	43.7	44.8	50.6	1
Mean	11.2	9.0	13.5	13.5	13.6	9.3	12.1	14.8	8.2	13.7	Mean
SD	6.7	6.1	7.8	8.3	9.3	7.3	9.3	11.8	5.9	9.4	SD
Median	11.0	8.0	13.0	12.0	12.0	7.0	10.0	11.5	7.0	11.0	Median





**Table B.6** Base Rates of Normative Sample Obtaining Various Differences Between Primary Index Scores, by Overall Sample and FSIQ Ability Level (continued)

#### $80 \le FSIQ \le 89$

				Primary	Index So	core Con	nparison				
	VCI-	-VSI	VCI-	-FRI	VCI-	WMI	VCI-	-PSI	VSI-	-FRI	
	VCI < VSI	VCI > VSI	VCI < FRI	VCI > FRI	VCI < WMI	VCI > WMI	VCI < PSI	VCI > PSI	VSI < FRI	VSI > FRI	
Difference	(–)	(+)	(-)	(+)	(–)	(+)	()	(+)	()	(+)	Difference
≥40	0.8	0.4	0.6	0.0	0.8	0.4	0.6	0.0	0.0	0.6	≥40
39	0.8	0.4	0.6	0.0	0.8	0.4	0.6	0.0	0.6	0.6	39
38	1.2	0.4	1.2	0.0	0.8	0.4	0.6	0.0	0.6	0.6	38
37	1.6	0.4	1.2	0.0	0.8	0.4	1.2	0.0	0.6	0.6	37
36	1.6	0.8	1.8	0.0	0.8	0.8	1.8	0.0	0.6	0.6	36
35	1.6	0.8	1.8	0.0	1.9	8.0	1.8	0.0	0.6	0.6	35
34	1.9	0.8	1.8	0.0	2.7	8.0	1.8	0.0	0.6	0.6	34
33	1.9	1.2	1.8	0.0	2.7	8.0	1.8	0.0	0.6	1.2	33
32	2.3	1.2	1.8	0.0	2.7	0.8	1.8	0.0	0.6	1.2	32
31	2.3	1.2	1.8	0.0	2.7	0.8	2.4	0.0	0.6	1.2	31
30	2.7	1.6	2.4	0.0	3.1	0.8	2.4	0.6	0.6	2.4	30
29	3.1	1.6	2.4	0.0	3.9	1.2	2.4	0.6	1.2	3.0	29
28 27	3.5 3.9	1.9 1.9	4.2 5.5	0.6	5.1 5.1	1.2 1.6	3.0 4.2	1.2 1.2	1.2 1.2	3.0 3.6	28 27
26	4.3	1.9	5.5	0.6 1.2	5.8	2.3	4.2	1.2	1.2	3.0 4.2	26
25	4.3	1.9	6.1	1.2	6.6	3.5	4.8	1.2	1.8	4.2	25
24	5.8	2.3	6.7	2.4	8.6	3.9	6.1	1.2	1.8	4.8	24
23	7.0	2.3	7.3	3.6	8.9	4.3	6.1	1.8	1.8	5.5	23
22	7.8	3.5	7.3	4.2	10.5	4.7	7.9	3.0	2.4	6.1	22
21	10.9	3.5	8.5	4.8	11.3	5.8	9.7	4.2	2.4	7.9	21
20	10.9	4.3	8.5	6.1	12.5	6.2	11.5	5.5	2.4	8.5	20
19	10.9	4.3	9.1	7.3	13.6	7.4	12.1	6.1	2.4	8.5	19
18	11.7	5.8	11.5	7.9	15.2	8.2	17.0	6.1	3.0	10.9	18
17	12.1	6.6	11.5	12.1	16.7	8.6	19.4	6.1	4.8	12.7	17
16	14.4	8.2	13.9	14.5	18.3	10.1	20.6	7.9	5.5	12.7	16
15	17.5	10.1	15.2	14.5	21.4	11.3	21.8	9.7	7.3	17.0	15
14	19.1	10.9	15.8	16.4	23.7	13.6	23.6	10.9	9.1	17.6	14
13	19.8	13.6	17.0	16.4	26.8	14.4	27.3	12.7	9.1	17.6	13
12	23.7	16.0	18.8	16.4	29.6	15.2	28.5	12.7	11.5	24.2	12
11	23.7	16.0	21.2	21.2	33.1	16.0	29.7	15.2	15.2	25.5	11
10	27.2	19.8	23.0	21.2	33.9	17.9	35.2	18.8	17.0	25.5	10
9	30.4	20.2	26.1	24.2	36.2	19.8	37.6	19.4	20.6	32.1	9
8	32.7	21.4	29.1	32.1	37.7	23.0	38.8	20.0	23.6	32.7	8
7	36.6	24.1	32.7	33.3	40.1	23.0	41.2	24.8	24.2	33.9	7
6	38.9	28.8	35.8	35.2	42.8	27.6	45.5	26.1	24.2	43.0	6
5	40.9	31.9	37.6	38.8	45.5	31.1	46.1	28.5	29.1	43.0	5
4	45.5	34.6	43.0	39.4	48.6	33.1	50.9	30.9	31.5	47.9	4
3	46.7	37.0	43.6	43.0	51.0	37.4	54.5	30.9	34.5	53.3	3
2	51.4	41.2	45.5	46.7	54.1	40.1	55.2	37.0	38.8	53.3	2
1	54.1	45.5	48.5	47.9	55.6	42.0	61.8	37.6	38.8	58.2	1
Mean	11.8	9.5	11.9	10.7	13.3	10.5	12.0	10.2	9.6	10.8	Mean
SD Madian	9.0	7.8	9.2	6.8	9.0	8.2	8.7	7.0	6.9	8.2	SD Madian
Median	10.0	7.0	9.0	9	12.0	8.0	10.0	9.5	9.0	9.0	Median







Table B.6 Base Rates of Normative Sample Obtaining Various Differences Between Primary Index Scores, by Overall Sample and FSIQ Ability Level (continued)

## $80 \le FSIQ \le 89$ (continued)

				Primary	Index S	core Con	nparison				
	VSI-	WMI	VSI-	-PSI	FRI-	WMI	FRI-	-PSI	WMI	I–PSI	
	VSI < WMI	VSI > WMI	VSI < PSI	VSI > PSI	FRI < WMI	FRI > WMI	FRI < PSI	FRI > PSI	WMI < PSI	WMI > PSI	
Difference	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)	Difference
≥40	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	≥40
39	0.8	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39
38	0.8	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38
37	0.8	1.2	0.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0	37
36	0.8	1.6	0.6	0.0	1.8	0.0	0.6	0.0	0.0	0.0	36
35	0.8	1.6	0.6	0.0	2.4	0.0	0.6	0.0	0.0	0.6	35
34	0.8	2.3	0.6	0.0	2.4	0.0	0.6	0.6	0.6	0.6	34
33	0.8	2.3	0.6	0.6	2.4	0.0	0.6	1.2	0.6	0.6	33
32	1.2	2.3	0.6	1.2	2.4	0.6	1.8	1.8	0.6	0.6	32
31	1.2	2.7	1.2	1.2	2.4	0.6	1.8	1.8	1.2	0.6	31
30	3.1	2.7	3.0	1.8	2.4	0.6	3.0	2.4	1.2	1.8	30
29	3.1	3.1	3.0	1.8	3.0	0.6	3.6	4.2	1.2	1.8	29
28 27	3.1 3.5	3.9 4.7	3.6 3.6	1.8 1.8	3.6 4.2	0.6 0.6	3.6 5.5	4.2 4.8	1.8 3.0	1.8 1.8	28 27
	3.5	4.7	4.2	4.2	5.5		6.7	4.8	3.6	2.4	26
26 25	4.3	4.7	4.2	4.8	6.1	0.6	7.9	5.5	4.8	3.0	25
24	5.8	5.4	4.2	4.8	7.3	1.2	9.7	5.5	4.8	4.2	24
23	6.2	5.4	4.2	6.7	8.5	1.2	10.9	5.5	4.8	4.2	23
22	7.4	6.2	4.8	6.7	9.7	2.4	11.5	5.5	7.3	4.8	22
21	8.9	7.4	5.5	7.9	10.3	3.0	15.2	6.1	9.7	6.1	21
20	10.1	7.8	7.9	8.5	12.1	3.0	16.4	8.5	9.7	7.3	20
19	12.1	9.3	7.9	8.5	13.9	4.2	16.4	8.5	10.9	7.9	19
18	12.5	11.3	10.3	10.9	15.8	6.7	19.4	9.7	10.9	8.5	18
17	16.0	12.1	12.1	10.9	17.0	6.7	22.4	10.9	10.9	9.1	17
16	17.9	12.8	12.1	11.5	17.6	6.7	22.4	10.9	12.7	10.9	16
15	17.9	15.2	12.7	12.7	20.6	7.9	24.8	11.5	15.2	12.1	15
14	21.4	15.2	15.2	15.2	20.6	7.9	24.8	11.5	15.2	16.4	14
13	21.4	16.0	17.0	15.2	23.6	11.5	24.8	12.1	18.2	19.4	13
12	23.3	17.5	18.8	20.0	27.9	16.4	30.3	13.9	21.2	20.6	12
11	26.5	17.5	24.2	21.2	29.1	17.0	30.3	15.2	21.8	24.2	11
10	27.6	21.4	24.2	23.6	33.3	20.0	30.9	15.2	25.5	24.8	10
9	30.4	23.3	27.3	26.1	36.4	22.4	36.4	18.2	27.9	28.5	9
8	32.3	23.3	30.3	29.7	37.6	22.4	36.4	21.2	27.9	33.9	8
7	34.2	27.6	30.3	30.3	38.8	26.1	37.6	21.2	30.9	36.4	7
6	35.8	29.2	38.8	32.1	42.4	29.1	43.0	24.8	33.3	38.8	6
5	37.4	30.7	41.2	34.5	46.7	29.7	43.0	29.1	35.8	41.2	5
4	40.9	37.4	41.2	34.5	46.7	35.8	44.2	30.9	39.4	45.5	4
3	44.7	40.9	46.7	41.8	50.3	38.8	48.5	33.9	44.2	47.3	3
2	45.1	45.9	47.9	43.0	55.2	38.8	49.7	40.6	46.7	47.3	2
1	47.9	49.4	47.9	43.6	55.2	42.4	54.5	40.6	49.1	48.5	1
Mean	12.8	10.7	11.7	11.9	13.0	9.6	13.6	10.9	11.3	11.6	Mean
SD	8.7	9.5	7.9	8.1	8.7	6.5	9.2	9.3	8.2	7.1	SD
Median	11.0	7.0	11.0	10.0	12.0	9.0	12.0	8.0	10.0	10.5	Median





**Table B.6** Base Rates of Normative Sample Obtaining Various Differences Between Primary Index Scores, by Overall Sample and FSIQ Ability Level (continued)

## 90 ≤ FSIQ ≤ 109

				Primary	Index S	core Con	nparison				
	VCI-	-VSI	VCI-	-FRI	VCI-	WMI	VCI-	-PSI	VSI-	-FRI	
	VCI < VSI	VCI > VSI	VCI < FRI	VCI > FRI	VCI < WMI	VCI > WMI	VCI < PSI	VCI > PSI	VSI < FRI	VSI > FRI	
Difference	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)	Difference
≥40	0.7	0.0	0.5	0.4	0.6	0.2	0.5	0.2	0.0	0.4	≥40
39	0.9	0.0	0.5	0.5	0.7	0.4	0.5	0.2	0.0	0.4	39
38	0.9	0.0	0.5	0.7	0.9	0.4	0.9	0.2	0.4	0.5	38
37	0.9	0.0	0.5	0.7	1.1	0.5	1.1	0.4	0.4	0.5	37
36	1.2	0.0	0.7	0.9	1.2	0.9	1.6	0.5	0.5	0.5	36
35	1.2	0.0	0.7	0.9	1.3	1.1	1.6	0.9	0.5	0.5	35
34	1.3	0.0	0.7	0.9	1.3	1.3	2.2	1.5	0.5	0.9	34
33	1.3	0.0	0.7	1.1	1.4	2.1	2.4	1.5	0.5	1.6	33
32	1.3	0.1	0.7	1.5	1.5	2.3	2.6	1.8	0.5	2.0	32
31	1.4	0.7	0.9	1.5	1.8	2.3	3.3	2.0	0.9	2.2	31
30	1.6	0.8	1.1	1.5	2.0	2.6	3.5	2.0	1.1	2.9	30
29	1.8	1.2	1.5	2.2	2.6	3.4	4.2	2.6	1.3	3.1	29
28	2.2	1.8	1.6	2.4	3.4	3.4	5.1	2.9	2.2	3.1	28
27	2.6	2.0	2.0	2.6	3.7	4.4	6.0	2.9	2.6	5.1	27
26	3.0	2.7	2.6	4.2	4.2	4.8	6.2	3.6	3.3	5.1	26
25	3.7	3.6	3.3	4.4	4.6	4.9	6.9	4.2	4.2	5.3	25
24 23	4.7 5.1	3.7	4.2	4.6	4.9	6.7	8.6	4.2	4.2	7.3	24
23 22	6.3	4.7 5.8	5.3 5.7	6.4 6.4	5.8 6.9	7.6 8.2	8.6 9.9	4.9 6.0	4.9 5.5	7.3 7.3	23 22
21	6.8	5.8	6.9	6.6	8.5	9.8	11.3	6.0	5.5	7.3 8.9	21
20	7.6	8.2	7.1	9.9	9.6	10.7	11.7	6.9	8.9	8.9	20
19	9.6	8.9	8.6	9.9	10.9	11.4	13.9	9.1	9.5	9.3	19
18	10.7	9.7	10.4	9.9	12.1	13.2	15.7	9.1	10.0	11.7	18
17	11.1	12.0	10.6	14.2	13.9	14.3	15.9	11.5	12.2	11.7	17
16	13.1	14.0	11.1	14.2	14.7	15.0	18.1	13.1	12.4	11.7	16
15	14.3	15.2	13.1	14.2	16.9	16.8	19.0	13.1	13.9	16.2	15
14	15.4	17.9	13.1	17.5	20.0	19.0	19.0	18.4	16.8	16.2	14
13	18.8	19.2	15.3	17.7	22.0	20.1	23.5	20.8	17.0	16.2	13
12	19.6	20.6	18.6	17.7	23.5	23.0	24.3	20.8	20.4	20.6	12
11	20.4	24.9	18.8	23.7	25.6	25.5	24.3	23.5	24.1	20.6	11
10	24.1	26.3	23.7	23.7	27.8	25.7	29.9	24.8	24.1	20.8	10
9	25.1	28.6	26.5	23.9	29.4	28.2	31.2	24.8	28.6	26.5	9
8	26.4	33.5	26.5	28.6	31.4	32.1	31.4	30.1	31.9	26.5	8
7	31.4	34.7	32.7	28.6	34.7	32.8	36.3	31.8	31.9	27.0	7
6	32.7	36.9	35.0	29.0	35.5	35.9	37.0	31.8	38.9	35.0	6
5	33.9	41.9	35.2	35.9	39.4	40.9	37.0	38.5	41.8	35.0	5
4	36.9	42.9	43.8	35.9	42.4	42.1	44.3	38.9	41.8	36.1	4
3	38.7	45.8	44.9	37.2	42.8	43.3	45.3	38.9	48.0	43.1	3
2	40.5	50.2	45.3	45.8	45.7	46.0	45.3	46.2	49.6	43.2	2
1	46.6	52.0	52.6	45.8	50.9	47.7	53.5	46.2	49.6	44.3	1
Mean	11.3	11.1	10.2	11.7	11.9	12.8	12.4	11.8	11.5	12.3	Mean
SD	8.8	7.4	8.0	8.8	8.8	8.9	9.8	8.4	7.6	9.0	SD
Median	10.0	10.0	9.0	11.0	11.0	11.0	10.0	11.0	9.0	9.0	Median





Table B.6 Base Rates of Normative Sample Obtaining Various Differences Between Primary Index Scores, by Overall Sample and FSIQ Ability Level (continued)

## $90 \le FSIQ \le 109$ (continued)

				Primary	Index S	core Con	parison				
	VSI-	WMI	VSI-	-PSI	FRI-	WMI	FRI-	-PSI	WMI	-PSI	
	VSI < WMI	VSI > WMI	VSI < PSI	VSI > PSI	FRI < WMI	FRI > WMI	FRI < PSI	FRI > PSI	WMI < PSI	WMI > PSI	
Difference	(–)	(+)	(–)	(+)	(–)	(+)	(-)	(+)	(-)	(+)	Difference
≥40	0.4	0.4	0.9	0.5	0.5	0.4	1.3	0.2	0.9	0.7	≥40
39	0.4	0.4	0.9	0.9	0.7	0.4	1.3	0.2	1.1	0.7	39
38	0.4	0.4	1.1	1.3	0.7	0.5	1.3	0.2	1.1	0.9	38
37	0.6	0.7	1.3	1.3	0.7	0.5	1.3	0.2	1.3	0.9	37
36	0.7	1.1	1.6	1.5	0.9	0.5	1.6	0.4	1.6	0.9	36
35	0.9	1.1	1.8	1.5	1.1	0.7	1.8	0.9	2.0	1.3	35
34	0.9	1.4	1.8	1.5	1.3	0.7	1.8	0.9	2.2	1.5	34
33	1.4	1.6	1.8	1.5	1.5	1.5	2.2	1.3	2.7	1.8	33
32	1.8	1.8	2.0	1.8	1.5	1.5	2.4	1.5	2.7	2.0	32
31	1.8	2.0	2.4	1.8	2.2	1.6	2.6	1.6	3.3	2.4	31
30	2.6	2.5	2.6	2.0	2.2	2.2	3.3	1.8	4.4	2.7	30
29	2.6	2.6	3.8	2.7	2.4	2.2	3.5	2.0	4.4	2.9	29
28	2.6	3.2	4.2	2.7	3.5	2.2	3.5	2.7	4.6	2.9	28
27	5.1	4.1	4.2	3.5	3.8	3.8	5.3	3.5	5.8	4.2	27
26	5.4	4.1	5.7	3.6	3.8	4.0	5.7	3.8	5.8	4.2	26
25	5.8	4.9	5.8	3.6	4.7	4.6	6.2	4.2	7.1	4.4	25
24	7.5	5.6	6.4	4.4	4.7	6.6	8.8	4.6	7.3	5.3	24
23	7.7	5.8	7.5	5.3	4.9	6.9	9.1	6.2	8.0	5.3	23
22	8.3	7.4	7.7	5.3	7.3	7.8	9.1	6.2	9.3	6.2	22
21	9.5	9.3	8.9	6.6	9.1	9.3	11.7	6.9	10.6	7.7	21
20	9.5	9.3	10.8	8.8	9.1	10.9	12.2	9.5	11.1	8.4	20
19	11.4	11.3	10.8	8.8	10.0	12.4	12.2	9.5	13.0	9.3	19
18	12.3	13.6	13.9	10.9	12.2	12.6	16.2	10.4	15.3	10.0	18
17	13.3	13.8	15.7	11.7	12.2	13.0	16.6	14.4	16.4	10.6	17
16	16.7	15.3	15.9	11.9	14.6	16.8	16.6	14.6	18.4	12.8	16
15	17.2	17.8	18.8	16.2	17.0	17.7	20.8	15.7	20.4	13.7	15
14	18.5	18.1	21.0	18.1	17.0	19.2	21.5	17.9	21.2	15.1	14
13	21.8	21.1	21.2	18.1	18.8	22.1	21.7	17.9	23.5	17.5	13
12	23.9	23.9	25.7	21.5	21.5	24.5	26.5	21.7	25.9	19.3	12
11	25.4	24.3	28.3	22.4	21.7	26.3	27.2	25.2	26.1	21.0	11
10	28.5	26.2	28.3	22.4	24.8	27.9	27.7	25.4	28.1	24.5	10
9	31.1	29.9	34.5	27.9	30.1	31.6	34.1	27.4	33.6	26.5	9
8	32.8	30.3	37.0	29.6	30.3	32.3	34.1	29.0	33.8	27.4	8
7	36.1	31.8	37.0	29.7	34.7	35.6	34.7	29.4	35.4	29.6	7
6	38.9	34.9	44.3	33.9	37.6	39.1	40.5	35.6	39.1	32.3	6
5	39.6	36.2	45.6	35.0	38.7	39.1	40.5	37.2	40.3	32.8	5
4	41.9	38.6	45.6	35.0	40.9	40.7	41.2	37.2	43.2	35.4	4
3	47.8	41.0	50.7	42.0	44.3	46.5	47.4	42.7	47.3	40.3	3
2	47.8	43.5	52.0	42.2	45.6	47.1	47.4	43.8	50.4	40.5	2
1	51.2	44.4	52.0	42.2	47.3	48.9	48.9	43.8	52.4	43.6	1
Mean	12.3	13.2	13.1	12.8	12.4	12.7	13.7	12.7	13.0	12.1	Mean
SD	8.7	8.7	8.6	8.6	8.5	8.4	9.3	8.2	9.5	9.0	SD
Median	10.0	12.0	11.0	12.0	10.0	11.5	12.0	11.0	10.0	10.0	Median





**Table B.6** Base Rates of Normative Sample Obtaining Various Differences Between Primary Index Scores, by Overall Sample and FSIQ Ability Level (continued)

## $110 \le FSIQ \le 119$

				Primary	Index So	core Con	ıparison				
	VCI-	-VSI	VCI-	-FRI	VCI-	WMI	VCI-	-PSI	VSI-	-FRI	
	VCI < VSI	VCI > VSI	VCI < FRI	VCI > FRI	VCI < WMI	VCI > WMI	VCI < PSI	VCI > PSI	VSI < FRI	VSI > FRI	
Difference	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)	Difference
≥40	0.7	0.7	0.0	0.5	0.4	0.0	1.1	0.5	0.0	1.1	≥40
39	0.7	0.7	0.0	0.5	0.4	0.7	1.1	0.5	0.0	1.1	39
38	0.7	1.1	0.0	1.6	0.4	1.1	1.1	1.6	0.5	1.1	38
37	1.1	1.1	0.0	1.6	0.4	1.1	1.6	2.2	0.5	1.1	37
36	1.4	1.1	0.0	1.6	0.4	1.8	1.6	2.2	1.1	1.6	36
35	1.8	1.1	0.0	1.6	0.7	2.1	1.6	3.8	1.1	1.6	35
34	1.8	1.4	0.5	1.6	1.1	2.1	2.2	5.4	1.1	1.6	34
33	2.1	1.4	0.5	1.6	1.1	3.9	2.2	5.4	1.6	2.2	33
32	2.1	1.4	0.5	2.2	1.1	4.6	2.2	5.9	1.6	2.7	32
31	2.5	1.4	1.6	2.2	1.1	4.6	3.2	5.9	1.6	2.7	31
30	2.8	1.4	1.6	2.2	1.4	5.3	3.2	5.9	2.7	3.2	30
29	3.2	3.6	1.6	2.2	1.8	6.4	3.2	7.0	2.7	3.2	29
28	4.3	3.6	1.6	2.2	1.8	6.4	3.8	7.0	2.7	3.2	28
27	5.0	3.6	1.6	2.2	1.8	7.1	3.8	7.0	3.8	3.8	27
26 25	5.7 6.8	4.6 5.0	1.6	2.7	2.1	9.6 9.6	3.8 5.4	10.8	4.3	3.8	26 25
25 24	7.1	5.0 5.0	3.2 3.2	3.2	3.6	10.0	5.4	10.8	4.3 5.4	3.8 7.5	25 24
23	7.1	5.0 7.5	3.2	3.2 7.0	4.3	11.7	5.9	12.4	5.4	8.1	23
22	8.9	7.5	4.3	7.0	4.3	11.7	7.0	12.4	5.9	8.1	22
21	10.0	7.5	4.3	7.0	5.7	13.2	7.5	12.9	9.7	12.4	21
20	10.0	12.5	4.3	9.7	6.0	14.2	7.5	18.3	10.8	12.9	20
19	12.1	12.5	7.5	9.7	7.1	16.4	7.5	18.3	10.8	12.9	19
18	13.9	12.5	8.6	9.7	8.5	16.4	7.5	18.3	11.8	15.6	18
17	13.9	17.4	8.6	12.9	8.5	19.2	7.5	22.6	15.6	15.6	17
16	15.7	17.4	9.7	12.9	10.7	20.6	11.8	23.1	15.6	15.6	16
15	16.0	17.4	11.8	13.4	11.4	20.6	12.4	23.7	17.7	17.2	15
14	16.0	23.8	11.8	15.6	12.8	24.2	12.4	29.0	20.4	17.2	14
13	18.5	24.6	15.1	15.6	14.9	26.7	19.4	29.6	20.4	18.3	13
12	21.7	24.6	18.8	16.1	15.3	26.7	20.4	29.6	23.1	23.1	12
11	21.7	29.5	18.8	22.0	17.4	28.8	20.4	36.0	24.7	23.1	11
10	24.2	29.5	22.6	22.0	19.2	29.9	22.0	36.0	24.7	24.2	10
9	26.0	29.5	24.7	24.7	19.9	30.2	23.7	36.6	30.1	28.0	9
8	26.0	34.5	24.7	30.1	22.8	34.2	23.7	40.9	36.6	28.0	8
7	30.6	34.5	31.7	30.1	28.5	37.4	28.5	40.9	36.6	28.0	7
6	32.0	34.9	37.6	31.2	28.8	37.4	29.6	40.9	38.7	33.3	6
5	32.0	47.0	37.6	37.6	32.4	40.6	29.6	47.8	40.3	33.3	5
4	38.8	47.0	43.5	37.6	38.1	46.3	39.2	47.8	40.3	36.0	4
3	39.9	47.3	47.3	40.9	38.1	47.0	39.8	47.8	45.7	41.4	3
2	39.9	54.4	47.3	45.2	42.3	50.2	39.8	55.9	51.6	41.4	2
1	45.2	54.4	50.0	45.2	45.6	54.4	43.5	55.9	51.6	44.1	1
Mean	12.6	12.2	10.2	11.9	10.2	13.5	11.8	14.8	12.1	13.2	Mean
SD	9.8	8.7	7.2	8.8	8.1	10.3	9.5	10.3	8.5	9.7	SD
Median	10.0	11.0	7.0	9.0	7.5	11.0	10.0	14.0	9.0	12.0	Median







Table B.6 Base Rates of Normative Sample Obtaining Various Differences Between Primary Index Scores, by Overall Sample and FSIQ Ability Level (continued)

## **110 ≤ FSIQ ≤ 119** *(continued)*

						core Con					
	VSI-	WMI	VSI-	-PSI	FRI-	WMI	FRI-	-PSI	WMI	-PSI	
	VSI < WMI	VSI > WMI	VSI < PSI	VSI > PSI	FRI < WMI	FRI > WMI	FRI < PSI	FRI > PSI	WMI < PSI	WMI > PSI	
Difference	(-)	(+)	()	(+)	(-)	(+)	()	(+)	(-)	(+)	Difference
≥40	0.4	0.7	1.6	1.6	0.5	0.0	0.0	0.5	0.0	0.0	≥40
39	0.4	0.7	1.6	1.6	1.1	0.0	0.5	0.5	0.0	0.5	39
38	0.4	1.1	1.6	2.2	1.1	0.0	0.5	1.1	0.0	0.5	38
37	0.4	1.8	1.6	2.2	1.1	0.5	0.5	1.1	0.5	0.5	37
36	0.4	1.8	1.6	2.2	1.1	0.5	0.5	1.1	1.1	0.5	36
35	0.4	1.8	1.6	2.2	1.1	0.5	0.5	1.6	1.1	0.5	35
34	0.4	2.5	1.6	2.2	1.1	1.1	0.5	1.6	1.1	1.1	34
33	0.4	3.2	2.2	2.7	1.1	1.6	1.1	3.8	1.6	2.2	33
32	0.4	3.2	2.2	3.2	1.1	1.6	1.1	3.8	2.2	3.2	32
31	0.4	3.9 4.3	2.2	3.2	1.1	2.2 4.8	1.1 1.6	4.3	3.2 4.3	3.2	31 30
29	1.8	4.5 4.6	2.2	3.8	1.6	4.8	1.6	4.8	4.3	3.8	29
28	2.5	6.0	2.2	3.8	2.2	4.8	2.2	5.4	4.3	3.8	28
27	2.5	6.8	3.8	5.4	2.7	6.5	4.3	9.1	5.4	4.8	27
26	3.2	6.8	3.8	6.5	2.7	6.5	4.3	9.1	5.4	5.4	26
25	3.2	7.5	3.8	6.5	3.2	6.5	4.3	9.1	5.4	5.9	25
24	5.7	8.2	5.4	9.1	3.8	8.1	5.4	10.8	7.0	6.5	24
23	5.7	8.2	5.4	9.7	4.3	8.1	5.4	10.8	8.1	7.0	23
22	6.0	9.6	5.4	9.7	5.4	8.6	5.4	10.8	8.1	8.6	22
21	7.5	12.1	6.5	10.8	7.0	10.2	7.0	11.8	10.2	12.4	21
20	8.2	12.5	7.5	10.8	7.0	12.4	7.5	14.0	12.9	12.4	20
19	8.9	14.2	7.5	10.8	7.5	14.5	8.1	14.0	12.9	13.4	19
18	11.7	16.7	9.7	15.1	8.1	15.1	9.1	15.1	16.1	16.1	18
17	11.7	17.1	9.7	16.7	8.6	17.7	10.8	19.9	18.8	16.7	17
16	13.9	18.9	9.7	16.7	9.1	18.8	10.8	19.9	19.4	21.0	16
15	14.9	21.0	14.0	21.5	10.2	19.4	13.4	23.1	21.0	21.5	15
14	15.7	22.8	16.7	21.5	10.2	24.7	14.0	24.7	21.5	22.0	14
13	17.8	22.8	16.7	21.5	12.4	25.3	15.1	24.7	22.6	25.3	13
12	19.6	26.7	18.3	28.5	15.6	26.3	19.4	30.6	25.8	28.5	12
11	19.6	30.2	18.8	28.5	15.6	29.6	19.9	32.3	25.8	29.0	11
10	24.6	30.2	18.8	29.0	21.0	31.7	22.0	32.3	28.0	31.2	10
9	28.1	35.6	24.2	36.0	23.7	32.8	23.7	36.0	30.6	32.8	9
8	28.1	37.0	25.3	36.0	23.7	35.5	24.2	38.7	32.3	33.3	8
7	31.7	37.0	25.3	36.0	28.0	36.6	24.7	38.7	34.4	35.5	7
6	35.2	40.2	28.5	46.2	28.0	41.9	33.3	43.5	38.7	37.1	6
5 4	35.6 40.6	44.5 44.5	29.0 29.0	47.3 47.3	30.1 33.9	42.5 49.5	33.3 34.4	47.3	38.7 40.3	38.2 42.5	5 4
3	40.6	44.5 47.0	37.1	47.3 54.8	36.6	49.5 52.2	34.4	47.3 51.6	40.3	46.2	3
2	42.3	50.9	37.1	54.8	39.8	54.3	38.2	55.4	46.2	46.2	2
1	48.0	50.9	37.6	56.5	41.4	56.5	40.9	55.4 55.4	47.8	50.0	1
Mean	11.3	14.1	12.7	12.9	11.0	12.6	12.0	13.9	13.6	13.5	Mean
SD	8.1	9.4	9.4	9.3	8.5	9.0	8.5	9.5	9.2	9.2	SD
Median	10.0	12.0	10.0	12.0	10.0	11.0	10.0	12.0	12.0	13.0	Median
uiuii		0		0				0			







**Table B.6** Base Rates of Normative Sample Obtaining Various Differences Between Primary Index Scores, by Overall Sample and FSIQ Ability Level (continued)

## **FSIQ** ≥ 120

				Primary	Index So	core Con	ıparison				-
	VCI-	-VSI	VCI-	-FRI	VCI-	WMI	VCI-	-PSI	VSI-	-FRI	
	VCI < VSI	VCI > VSI	VCI < FRI	VCI > FRI	VCI < WMI	VCI > WMI	VCI < PSI	VCI > PSI	VSI < FRI	VSI > FRI	
Difference	(-)	(+)	(-)	(+)	(-)	(+)	()	(+)	()	(+)	Difference
≥40	1.2	0.6	0.0	0.9	0.0	2.4	1.8	3.5	0.0	0.0	≥40
39	1.8	0.6	0.0	0.9	0.0	2.4	1.8	3.5	0.0	0.0	39
38	1.8	0.6	0.0	2.6	0.6	3.0	1.8	3.5	0.0	0.9	38
37	1.8	0.6	0.9	2.6	0.6	3.0	2.6	4.4	0.0	0.9	37
36	1.8	0.6	0.9	2.6	0.6	3.6	2.6	4.4	0.0	1.8	36
35	1.8	0.6	0.9	2.6	0.6	3.6	2.6	6.1	0.0	2.6	35
34	1.8	1.2	1.8	3.5	0.6	4.2	3.5	6.1	0.0	2.6	34
33	2.4	1.2	1.8	3.5	0.6	4.2	3.5	6.1	0.9	2.6	33
32	2.4	1.2	1.8	3.5	0.6	4.8	3.5	7.9	0.9	2.6	32
31	3.0	1.2	1.8	3.5	0.6	4.8	4.4	7.9	0.9	2.6	31
30	3.6	1.2	1.8	3.5	1.2	5.4	4.4	7.9	0.9	2.6	30
29	3.6	2.4	1.8	5.3	4.2	6.6	4.4	10.5	0.9	4.4	29
28	3.6	2.4	2.6	5.3	4.8	6.6	4.4	12.3	0.9	4.4	28
27 26	4.2 4.8	2.4 4.8	2.6	5.3 7.9	4.8	6.6 7.2	4.4	12.3 17.5	2.6 2.6	5.3	27 26
25	5.4	4.8	2.6 2.6	7.9	5.4 5.4	7.8	4.4 6.1	18.4	2.6	5.3 5.3	25
24	5.4	4.8	2.6	7.9	5.4	8.4	6.1	18.4	4.4	7.0	25
23	5.4	7.8	2.6	11.4	5.4	9.0	6.1	25.4	4.4	7.0	23
22	6.0	7.8	6.1	11.4	5.4	11.4	9.6	26.3	4.4	7.9	22
21	7.8	7.8	6.1	11.4	6.0	11.4	9.6	26.3	7.0	13.2	21
20	7.8	9.6	6.1	12.3	7.2	13.8	9.6	32.5	7.0	14.0	20
19	8.4	10.2	7.9	13.2	7.2	15.6	10.5	32.5	7.0	14.0	19
18	8.4	10.2	8.8	14.0	7.2	15.6	10.5	32.5	8.8	17.5	18
17	8.4	12.6	8.8	16.7	9.6	20.4	10.5	36.8	8.8	18.4	17
16	10.2	13.2	13.2	18.4	10.2	24.6	14.0	37.7	8.8	18.4	16
15	15.6	13.2	14.0	20.2	10.8	24.6	14.0	37.7	12.3	24.6	15
14	15.6	17.4	14.0	26.3	12.6	25.7	14.0	42.1	14.0	24.6	14
13	16.8	17.4	15.8	27.2	13.2	31.1	14.0	43.0	14.0	26.3	13
12	19.2	17.4	17.5	30.7	13.8	31.1	14.0	43.0	16.7	30.7	12
11	19.2	24.0	17.5	33.3	16.8	31.7	14.0	50.9	18.4	31.6	11
10	22.8	24.0	22.8	33.3	19.8	33.5	18.4	50.9	19.3	35.1	10
9	24.0	24.0	25.4	38.6	24.0	34.1	20.2	50.9	23.7	37.7	9
8	24.6	32.9	25.4	40.4	24.0	36.5	21.1	56.1	25.4	39.5	8
7	26.9	32.9	30.7	41.2	26.3	37.7	23.7	57.0	26.3	40.4	7
6	28.7	32.9	32.5	41.2	28.1	38.9	23.7	57.9	30.7	41.2	6
5	29.9	41.9	33.3	43.9	31.1	42.5	23.7	61.4	33.3	42.1	5
4	39.5	41.9	35.1	43.9	35.9	47.3	31.6	61.4	33.3	44.7	4
3	40.7	43.1	36.8	50.0	37.1	50.3	32.5	61.4	36.8	49.1	3
2	40.7	54.5	36.8	52.6	38.3	55.7	32.5	63.2	38.6	50.9	2
1	44.9	54.5	44.7	53.5	41.9	56.9	36.8	63.2	40.4	55.3	1
Mean	11.6	10.7	10.9	14.1	11.2	13.8	13.0	19.0	11.3	13.3	Mean
SD	9.7	8.5	8.5	9.6	8.8	10.4	11.3	10.0	7.8	9.2	SD
Median	10.0	8.0	10.0	13.0	9.0	13.0	9.5	20.0	9.0	12.0	Median







Table B.6 Base Rates of Normative Sample Obtaining Various Differences Between Primary Index Scores, by Overall Sample and FSIQ Ability Level (continued)

## **FSIQ** ≥ 120 (continued)

				Primary	Index S	core Con	nparison				
	VSI-	WMI	VSI-	-PSI	FRI-	WMI	FRI-	-PSI	WMI	–PSI	
	VSI < WMI	VSI > WMI	VSI < PSI	VSI > PSI	FRI < WMI	FRI > WMI	FRI < PSI	FRI > PSI	WMI < PSI	WMI > PSI	
Difference	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)	(-)	(+)	Difference
≥40	0.0	1.2	0.9	4.4	0.9	0.0	0.9	2.6	0.0	2.6	≥40
39	0.0	1.8	0.9	4.4	0.9	0.0	0.9	2.6	0.0	2.6	39
38	0.0	2.4	0.9	6.1	0.9	0.0	0.9	3.5	0.0	3.5	38
37	0.0	3.0	0.9	6.1	0.9	0.0	0.9	3.5	0.0	4.4	37
36	0.0	3.0	0.9	7.0	0.9	0.0	0.9	5.3	0.0	4.4	36
35	0.0	3.6	0.9	8.8	1.8	0.0	0.9	6.1	0.9	5.3	35
34	0.0	3.6	0.9	8.8	2.6	0.0	0.9	6.1	0.9	7.0	34
33	0.0	3.6	0.9	9.6	2.6	0.9	1.8	7.0	0.9	7.9	33
32	0.0	5.4	0.9	12.3	3.5	0.9	1.8	7.0	0.9	8.8	32
31	1.8	5.4	0.9	12.3	5.3	0.9	1.8	7.0	0.9	9.6	31
30	1.8	6.0	1.8	14.0	5.3	1.8	2.6	11.4	1.8	9.6	30
29	1.8	7.8	1.8	14.9	5.3	1.8	2.6	11.4	1.8	9.6	29
28	3.6	7.8	1.8	14.9	5.3	1.8	3.5	11.4	1.8	11.4	28
27	3.6	9.0	3.5	18.4	5.3	2.6	4.4	12.3	3.5	13.2	27
26	4.2	9.0	3.5	21.1	6.1	3.5	4.4	12.3	4.4	14.9	26
25	6.6	9.6	3.5	21.1	7.0	3.5	4.4	12.3	4.4	18.4	25
24 23	6.6	11.4	3.5	22.8	7.0	6.1	7.9	14.9	6.1	19.3	24
23 22	6.6 7.8	11.4 12.0	3.5 3.5	25.4 25.4	7.0 7.0	6.1 6.1	7.9 7.9	16.7 16.7	7.0 7.0	19.3 19.3	23 22
21	8.4	15.0	8.8	28.1	7.0	9.6	8.8	16.7	7.0	22.8	21
20	9.6	15.0	8.8	30.7	10.5	10.5	8.8	18.4	10.5	23.7	20
19	11.4	16.2	9.6	30.7	11.4	10.5	10.5	18.4	10.5	24.6	19
18	12.0	16.8	12.3	35.1	13.2	12.3	11.4	23.7	11.4	28.1	18
17	12.6	18.0	12.3	35.1	14.9	15.8	11.4	26.3	14.9	28.1	17
16	13.8	19.2	12.3	35.1	15.8	15.8	14.0	26.3	15.8	31.6	16
15	15.0	21.6	17.5	37.7	20.2	16.7	17.5	28.9	16.7	36.0	15
14	16.8	24.0	17.5	38.6	21.1	21.9	17.5	30.7	18.4	37.7	14
13	17.4	24.0	17.5	38.6	23.7	22.8	19.3	31.6	19.3	40.4	13
12	19.8	24.6	19.3	42.1	28.1	25.4	20.2	38.6	22.8	42.1	12
11	21.0	31.7	19.3	42.1	28.1	29.8	20.2	42.1	23.7	42.1	11
10	21.6	31.7	19.3	42.1	33.3	30.7	24.6	43.0	24.6	43.9	10
9	23.4	32.3	21.9	48.2	33.3	33.3	25.4	46.5	27.2	44.7	9
8	24.0	37.1	21.9	48.2	34.2	36.8	25.4	49.1	28.1	44.7	8
7	25.1	37.1	21.9	49.1	41.2	37.7	26.3	50.0	28.9	50.0	7
6	28.1	37.7	23.7	50.9	41.2	39.5	28.9	53.5	30.7	53.5	6
5	31.1	42.5	24.6	51.8	43.0	40.4	28.9	54.4	33.3	53.5	5
4	32.9	43.7	25.4	51.8	47.4	43.9	29.8	55.3	33.3	57.0	4
3	36.5	47.9	29.8	57.0	49.1	43.9	37.7	57.0	34.2	58.8	3
2	37.7	51.5	29.8	57.9	50.9	44.7	37.7	57.0	35.1	58.8	2
1	40.7	52.7	32.5	58.8	51.8	46.5	38.6	57.0	36.8	60.5	1
Mean	12.4	14.4	13.6	19.9	13.4	13.4	13.5	17.4	14.3	17.7	Mean
SD	9.0	10.7	9.3	11.7	9.1	7.5	9.5	10.3	8.3	10.8	SD
Median	11.0	11.0	15.0	20.0	12.0	12.0	12.5	15.0	13.5	16.0	Median



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Critical Values for Statistically Significant Differences Between Scaled Subtest and Process Scores at the .01, .05, .10, and .15 Significance Levels **Table B.7** 

							.01 and .	.01 and .05 Significance Levels	ficance	Levels							
Subtest	Z	SI	VC	00	RV	PN	BD	0A	MR	PC	ЬМ	ZL	BS	CA	AC	CAR	CAS
2		2.49	2.77	2.65	2.68	2.81	3.02	3.00	2.72	2.76	2.66	2.94	3.14	3.47	3.56	3.64	3.92
S	3.28		2.53	2.39	2.42	2.57	2.79	2.78	2.46	2.51	2.40	2.71	2.93	3.28	3.37	3.45	3.75
VC	3.65			2.68	2.70	2.84	3.04	3.03	2.74	2.79	2.69	2.97	3.17	3.50	3.58	3.66	3.94
00	3.49	3.15	3.52		2.58	2.72	2.93	2.92	2.62	2.66	2.56	2.86	3.06	3.40	3.48	3.57	3.86
RV	3.52	3.18	3.56	3.39		2.75	2.96	2.94	2.65	5.69	2.59	2.88	3.08	3.42	3.50	3.59	3.88
PN	3.70	3.39	3.74	3.58	3.62		3.08	3.07	2.79	2.83	2.73	3.01	3.20	3.53	3.61	3.69	3.97
BD	3.97		4.01	3.86	3.89	4.06		3.26	2.99	3.03	2.94	3.20	3.38	3.69	3.77	3.85	4.12
0A	3.95		3.99	3.84	3.87	4.04	4.29		2.98	3.02	2.93	3.19	3.37	3.68	3.76	3.84	4.11
MR	3.58		3.61	3.45	3.48	3.67	3.94	3.92		2.73	2.63	2.92	3.12	3.45	3.53	3.62	3.90
PC	3.63		3.67	3.51	3.54	3.72	3.99	3.97	3.59		2.68	2.96	3.15	3.48	3.57	3.65	3.93
PM	3.50		3.54	3.38	3.41	3.60	3.88	3.86	3.47	3.52		2.87	3.07	3.41	3.49	3.58	3.87
ZL	3.88		3.91	3.76	3.79	3.96	4.22	4.20	3.84	3.89	3.78		3.32	3.63	3.71	3.79	4.07
BS	4.13		4.17	4.03	4.06	4.22	4.45	4.44	4.10	4.15	4.04	4.37		3.79	3.87	3.95	4.21
CA	4.57	4.32	4.60	4.47	4.50	4.65	4.86	4.85	4.54	4.59	4.49	4.78	5.00		4.14	4.22	4.46
AC	4.68		4.71	4.58	4.61	4.75	4.96	4.95	4.65	4.69	4.60	4.89	5.09	5.46		4.28	4.53
CAR	4.79		4.82	4.69	4.72	4.86	5.07	5.05	4.76	4.80	4.71	4.99	5.19	5.55	5.64		4.59
CAS	5.16	4.94	5.19	2.08	5.10	5.23	5.42	5.41	5.14	5.18	5.09	5.35	5.54	5.88	96.3	6.05	

Note. Differences between scaled scores required for statistical significance at the .01 level appear below the diagonal in the unshaded area, and differences between scaled scores required for statistical significance at the .05 level appear above the diagonal in the shaded area.



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Critical Values for Statistically Significant Differences Between Scaled Subtest and Process Scores at the .01, .05, .10, and .15 Significance Levels (continued) **Table B.7** 

						·	10 and .	.10 and .15 Significance Levels	ficance	Levels							
ubtest	2	SI	ΛC	00	R	PN	BD	0A	MR	PC	PM	ZL	BS	CA	AC	CAR	CAS
2		1.83	2.04	1.95	1.97	2.07	2.22	2.21	2.00	2.03	1.96	2.16	2.31	2.55	2.61	2.67	2.88
SI	2.09		1.86	1.76	1.78	1.89	2.05	2.04	1.81	1.84	1.77	1.99	2.15	2.41	2.47	2.54	2.76
2/	2.32	2.11		1.97	1.99	2.09	2.24	2.23	2.02	2.05	1.98	2.18	2.33	2.57	2.63	2.69	2.90
00	2.22	2.00	2.24		1.89	2.00	2.15	2.14	1.93	1.96	1.88	2.10	2.25	2.50	2.56	2.62	2.83
RV	2.24	2.02	2.26	2.16		2.02	2.17	2.16	1.95	1.98	1.90	2.12	2.26	2.51	2.57	2.64	2.85
PN	2.35	2.15	2.38	2.28	2.30		2.26	2.25	2.05	2.08	2.01	2.21	2.35	2.59	2.65	2.71	2.92
80	2.53	2.34	2.55	2.45	2.47	2.58		2.39	2.20	2.23	2.16	2.35	2.49	2.71	2.77	2.83	3.03
DA	2.51	2.32	2.53	2.44	2.46	2.57	2.73		2.19	2.22	2.15	2.34	2.48	2.71	2.76	2.82	3.02
MR	2.27	2.06	2.30	2.19	2.22	2.33	2.51	2.49		2.01	1.94	2.14	2.29	2.54	2.60	2.66	2.87
PC	2.31	2.10	2.33	2.23	2.25	2.37	2.54	2.52	2.28		1.97	2.17	2.32	2.56	2.62	2.68	2.89
PM	2.23	2.01	2.25	2.15	2.17	2.29	2.46	2.45	2.20	2.24		2.11	2.26	2.50	2.57	2.63	2.84
77	2.46	2.27	2.49	2.39	2.41	2.52	2.68	2.67	2.44	2.47	2.40		2.44	2.67	2.73	2.79	2.99
BS	2.63	2.45	2.65	2.56	2.58	2.68	2.83	2.82	2.61	2.64	2.57	2.78		2.79	2.84	2.90	3.09
CA	2.91	2.74	2.92	2.84	2.86	2.95	3.09	3.08	2.89	2.92	2.85	3.04	3.18		3.04	3.10	3.28
4C	2.97	2.82	2.99	2.91	2.93	3.02	3.16	3.15	2.96	2.98	2.92	3.11	3.24	3.47		3.15	3.33
CAR	3.04	2.89	3.06	2.98	3.00	3.09	3.22	3.21	3.03	3.05	2.99	3.17	3.30	3.53	3.58		3.37
CAS	3.28	3.14	3.30	3.23	3.24	3.32	3.45	3.44	3.27	3.29	3.24	3.40	3.52	3.74	3.79	3.84	

Note. Differences between scaled scores required for statistical significance at the .10 level appear below the diagonal in the unshaded area, and differences between scaled scores required for statistical significance at the .15 level appear above the diagonal in the shaded area.

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Base Rates of Overall Normative Sample Obtaining Various Differences Between Selected Scaled Scores **Table B.8** 

RV vs. IN         RV vs. PN         IN vs. SI         BD vs. OA         MR vs. PC           (-)         (+) <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>Scale</th><th>Scaled Score Comparison</th><th>Comp</th><th>arison</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>								Scale	Scaled Score Comparison	Comp	arison							
No.   No.	I	RV vs	Z.	RV vs	. PN	N		BD v	s. 0A	MR v	's. PC	PM vs. ZL	s. ZL	BS v	BS vs. CA	CAR v	CAR vs. CAS	
(+) (+) (+) (+) (+) (+) (+) (+) (+) (+)		RV < IN	RV > IN	RV < PN	RV > PN	IN < SI	IN > SI	BD < 0A	BD > 0A	MR < PC	MR > PC	PM < ZL	PM > ZL	BS < CA	BS > CA	CAR < CAS	CAR < CAS CAR > CAS	
0.0         0.0 <th>ference</th> <th>I</th> <th>£</th> <th>I</th> <th>£</th> <th>I</th> <th>ŧ</th> <th>I</th> <th>£</th> <th>I</th> <th>ŧ</th> <th>Ĩ</th> <th>£</th> <th>I</th> <th>ŧ</th> <th>I</th> <th>£</th> <th>Difference</th>	ference	I	£	I	£	I	ŧ	I	£	I	ŧ	Ĩ	£	I	ŧ	I	£	Difference
0.0         0.0 <th>18</th> <th>0.0</th> <th>18</th>	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18
0.0         0.0 <th>17</th> <th>0.0</th> <th>11</th>	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11
0.0         0.0 <th>16</th> <th>0.0</th> <th>16</th>	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16
0.0         0.0 <th>15</th> <th>0.0</th> <th>15</th>	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15
0.0         0.0 <th>14</th> <th>0.0</th> <th>14</th>	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14
0.1         0.0         0.0         0.0         0.0         0.1         0.0         0.0         0.0         0.1         0.0 <th>13</th> <th>0.0</th> <th>0.0</th> <th>0.0</th> <th>0.0</th> <th>0.0</th> <th>0.0</th> <th>0.1</th> <th>0.0</th> <th>0.0</th> <th>0.0</th> <th>0.0</th> <th>0.0</th> <th>0.0</th> <th>0.0</th> <th>0.1</th> <th>0.0</th> <th>13</th>	13	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	13
0.1         0.0 <th>12</th> <th>0.1</th> <th>0.0</th> <th>0.0</th> <th>0.0</th> <th>0.0</th> <th>0.0</th> <th>0.1</th> <th>0.0</th> <th>0.0</th> <th>0.1</th> <th>0.1</th> <th>0.0</th> <th>0.1</th> <th>0.0</th> <th>0.1</th> <th>0.0</th> <th>12</th>	12	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.1	0.0	12
0.2         0.1         0.0         0.2         0.0         0.2         0.0         0.2         0.1         0.1         0.2         0.1         0.1         0.0 <th>7</th> <th>0.1</th> <th>0.0</th> <th>0.0</th> <th>0.0</th> <th>0.0</th> <th>0.0</th> <th>0.2</th> <th>0.1</th> <th>0.1</th> <th>0.2</th> <th>0.3</th> <th>0.1</th> <th>0.2</th> <th>0.0</th> <th>0.1</th> <th>0.0</th> <th>Ξ</th>	7	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.3	0.1	0.2	0.0	0.1	0.0	Ξ
0.4         0.2         0.1         0.4         0.1         0.1         0.4         0.6         0.6         0.6         0.6         0.6         0.7         0.1         0.9         0.9         0.9         0.0         1.0         1.2           1.1         1.4         1.2         1.1         0.7         1.1         2.0         2.3         2.4         2.4         2.4           2.1         2.7         2.2         2.4         1.4         2.5         3.9         3.7         4.4         5.0           5.3         6.1         5.2         5.3         3.0         4.8         6.6         7.2         8.0         8.5           9.9         9.6         9.2         6.8         9.0         11.3         12.5         13.5         12.9           17.5         16.4         17.6         16.1         12.7         16.1         19.9         20.8         20.7         20.2           29.0         27.1         29.3         28.1         24.5         25.3         30.4         31.6         45.7         42.6           42.5         41.5         42.1         41.1         41.0         43.1         44.1         45.7         42.6	10	0.2	0.1	0.0	0.2	0.0	0.0	0.3	0.1	0.1	0.2	6.0	0.2	0.4	0.0	0.1	0.0	10
0.6         0.6         0.4         0.6         0.5         0.1         0.9         0.9         1.0         1.2           1.1         1.4         1.2         1.1         0.7         1.1         2.0         2.3         2.4         2.4           2.1         2.7         2.2         2.4         1.4         2.5         3.9         3.7         4.4         5.0           5.3         6.1         5.2         5.3         3.0         4.8         6.6         7.2         8.0         8.5           9.9         9.6         9.2         6.8         9.0         11.3         12.5         13.5         12.9           17.5         16.4         17.6         16.1         12.7         16.1         19.9         20.8         20.7         20.2           29.0         27.1         29.3         28.1         24.5         25.3         30.4         31.6         45.7         42.6           42.5         41.5         42.1         41.1         41.0         43.1         44.1         45.7         42.6	6	0.4	0.2	0.1	0.4	0.1	0.1	0.4	0.4	0.3	0.7	1.5	0.4	8.0	0.2	0.4	0.0	6
1.1         1.4         1.2         1.1         0.7         1.1         2.0         2.3         2.4         2.4         2.4           2.1         2.7         2.2         2.4         1.4         2.5         3.9         3.7         4.4         5.0           5.3         6.1         5.2         5.3         3.0         4.8         6.6         7.2         8.0         8.5           9.9         9.6         9.2         6.8         9.0         11.3         12.5         13.5         12.9           17.5         16.4         17.6         16.1         12.7         16.1         19.9         20.8         20.7         20.2           29.0         27.1         29.3         28.1         24.5         25.3         30.4         31.6         32.3         30.5           42.5         41.5         42.1         41.1         41.0         43.1         44.1         45.7         42.6	<b>&amp;</b>	9.0	9.0	0.4	9.0	0.5	0.1	6.0	6.0	1.0	1.2	2.4	8.0	1.4	9.0	0.4	0.1	<b>∞</b>
2.1         2.7         2.2         2.4         1.4         2.5         3.9         3.7         4.4         5.0           5.3         6.1         5.2         5.3         3.0         4.8         6.6         7.2         8.0         8.5           9.9         9.9         9.6         9.2         6.8         9.0         11.3         12.5         13.5         12.9           17.5         16.4         17.6         16.1         12.7         16.1         19.9         20.8         20.7         20.2           29.0         27.1         29.3         28.1         24.5         25.3         30.4         31.6         32.3         30.5           42.5         41.5         42.1         41.1         41.0         43.1         44.1         45.7         42.6	7	1.1	1.4	1.2	1.1	0.7	1.1	2.0	2.3	2.4	2.4	3.2	1.7	2.5	1.9	9.0	9.0	7
6.1 5.2 5.3 3.0 4.8 6.6 7.2 8.0 8.5 8.5 8.9 8.5 8.9 8.5 8.9 8.5 9.9 9.6 9.2 6.8 9.0 11.3 12.5 13.5 12.9 16.4 17.6 16.1 12.7 16.1 19.9 20.8 20.7 20.2 27.1 29.3 28.1 24.5 25.3 30.4 31.6 32.3 30.5 41.5 43.2 42.1 41.1 41.0 43.1 44.1 45.7 42.6		2.1	2.7	2.2	2.4	1.4	2.5	3.9	3.7	4.4	5.0	4.9	4.1	5.0	3.5	1.3	1.3	9
9.9         9.6         9.2         6.8         9.0         11.3         12.5         13.5         12.9           16.4         17.6         16.1         12.7         16.1         19.9         20.8         20.7         20.2           27.1         29.3         28.1         24.5         25.3         30.4         31.6         32.3         30.5           41.5         43.2         42.1         41.1         41.0         43.1         44.1         45.7         42.6	2	5.3	6.1	5.2	5.3	3.0	4.8	9.9	7.2	8.0	8.5	8.2	7.5	8.4	6.9	2.1	2.5	2
16.4         17.6         16.1         12.7         16.1         19.9         20.8         20.7         20.2           27.1         29.3         28.1         24.5         25.3         30.4         31.6         32.3         30.5           41.5         43.2         42.1         41.1         41.0         43.1         44.1         45.7         42.6	4	9.6	9.9	9.6	9.2	8.9	9.0	11.3	12.5	13.5	12.9	13.6	13.9	12.5	11.6	5.0	4.8	4
27.1         29.3         28.1         24.5         25.3         30.4         31.6         32.3         30.5           41.5         43.2         42.1         41.1         41.0         43.1         44.1         45.7         42.6	က	17.5	16.4	17.6	16.1	12.7	16.1	19.9	20.8	20.7	20.2	21.3	21.1	21.1	20.3	11.1	12.3	က
41.5   43.2   42.1   41.1   41.0   43.1   44.1   45.7   42.6	2	29.0	27.1	29.3	28.1	24.5	25.3	30.4	31.6	32.3	30.5	30.9	30.8	29.2	31.6	21.7	22.5	2
	-	42.5	41.5	43.2	42.1	41.1	41.0	43.1	44.1	45.7	42.6	42.9	43.4	40.9	46.3	38.5	38.3	1
2.6 2.5 2.5	Nean	2.6	5.6	2.5	2.5	2.2	2.4	2.8	2.8	2.8	2.9	3.0	2.9	3.0	2.7	2.1	2.2	Mean
1.7 1.4 1.6	as	1.7	1.7	1.6	1.7	1.4	1.6	1.9	1.8	1.8	2.0	2.1	1.8	2.0	1.7	1.5	1.4	as
2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	edian	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	2.0	2.0	2.0	Median







Table B.9 Base Rates of Intersubtest Scatter Within Various Combinations of Subtests, by Age Band

	Ages 2:	6–3:11		Ages 4	:0–7:7	
	6 Index Score	5 FSIQ	•	10 Index Score	6 FSIQ	
Scatter	Subtests	Subtests		Subtests	Subtests	Scatter
18	0.0	0.0		0.0	0.0	18
17	0.0	0.0		0.1	0.1	17
16	0.0	0.0		0.1	0.1	16
15	0.2	0.0		0.1	0.1	15
14	0.2	0.0		0.5	0.3	14
13	0.7	0.3		1.5	0.4	13
12	2.0	1.3		3.5	0.9	12
11	3.8	2.7		7.5	2.2	11
10	7.8	5.5		13.8	5.3	10
9	13.3	8.8		24.2	10.7	9
8	26.8	17.7		39.5	18.9	8
7	37.5	28.0		57.9	30.7	7
6	53.3	40.5		76.1	44.9	6
5	71.5	60.2		89.5	64.9	5
4	85.8	77.3		97.4	83.3	4
3	95.3	91.0	-	99.5	95.3	3
2	99.3	98.3		99.6	98.6	2
1	100.0	99.8		99.9	99.8	1
0	100.0	100.0		100.0	100.0	0
Mean	6.0	5.3	-	7.1	5.6	Mean
SD	2.4	2.3		2.2	2.2	SD
Median	6.0	5.0		7.0	5.0	Median

*Note.* The intersubtest scatter is the difference between the highest and lowest subtest scaled scores within the combination of subtests. For each age band, the "Index Score Subtests" and "FSIQ subtests" include the core subtests for deriving the primary index scores and the FSIQ.







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