Woodcock-Johnson III:

Reports, Recommendations, and Strategies

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“Tests do not think for themselves, nor do they directly communicate with patients. Like a stethoscope, a blood pressure gauge, or an MRI scan, a psychological test is a dumb tool, and the worth of the tool cannot be separated from the sophistication of the clinician who draws inferences from it and then communicates with patients and professionals” (p. 153) (Meyer et al., 2001).

This reference book is intended to serve as a resource for evaluators using the Woodcock-Johnson III (WJ III) Cognitive (COG) and/or Achievement (ACH) tests in educational or clinical settings (Woodcock, McGrew, & Mather, 2001a, 2001b, 2001c). Its central purpose is to assist practitioners in preparing and writing psychological and educational reports for individuals from preschool through post-secondary school. The book is divided into four sections.

The first section presents material related to use and interpretation of the WJ III. The clusters and tests are described, sample test items are presented, and the fine points of administration of all of the tests are reviewed. An overview of the WJ III scores and interpretive information is provided and a few sample forms are presented that may be used to summarize test data. In addition to the examiner's manuals, additional information on interpreting the WJ III can be found in two sources: Essentials of the Woodcock-Johnson III Tests of Cognitive Abilities Assessment (Schrank, Flanagan, Woodcock, & Mascolo, 2001) and Essentials of Woodcock-Johnson III Tests of Achievement Assessment (Mather, Wendling, & Woodcock, 2001).

The second section presents diagnostic reports that illustrate applications of the WJ III in both educational and clinical settings. These diagnostic reports depict a variety of learning problems in individuals from preschool to post-secondary level. Information obtained from other diagnostic instruments is integrated into several of the sample reports to aid practitioners in interpreting the WJ III when used in combination with other assessment instruments as well as when used as the sole measure. Many different styles and formats of reports are presented.

The third section provides a wide variety of educational recommendations. Recommendations are provided for oral language, and the achievement areas of reading, written language, mathematics, and knowledge/content. Additional recommendations are provided for

areas such as memory, attention, behavior management, social skills/self-esteem, and for students with sensory impairments.

The last section, Strategies, contains summaries, arranged alphabetically, of methods and techniques that were included in the recommendations or the diagnostic reports. These summaries may be attached to a report so that general or special education teachers, educational therapists, or parents may implement the recommended procedure.

Section I: WJ III Descriptive and Interpretive Information

WJ III Tests of Cognitive Abilities: Standard Score/Percentile Rank Profiles--Factors & Clusters

WJ III Tests of Cognitive Abilities: Standard Score/Percentile Rank Profiles--Clinical Clusters and Tests

WJ III Tests of Achievement: Standard Score/Percentile Rank Profiles--Tests

WJ III Tests of Achievement: Standard Score/Percentile Rank Profiles--Clusters

Organization of the WJ III Cognitive Factors, Clusters, and Tests

	Category/Factor	Standard Battery	Extended Battery
Intellectual Ability	General Intellectual Ability (Std. & Ext.)	Verbal Comprehension	General Information
		Visual-Auditory Learning	Retrieval Fluency
		Spatial Relations	Picture Recognition
		Sound Blending	Auditory Attention
		Concept Formation	Analysis-Synthesis
		Visual Matching	Decision Speed
		Numbers Reversed	Memory for Words
	Brief Intellectual Ability	Verbal Comprehension	
		Concept Formation	
		Visual Matching	
Cognitive Performance	Verbal Ability (Std & Ext)	Verbal Comprehension	General Information
	Thinking Ability (Std & Ext)	Visual-Auditory Learning	Retrieval Fluency
		Spatial Relations	Picture Recognition
		Sound Blending	Auditory Attention
		Concept Formation	Analysis-Synthesis
	Cognitive Efficiency (Std & Ext)	Visual Matching	Decision Speed
		Numbers Reversed	Memory for Words
CHC Factors	Comprehension-Knowledge	Verbal Comprehension	General Information
	Long-Term Retrieval	Visual-Auditory Learning	Retrieval Fluency
	Visual-Spatial Thinking	Spatial Relations	Picture Recognition
	Auditory Processing	Sound Blending	Auditory Attention
	Fluid Reasoning	Concept Formation	Analysis-Synthesis
	Processing Speed	Visual Matching	Decision Speed
	Short-Term Memory	Numbers Reversed	Memory for Words
Clinical Clusters	Phonemic Awareness	Sound Blending	[Sound Awareness]
		Incomplete Words	
	Working Memory	Numbers Reversed	
		Auditory Working Memory	

	Broad Attention	Numbers Reversed	Auditory Attention
		Auditory Working Memory	Pair Cancellation
	Cognitive Fluency		Retrieval Fluency
			Decision Speed
			Rapid Picture Naming
	Executive Processes	Concept Formation	Planning
			Pair Cancellation
	Delayed Recall		Visual-Auditory Learning–Del.
			Story Recall–Del. (ACH)
	Knowledge		General Information
			Academic Knowledge (ACH)

Organization of the WJ III Achievement Clusters and Tests

Areas	Clusters	**STANDARD BATTERY**	**EXTENDED BATTERY**
Reading	Broad Reading	Letter-Word Identification	
		Reading Fluency	
		Passage Comprehension	
	Basic Reading Skills	Letter-Word Identification	Word Attack
	Reading Comprehension	Passage Comprehension	Reading Vocabulary
Oral Language	Oral Language	Story Recall	Picture Vocabulary
		Understanding Directions	Oral Comprehension
	Listening Comprehension	Understanding Directions	Oral Comprehension
	Oral Expression	Story Recall	Picture Vocabulary
Math	Broad Math	Calculation	
		Math Fluency	
		Applied Problems	
	Math Calculation Skills	Calculation	
		Math Fluency	
	Math Reasoning	Applied Problems	Quantitative Concepts
Written Language	Broad Written Language	Spelling	
		Writing Fluency	
		Writing Samples	
	Basic Writing Skills	Spelling	Editing
	Written Expression	Writing Fluency	
		Writing Samples	
Other Clusters	Academic Knowledge		Academic Knowledge
	Phoneme/Grapheme Knowledge		Word Attack
			Spelling of Sounds
	Academic Skills	Letter-Word Identification	
		Spelling	
		Calculation	
	Academic Fluency	Reading Fluency	
		Writing Fluency	

		Math Fluency	
	Academic Applications	Passage Comprehension	
		Writing Samples	
		Applied Problems	
	Total Achievement	Letter-Word Identification	
		Reading Fluency	
		Passage Comprehension	
		Spelling	
		Writing Fluency	
		Writing Samples	
		Calculation	
		Math Fluency	
		Applied Problems	
	Supplemental Tests/Scores		Story Recall – Del.
			Sound Awareness
			Punctuation & Capitalization
			Handwriting

Overview of the Tests of Cognitive Abilities: Broad and Narrow Abilities and Test Requirements

Test	Broad CHC Factor *Narrow CHC Ability*	Stimuli	Test Requirement	Response
Test 1: Verbal Comprehension	Comprehension-Knowledge (*Gc*) *Lexical knowledge* *Language development*	Visual (pictures); Auditory (words)	Naming objects; knowledge of antonyms and synonyms; completing verbal analogies	Oral (word)
Test 2: Visual-Auditory Learning	Long-Term Retrieval *(Glr*) *Associative memory*	Visual (rebuses)—Auditory (words) in the learning condition; Visual (rebuses) in the recognition condition	Learning and recalling pictographic representations of words	Oral (sentences)
Test 3: Spatial Relations	Visual-Spatial Thinking (*Gv*) *Visualization* *Spatial relations*	Visual (drawings)	Identifying the subset of pieces needed to form a complete shape	Oral (letters) or motoric (pointing)
Test 4: Sound Blending	Auditory Processing (*Ga*) *Phonetic coding: Synthesis*	Auditory (phonemes)	Synthesizing language sounds (phonemes)	Oral (word)
Test 5: Concept Formation	Fluid Reasoning (*Gf*) *Induction*	Visual (drawings)	Identifying, categorizing, and determining rules	Oral (words)
Test 6: Visual Matching	Processing Speed (*Gs*) *Perceptual speed*	Visual (numbers)	Rapidly locating and circling identical numbers from a defined set of numbers	Motoric (circling)
Test 7: Numbers Reversed	Short-Term Memory *(Gsm*) *Working memory*	Auditory (numbers)	Holding a span of numbers in immediate awareness while reversing the sequence	Oral (numbers)

Test 8: Incomplete Words	Auditory Processing (*Ga*) *Phonetic coding: Analysis + closure*	Auditory (words)	Identifying words with missing phonemes	Oral (word)
Test 9: Auditory Working Memory	Short-Term Memory (*Gsm*) *Working memory*	Auditory (words, numbers)	Holding a mixed set of numbers and words in immediate awareness while reordering into two sequences	Oral (words, numbers)
Test 10: Visual-Auditory Learning–Delayed	Long-Term Retrieval (*Glr*) *Associative memory*	Visual (rebuses) in the recognition condition; Visual-auditory in the relearning condition	Recalling and relearning pictographic representations of words from 30 minutes to 8 days after initial presentation	Oral (sentences)
Test 11: General Information	Comprehension-Knowledge (*Gc*) *General (verbal) information*	Auditory (questions)	Identifying where objects are found and what people typically do with an object	Oral (sentences)
Test 12: Retrieval Fluency	Long-Term Retrieval (*Glr*) *Ideational fluency*	Auditory (directions only)	Naming as many examples as possible from a given category	Oral (words)
Test 13: Picture Recognition	Visual-Spatial Thinking (*Gv*) *Visual memory*	Visual (pictures)	Identifying a subset of previously presented pictures within a field of distracting pictures	Oral (words) or Motoric (pointing)
Test 14: Auditory Attention	Auditory Processing (*Ga*) *Speech-sound discrimination* *Resistance to auditory interference*	Auditory (words)	Identifying orally - presented words amid increasingly intense background noise	Motor (pointing)
Test 15: Analysis-Synthesis	Fluid Reasoning (*Gf*) *General sequential (deductive) reasoning*	Visual (drawings)	Analyzing puzzles (using a given code) to determine missing components	Oral (words)

Test 16: Decision Speed	Processing Speed (*Gs*) *Semantic processing speed*	Visual (pictures)	Identifying and circling the two most conceptually similar pictures in a row	Motoric (circling)
Test 17: Memory for Words	Short-Term Memory (*Gsm*) *Memory span*	Auditory (words)	Repeating a list of unrelated words in correct sequence	Oral (words)
Test 18: Rapid Picture Naming	Processing Speed (*Gs*) *Naming facility*	Visual (pictures)	Recognizing objects, then retrieving and articulating their names rapidly	Oral (words)
Test 19: Planning	Visual-Spatial Thinking (*Gv*) & Fluid Reasoning (*Gf*) *Spatial scanning* *General sequential reasoning*	Visual (drawings)	Tracing a pattern without removing the pencil from the paper or retracing any lines	Motoric (tracing)
Test 20: Pair Cancellation	Processing Speed (*Gs*) *Attention and concentration*	Visual (pictures)	Identifying and circling instances of a repeated pattern rapidly	Motoric (circling)

Overview of the Tests of Achievement: Broad and Narrow Abilities and Test Requirements

Test	Curricular Area *Narrow CHC Ability*	Stimuli	Test Requirement	Response
Test 1: Letter-Word Identification	Reading (*Grw*) *Reading decoding*	Visual (text)	Identifying printed letters and words	Oral (letter name, word)
Test 2: Reading Fluency	Reading (*Grw*) *Reading speed*	Visual (text)	Reading printed statements rapidly and responding true or false (Yes or No)	Motoric (circling)
Test 3: Story Recall	Oral Expression (*Gc*) *Language development* *Listening ability* *Meaningful memory*	Auditory (text)	Listening to and recalling details of stories	Oral (sentence)
Test 4: Understanding Directions	Listening Comprehension (*Gc*) *Listening ability* *Language development*	Auditory (text)	Listening to a sequence of instructions and then following the directions	Motoric (pointing)
Test 5: Calculation	Mathematics (*Gq*) *Math achievement* *Number fluency*	Visual (numeric)	Performing various mathematical calculations	Motoric (writing)
Test 6: Math Fluency	Mathematics (*Gq*) *Math achievement*	Visual (numeric)	Adding, subtracting, and multiplying rapidly	Motoric (writing)
Test 7: Spelling	Spelling (*Grw*) *Spelling ability*	Auditory (words)	Spelling orally presented words	Motoric (writing)
Test 8: Writing Fluency	Writing (*Grw*) *Writing speed*	Visual (words with picture)	Formulating and writing simple sentences rapidly	Motoric (writing)
Test 9: Passage Comprehension	Reading (*Grw*) *Reading comprehension* *Verbal (printed) language comprehension*	Visual (text)	Completing a sentence by giving the missing key word that makes sense in the context.	Oral (word)
Test 10: Applied Problems	Mathematics (*Gq*) *Quantitative reasoning* *Math achievement* *Math knowledge*	Auditory (questions); Visual (numeric, text)	Performing math calculations in response to orally presented problems	Oral
Test 11: Writing Samples	Writing (*Grw*) *Writing ability*	Auditory; Visual (text)	Writing meaningful sentences for a given purpose	Motoric (writing)

Test 12: Story Recall–Delayed	Long-Term Retrieval (*Glr*) *Meaningful memory*	Auditory (sentence)	Recalling previously-presented story elements	Oral (passage)
Test 13: Word Attack	Reading (*Grw*) *Reading decoding* *Phonetic coding: Analysis & Synthesis*	Visual (word)	Reading phonically regular non-words	Oral (word)
Test 14: Picture Vocabulary	Oral Expression (*Gc*) *Language development* *Lexical knowledge*	Visual (picture)	Identifying visual pictures	Oral (word)
Test 15: Oral Comprehension	Listening Comprehension (*Gc*) *Listening ability*	Auditory (text)	Completing an oral sentence by giving the missing key word that makes sense in the context	Oral (word)
Test 16: Editing	Writing Skills (*Grw*) *Language development* *English usage*	Visual (text)	Identifying and correcting errors in written passages	Oral
Test 17: Reading Vocabulary	Reading (*Grw/Gc*) *Verbal (printed) language Comprehension* *Lexical knowledge*	Visual (word)	Reading words and supplying synonyms and antonyms	Oral (word)
Test 18: Quantitative Concepts	Mathematics (*Gq*) *Math knowledge* *Quantitative reasoning*	Auditory (question); Visual (numeric, text)	Identifying math terms and formulae; Identifying number patterns	Oral (word)
Test 19: Academic Knowledge	General information (*Gc*) *Science information* *Cultural information* *Geography achievement*	Auditory (question); Visual (text; picture)	Responding to questions about science, social studies, and humanities	Motoric (pointing), Oral (word, sentences)
Test 20: Spelling of Sounds	Spelling (*Grw/Ga*) *Spelling ability* *Phonetic coding: Analysis &* *Synthesis*	Auditory (letter, word)	Spelling letter combinations that are regular patterns in written English	Motoric (writing)
Test 21: Sound Awareness	Reading (*Ga*) *Phonetic coding*	Auditory (letter, word)	Providing rhyming words; deleting, substituting, and reversing parts of words to make new words	Oral (word)

Test 22: Punctuation & Capitalization	Writing (*Grw*) *English usage*	Auditory (question) Visual (letters, words)	Applying punctuation and capitalization rules	Motoric (writing)

Source: Tables 4-2 and 4-3 from: McGrew, K., & Woodcock, R. W. (2001). Woodcock-Johnson III Technical Manual (pp. 51-54). Itasca, IL: Riverside Publishing Company. Reprinted with permission.

Hierarchy of WJ III Score Levels and Interpretative Information

Level	Type of Information	Basis	Information and Scores	Uses
1	Qualitative (Criterion-Referenced)	Observations during testing and analysis of responses	Description of subject's reaction to the test situation Performance on finely defined skills at the item content level	Appreciation of the subject's behavior underlying obtained test score Prediction of the subject's behavior and reactions in instructional situations Specific skill instructional recommendations
2	Level of Development (Norm-Referenced)	Sum of items scores Age or grade level in the norming sample at which the average is the same as the subject's score	Raw score *Rasch Ability score (Example: Test or cluster *W* score) Age Equivalent (AE) Grade Equivalent (GE)	Reporting a subject's level of development Basis for describing the implications of developmental strengths and weaknesses Basis for initial recommendations regarding instructional level and materials Placement decisions based on a criterion of significantly advanced or delayed development
3	Proficiency (Criterion-Referenced)	Subject's distance on a *Rasch scale from an age or grade reference point *Equal interval units; preferred metric for statistical analyses	Quality of performance on reference tasks Rasch Difference score (Example: Test or cluster *W* DIFF) Relative Proficiency Index (RPI) CALP Level Instructional / Developmental Zone	Proficiency on tasks of average difficulty for peers Developmental level at which typical tasks will be perceived as easy by the subject Developmental level at which typical tasks will be perceived as very difficult by the subject Placement decisions based on a criterion of significantly good or poor proficiency
4	Relative Standing in a Group (Norm Referenced)	Relative position (A transformation of a difference score, such as dividing by the standard deviation of the reference group)	Standard scores Percentile ranks Z-scores	Communication of a subject's competitive position among peers Placement decisions based on a criterion of significantly high or low standing

From: Woodcock, R.W., McGrew, K. S., & Mather, N. (2001). Examiner's manual. Woodcock-Johnson III Tests of Achievement. Itasca, IL: Riverside

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Explanation of WJ III Scores and Interpretive Levels

Level 1: Qualitative

Qualitative information is obtained through observation of behavior during testing, analysis of task demands and error analysis of responses to test items. Qualitative information, though not a *score*, is a pivotal component for understanding and interpreting all scores obtained by the student. Often a description of how a student obtained a particular score is as important as the information provided by the score itself. Qualitative information is one of the critical components of proper individualized assessment and is an integral part of the reporting and interpretation of test results.

Task Analysis and Comparisons of Selected Tests

The basis for qualitative analysis of a test is generally two-fold: task analysis and error pattern analysis. In task analysis, the evaluator analyzes the cognitive and academic demands of the task, including the subskills that the student needs to perform the task proficiently. The similarities and differences between the task demands, compared with the student's demonstrated proficiency (or lack of) on each task, suggest the type of task demands that are either easy or difficult for the student. In error pattern analysis, the evaluator examines the errors the student made and the strategy he or she used in doing the task (possibly in lieu of the necessary skills) to discern the subskill(s) that have not been mastered.

Task analysis is frequently used to obtain information about a student's skills and abilities <u>other</u> than the ability that is the intended target of the test or cluster. A test is designed to measure a certain ability, but at times, one recognizes through more detailed analysis that the intended ability was not measured. As an example, the Working Memory cluster is intended to measure the ability to hold information in immediate awareness while performing a mental

operation on it. Low scores on Auditory Working Memory and Numbers Reversed might, quite reasonably, lead the evaluator to diagnose difficulties in working memory. Task analysis, however, shows that both tests require the student to visualize numbers. Suppose that error analysis of Auditory Working Memory showed errors only on repetition of numbers but not on objects—a question should arise as to whether the problem is in memory or in the student's ability to visualize/work with numbers. That question can then be answered by checking performance on other tests that require memory but no numbers, such as Memory for Words and Visual-Auditory Learning. Visual Matching and Calculation would provide additional information regarding facility with numbers. Task analysis and error pattern analysis, then, help evaluators to obtain valuable information that may, or may not, require further investigation.

Level 2: Level of Development

Level 2 information is derived directly from the raw score. This information indicates the level of development and is usually transformed to metrics that compare raw scores to age- or grade-level groups.

W Scores

W scores are intermediate scores for test interpretation. These scores do not appear on the computer printout only if the examiner chooses that option in Program Options. The W scale is a special transformation of the Rasch ability scale and provides a common scale of equal-interval measurement that represents both a person's ability and the task difficulty. The W scale for each test is centered on a value of 500, which has been set to approximate the average performance at age 10 years, 0 months. The W score for any cluster is the average W score for the tests included in the cluster. The W score is also used to plot the Age/Grade Profile, which illustrates Development Zones on the WJ III COG and Instructional Zones on the WJ III ACH (see Level

3-Degree of Mastery). The W-scale is particularly useful for the measurement of growth and can be considered a growth scale.

Age Equivalents

An age equivalent (AE) or age score, reflects the student's performance in terms of the age group in the norming sample in which the subjects' median raw score is the same as the student's raw score. If half of the subjects of age 8-5 in the norming sample obtained a raw score of 20 or greater, and half of the subjects of age 8-5 obtained a raw of 20 or less, then the raw score of 20 is assigned the age equivalent of 8-5 (eight years, five months). All students, regardless of age, who obtain a raw score of 20 will have an 8-5 age equivalent assigned as their level of development. Age equivalents are expressed in years and months with a dash (-) as the delimiter. The age scale starts at 2-0 on some tests and 4-0 on the other tests, and extends to the age of peak median performance in the norming sample for each test.

GRADE EQUIVALENTS

A grade equivalent (GE) or grade score, reflects the student's performance in terms of the grade level in the norming sample at which the subject's median raw score is the same as the student's raw score. For example, if half of the subjects in grade 3.6 in the norming sample obtained a raw score of 20 or greater, and half of the subjects in grade 3.6 in the norming sample obtained a raw score of 20 or less, then the raw score of 20 is assigned the grade equivalent of 3.6 (third grade, sixth month). All students, regardless of age, who obtain a raw score of 20 will have a 3.6 grade equivalent assigned as their level of development. Grade equivalents are expressed in grade and month with a decimal point (.) as the delimiter. The grade scale ranges from <K.0 (below beginning kindergarten) to >18.0 (above beginning second year graduate school).

Level 3: Degree of Proficiency

Level 3 information indicates the quality of a student's performance on criterion tasks of known difficulty levels when compared to an age or grade reference group.

Relative Proficiency Index (RPI)

The Relative Proficiency Index (RPI) predicts the level of mastery (quality of performance) on tasks similar to the ones tested. It reflects the student's expected percent of proficiency for tasks that the reference or comparison group (age or grade) would perform with 90% proficiency. The RPI is recorded with the student's expected percent of proficiency and the comparison group's 90% expected proficiency separated by a slash (/). The RPI is based upon the *W* difference score, which depicts how far above or below a student's performance is from the average score for the reference group. For example, a +30 *W* score difference would result in an RPI of 100/90, whereas a –30 *W* score difference would result in an RPI of 25/90. (For each

test, the W scale is centered on a value of 500, which has been set to approximate the average performance of 10-year-olds.)

Using an age comparison group, if a child age 6-0, obtains an RPI of 50/90, it would indicate that on tasks that the average child, age 6-0, performs with 90% proficiency, this child only performs with 50% proficiency. Interpretation guidelines, paralleling Informal Reading Inventory criteria, are: Independent Level (easy) 96/90 and above, Instructional Level (90/90), and Frustration Level (difficult) 75/90 and below.

Test items do not increase in difficulty in equal intervals. The amount the difficulty level increases from item to item varies. Within a test, a subset of items that represent a period of rapid growth in a particular skill (e.g., basic reading skills between the ages of 5 and 15) will increase in difficulty in relatively large increments. A subset of items that represent a period of slow or no growth in a skill (e.g., basic reading skills between the ages of 15 and 25) will have smaller increases in difficulty between items. The RPI shows the difference in item difficulty that the individual can handle. Accordingly, at an age or grade level during which a skill is developing rapidly, a relatively wide variation in scores (and proficiency) will occur, even within the average range. Thus, a person could score within the average range, as long as his score falls within the mid-range of the scores obtained by his age or grade peers. The difficulty level of his or her highest correct item could, however, be considerably lower than the highest item correctly answered by 50% of his age-or grade-peers. This discrepancy could indicate that although the student obtained a score that is within the average range for his age/grade-peers, his actual proficiency on the task is limited. The direction of the discrepancy (above or below 90% proficiency) determines whether the student is more proficient or less proficient than expected. The difficulty level of the items completed correctly determines by how much.

When interpreting the variety of score types provided by the WJ III, to consider that the RPI and standard scores measure different aspects of performance. The RPI conveys how far away the individual is from the reference group median and is unaffected by the standard deviation. It displays the level of difficulty (qualitative) an individual can handle, versus his or her standing in the reference group, (i.e., where the score falls in the continuum by others of the same age or grade in the norming sample)(quantitative).

Table 1-1: Criterion-Referenced Interpretation of RPI Scores

W Diff Values	Reported RPIs	Proficiency	Functionality	Development	Implications
+31 and above	100/90	very advanced	very advanced	very advanced	extremely easy
+14 to +30	98/90 to 100/90	advanced	advanced	advanced	very easy
+7 to +13	95/90 to 98/90	average to advanced	within normal limits to advanced	age-appropriate to advanced	easy
-6 to +6	82/90 to 95/90	average	within normal limits	age-appropriate	manageable
-13 to -7	67/90 to 82/90	limited to average	mildly impaired to within normal limits	mildly delayed to age-appropriate	difficult
-30 to –14	24/90 to 67/90	limited	mildly impaired	mildly delayed	very difficult
-50 to -31	3/90 to 24/90	very limited	moderately impaired	moderately delayed	extremely difficult
-51 and below	0/90 to 3/90	negligible	severely impaired	severely delayed	impossible

Sample descriptive statements reflect a Fluid Reasoning W difference of -10 for a male subject.

Proficiency: “His fluid reasoning ability is limited to average...”

Functionality: “His fluid reasoning ability is mildly impaired to within normal limits…”

Developmental: “His fluid reasoning ability is mildly delayed to age-appropriate...”

Implications: “He will probably find age-level tasks requiring him to identify categories

and relationships among categories, make inferences, recognize and form concepts, and draw conclusions difficult."

Table 1-2: Instructional Interpretation of RPI Levels

RPI	**Instructional Level**
96/90 and above	Independent
76/90 to 95/90	Instructional
75/90 and below	Frustration

Cognitive-Academic Language Proficiency (CALP).

A CALP score is provided for all of the tests that measure English language proficiency, if this option is selected in the software. As with the RPI, the CALP level is based upon the *W* score differences. Five CALP levels describe how the student will perform on English language tasks when compared with others of the same age or grade. As illustrated in the table below, the scores range from a CALP Level of 5 (Advanced), the student will find the language demands in instructional situations to be very easy to a CALP Level of 1 (Negligible), the student will find the language demands in instructional situations impossible to manage.

Table 1-3: CALP Levels, Implications, and Comparisons to RPI Levels

CALP Level		English Language Demands at Age or Grade Level	RPI
5	Advanced	Very Easy	98/90 to 100/90
4-5 (4.5)	Fluent to Advanced	Easy	96/90 to 97/90
4	Fluent	Manageable	82/90 to 95/90
3-4 (3.5)	Limited to Fluent	Difficult	68/90 to 81/90
3	Limited	Very Difficult	34/90 to 67/90
2-3 (2.5)	Very Limited to Limited	Very Difficult to Extremely Difficult	19/90 to 33/90
2	Very Limited	Extremely Difficult	5/90 to 18/90
1-2 (1.5)	Negligible to Very Limited	Extremely Difficult to Impossible	3/90 to 4/90

1	Negligible	Impossible	9/90 to 2/90

Age/Grade Profiles

The Instructional Zone in the WJ III ACH and the Developmental Zone in the WJ III COG are special applications of the RPI. These bands extend from -10 W score units (easy) to +10 W score units (difficult). These bands display the range between an RPI of 96/90 (easy) to an RPI of 75/90 (difficult). The student will find tasks that are below the lower point of the band to be quite easy, and those above the higher point of the band to be quite difficult. The length of these bands on the Age/Grade Profile indirectly reflects the rate of growth of the measured trait in the population. Long bands are associated with a relatively slow rate of growth, whereas short bands reflect relatively rapid growth. In a period of development when growth is rapid, the Developmental or Instructional Zone bands will be quite narrow; in a period of development when little growth occurs, the bands will be quite wide. For example, a narrow band for Letter-Word Identification test indicates that growth is rapid at the student's age or grade level, whereas a wide band for Word Attack indicates that growth takes place slowly during that developmental period.

The Age/Grade Profile displays the practical implications of the test or cluster scores (in contrast to the statistical implications displayed by the SS/PR Profiles. The developmental and instructional zones suggest at what level tasks will be easy for a person and at what level they will be difficult and may be used to describe the student's present level of functioning.

Level 4: Comparison with Peers

Level 4 information indicates relative standing in the group when compared to age or grade peers.

Percentile Ranks (PR)

A percentile rank describes a student's relative standing in a comparison group on a scale of 1 to 99. The student's percentile rank indicates the percentage of students from the comparison group who had scores as low or lower than the student's score. A student's percentile rank of 68 indicates that 68% of the comparison group had scores as low or lower than the student's score. Extended percentile ranks provide scores down to a percentile rank of one-tenth (0.1) and up to a percentile rank of ninety-nine and nine-tenths (99.9). A student's percentile rank of 0.1 indicates that only 1 in 1000 students in a reference group would score as low or lower. A student's percentile rank of 99.9 indicates that 999 in 1000 students in a reference group would score as low or lower.

Standard Scores (SS)

A standard score describes a student's performance relative to the average performance of the comparison group. It is based on a median or average score being assigned a value of 100, with a standard deviation, an indication of the variability of scores in the population, assigned a value of 15. The range of standard scores includes 1 to 200+.

Table 1-4: Classification of Standard Score and Percentile Rank Ranges

Standard Score Range	Percentile Rank Range	WJ III Classification
131 and above	98 to 99.9	Very Superior
121 to 130	92 to 97	Superior
111 to 120	76 to 91	High Average
90 to 110	25 to 75	Average
80 to 89	9 to 24	Low Average
70 to 79	3 to 8	Low
69 and below	0.1 to 2	Very Low

Z Score

A *z* is a standard score that has a mean of 0 and a standard deviation of 1. A (+) sign means that

the score is above the mean (e.g., +2.0 means two standard deviations above the mean) and a (-) sign means that the score is below the mean (e.g., -2.0 means two standard deviations below the mean.

Standard Error of Measurement (SEM)

The standard error of measurement is an estimate of the amount of error attached to an individual's standard score, or how much to expect a person's obtained score to vary from his or her true score if the person were administered the same test repeatedly. The WJIII provides the unique SEM associated with each possible score, rather than average SEMs based on entire samples, a feature made possible by the use of Rasch scaling.

DISCREPANCY TERMINOLOGY

Actual SS

The student's obtained standard score on a cognitive or achievement cluster.

Predicted SS

The predicted achievement score is the mean score obtained by others of the same age or grade in the norm sample who had the same level of cognitive ability. The cognitive ability score used as the basis for this prediction is derived from the student's performance on the first seven tests of the Tests of Cognitive Abilities, weighted differentially, according to the importance of different cognitive abilities at different age or grade levels. It is this score that is used in computing discrepancies. Thus, the WJ III predicted score is developmentally sensitive.

Intra-ability discrepancies are based on the difference between the student's obtained standard score and the average of his or her standard score on the other cognitive, achievement, or cognitive and achievement clusters.

Standard Score Difference (SS DIFF)

The SS DIFF score represents the Predicted SS subtracted from the Actual SS.

Discrepancy Percentile Rank (PR)

For the ability/achievement discrepancies, this score represents the percent of the WJ III norm sample that had an SS DIFF of this magnitude. For the intra-ability discrepancies, this score represents the percent of the WJ III norm sample of the same age or grade, and with the same predicted score as the student's, that obtained an ability score the same as, or lower, than the student's.

Discrepancy Standard Deviation (SD)

The Discrepancy SD score reports the SS DIFF divided by the standard error of estimate (SEE), the appropriate standard deviation statistic for this application. This statistic is derived from the distributions of SS DIFF found in the WJ III norm sample. For the ability/achievement discrepancies, the score represents the number of standard deviations the SS DIFF is from the Predicted SS. For the intra-ability discrepancies, this score represents the number of standard deviations the SS DIFF is from the average of his or her other abilities.

Sample Statements for Reporting Scores

These statements provide examples of ways to describe various test scores in reports. Words in brackets will vary, depending on the cognitive or achievement test or ability being discussed.

Score Levels Reported in Combination

Lara demonstrated low average to average performance on [the WJ III Spelling test], with a grade equivalent of early grade 3, and an RPI of 62/90.

Kara's [Broad Written Language] score bridged the low to low average ranges (SS 77-83) with a grade equivalent of early grade 3 and an RPI of 75/90. When average grade-peers have 90% success, Kara will have 75% success on similar tasks.

Tara's CALP Level of 5, as well as her RPI of 99/90 suggest that she will find the language

demands in instructional situations to be very easy.

Level of Development (Grade Equivalent, Age Equivalent)

Dick's scores indicate that his level of functioning on [paired associate learning and retrieval tasks] is typical compared to grade-mates.

Maria's obtained grade score on the [Broad Reading cluster] was approximately beginning third grade (GE=3.1).

The number of items Marcos answered correctly is comparable to the average student in early grade 7.

Test results indicate that Diane's performance is comparable to that of average eight-year-olds.

On [phonemic awareness tasks], Felicia scored similarly to students in mid-grade 2.

Sally is a fourth-grader who currently performs at the first-grade level in [math computation].

Margaret scored at mid-second grade level on [the Broad Reading cluster].

Lucas's instructional level for [sight word reading] was mid-grade 3.

Proficiency (RPI, Developmental and Instructional Zones, CALP)

Mark's level of proficiency on [the Broad Mathematics cluster] was in the Limited range (RPI: 66/90).

Sam's RPI of 21/90 on the [Phoneme/Grapheme cluster] indicates that on similar tasks, in which the average fourth-grade student would demonstrate 90% proficiency, Sam would demonstrate 21% proficiency. Sam's knowledge of [phoneme-grapheme correspondence and spelling patterns] is very limited.

Jason's RPI on the [Verbal Comprehension test] was 75/90, suggesting that when average age-peers have 90% success on similar [expressive vocabulary and reasoning tasks], Jason will have 75% success. This score places his proficiency at the lower end of the instructional range.

Although Nicholas's obtained standard score on [the Mathematics Reasoning cluster] is within the average range for seventh-grade students overall, his RPI (45/90) indicates that he will have more difficulty than most of his grade-peers in [math problem solving].

Manuel is predicted to demonstrate 2% mastery on [short-term memory tasks] that average age-peers would perform with 90% mastery (RPI: 2/90), indicating that his functioning in this area is severely impaired.

Renee's RPI of 98/90 on [Visual-Spatial Thinking] signifies advanced proficiency. When

average age-peers demonstrate 90% accuracy on similar tasks, Renee's expected accuracy would be approximately 98%.

Even though Sheila's standard scores on both [Broad Reading and Broad Mathematics] are in the low range compared to other fifth-graders, her proficiency in [reading] (RPI 9/90) is markedly lower than her proficiency in [mathematics] (RPI 32/90).

Ben's performance on [Retrieval Fluency (RPI 90/90) and Rapid Picture Naming (RPI 88/90)] indicate that he has no difficulty with [rapid retrieval of familiar words from long-term memory].

David's RPI of 45/90 in [Short-Term Memory] represents a mild delay in the skills necessary for similar classroom tasks, such as [repeating a set of instructions to himself]. His expected success in doing so would be 45% compared with his classmates' 90%.

On a similar classroom task, [reading one or two sentences and filling in the missing word], Bryn's proficiency would be within normal limits (RPI 82/90).

Although Luz scored considerably higher in [Quantitative Concepts] than in [Calculation and Fluency], her RPIs of 70/90 and 40/90 indicate that she will experience frustration in dealing with grade-level [math concepts and number relationships].

Geraldo's RPI of 84/90 indicates that his [general world and academic knowledge] is comparable to that of his grade-peers.

Developmental and Instructional Zones

The Developmental Zone on the WJ III COG indicates that Martha will find tasks involving verbal comprehension to be easy and mid-grade 4 and frustrating at beginning grade 6.

The WJ III Age/Grade Profile indicates that appropriate instructional materials for teaching Jesse [word attack skills] would be early grade 2, and for [sight vocabulary and reading comprehension], early grade 3.

Stan's instructional zone indicates that he will find [reading] tasks to be easy at the beginning second-grade level and very difficult at the beginning third-grade level.

Ted's instructional zone on the WJ III Age/Grade Profile indicates that instructional materials in [basic writing skills] at beginning fourth-grade level will be very easy for Ted while materials at mid-fifth grade level will be very difficult.

Appropriate instructional materials for June in basic mathematics and skills would range from beginning fifth-grade level [easy] to late fifth-grade [instructional]. Materials at the early sixth-grade level would be frustrating for her.

Jared's performance in [Academic Applications] matches the median score of college sophomores on the tests of this cluster, suggesting that Jared would find instructional materials at

the college sophomore level appropriately challenging.

Cognitive-Academic Language Proficiency

Kai met the criteria for fluency in all tests of oral language skills (CALP 4 to 4.5). He should find the English language demands of instruction at the twelfth-grade level manageable to easy.

Ingrid's CALP level of 2 on [the Verbal Ability cluster] indicates that she is very limited in [expressive vocabulary knowledge] and is likely to find the language demands of instruction related to English vocabulary at 4th grade level extremely difficult.

Ruoli's performance on the WJ III Oral Language cluster (CALP level 1) suggests negligible functioning in [comprehension and expression of] English. Managing academic instruction in English, appropriate for 10-year-old native speakers, will be impossible for him.

Peer Comparison

SS ranges

Based on his standard score confidence bands, Jacob demonstrated performance commensurate with his age-peers in [oral language].

On the WJ III Total Achievement cluster, Bill's overall performance was in the Average range.

According to grade norms, Sam's level of achievement on the [Broad Reading cluster] falls in the Average range.

Juan's achievement in [basic writing] skills is low average for his grade.

Test results indicate that all of Jesse's [reading] abilities fall in the Low Average range when compared to grade-peers.

Oscar demonstrated average ability to store [linguistic information] in memory and retrieve it later.

Kata's Average to High Average score on [Analysis-Synthesis] reflects her ability to [use deductive, linear logic for solving novel problems].

Fran's performance varied on the tests comprising the [Executive Processes] cluster. Her standard scores on the [Planning and Pair Cancellation] tests indicate a high average level of ability when compared with her typical grade peers, whereas her performance was in the low average range on the [Concept Formation] test.

George's performance on the [Knowledge] cluster fell in the Low Average to Average range.

Max's [writing fluency, formulating and writing simple sentences quickly] bridges the High

Average to Superior ranges (SS ± 1 SEM = 115-123).

TJ demonstrated a relative weakness in [confrontation naming], scoring in the low average range on the [Rapid Picture Naming] test.

Nancy's overall [math] abilities, as represented by the [Broad Math] cluster score, are in the low range with no significant discrepancies among the component tests of [Calculation, Math Fluency, and Applied Problems].

When Mr. Garibaldi was compared with the graduate school sample, his Comprehension-Knowledge factor score remained competitive (SS 114).

When compared with adults his age, Ms. Lancaster performed well within the Average range in each of the clinically relevant test clusters. In contrast, her scores decreased to the Low range when compared with the graduate school sample.

Lynne's Low to Low Average performance on [Applied Problems] reflects her apparent [confusion with math concepts].

Mariah demonstrated Superior [reasoning] skills, [using inductive and deductive logic to form concepts and solve problems using newly learned procedures (Fluid Reasoning: SS 127, PR 96)].

The WJ III SS/PR Profile indicates that Earl scored significantly higher on the [Broad Reading cluster] than he did on the [Broad Mathematics cluster].

Albeit in the Average range, Mariah's [visual-spatial] abilities appear to be significantly less well developed than her [reasoning/problem solving]. The separation of the confidence bands was [three] times the width of the SEM, whereas one is considered significant.

Rhia's standard score of 125 ± 5 indicates that her performance on the WJ III Broad Written Language cluster is in the Superior range.

Mary obtained a Broad Reading standard score of 98 ± 6. This score is within the Average range.

Martha scored in the Superior range on the Broad Reading cluster (SS ± 1 SEM: 119-131.

Tom's score on the Spelling test (SS ± 1 SEM: 98-110) was significantly higher than his score on the Writing Samples test (SS ± 1 SEM: 75-86).

Although Mark scores in the Low Average range on the Broad Mathematics cluster, his performance on the Calculation test (High Average) was significantly higher than his performance on the Applied Problems test (Very Low).

The statistically significant score discrepancy between the tests comprising the [Auditory Processing cluster (Sound Blending SS 125-132 vs. Auditory Attention SS 112-117)] are not considered to be educationally significant and do not warrant concern.

Percentile Ranks

Kay's percentile rank of 99.5 on the [Basic Math Skills cluster] indicates that only 5 out of 1,000 individuals of her age would have a score as high or higher than hers.

On the [Broad Mathematics cluster], Sara scored at the 25th percentile, within the lower limits of the Average range.

Test results from the WJ III [Broad Mathematics cluster] indicated that Susan's overall [math] achievement is in the Low Average range (20th percentile).

Lawrence's frustration with classroom [writing] tasks is understandable given his obtained percentile rank of 3 on [Writing Samples]. Among students of his age, only 3 of 100 scored as low or lower than he did on this test.

Glenda obtained a [Broad Reading cluster] percentile rank of 8 (SS=78).

On the [reading] tests, a significant difference existed between Ruth's Low Average to Average performance on [Letter-Word Identification (PR ± 21-39)] and her Very Low to Low performance on [Passage Comprehension (PR ± 1-5)].

Bill's group standing in [problem-solving] ability (PR: 2) is significantly lower than his [calculation] skill (PR: 89).

Monica's [reading] skills (98%ile) are significantly higher than her mathematics skills (10%ile).

Angelica's [Auditory Working Memory] score was in the low range, as low or lower than 94% of her grade-peers (PR 6).

Z Scores

The following z-score statements are offered for use with reporting results of Visual-Auditory Learning—Delayed and Story Recall—Delayed. These particular z-scores represent the difference (if any) between a person's delayed recall score and the delayed recall scores of others of his grade or age who had obtained the same score on the first administration of the tests.

Theo's ability to recall key details in stories that had been read to him was equal to or better than 75% of his grade-peers (Story Recall, PR 75). His ability to retain this information and recall it later was significantly better (z-score = +1.57) than those whose initial performance was similar to his.

Jesus performed in the low average range on a task requiring him to learn to associate words with a series of symbols. When asked to recall the words for the symbols a day later, he remembered about as many as would be predicted given his initial low performance (z-score = +0.3).

Gerald's ability to recall key details of narrative information and associations between symbols and spoken words was in the average range. Compared with grade-peers whose initial scores were the same as his, after several hours, his retention of word-symbol associations was similar; his recall of narrative details, however, significantly exceeded that of his grade-peers (+1.75 standard deviations).

Discrepancies
Intra-Ability Discrepancies

The following are examples of statements that can be used to describe Intra-Cognitive, Intra-Achievement, or Intra-Individual Discrepancies.

Jeanne does not demonstrate a significant discrepancy among the [four achievement] clusters.

When Bill's [Comprehension-Knowledge] cluster score is compared to his average performance on the other six CHC factors, only 6 out of 100 students (PR:6) would obtain a score as low or lower than his.

When Sally's actual achievement score is compared to her predicted score, based upon the average of the other three achievement clusters, a significant discrepancy exists. Sally's Discrepancy Percentile Rank indicates that 5% of the students of the same age and with the same predicted score would obtain a score as low or lower than hers.

On the Intra-Individual Discrepancies, only 1 in 1,000 grade-peers (PR: 99.9) with Lila's same predicted [Broad Reading] score (the average of her other cluster scores) would obtain an actual [Broad Reading] score the same as or higher than hers.

In [Broad Written Language], only 3% of students whose predicted scores were the same as Alex's would obtain a standard score of 87 or lower.

Of Philip's grade-peers whose predicted standard scores were identical to his, only 2 out of 100 students would obtain a score as high or higher than his actual standard score of 115 in [Broad Reading] (Discrepancy Percentile Rank = 98).

When D. J.'s [Broad Math] cluster standard score of 95 is compared to his average on the other three achievement clusters, only 1 out of 100 grade-peers with the same predicted score would have obtained a score as low or lower than he did (Discrepancy PR = 0.1; SD Diff = -3.26).

Margaret evidences significant intra-individual strengths in [Auditory Processing and Phonemic Awareness] and weaknesses in [Processing Speed, Broad Reading, and Broad Math]. The likelihood of her age-peers with the same predicted score obtaining scores as high or higher than hers is [1% for Auditory Processing and 3% for Phonemic Awareness]. In her areas of weakness, the probability of obtaining scores as low or lower than hers, given the predicted scores, are [4% for Processing Speed and 3% for Broad Reading and Broad Math].

Ability/Achievement Discrepancies

No significant discrepancies exist between Shirin's General Intellectual Ability-Extended and her present academic performance.

When Charlene's General Intellectual Ability-Extended (GIA-Ext) score is compared to her achievement, significant discrepancies exist between the GIA-Ext and [Basic Reading Skills]. Only 2 out of 100 individuals with a predicted standard score of 105 would obtain a score of 75 or lower.

When Jeff's Predicted Achievement Standard Score of 81 is compared to his Actual Achievement Standard Score of 55, only 1 out of 100 students (Discrepancy Percentile Rank = 1) would obtain a score the same or lower.

Current test results indicate that Spence has a significant discrepancy between his oral language abilities and his [reading] skills. When his Oral Language-Extended cluster (SS=104) is compared to his [Basic Reading Skills] (SS=65), and [Reading Comprehension] clusters (SS=74), only 1 and 2 out of 100 individuals, respectively, would obtain a score the same or lower.

Based on her General Intellectual Ability-Standard and Oral Language scores, Gina's [Broad Reading, Broad Math, and Math Calculation] scores are significantly below expectations.

The WJ III provides predicted achievement scores for each academic area based on different weightings of seven cognitive abilities according to the student's age. Gerald scored significantly lower than predicted in [Broad Reading (Standard Error of Estimate = −2.55), Basic Reading Skills (SEE = −1.61), and Broad Written Language (SEE = -1.60)].

When compared to his overall intellectual ability, Patrick's achievement was significantly lower than predicted in [all areas of written language].

Jerome's difficulties learning to [pronounce words and spell] are unpredicted given his advanced oral language abilities and superior phonemic awareness skills.

Michael's only significant Intra-Individual discrepancy was in [Fluid Reasoning], indicating a severe deficit in [abstract, logical reasoning], compared to his other abilities. A discrepancy of this magnitude is found in only 1% of students of his age.

[Broad Reading, Math Calculation, and Academic Knowledge] were significantly lower than predicted, suggesting that Robert's cognitive abilities are more advanced than his present levels of academic performance.

Tips for Interpretation

This section offers suggestions for qualitative interpretation of the information available from the WJ III. Extensive and valuable information can be obtained from comparing a student's performance on various cognitive and achievement tests, based on similarities and differences in task demands, and from exploration of error patterns in item responses. Frequently, task analysis and error pattern analysis offer insights not obtainable from test scores alone regarding factors contributing to the student's difficulties and areas in need of further investigation.

The following test comparisons are not intended to be a complete or comprehensive listing of all of the possible task comparisons among the WJ III Tests of Cognitive Abilities and Tests of Achievement. They are illustrations of the qualitative information an evaluator can obtain from analysis at the individual test level. Both the table and the section that follows exemplify comparisons and possible performance implications when a difference of significance or probable significance exists between individual test scores within a cluster or between clusters—and sometimes, when they are all low. Test Comparisons and Error Pattern Analysis, organized into cognitive and academic abilities assessed by the WJ III, provides additional suggestions for error pattern analysis.

When making test comparisons, consider scores that represent proficiency (RPI) as well as standing among peers (standard scores). For each student, the evaluator is cautioned to interpret the implications of the suggested test comparisons in the context of other test and cluster scores from the WJ III as well as performance on additional tests, behavioral observations, classroom performance, parent and teacher reports, and student self-perceptions.

The following table, Task Analysis and Comparisons of Selected Tests from the WJ III, has five columns. Test Names simply lists the tests involved in the comparison. Similarities lists

the task demands or required subskills that the tests share. Differences, divided into two columns, lists the task demands and required subskills that are not shared and, thus, are the basis for the comparison. Possible Implications lists the implications of the test comparisons. The bold print describes the possible relationship between/among the test scores. The test(s) listed on the left side of the > symbol has the higher score(s); the test(s) to the right has the lower score(s). The sentence below, in regular print, describes one or more possible reasons, related to the student's cognitive or academic abilities, for this pattern of performance. Each sentence begins with three dots as a reminder that the phrase "If [A > B], consider …" is implied.

Table 1-5. Task Analysis and Comparisons of Selected Tests from the WJ III Tests of Cognitive Abilities and Tests of Achievement

Tests	Similarities	Differences		Possible Implications: **If this test pattern,** consider…
Picture Vocabulary Verbal Comprehension	Retrieval of single words from long-term storage	Retrieval of simple name (PV) Less linguistic complexity (PV)	Retrieval of words based on associations and reasoning (VC) More linguistic complexity (VC)	**Picture Vocabulary > Verbal Comprehension or both low** …limited breadth and depth of vocabulary knowledge …difficulties with word retrieval **Picture Vocabulary > Verbal Comprehension:** …limited flexibility of word comprehension and usage
Retrieval Fluency Rapid Picture Naming Picture Vocabulary	Retrieval of single words from long-term storage	Retrieval of a specific word (RPN, PV) Time constraint (RF, RPN) Words are well-established in long-term storage (RF, RPN) Retrieval of words from a picture prompt (RPN, PV)	Broader choice of acceptable responses (RF) No time constraint (PV) Words are less familiar or not known (PV) Retrieval of words without a picture prompt (RF)	RETRIEVAL FLUENCY > RAPID PICTURE NAMING & PICTURE VOCABULARY …difficulty with specificity of word retrieval (finding a specific word) RETRIEVAL FLUENCY & PICTURE VOCABULARY > RAPID PICTURE NAMING …difficulty with automaticity of word retrieval (finding a specific word fast) **Picture Vocabulary & Rapid Picture Naming > Retrieval Fluency** …difficulty with self-generation of multiple responses …lack of strategy use in generating multiple responses (e.g., thinking of animals by habitat)
Sound Blending Sound Awareness Incomplete Words	Phonemic awareness	Trainable skills (SB, SA) Directly related to basic reading skills (SB, SA) Requires advanced skills (deletion, substitution, transposition, reversal) (SA)	Less trainable skill (IW) Less well-established relation to reading skills (IW) Requires more basic skills (blending) (SB)	**Sound Blending & Sound Awareness > Incomplete Words** …weakness in auditory closure *(Consider possibility of prior training in phonemic awareness with lesser innate ability)* **Low Sound Blending and Sound Awareness** …undeveloped phonemic awareness skills SOUND BLENDING > SOUND AWARENESS …difficulties with more advanced phonemic awareness skills (depends on age of student) *(Informally check ability to segment words into sounds; analyze errors on SA for level of breakdown)*
Sound Blending	Require speech	Perception of	Detection of speech	**Sound Blending, Sound Awareness > Auditory Attention**

Sound Awareness Auditory Attention	sound discrimination	individual speech sounds and sequence (intentional) (SB, SA) Stimuli presented in quiet conditions (SB, SA)	sounds (automatic) (AA) Stimuli presented in adverse auditory condition (AA)	**or all low** …poor hearing acuity and/or speech discrimination
Concept Formation Analysis-Synthesis	Problem solving with new procedures Logical reasoning Learning task with corrective feedback Increase in complexity	Analysis of multiple attributes of a problem to *infer the rule* governing its organization (inductive logic) (CF) Ability to hold many pieces of information in mind at once (simultaneous processing) (CF) Rule changes with each problem (CF)	Use of *given rules* (i.e., a code) to solve a problem (deductive logic) (AS) Ability to move step by step through a mental process (sequential processing) (AS) Rules and method of solution (use of code) stay constant (AS)	**Analysis-Synthesis > Concept Formation** …limited ability to hold in awareness and work with multiple attributes of a problem simultaneously …limited flexibility in problem solving **Concept Formation > Analysis-Synthesis** …difficulty with application of rules or procedures
Concept Formation Applied Problems	Ability to hold and work with multiple elements of a problem Ability to apply inductive reasoning, including categorization of critical elements	Minimal need for knowledge of numeric concepts and procedures (CF)	Strong need for knowledge of numeric concepts and procedures (AP)	**Concept Formation & Applied Problems low** …weakness in basic reasoning and conceptual foundation for math, contributing to inability to see the logical relationships among the elements **Concept Formation > Applied Problems** …limited math knowledge, but good reasoning *(Check amount and type of prior instruction)*
Analysis-Synthesis Calculation	Application of rules and procedures	Minimal need for knowledge of numeric concepts and procedures (AS)	Strong need for knowledge of numeric concepts and procedures (C)	ANALYSIS-SYNTHESIS & CALCULATION LOW …weakness in procedural knowledge and difficulty with application of rules

	Deductive reasoning			**Analysis-Synthesis > Calculation** …weakness in procedural knowledge and skills despite ability to follow a procedure and use deductive reasoning*(Check amount and type of prior instruction)*
Visual Matching Decision Speed Pair Cancellation	Rapid visual scanning Rapid visual processing Response mode	Picture stimuli (DS, PC)	Number/symbol stimuli (VM)	**Visual Matching, Decision Speed, & Pair Cancellation all low** …difficulty with visual scanning *(Consider ocular-motor functioning)* …slow processing speed DECISION SPEED & PAIR CANCELLATION > VISUAL MATCHING …poor symbol discrimination …lack of familiarity with numbers
Visual Matching Numbers Reversed Auditory Working Memory Calculation Math Fluency	Inclusion of numbers in test content	Numbers held in memory (NR, AWM) Numbers used for non-mathematical purpose (NR, AWM, VM)	Numbers constant on page (VM, C, MF) Requires math knowledge (C, MF)	**Visual Matching, Calculation, Math Fluency > Numbers Reversed, Auditory Working Memory** …weakness in working memory …difficulty with mental visualization of numbers *(Analyze items on AWM to see if errors were solely, or mostly, on repetition of numbers, rather than things.)* **Visual Matching, Numbers Reversed, Auditory Working Memory > Calculation, Math Fluency** …limited knowledge and/or ability to apply math concepts and procedures
Memory for Words Numbers Reversed Auditory Working Memory	Short-term memory of unrelated stimuli (i.e., single words, numbers)	Number stimuli (NR, AWM) Higher demands on working memory (NR, AWM)	Word stimuli (MW, AWM) Lower demands on working memory (MW)	**All low** …weakness in short-term memory **Memory for Words > Numbers Reversed (& Auditory Working Memory—problem solely with number repetition)** …difficulty visualizing numbers **Memory for Words > Numbers Reversed > Auditory Working Memory** …difficulty in working memory corresponding to task complexity
Understanding Directions	Comprehension of meaningful	Critical elements share a meaningful linguistic	Critical elements are minimally related by	ORAL COMPREHENSION & STORY RECALL > UNDERSTANDING DIRECTIONS

Story Recall Oral Comprehension	sentences	context (SR, OC) Comprehension and memory of syntax supported by meaning (SR, OC) Mode of response: verbal: single word (OC) verbal: phrases, sentences (SR)	meaning (UD) Comprehension and short-term memory of syntax not supported by meaning (UD) Mode of response: pointing, nonverbal (UD)	…difficulty holding critical elements in memory outside of a cohesive meaningful context …difficulty comprehending and/or holding in memory complex syntax and multiple linguistic concepts (e.g., spatial, temporal, conditional) **Understanding Directions & Oral Comprehension > Story Recall** …weakness in organization of story elements in memory
Oral Comprehension Story Recall Passage Comprehension	Comprehension of connected discourse	Oral stimuli (listening) (OC, SR)	Written stimuli (reading) (PC)	**Oral Comprehension & Story Recall > Passage Comprehension** …difficulty with reading decoding ALL LOW …limited comprehension of oral language
Word Attack Letter-Word Identification Reading Fluency Passage Comprehension	Require skills in word attack and sight word acquisition	Reading decoding (WA, LWI, RF, PC)	Reading comprehension (RF, PC)	**Word Attack & Letter-Word Identification > Passage Comprehension** …poor reading comprehension *(RF might be strong or weak*) **Word Attack > Letter-Word Identification, Retrieval Fluency, Passage Comprehension** …poor sight word acquisition impairs fluency and comprehension. **Letter-Word Identification > Word Attack** …limited word attack skills creates dependence on whole word reading *(may limit future sight word acquisition)* ALL LOW …limited decoding (word attack and sight words) as a major factor in weak fluency and comprehension
Calculation Math Fluency	Require accurate retrieval of math facts	Knowledge of algorithms (C) Knowledge of simple		**Applied Problems > Calculation & Math Fluency** …weakness in procedural knowledge but good reasoning *(Look for inefficient and compensatory strategies)*

Applied Problems	Require under-standing of basic math concepts	facts (MF) Math reasoning (AP)		**Math Fluency & Calculation > Applied Problems** …weakness in math reasoning **Calculation > Math Fluency, Applied Problems, Quantitative Concepts** …substitution of inefficient strategies for procedural knowledge and facts produces average or better score. *(Consider limited understanding of foundational concepts in math, procedural knowledge, and acquired math knowledge.)* **All low** …weakness in foundational concepts in math, procedural knowledge, and acquired math knowledge

TEST COMPARISONS AND ERROR PATTERN ANALYSIS

GENERAL

If significant discrepancies exist between or among the individual test scores within a factor or cluster, report performance on the narrow abilities and, using task analysis and other test results, attempt to explain the reason for the difference between the scores. As well, consider how this information may alter your interpretation or use of the factor/cluster score.

> Example case: Alyssa's Cognitive Fluency cluster score falls in the Low Average range, with Decision Speed in the Average range and Retrieval Fluency and Rapid Picture Naming in the Very Low range. Using these and other test results, the evaluator determines that Alyssa has a specific problem in word retrieval, a weakness limited to language tasks and, for the most part, expressive language tasks. Although weak word retrieval certainly can inhibit cognitive fluency, the evaluator must determine the meaning of the broad score--if it continues to describe general cognitive fluency or if a distinction should be made between fluency in verbal versus nonverbal processes.

Analyze the task demands of the tests administered to the student relative to the quality of her performance. Look for any similarities between/among the task demands and subskills required by the tests on which the student performed well as well as similarities between/among the tests on which she performed poorly. Similarly, compare the differences between the task demands and subskills required on the tests on which she did well compared to the tests on which she did poorly. Examine also, the types of errors made on test items, whether a pattern of errors exists, and strategies the student used as substitutes for the correct ones. Based on these comparisons, attempt to determine the narrow abilities that appear strong throughout testing and those that appear weak. [For examples, see Score Descriptions and Levels of Interpretive

Information, Level 1: Qualitative: Task Analysis and Comparisons of Selected Tests.]

When making determinations about cognitive and/or academic strengths and weaknesses, check both the standardized scores and the Relative Performance Indices. Both provide valuable, and different, information. For making recommendations about the instructional level of the materials, refer to the Instructional Zone band on the WJ III ACH. This band provides an estimate of an easy level to a difficult level. The Grade Equivalent is in the center of the Zone. Note any behavioral changes in response to tests with different formats, subject areas, or response requirements. For example, compare the student's attitude, persistence, and level of cooperation on timed versus untimed measures, oral versus written measures, cognitive versus academic tests, and in various skill areas (e.g., reading versus math). A pattern of behavior change may provide clues as to task demands that are easy and those, which are difficult.

MEMORY

Compare performance on associative memory tests that require both visual and auditory associations (e.g., Visual-Auditory Learning) to those that require only auditory memory (e.g., Memory for Words).

Compare performance on working memory tests (e.g., Numbers Reversed and Auditory Working Memory) to performance on tests that measure memory span (e.g., Memory for Words). If performance on memory span tests is higher, consider that the student may have more difficulty with divided attention than with rote sequential memory.

If performance is low on tests of meaningful memory (e.g., Story Recall, Understanding Directions), consider the effect of the student's level of acquired knowledge and language development on performance. Low performance may be more a reflection of lack of experience and exposure or limited language abilities than of poor memory.

Compare performance on tasks that involve retrieval of old learning (e.g., Picture Vocabulary, General Information) to those that involve storage and retrieval of new learning (e.g., Visual-Auditory Learning). High performance on old learning in contrast to low performance on new learning suggests difficulty with comprehending and/or storing new information.

Compare performance on measures of delayed recall to measures of immediate recall (e.g., Visual-Auditory Learning, Story Recall). Check scores to see if material is retained efficiently over time in comparison to other students who performed similarly on the initial presentation. Also, compare the student's responses on initial and delayed recall regarding the number of elements retained and if the same or different elements were named.

Compare performance on short-term memory tests (e.g., Memory for Words, Numbers Reversed) to performance on tests that require meaningful memory (e.g., Story Recall, Understanding Directions). Check to see if memory improves when information is more contextual. The elements in Story Recall are presented with more context than those in Understanding Directions.

COGNITIVE/ACADEMIC FLUENCY/PROCESSING SPEED

If Reading Fluency, Math Fluency, and Writing Fluency are all low, compare the Academic Fluency cluster score to the Processing Speed and Cognitive Fluency cluster scores to determine whether the student has a generalized slow speed of processing or is only slow when tasks involve printed material.

Compare performance on tasks involving rapid visual scanning (e.g., Visual Matching, Pair Cancellation) to those involving rapid word retrieval (e.g., Rapid Picture Naming). If all are low, consider that slow naming was secondary to slow scanning of the pictures. If visual scanning is fast and picture naming is slow, the problem is more likely in naming speed or word retrieval.

If all tests requiring rapid visual scanning of symbols and pictures are low (e.g., Visual Matching, Pair Cancellation, Reading Fluency), consider the possibility of visual or ocular-motor problems. Other behaviors that may indicate ocular-motor problems include losing the place, skipping lines, and using a finger or pencil to aid in tracking along a line.

Note on Visual Matching whether the student matches one or more transposed numbers (e.g., 16 and 61), or skips line. These behaviors suggest inefficiency with scanning and may be related to problems with efficient processing of print.

ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)/BEHAVIOR

Do not assume that strong performance on the tests of the Executive Processes cluster or Broad Attention cluster is a contraindication of ADHD. Although the student may have the cognitive abilities to discern rules, shift mindset, plan a task, ignore visual distracters and, in general, effectively manage the task demands of the other tests in the clusters during the test session, she may not be able to consistently apply them in practical situations. ADHD does not assume that these abilities are deficient—only that the affected person is not able to regulate her use volitionally and consistently.

Note difficulties with attention span, impulsive responses, lack of persistence, high activity level and other behaviors indicative of ADHD that might affect test performance. Low scores on tests in which the student displays these behaviors may be more indicative of lack of considered thought than of a weakness in the skills being assessed.

Note the tests during which a student's ADHD-like behaviors increase. These may be the tests requiring skills that are most difficult for the student.

Review observations from the Test Session Observation Checklist. Target behaviors of concern to explore in more depth.

Note whether any behaviors or attitude adversely affected the student's performance (e.g., low frustration tolerance, poor attention, lack of persistence, impulsive responses, resentment towards testing) and note the possible effect in test results (e.g., "The student's low frustration tolerance appeared to affect his effort in the test situation. If he did not know an answer immediately, he refused to try to think it through and would not respond to encouragement. Consequently, his current scores may be an underestimation of his true abilities").

Record any comments the student makes indicating affective responses to tasks (e.g., "I hate math."), comments regarding school in general or any aspect of school (e.g., "The teacher always picks on me"), and comments about himself as a learner (e.g., "I never remember that," "I'm always the last one finished").

ORAL LANGUAGE

Although the tests of the WJ III are not sufficient to diagnose a primary language disorder, judicious comparisons of test results can provide strong indications as to generalized and specific language problems that would necessitate a referral to a Speech-Language Pathologist.

Compare the student's performance on Verbal Comprehension to Reading Vocabulary. If Verbal Comprehension and Reading Vocabulary are both low, consider that the student's limited oral vocabulary also limits his reading vocabulary. If the student's score on the oral test is high and the reading test low, consider that weak decoding skills prevent the student from demonstrating his word knowledge. In either case, check Picture Vocabulary, Letter-Word Identification, and Word Attack for additional diagnostic information.

Compare the student's responses on Story Recall, Writing Samples, and Writing Fluency as informal measures of sentence formulation. Behaviors on Story Recall that might indicate

difficulties in this area include responses that indicate knowledge of the content but are poorly organized and unclear. Indicative behaviors on Writing Samples include omissions of key words and sentence structure that is particularly simple (on the higher items) or has sufficiently awkward syntax to obscure the meaning of the sentence.

Compare the student's performance on tests of oral vocabulary (e.g., Verbal Comprehension, Picture Vocabulary) to tests of oral comprehension of connected discourse (e.g., Oral Comprehension, Story Recall, Understanding Directions). If vocabulary is significantly better than discourse comprehension, consider a weakness in comprehension of syntax and/or linguistic concepts. Serious weaknesses in short-term memory might also contribute to difficulties with comprehension.

Consider that limited oral vocabulary and background knowledge can be caused by limited reading experiences, especially from middle school on. If the student has poor basic reading skills, she is not reading, or comprehending, sufficient text from which to learn new words and information at the same rate as her age- or grade-peers.

Consider that the student may have a primary language disorder if all oral language tests are low (Verbal Comprehension, Picture Vocabulary, Sound Blending, Retrieval Fluency, Story Recall, Oral Comprehension, Understanding Directions) but tests that involve minimal oral language (e.g., simple instructions along with pictures) are higher (e.g., Spatial Relations, Visual Matching, Numbers Reversed, Picture Recognition, Decision Speed). Poor short-term memory for linguistic information (e.g., Memory for Words) is also likely to be low. Acquisition of academic knowledge, reading comprehension, and written expression are based on primary language ability and so are also likely to be low.

Compare the student's performance on Picture Vocabulary, Retrieval Fluency, and Rapid Picture

Naming--all relatively simple tasks that require the student to retrieve known words from long-term storage. If the student performs well on Picture Vocabulary but poorly on Rapid Picture Naming, consider a problem with word retrieval. Although both require retrieval of a specific word, only Rapid Picture Naming has a time constraint, increasing the need for automaticity of response. Although low Retrieval Fluency may reinforce the possibility of a word retrieval problem, average performance would not exclude it. Because Retrieval Fluency allows a broader range of acceptable responses, it may not be as sensitive as Rapid Picture Naming. Difficulty with both Rapid Picture Naming and Retrieval Fluency also could be related to speed of processing.

PHONOLOGICAL AWARENESS TO PRINT

Keep in mind that the progression of phonological awareness is developmental. Generally, the progression is as follows:

- preschool: segmenting sentences into words;
- preschool to kindergarten: rhyming;
- kindergarten: segmenting words into syllables and deleting syllables
- grade 1: blending, segmenting, deleting, and adding phonemes;
- grades 1-2: manipulation (e.g., substitution, transposition) of phonemes.

Many children are not able to perform the types of phoneme manipulation tasks measured in the WJ III Sound Awareness test until the end of second grade.

If Auditory Attention, Incomplete Words, Sound Blending, Sound Awareness, and Spelling of Sounds are all significantly weak, note whether or not the student had difficulty on the training items of Auditory Attention as well as during the noise condition. If so, and if she has not had a recent hearing test, request a screening for hearing acuity and speech discrimination to rule out a

hearing loss. If these abilities are intact, consider a central auditory processing disorder. Look for other indications of misperceptions of speech or problems interpreting speech in compromised acoustic environments.

If a student has low performance on Sound Blending, determine if she can segment words into phonemes. Ask her to count the number of sounds that she hears in various words. Include words she can spell but in which the number of letters does not match the number of sounds (e.g., fox [4], cow [2]). If she also has difficulty on this type of task, recommend instruction in blending (synthesizing sounds) and segmenting (analyzing sounds).

If Incomplete Words is significantly lower than Sound Blending, consider the nature of the instructional program. Whereas reading instruction may help to develop the student's ability to blend sounds, it is less likely to develop the auditory closure ability measured by Incomplete Words.

Although Sound Awareness gives only a total score, analyze performance on the four subtests. Determine if the student's performance differs on rhyming tasks versus sound manipulation tasks to get a sense of the level at which the student's phonological abilities are breaking down.

Some individuals have trouble learning to rhyme but can learn to blend and segment sounds. If a student has difficulty with rhyming, as well as with the other tasks on Sound Awareness, check performance on the Sound Blending test to see if he may have developed some of the intermediate phonological awareness skills.

Phonological awareness abilities can be developed through carefully planned instruction. In interpreting assessment results, consider how the current or past method of instruction may have affected scores measuring this ability rather than assuming that the student developed these abilities through incidental learning.

Before deciding that a student has a weakness in orthographic processing (i.e., recall of spelling patterns), make sure that phonological awareness skills are developed. Phonological awareness provides the foundation on which orthographic coding skills can be built.

Students who speak English as a second language may misperceive some English phonemes and obtain low scores on measures of phonological awareness. These low scores may be more a reflection of their limited familiarity with English language phonemes, rather than poor phonological awareness.

The most critical phonemic awareness abilities for decoding and encoding are blending and segmentation. When writing recommendations, place greater emphasis on teaching these abilities than on teaching rhyming.

Compare performance on phonological awareness tests to performance on phoneme/grapheme knowledge tests (Word Attack, Spelling of Sounds). If phonological awareness is significantly higher than phoneme/grapheme knowledge, recommend instruction in letter/sound relationships (phonics). If performance is low on both, recommend activities to build phonological awareness, as well as procedures to build phoneme/grapheme knowledge.

If analysis of Sound Awareness indicates good rhyming ability but a weakness in manipulating phonemes within words, and Sound Blending is low, the student may benefit from a word family approach to reading instruction while learning the more complex phonological awareness skills that will enable her to make better use of phonics.

Before recommending phonological awareness training for older students with reading disabilities, make sure that their problems are not related to the orthographic features of words (recalling letter patterns) rather than to the phonological features. If the student sequences sounds correctly on the Spelling of Sounds and Spelling tests (even though the word may be misspelled),

instruction in phonological awareness is probably unnecessary. The following performance patterns may indicate that instruction should instead be directed to mastery of common English spelling patterns:

- spellings on Spelling of Sounds, Spelling, and Writing Samples that are phonically accurate (correct sound-symbol correspondence) but violate spelling rules and include letter combinations that are unlikely in written English (kw instead of qu);
- attempts to sound out words phonetically that would normally be recognized as sight words (e.g., was);
- scores on Sound Blending and Sound Awareness are average or better but Letter-Word Identification, Word Attack, Reading Fluency and Spelling are weak. Word Attack may be higher if the student has developed phoneme-grapheme correspondence.

BASIC READING AND WRITING SKILLS

Record errors on both the Letter-Word Identification and Word Attack tests for later error analysis. Attempt to discern patterns of performance , such as the student is able to identify initial and final sounds, but struggles with medial vowel sounds.

If Letter-Word Identification is higher than Word Attack, the student may be depending on sight word recognition rather than phonics skills. Determine whether or not the student has a weakness in phonological processing that may be contributing to poor phonics skills.

Compare Reading Fluency to Letter-Word Identification and Word Attack. If all are low, consider that poor basic reading skills are preventing the development of fluency.

If the student demonstrates weaknesses on basic reading skills, check her performance on the tests of phonological awareness to determine if weak phonological awareness is contributing to weak basic reading skills. If the results are inconclusive, consider administering a standardized

test of phonological awareness skills that also includes tests of rapid automatized naming.

Compare performance on Spelling and Spelling of Sounds. Check to see whether or not the student has mastered spellings of high frequency words.

Compare performance on Spelling of Sounds to Word Attack. Check to see that the student can use grapheme/phoneme correspondences for both spelling and pronouncing nonwords.

Review errors on the Editing and Punctuation and Capitalization tests. Make a list of the rules that the student knows and does not know.

On Editing, make a note of whether or not the student is able to detect the error, even if he cannot correct it.

READING COMPREHENSION

Review the errors items on the Reading Fluency test. By analyzing other tests, determine whether errors indicate weak word reading skills or poor literal reading comprehension.

Consider performance on Letter-Word Identification and Word Attack to determine whether or not poor decoding skill is affecting reading comprehension. If decoding skill is adequate but reading comprehension scores are low, check to see if limited knowledge and weak oral language abilities are contributing factors.

Notice if the student attempts to maintain meaning on items on the Passage Comprehension test.

Analyze errors on Passage Comprehension to see if the student's answers are syntactically correct. If many error items are not syntactically correct, consider the possibility of a problem in comprehension of oral syntax.

Record any oral reading errors on the Reading Vocabulary test. Attempt to determine if a low score is more a reflection of weak word identification skills or limited vocabulary.

Consider performance on Academic Knowledge, General Information, and the oral vocabulary tests. Limited background knowledge or vocabulary may be the reason for poor reading comprehension.

Compare performance on Passage Comprehension to Oral Comprehension and Reading Vocabulary to Verbal Comprehension to see if a difference exists between comprehension of written versus oral text. In general, high correlations exist between these measures unless the student is having trouble with basic reading skills. In secondary and postsecondary students, reading comprehension may be higher than listening comprehension because in written text, language is visible and the memory demands decrease.

Compare results on the Reading Fluency and Passage Comprehension tests to tasks that involve processing of higher-level discourse.

WRITTEN EXPRESSION

Compare performance on Writing Samples to measures and observations of oral language abilities. Attempt to determine if the quality of written expression is similar to oral expression.

Compare performance on Writing Samples and Writing Fluency to determine if a difference exists between writing speed and ideation.

Compare the syntactic complexity of the sentences produced on Writing Samples and Writing Fluency. Determine if the student is able to write both short, simple sentences, as well as longer, more complex, sentences with more content.

Analyze spelling on Writing Samples and compare to performance on Spelling and Spelling of Sounds. See if spelling performance deteriorates when the student has to focus on and integrate many aspects of writing.

Analyze the student's use of punctuation and capitalization on Writing Samples. Compare to

Editing to see if the student knows the rules and can correct errors when she does not have to write but cannot formulate a sentence, retrieve spellings, execute the mechanical act of writing, and attend to punctuation, capitalization, and usage simultaneously.

Compare performance on Writing Fluency to performance on Reading Fluency and Math Fluency to determine if the student has a similar rate on all timed measures.

HANDWRITING

Use the Handwriting Elements Checklist to evaluate and record the specific factors affecting legibility: slant, spacing, size, horizontal alignment, letter formation, and line quality. List the elements that need improvement.

Compare the student's performance on Writing Fluency, a timed test, to performance on Writing Samples and Spelling. Writing Fluency is most indicative of a student's fastest handwriting, whereas Writing Samples and Spelling represent handwriting under typical writing conditions. If the student writes legibly on the Writing Samples and Spelling tests, conclude that handwriting is adequate under typical conditions.

For older students (middle school and up), writing rate has more of an effect on writing skill than does poor quality of handwriting. If a student has a compromised writing rate, specific accommodations are often necessary.

Check to see whether or not a student struggling with handwriting has developed keyboarding skill. If not, recommend instruction in word processing.

If the student evidences significantly poor quality of manuscript (print) handwriting, observe her as she writes. Note if the strokes she uses to make her letters are made in the correct sequence and if the direction of the strokes is correct (generally left to right, top to bottom). Multiple errors of this type impede the development of writing fluency and automaticity.

Note the student's pencil grip as she writes. An awkward or particularly odd grip could indicate weakness in the fine muscles of the hand.

Note the student's posture as she writes. An extreme tilt of the head to one side or the other may indicate inefficient visual functioning such as the suppression of one eye. After the test, ask the student about her ability to see the paper and the reason for turning her head.

Note how the student uses her non-writing hand (e.g., steadies her paper, supports her chin).

MATHEMATICS

General.

If the student has particular difficulty with visual-motor coordination and spatial organization of numbers on the page, as she works through a computation problem, the increasing visual confusion may lead to errors. When testing is completed, distinguish between math difficulty and visual confusion resulting from poorly lined up and sloppy numbers. Ask the student to dictate the solution to a problem similar to one that she got wrong while you write for her.

If the student is slow on tests of Processing Speed (especially Visual Matching) and Math Fluency, and makes many errors on Calculation, and Applied Problems, consider that slow processing may have impeded the development of automaticity of math facts and procedures, thus leaving little cognitive attention available for more complex application of those skills.

If the student has difficulty with all math tests as well as Numbers Reversed and Visual Matching, analyze Auditory Working Memory to see if she had difficulty with only the numbers but not the "things." If so, consider that she may have specific difficulty visualizing and working with number symbols.

Math Fluency.

Analyze the student's errors on Math Fluency. Many incorrect responses may indicate a

weakness in understanding the operations, inattention to the operation signs, and/or poor fact knowledge; correct but few answers may indicate lack of automaticity.

Compare performance on Math Fluency to Calculation to see if low performance in basic skills is a result of delayed automaticity with math facts and/or limited procedural knowledge.

Compare results on Math Fluency to tests of Reading and Writing Fluency to determine whether or not performance on all timed academic tests are similar.

Calculation.

Errors are often rule-governed. The student misunderstands the rule, misapplies the rule, or has made up a rule for herself. Analyze errors on Calculation and on Applied Problems to attempt to determine why she made errors on specific items. If needed, ask her to solve a similar problem and explain her procedure as she does so.

> Example case: The student attempts to solve 7x13 (in a vertical format) and comes up with an answer of 22. Verbalizing her procedure, she said, "7 times 3 is 21." She then pointed to the 1 in the 13 and said, "Add the one and that's 22." Her process indicates that she did not understand the problem as 7 groups of 13.

Consider that the student may obtain an average or better score on Calculation without having the grade-expected skills. If the student has used a variety of inefficient processes (e.g., counting on fingers, repeated addition instead of multiplication) to compensate for lack of procedural (e.g., use of algorithms) or conceptual (e.g., place value) knowledge and math information (e.g., units of measurement equivalencies), report the difference between her score and her proficiency as well as her areas of difficulty.

Applied Problems.

Attempt to determine reasons for a low score on Applied Problems (e.g., poor basic skills,

difficulty sequencing multiple steps, word problem structure, language processing difficulties, or poor mathematical reasoning).

Analyze the student's errors on Applied Problems to see if she understands the logical structure of a problem but does not know how to use the appropriate procedure.

> Example case: The student is given the problem: "12 people each have 25 cents to spend. How much money do they have altogether?" She writes a column of twelve 25s with an addition sign and then tries to add them. She understands the logic of the problem and can reason out how to solve it but either does not know that multiplication is the more efficient operation to use or does not know the procedure.

If the student has difficulty with Applied Problems but Calculation appears adequate, check her performance on Concept Formation to see whether or not she has difficulty working with multiple elements of a problem simultaneously and abstracting the superordinate features.

Quantitative Concepts.

Analyze the errors on Quantitative Concepts to see if the student does not understand math terminology and concepts or if she is not able to discern the relationships among numbers.

If the student is having difficulty with discerning number patterns, see if the level at which she breaks down gives you any information about her flexibility with number relationships.

> Case example: The student can respond correctly as long as the increment between numbers is static (e.g., 6-9-12…) but has difficulty when the increment changes within a pattern (e.g., 6-9-13-18…).

Specific Math Disorders.

Consider that the student who has good language, fluid reasoning, and working memory, ascertains the logical structure of word problems, differentiates relevant from extraneous

information, and selects the appropriate operations, but becomes confused while working through the computation, may have a procedural math disorder. A procedural disorder is characterized by "…relatively frequent use of developmentally immature procedures, frequent errors in the execution of procedures, potential developmental delay in the understanding of the concepts underlying procedural use, and difficulties sequencing the multiple steps in complex procedures" (Geary, 2000, p.6).

If the student has limited ability to retrieve math facts, the math facts she does retrieve are frequently wrong, her error responses are associated with the numbers in the problem, and the solution times for correct retrieval are not systematic, consider the possibility of a mathematical disorder in semantic memory. This disorder appears to occur with phonologically-based reading disorders (Geary, 2000, p.6).

If the student has difficulty with spatial representation of numerical information (e.g., misalignment of numbers, number reversals), misinterpretation of numerical information related to position (e.g., place value errors), and, possibly, has difficulties in other areas of math that depend on spatial abilities (e.g., geometry), consider a visuospatial mathematical disorder (Geary, 2000, p.6).

Table 1-6. Average Grade Placement for Age

YRS-MOS	AVERAGE GRADE PLACEMENT	YRS-MOS	AVERAGE GRADE PLACEMENT	YRS-MOS	AVERAGE GRADE PLACEMENT
5-1	0.0	9-6	4.2	14.0	8.5
5-2	0.1	9-7	4.3	14.1	8.6
5-3	0.2	9-8	4.3	14.2	8.7
5-4	0.3	9-9	4.4	14.3	8.8
5-5	0.3	9-10	4.4	14.4	8.9
		9-11	4.5	14.5	9.0
5-6	0.3	10-0	4.6	14.6	9.1
5-7	0.4	10-1	4.7	14.7	9.1
5-8	0.4	10-2	4.8	14.8	9.2
5-9	0.5	10-3	4.9	14.9	9.3
5-10	0.5	10-4	5.0	14.10	9.3
5-11	0.6	10-5	5.1	14.11	9.4
6-0	0.7	10-6	5.2	15-0	9.5
6-1	0.9	10-7	5.3	15-1	9.6
6-2	1.0	10-8	5.3	15-2	9.7
6-3	1.1	10-9	5.4	15-3	9.8
6-4	1.2	10-10	5.4	15-4	9.9
6-5	1.3	10-11	5.5	15-5	10.0
6-6	1.3	11-0	5.5	15-6	10.1
6-7	1.4	11-1	5.6	15-7	10.2
6-8	1.4	11-2	5.7	15-8	10.2
6-9	1.4	11-3	5.8	15-9	10.3
6-10	1.5	11-4	5.9	15-10	10.4
6-11	1.5	11-5	6.0	15-11	10.4
7-0	1.6	11-6	6.1	16-0	10.5
7-1	1.8	11-7	6.2	16-1	10.6
7-2	1.9	11-8	6.2	16-2	10.7
7-3	2.0	11-9	6.3	16-3	10.8
7-4	2.1	11-10	6.3	16-4	11.0
7-5	2.2	11-11	6.4	16-5	11.1
7-6	2.2	12-0	6.5	16-6	11.2
7-7	2.3	12-1	6..7	16-7	11.2
7-8	2.3	12-2	6.8	16-8	11.3
7-9	2.4	12-3	6.9	16-9	11.4
7-10	2.4	12-4	6.9	16-10	11.5
7-11	2.5	12-5	7.0	16-11	11.6
8-0	2.6	12-6	7.1	17-0	11.8
8-1	2.8	12-7	7.2	17-1	11.9
8-2	2.9	12-8	7.2	17-2	12.0
8-3	3.0	12-9	7.3	17-3	12.1
8-4	3.1	12-10	7.3	17-4	12.2
8-5	3.1	12-11	7.4	17-5	12.3
8-6	3.2	13-0	7.5	17-6	12.4
8-7	3.3	13-1	7.7	17-7	12.5
8-8	3.3	13-2	7.8	17-8	12.6
8-9	3.4	13-3	7.9	17-9	12.7
8-10	3.4	13-4	8.0	17-10	12.8
8-11	3.5	13-5	8.1	17-11	12.9
9-0	3.6	13-6	8.2		
9-1	3.7	13-7	8.2		
9-2	3.8	13-8	8.2		
9-3	3.9	13-9	8.3		
9-4	4.0	13-10	8.3		
9-5	4.1	13-11	8.4		

From: Woodcock, R. W., & Johnson, M. B. (1977). Woodcock-Johnson Psycho-Educational Battery (p. 120). Itasca, IL: Riverside Publishing.

Table 1-7. Score Equivalents and Classification Labels

WJ III Classif.	Deviation IQ Score	%ile Rank	Z Score	Scaled Score	T Score	GRE-like Score	Wechsler Classif.
Very Superior	145			19			Very Superior
	140			18			
	135	99	2.33	17	73	733	
	131	98	2.05		71	705	
Superior	130			16			
	128	97	1.88		69	688	Superior
	126	96	1.75		68	675	
	125	95	1.64	15	66	664	
	123	94	1.55		66	655	
	122	93	1.48		65	648	
	121	92	1.41		64	641	
High Average	120	91	1.34	14	63	634	
	119	90	1.28		63	628	High Average
	118	89	1.22		62	622	
	118	88	1.18		62	618	
	117	87	1.13		61	613	
	116	86	1.08		61	608	
	116	85	1.04		60	604	
	115	84	0.99	13	60	599	
	114	83	0.95		60	595	
	114	82	0.91		59	591	
	113	81	0.88		59	588	
	113	80	0.84		58	584	
	112	79	0.80		58	580	
	112	78	0.77		58	577	
	111	77	0.74		57	574	
	111	76	0.71		57	571	
Average	110	75	0.67	12	57	567	
	110	74	0.64	12	56	56.4	
	110	73	0.61	12	56	561	
	109	72	0.58		56	558	Average
	108	71	0.55		56	555	
	108	70	0.52		55	552	
	107	69	0.49		55	549	
	107	68	0.47		55	547	
	107	67	0.44		54	544	
	106	66	0.41		54	541	
	106	65	0.39		54	539	
	105	64	0.36	11	54	536	
	105	63	0.33	11	53	533	
	105	62	0.31	11	53	531	
	104	61	0.28		53	528	
	104	60	0.25		53	525	
	104	59	0.23		52	523	
	103	58	0.20		52	520	

Score	Mean	SD
Deviation IQ	100	15
Percentile	50	NA
Z score	0.00	1.00
Scaled score	10	3
T score	50	10
GRE-like score	500	100

	103	57	0.18		52	518	
	102	56	0.15		52	515	
	102	55	0.12		51	512	
	102	54	0.10		51	510	
	101	53	0.07		51	507	
	101	52	0.05		51	505	
	100	51	0.03	10	50	503	
	100	50	0.00	10	50	500	
	100	49	-0.03	10	50	497	
	99	48	-0.05		49	495	
	99	47	-0.07		49	493	
	98	46	-0.10		49	490	
	98	45	-0.12		49	488	
	98	44	-0.15		48	485	
	97	43	4.18		48	482	
	97	42	-0.20		48	430	
	96	41	-0.23		48	477	
	96	40	-0.25		47	475	
	96	39	-0.28		47	472	
	95	38	-0.31	9	47	469	
	95	37	-0.33	9	47	467	
	95	36	-0.36	9	46	464	
	94	35	-0.39		46	461	
	94	34	-0.41		46	459	
	93	33	-0.44		46	456	
	93	32	-0.47		45	453	
	93	31	-0.49		45	451	
	92	30	-0.52		45	448	
	92	29	-0.55		44	445	
	91	28	-0.58		44	442	
	90	27	-0.61	8	44	439	
	90	26	-0-64	8	44	436	
	90	25	-0.67	8	43	433	
	89	24	-0.71		43	429	
	89	23	-0.74		43	426	
	88	22	-0.77		42	423	
	88	21	-0.80		42	420	
	87	20	-0.94		42	416	
	87	19	-0.88		41	412	
	86	18	-0.91		41	409	
Low	86	17	-0.95		40	405	Low
Average	85	16	-0-99	7	40	401	Average
	84	15	-1-04		40	396	
	84	14	-1.08		39	392	
	83	13	-1.13		39	387	
	82	12	-1-18		38	382	
	82	11	-1.22		38	378	
	81	10	-1.28		37	372	
	80	9	-1.34	6	37	366	
Low	79	8	-1.41		36	359	Borderline
	78	7	-1.48		35	352	
	77	6	-1.55		34	345	
	75	5	-1.64	5	34	336	

	74	4	-1.75		32	325	
	72	3	-1.88		31	312	
	70	2		4			
Very Low	69	1	-2.05		29	295	Intellectually Deficient
	65		-2.33	3	27	267	
	60			2			
	55			1			

Woodcock-Johnson III: Tests of Cognitive Abilities: Clusters/Tests Score Profile

Name _____ Scores based on: Grade ____ Age ____ norms

Date of Birth _____ Type of Score: SS___ %ile___ RPI___ Grade___ Age___

	Category/Factor	Score	STANDARD BATTERY	SCORE	EXTENDED BATTERY	SCORE
Intellectual Ability	General Intellectual Ability (Std. & Ext.)		Verbal Comprehension		General Information	
			Visual-Auditory Learning		Retrieval Fluency	
			Spatial Relations		Picture Recognition	
			Sound Blending		Auditory Attention	
			Concept Formation		Analysis-Synthesis	
			Visual Matching		Decision Speed	
			Numbers Reversed		Memory for Words	
	Brief Intellectual Ability		Verbal Comprehension			
			Concept Formation			
			Visual Matching			
Cognitive Performance	Verbal Ability (Std & Ext)		Verbal Comprehension		General Information	
	Thinking Ability (Std & Ext)		Visual-Auditory Learning		Retrieval Fluency	
			Spatial Relations		Picture Recognition	
			Sound Blending		Auditory Attention	
			Concept Formation		Analysis-Synthesis	
	Cognitive Efficiency (Std & Ext)		Visual Matching		Decision Speed	
			Numbers Reversed		Memory for Words	
CHC Factors	Comprehension-Knowledge		Verbal Comprehension		General Information	
	Long-Term Retrieval		Visual-Auditory Learning		Retrieval Fluency	
	Visual-Spatial Thinking		Spatial Relations		Picture Recognition	
	Auditory Processing		Sound Blending		Auditory Attention	
	Fluid Reasoning		Concept Formation		Analysis-Synthesis	
	Processing Speed		Visual Matching		Decision Speed	
	Short-Term Memory		Numbers Reversed		Memory for Words	

Clinical Clusters	Phonemic Awareness		Sound Blending		[Sound Awareness]	
			Incomplete Words			
	Working Memory		Numbers Reversed			
			Auditory Working Memory			
	Broad Attention		Numbers Reversed		Auditory Attention	
			Auditory Working Memory		Pair Cancellation	
	Cognitive Fluency				Retrieval Fluency	
					Decision Speed	
					Rapid Picture Naming	
	Executive Processes		Concept Formation		Planning	
					Pair Cancellation	
	Delayed Recall				Visual-Auditory Learning – Delayed	z-score or PR
					Story Recall –Delayed (ACH)	z-score or PR
	Knowledge				General Information	
					Academic Knowledge (ACH)	

Woodcock-Johnson III: Tests of Achievement: Clusters/Tests Score Profile

Name _____ Scores based on: Grade ____ Age ____ norms

Date of Birth _____ Type of Score: SS___ %ile___ RPI___ Grade___ Age___

Areas	Clusters	Score	**STANDARD BATTERY**	**SCORE**	**EXTENDED BATTERY**	**SCORE**
Reading	Broad Reading		Letter-Word Identification			
			Reading Fluency			
			Passage Comprehension			
	Basic Reading Skills		Letter-Word Identification		Word Attack	
	Reading Comprehension		Passage Comprehension		Reading Vocabulary	
Oral Language	Oral Language		Story Recall		Picture Vocabulary	
			Understanding Directions		Oral Comprehension	
	Listening Comprehension		Understanding Directions		Oral Comprehension	
	Oral Expression		Story Recall		Picture Vocabulary	
Math	Broad Math		Calculation			
			Math Fluency			
			Applied Problems			
	Math Calculation Skills		Calculation			
			Math Fluency			
	Math Reasoning		Applied Problems		Quantitative Concepts	
Written Language	Broad Written Language		Spelling			
			Writing Fluency			
			Writing Samples			
	Basic Writing Skills		Spelling		Editing	
					[Punctuation & Capitalization]	
	Written Expression		Writing Fluency			
			Writing Samples			

Other Clusters	Academic Knowledge				Academic Knowledge	
	Phoneme/Grapheme Knowledge				Word Attack	
					Spelling of Sounds	
	Academic Skills		Letter-Word Identification			
			Spelling			
			Calculation			
	Academic Fluency		Reading Fluency			
			Writing Fluency			
			Math Fluency			
	Academic Applications		Passage Comprehension			
			Writing Samples			
			Applied Problems			
	Total Achievement		Letter-Word Identification			
			Reading Fluency			
			Passage Comprehension			
			Spelling			
			Writing Fluency			
			Writing Samples			
			Calculation			
			Math Fluency			
			Applied Problems			
	Supplemental Tests/Scores				Story Recall - Delayed	z-score or PR
					Sound Awareness	
					Handwriting	

Woodcock-Johnson III: Tests of Cognitive Abilities: Cluster Descriptions and Scores

Name: _____

Grade:_____ Age:_____ Scores based on: Grade ____ Age ____ Norms

Cluster	Description	SS/PR	RPI	Level of Proficiency
Comprehension-Knowledge	General information and stores of acquired knowledge			
Long-Term Retrieval	Ability to store information efficiently and retrieve it later through associations			
Visual-Spatial Thinking	Ability to perceive, analyze, synthesize and think with visual patterns, including the ability to store and recall visual representations			
Auditory Processing	Ability to analyze, synthesize, and discriminate auditory stimuli. Also related to phonological awareness			
Fluid Reasoning	Ability to reason, form concepts and solve problems that often involve unfamiliar information or procedures			
Processing Speed	Speed and efficiency in performing automatic or simple cognitive tasks, visual scanning efficiency			
Short-Term Memory	Ability to apprehend orally presented information in immediate awareness and use it within a few seconds (memory span and working memory)			
Cognitive Fluency	Ease and speed by which an individual performs simple to complex cognitive tasks			
Executive Processes	Three aspects of executive functioning: strategic planning, proactive interference control, and the ability to shift mental set repeatedly			
Phonemic Awareness	Ability to analyze, synthesize, and manipulate speech sounds			
Working Memory	Ability to hold information in immediate awareness while performing a mental operation on the information			

Comments:				

Woodcock-Johnson III: Tests of Achievement: Cluster Descriptions and Scores

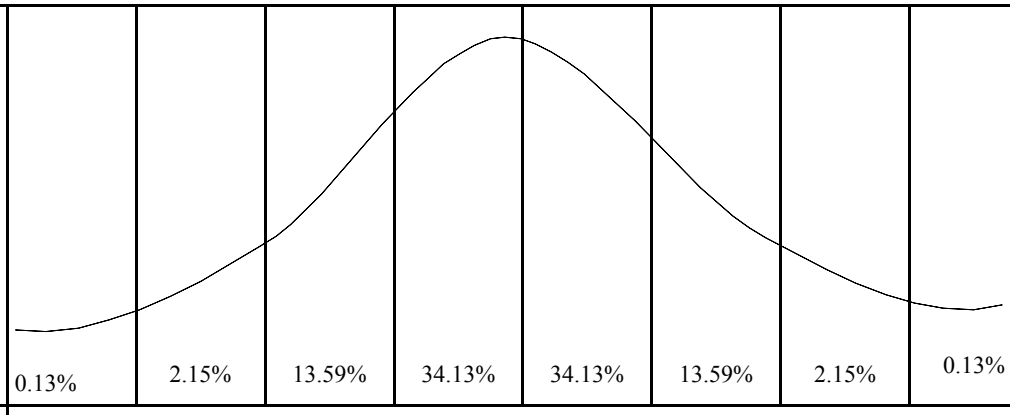
Name: _____

Grade:_____ Age:_____ Scores based on: Grade ____ Age ____ Norms

Cluster	Description	**SS/PR**	GE/RPI	Level of Proficiency
Broad Reading	Reading decoding, reading speed, and using syntactic and semantic cueing systems when reading for meaning			
Basic Reading	Sight vocabulary, phonics, and structural analysis skills			
Broad Math	Math achievement including problem solving, number facility, automaticity with facts, and reasoning			
Math Calculation Skills	Computational skills and automaticity with math facts			
Math Reasoning	Problem solving, concepts, and math vocabulary			
Broad Written Language	Basic writing skills, writing rate, and written expression			
Written Expression	Quality and fluency of meaningful written sentences			
Academic Knowledge	Knowledge of science, social studies, and humanities			
Academic Skills	Basic academic skills			
Academic Fluency	Ease and speed by which an individual performs simple to more complex academic tasks			
Oral Language	Linguistic competency, listening ability, oral comprehension			
Comments:				

Bell Curve Cluster/Test Comparison Chart

Name: _____ Date: _____



	0.13%	2.15%	13.59%	34.13%	34.13%	13.59%	2.15%	0.13%
Z Scores	-4SD	-3 SD	-2 SD	-1 SD	Mean	+1 SD	+2 SD	+3 SD +4SD
Standard Score Equivalents	40	5060	70	80	90	100	110	120 130 140 150 160
Percentile Ranks		1	5	10	20 30	40 50	60 70	80 90 95 99
Score Ranges	Very Low		Low	Low Average	Average		High Average	Superior Very Superior

Cluster / Test								

Standard Score Ranges: 131 and above = Very Superior; 121 to 130 = Superior; 111 to 120 = High Average; 90 to 110 = Average; 80 to 89 = Low Average; 70 to 79 = Low; 69 and below = Very Low

Developmental Band Profile Worksheet - WJ III Tests of Cognitive Abilities

Cognitive Factor / Clusters Cognitive Tests	Developmentally Difficult (weakness) RPI 75/90 & below	Developmentally Appropriate	Developmentally Easy (strength) RPI 96/90 & above
Comprehension-Knowledge (*Gc)*			
Verbal Comprehension			
General Information			
(Academic Knowledge--ACH)			
Long-Term Retrieval (*Glr)*			
Visual-Auditory Learning			
Retrieval Fluency			
Visual-Spatial Thinking (*Gv*)			
Spatial Relations			
Picture Recognition			
Auditory Processing (*Ga*)			
Sound Blending			
Auditory Attention			
Fluid Reasoning (*Gf*)			
Concept Formation			
Analysis-Synthesis			
Processing Speed (*Gs*)			
Visual Matching (1 or 2)			
Decision Speed			
Short-Term Memory (*Gsm*)			
Numbers Reversed			
Memory for Words			

Clinical Clusters	Developmentally Difficult (weakness)	Developmentally Appropriate	Developmentally Easy (strength)
Phonemic Awareness			
Sound Blending			
Incomplete Words			
(Sound Awareness - ACH)			
Working Memory			
Numbers Reversed			
Auditory Working Memory			
Broad Attention			
Numbers Reversed			
Auditory Attention			
Pair Cancellation			
Auditory Working Memory			
Cognitive Fluency			
Retrieval Fluency			
Decision Speed			
Rapid Picture Naming			
Executive Processes			
Concept Formation			
Planning			
Pair Cancellation			
Cognitive Performance Model	Developmentally Difficult (weakness)	Developmentally Appropriate	Developmentally Easy (strength)
Verbal Ability (Std.)			
Verbal Comprehension			
Verbal Ability (Ext.)			
Verbal Comprehension			

General Information			
Thinking Abilities (Std.)			
Visual-Auditory Learning (*Glr*)			
Spatial Relations (*Gv*)			
Sound Blending (*Ga*)			
Concept Formation (*Gf*)			
Thinking Abilities (Ext.)			
Visual-Auditory Learning (*Glr*)			
Retrieval Fluency (*Glr*)			
Spatial Relations (*Gv*)			
Picture Recognition (*Gv*)			
Sound Blending (*Ga*)			
Auditory Attention (*Ga*)			
Concept Formation (*Gf*)			
Analysis-Synthesis (*Gf*)			
Cognitive Efficiency (Std.)			
Visual Matching (*Gs*)			
Numbers Reversed (*Gsm*)			
Cog. Efficiency (Ext.)			
Visual Matching (*Gs*)			
Decision Speed (*Gs*)			
Numbers Reversed (*Gsm*)			
Memory for Words (*Gsm*)			

Worksheet Instructions:
Use the Developmental Level Bands from the Student's Compuscore® (*Age/Grade Profile Selection in the "Reports" Menu*).
Place check marks in the appropriate column that shows whether a cluster/test is difficult, developmentally appropriate, or easy. The proficiency level (e.g., limited) can also be represented within each column.

Adapted from EDCS Inc., Barbara Read, Woodstock, VT

Instructional Zone Profile Worksheet - WJ III Tests of Achievement

Achievement Clusters Achievement Tests	Developmentally Difficult (weakness) RPI 76/90 & below	Developmentally Appropriate	Developmentally Easy (strength) RPI 96/90 & above
Broad Reading			
Letter-Word Identification			
Reading Fluency			
Passage Comprehension			
Basic Reading			
Letter-Word Identification			
Word Attack			
Reading Comprehension			
Passage Comprehension			
Reading Vocabulary			
Oral Language (Std)			
Story Recall			
Understanding Direction			
Oral Language (Ext)			
Story Recall			
Understanding Directions			
Picture Vocabulary			
Oral Comprehension			
Oral Expression			
Story Recall			
Picture Vocabulary			
(Academic Knowledge)			
(General Information - COG)			

Listening Comprehension			
Understanding Directions			
Oral Comprehension			
Broad Written Language			
Spelling			
Writing Fluency			
Writing Samples			
Written Expression			
Writing Fluency			
Writing Samples			
Basic Writing Skills			
Spelling			
Editing			
(Punctuation and Capitalization)			
(Spelling of Sounds)			
Clusters/Tests	Instructionally Difficult (weakness)	Instructionally Appropriate (average)	Instructionally Easy (strength)
Phoneme/Grapheme			
Word Attack			
Spelling of Sounds			
(Sound Awareness)			
Broad Math			
Math Calculation			
Math Fluency			
Applied Problems			
Basic Math Skills			

Math Calculation			
Math Fluency			
Math Reasoning			
Applied Problems			
Quantitative Concepts			
Cross Academic Clusters	Instructionally Difficult (weakness)	Instructionally Appropriate (average)	Instructionally Easy (strength)
Academic Fluency			
Reading Fluency			
Writing Fluency			
Math Fluency			
Academic Skills			
Letter-Word Identification			
Spelling			
Math Calculation			
Academic Applications			
Passage Comprehension			
Applied Problems			
Writing Samples			

Worksheet Instructions:

Use the Instructional Range Bands from the Student's Compuscore® (*Age/Grade Profile Selection in the "Reports" Menu*).

Place check marks in the appropriate column that shows whether a cluster/test is difficult, developmentally appropriate, or easy. The proficiency level (e.g., limited) can also be represented within each column.

Adapted from EDCS Inc., Barbara Read, Woodstock, VT