

One

OVERVIEW

Although many standardized instruments exist for measuring academic performance, the Woodcock-Johnson Tests of Achievement (WJ ACH) is often cited as one of the most widely used and respected individual achievement tests since its original publication in 1977 (Gregory, 1996). The latest revision, the Woodcock-Johnson IV[®] Tests of Achievement (WJ IV ACH) (Schrank, Mather, & McGrew, 2014a), provides examiners with an even more comprehensive and useful instrument. The WJ IV ACH is a companion instrument to the Woodcock-Johnson IV Tests of Cognitive Abilities (WJ IV COG) (Schrank, McGrew, & Mather, 2014b) and the new Woodcock-Johnson Tests of Oral Language (WJ IV OL) (Schrank, Mather, & McGrew, 2014b). These three instruments form the Woodcock-Johnson IV (WJ IV) (Schrank, McGrew, & Mather, 2014a), a comprehensive battery of individually administered tests that are designed to measure general intellectual ability, specific cognitive abilities, oral language abilities, and achievement. Depending upon the purpose of the assessment, these instruments may be used independently, in conjunction with each other, or with other assessment instruments.

Essentials of WJ IV[®] Tests of Achievement provides an easy-to-use guide and reference for professionals and practitioners who wish to learn the key features of this instrument. This guide is appropriate for a wide array of professionals, whether their goal is to learn how to administer the test or simply to increase familiarity with the instrument. The topics covered include administration, scoring, interpretation, and application of the WJ IV ACH. In addition, one chapter is dedicated to the use and application of the WJ IV OL. All chapters include “Rapid Reference,” “Caution,” and “Don’t Forget” boxes that highlight important points. At the end of each chapter is a “Test Yourself” section designed to help examiners review and reinforce the key information presented. These features make the guide an ideal resource for both in-service and graduate training in the application and interpretation of the WJ IV ACH. Examiners may wish to

2 ESSENTIALS OF WJ IV TESTS OF ACHIEVEMENT


Rapid Reference 1.1
Woodcock-Johnson IV Tests of Achievement

Authors: Fredrick A. Schrank, Nancy Mather, and Kevin S. McGrew

Publication date: 2014

Curricular areas the test measures: Reading, written language, mathematics, and academic knowledge

Age range: 2 to 95+ years

Grade range: K.0 through 17.9

Administration Time: Standard Battery, 40 to 50 minutes; with Extended Battery, approximately another 45 minutes; selective testing, 5 to 10 minutes per test

Qualifications of Examiners: Undergraduate, graduate, or professional-level training and background in test administration and interpretation

Publisher:

Riverside Publishing Company

3800 Golf Road, Suite 200

Rolling Meadows, IL 60008

Customer service: 800.323.9540

Fax: 630.467.7192

www.riversidepublishing.com

Price: WJ IV ACH complete test price (for any one Form A, B, or C) without case is \$629 (as of 2014)

read the book from cover to cover or turn to individual chapters to find specific information. Rapid Reference 1.1 provides basic information about the WJ IV ACH and its publisher.

HISTORY AND DEVELOPMENT

The original Woodcock-Johnson Tests of Achievement was published in 1977 as part of the Woodcock-Johnson Psycho-Educational Battery (WJ) (Woodcock & Johnson, 1977). The WJ provided the first comprehensive, co-normed battery of cognitive abilities, achievement, and interests. The battery of tests measured a continuum of human abilities across a wide age range and provided common norms for interpretation. The Tests of Achievement consisted of 10 tests organized into four areas: reading, mathematics, written language, and knowledge.

The Woodcock-Johnson-Revised (WJ-R[®]) (Woodcock & Johnson, 1989) was designed to expand and increase the diagnostic capabilities of the WJ. The tests

were divided into two main batteries, the Tests of Cognitive Ability (WJ-R COG) and the Tests of Achievement (WJ-R ACH). The WJ-R COG and WJ-R ACH each had two easel test books, the Standard Battery and the Supplemental Battery. The WJ-R Tests of Achievement consisted of 14 tests organized into four curricular areas: reading, mathematics, written language, and knowledge. Several new tests were added to the reading and written language areas. To facilitate pre- and posttesting, parallel, alternate forms of the Tests of Achievement, Forms A and B, were published.

Like its predecessor, the Woodcock-Johnson III had two distinct batteries, the Tests of Cognitive Abilities and the Tests of Achievement (Woodcock, McGrew, & Mather, 2001). Together these batteries comprised a comprehensive system for measuring general intellectual ability (g), specific cognitive abilities, predicted achievement, oral language, and achievement across a wide age range. As with the original WJ, one of the most important features of the WJ III system was that norms for the WJ III COG and WJ III ACH were based on data from the same sample of individuals. This co-norming provided greater accuracy and validity when making comparisons among and between an individual's obtained scores and provided new options for various discrepancy and variation procedures.

The latest edition, the WJ IV, is composed of three parts: the WJ IV Tests of Cognitive Abilities (WJ IV COG), the WJ IV Tests of Achievement (WJ IV ACH), and the WJ IV Tests of Oral Language (WJ IV OL). Together these three assessment instruments provide a comprehensive set of individually administered, norm-referenced tests for measuring intellectual abilities, academic achievement, and oral language. As with prior versions, the normative data are based on a single sample that was administered the cognitive, the oral language, and the achievement tests. This comprehensive assessment system facilitates exploring and identifying individual strengths and weaknesses across cognitive, oral language, and academic abilities.

ORGANIZATION OF THE WJ IV ACH

As noted, the WJ IV ACH is a revised and expanded version of the WJ III Tests of Achievement. The WJ IV ACH has 20 tests that are organized into five main areas: reading, mathematics, written language, academic knowledge, and cross-domain clusters. The cross-domain clusters include tests from three different curricular areas (reading, mathematics, and writing). For example, the Academic Fluency cluster includes Sentence Reading Fluency, Math Facts Fluency, and Sentence Writing Fluency.

4 ESSENTIALS OF WJ IV TESTS OF ACHIEVEMENT

Table 1.1 Organization of the WJ IV ACH Tests

Academic Area	Standard Battery (Forms A, B, and C)	Extended Battery
Reading	Test 1: Letter-Word Identification Test 4: Passage Comprehension Test 7: Word Attack Test 8: Oral Reading Test 9: Sentence Reading Fluency	Test 12: Reading Recall Test 15: Word Reading Fluency Test 17: Reading Vocabulary
Mathematics	Test 2: Applied Problems Test 5: Calculation Test 10: Math Facts Fluency	Test 13: Number Matrices
Writing	Test 3: Spelling Test 6: Writing Samples Test 11: Sentence Writing Fluency	Test 14: Editing Test 16: Spelling of Sounds
Academic Knowledge		Test 18: Science Test 19: Social Studies Test 20: Humanities

All of the tests are contained in two easel test books, the Standard Battery and the Extended Battery. The Standard Battery has three forms (Forms A, B, and C) with one form of the Extended Battery. The Standard Batteries include the most commonly administered tests, so having three forms provides alternate and equivalent tests to facilitate retesting. The Extended Battery, which can be used with any of the three forms of the Standard Battery, includes tests that provide greater depth of coverage in each academic area. Table 1.1 shows the organization of the WJ IV ACH, which applies to Forms A, B, and C; the tests are presented by academic area rather than by numeric sequence.

Although many of the basic features have been retained, the extensive renorming and addition of new tests and interpretive procedures improve and increase the diagnostic capabilities. The areas of reading, mathematics, and written language each include measures of basic skills, fluency or automaticity, and application or higher-level skills. The Academic Knowledge cluster includes individual tests of Science, Social Studies, and Humanities that sample an individual's knowledge of the biological and physical sciences; history, geography, government, and economics; and art, music, and literature. Table 1.2 provides an overview of the content and task demands of each of the 20 achievement tests. Figure 1.1 illustrates item types for each of the achievement tests. The sample items shown are not actual test items.

Table 1.2 Content and Task Demands of the 20 WJ IV ACH Tests

Area	Test Name	Description	Task Demands
Reading	Test 1: Letter-Word Identification	Measures an aspect of reading decoding.	Requires identifying and pronouncing isolated letters and words.
	Test 4: Passage Comprehension	Measures reading comprehension of contextual information.	Requires reading a short passage and supplying a key missing word.
	Test 7: Word Attack	Measures aspects of phonological and orthographic coding.	Requires applying phonic and structural analysis skills to pronounce phonically regular nonsense words.
	Test 8: Oral Reading	Measures word reading accuracy and prosody.	Requires reading sentences aloud that gradually increase in difficulty.
	Test 9: Sentence Reading Fluency	Measures reading rate.	Requires reading and comprehending simple sentences and then deciding if the statement is true or false by marking yes or no (3-minute time limit).
	Test 12: Reading Recall	Measures reading comprehension and meaningful memory.	Requires reading a passage silently one time and then retelling the story orally.
	Test 15: Word Reading Fluency	Measures vocabulary knowledge and semantic fluency.	Requires marking two words that go together in a row of four words (3-minute time limit).
	Test 17: Reading Vocabulary	Measures reading vocabulary and comprehension.	Requires reading and providing synonyms or antonyms.
Mathematics	Test 2: Applied Problems	Measures the ability to analyze and solve practical math problems, mathematical reasoning.	Requires comprehending the nature of the problem, identifying relevant information, performing calculations, and providing solutions.

(continued)

6 ESSENTIALS OF WJ IV TESTS OF ACHIEVEMENT

Table 1.2 (Continued)

Area	Test Name	Description	Task Demands
Written Language	Test 5: Calculation	Measures the ability to perform mathematical computations.	Requires calculation of simple to complex mathematical facts and equations.
	Test 10: Math Facts Fluency	Measures aspects of number facility and math achievement.	Requires rapid calculation of single-digit addition, subtraction, and multiplication facts (3-minute time limit).
	Test 13: Number Matrices	Measures quantitative reasoning.	Requires providing the missing number from a matrix.
	Test 3: Spelling	Measures the ability to spell dictated words.	Requires writing the correct spelling of words presented orally.
	Test 6: Writing Samples	Measures quality of meaningful written expression and ability to convey ideas.	Requires writing sentences in response to a series of demands that increase in difficulty.
	Test 11: Sentence Writing Fluency	Measures aspects of automaticity with syntactic components of written expression.	Requires formulating and writing simple sentences rapidly (5-minute time limit).
	Test 14: Editing	Measures the ability to identify and correct errors in spelling, usage, punctuation, and capitalization.	Requires identifying errors in short written passages and correcting them orally.
	Test 16: Spelling of Sounds	Measures aspects of phonological/orthographic coding.	Requires spelling nonsense words that conform to conventional English spelling rules.
Academic Knowledge	Test 18: Science	Measures specialized knowledge in science, including biology, chemistry, geology, and physics.	Requires providing an oral response to orally presented questions; many items provide visual stimuli and early items require a pointing response only.

Table 1.2 (Continued)

Area	Test Name	Description	Task Demands
	Test 19: Social Studies	Measures specialized knowledge in social studies, including history, geography, government, and economics.	Requires providing an oral response to orally presented questions; many items provide visual stimuli and early items require a pointing response only.
	Test 20: Humanities	Measures specialized knowledge in humanities, including art, music, and literature.	Requires providing an oral response to orally presented questions; many items provide visual stimuli and early items require a pointing response only.

Standard Battery**Test 1: Letter-Word Identification**

The task requires identifying and pronouncing isolated letters and words.

g r cat palm officiate

Test 2: Applied Problems

The task involves analyzing and solving practical mathematical problems.

Bill had \$7.00. He bought a ball for \$3.95 and a comb for \$1.20. How much money did he have left?

Test 3: Spelling

The task involves written spellings of words presented orally.

Spell the word *horn*. She played the *horn* in the band. *Horn*.

Test 4: Passage Comprehension

The task requires reading a short passage silently and then supplying a key missing word.

The boy _____ off his bike. (Correct: fell, jumped, etc.)

The book is one of a series of over eighty volumes. Each volume is designed to provide convenient _____ to a wide range of carefully selected articles. (Correct: access)

Test 5: Calculation

The task includes mathematical computations from simple addition facts to complex equations.

$$2 + 4 =$$

$$3x + 3y = 15, 2x - y = 1,$$

$$x =$$

$$y =$$

Figure 1.1 WJ IV ACH-Like Sample Items

8 ESSENTIALS OF WJ IV TESTS OF ACHIEVEMENT

Test 6: Writing Samples

The task requires writing sentences in response to a variety of demands that are then evaluated based on the quality of expression.

Write a good sentence to describe the picture.



Test 7: Word Attack

The task requires pronouncing nonwords that conform to English spelling rules.

flib
bungicality

Test 8: Oral Reading

The task requires the oral reading of sentences that increase in complexity and are evaluated for accuracy and expression.

The dog ate the bone.
The philanthropist provided the botanical society with a new greenhouse.

Test 9: Sentence Reading Fluency (timed)

The task requires rapidly reading and comprehending simple sentences.

People can swim in pools. yes no

Test 10: Math Facts Fluency (timed)

The task requires rapid calculation of simple, single-digit addition, subtraction, and multiplication facts.

2 10 1 3
×3 -5 ×2 +2

Test 11: Sentence Writing Fluency (timed)

The task requires formulating and writing simple sentences quickly when given three words and a picture.

books
likes
read



Figure 1.1 *Continued*

Extended Battery**Test 12: Reading Recall**

The task requires reading passages of gradually increasing length and complexity and then recalling the story elements.

Martha went to the store to buy groceries. When she got there, she discovered that she had forgotten her shopping list. She bought milk, eggs, and flour. When she got home she discovered that she had remembered to buy everything except the butter.

Test 13: Number Matrices

This task involves identifying the missing number in a numerical matrix.

2	4
6	

Test 14: Editing

The task requires identifying and correcting mistakes in spelling, punctuation, capitalization, or word usage in written passages.

Bobby's face was so sunburned, it looked like he had fell into a bucket of red paint.
(Correct: fallen)

Test 15: Word Reading Fluency (timed)

This test requires reading a set of four words and marking the two words that go together.

street horse pencil road

Test 16: Spelling of Sounds (audio recording)

The task requires spelling nonwords that conform to English spelling rules.

larches
shuff

Task 17: Reading Vocabulary

The test involves reading stimulus words for two different tasks: providing synonyms and providing antonyms.

Read this word out loud and tell me another word that means the same.

big

Read this word out loud and tell me another word that means the opposite.

yes

Test 18: Science

The task involves answering questions about curricular knowledge in various areas of the biological and physical sciences.

How many eyes do most spiders have?

Figure I.1 Continued

10 ESSENTIALS OF WJ IV TESTS OF ACHIEVEMENT

Test 19: Social Studies

The task involves answering questions about curricular knowledge in various areas of history, geography, government, and economics.

What is excise tax?

Test 20: Humanities

The task involves answering questions about curricular knowledge in art, music, and literature.

On a musical scale, how many notes are in an octave?

Figure 1.1 Continued

Item content was selected to provide a broad sampling of achievement rather than an in-depth assessment of any one area. Each broad area was designed to measure a hierarchy of abilities ranging from lower-order, less complex tasks, such as the Spelling test, to higher-level, more complex tasks, such as Applied Problems, a measure of math problem solving. Broad measurement of these important achievement areas assists examiners in identifying present performance levels, strengths and weaknesses, and an individual's present instructional needs. In addition, once an area of need has been identified, more in-depth testing can be performed to identify specific instructional objectives using additional norm-referenced, curriculum-based, or informal assessments. Table 1.3 shows the clusters available in the WJ IV ACH.

Table 1.3 Clusters Available in the WJ IV ACH

Curricular Area	Clusters in the Standard Battery	Clusters Requiring a Test From Extended Battery
Reading	Reading Broad Reading Basic Reading Skills Reading Fluency	Reading Comprehension Reading Comprehension–Extended Reading Rate
Math	Mathematics Broad Mathematics Math Calculation Skills	Math Problem Solving
Writing	Written Language Broad Written Language Written Expression	Basic Writing Skills
Cross-Domain Clusters	Academic Skills Academic Fluency Academic Applications Brief Achievement Broad Achievement	Academic Knowledge Phoneme-Grapheme Knowledge

CHANGES FROM THE WJ III ACH TO WJ IV ACH

Examiners who are familiar with the WJ III ACH will find it easy to learn the overall structure and organization of the WJ IV ACH. Rapid Reference 1.2 provides a summary of the major differences between the WJ III ACH and WJ IV ACH. Rapid Reference 1.3 lists the new tests and clusters available in the WJ IV ACH.

Rapid Reference 1.2

WJ IV ACH Major Changes From WJ III ACH

- Provides updated norms.
- The Standard Battery has three parallel forms (Forms A, B, and C) with one form of the Extended Battery that is designed to be used with any of the Standard Batteries.
- There are 20 tests, 11 in the Standard Battery and 9 in the Extended Battery.
- The WJ IV ACH has seven new or expanded tests: Test 8: Oral Reading, Test 12: Reading Recall, Test 13: Number Matrices, Test 15: Word Reading Fluency, Test 18: Science, Test 19: Social Studies, and Test 20: Humanities.
- There are 22 clusters, including 8 new clusters: Reading, Reading Comprehension-Extended, Reading Fluency, Reading Rate, Written Language, Mathematics, Brief Achievement, and Broad Achievement.
- Fifteen clusters are available from the Standard Battery tests and seven additional clusters are available when using the Extended Battery.
- The oral language tests (Picture Vocabulary, Oral Comprehension, Understanding Directions, and Sound Awareness) have been moved into the WJ IV OL. Story Recall has been moved into the WJ IV COG.
- There is one audio-recorded test in the WJ IV ACH (Test 16: Spelling of Sounds).
- Three test names were changed to more accurately reflect the task: Reading Fluency is now Sentence Reading Fluency, Writing Fluency is now Sentence Writing Fluency, and Math Fluency is now Math Facts Fluency.
- The procedures for evaluating ability/achievement comparisons and intra-ability variations have been simplified with increased flexibility for the examiner. Within the WJ IV ACH, two types of intra-ability variations are available: intra-achievement and academic skills/academic fluency/academic applications. One type of ability/achievement comparison is available: a comparison of the Academic Knowledge Cluster to other academic domains. Additional options are available when also administering tests from the WJ IV COG and/or the WJ IV OL.

12 ESSENTIALS OF WJ IV TESTS OF ACHIEVEMENT

 *Rapid Reference 1.3***New WJ IV ACH Tests and Clusters***Seven New or Expanded Tests*

- Oral Reading
- Reading Recall
- Number Matrices
- Word Reading Fluency
- Science
- Social Studies
- Humanities

Eight New Clusters

- Reading
- Reading Comprehension–Extended
- Reading Fluency
- Reading Rate
- Written Language
- Mathematics
- Brief Achievement
- Broad Achievement

DON'T FORGET**Reminders to Examiners**

- The Standard Battery has three forms and the Extended Battery has one form.
- The oral language tests are now included in the WJ IV OL.
- The Academic Knowledge cluster may be used to predict achievement.
- Important additional diagnostic information can be obtained by using the co-normed WJ IV COG and WJ IV OL.
- It is not necessary to administer all of the WJ IV ACH tests.

THEORETICAL FOUNDATIONS

The WJ IV is based on current theory and research on the structure of human cognitive abilities. The theoretical foundation is derived from the Cattell–Horn–Carroll theory of cognitive abilities (CHC theory). Although this is most

commonly discussed in relation to the WJ IV Tests of Cognitive Abilities, applying CHC theory to the WJ IV Tests of Achievement provides a common framework for describing performance and interpreting results. This creates a powerful tool for measuring human performance across the continuum of cognitive abilities, oral language, and achievement.

CHC theory is a combination of two research-based theories: *Gf-Gc* theory, based on the work of Drs. Raymond Cattell and John Horn, and three-stratum theory, based on the work of Dr. John Carroll. Both theoretical models focus on multiple broad abilities, each of which subsumes several narrow cognitive abilities. For more information about these theories, consult the *WJ IV COG Examiner's Manual* (Mather & Wendling, 2014b), the *Technical Manual* (McGrew, LaForte, & Schrank, 2014), Schneider and McGrew (2012), and McGrew and Wendling (2010). The WJ IV measures nine broad abilities: comprehension-knowledge (*Gc*), fluid reasoning (*Gf*), visual processing (*Gv*), short-term working memory (*Gwm*), long-term retrieval (*Glrt*), cognitive processing speed (*Gs*), auditory processing (*Ga*), reading/writing (*Grw*), and quantitative knowledge (*Gq*). (See Rapid Reference 4.6 in Chapter 4 for definitions of these broad abilities.) The WJ IV ACH includes several different measures of these broad abilities. Table 1.4 shows the broad and narrow abilities that are measured by each of the 20 WJ IV ACH tests.

Table 1.4 Broad and Narrow Abilities Measured by the WJ IV ACH

Broad CHC Ability	Standard Battery Tests (Primary Narrow Abilities)	Extended Battery Tests (Primary Narrow Abilities)
Reading/Writing: Reading (<i>Grw</i>)	Test 1: Letter-Word Identification (Reading decoding)	Test 12: Reading Recall (Reading comprehension)
	Test 4: Passage Comprehension (Reading comprehension, Verbal [printed] language comprehension)	Test 15: Word Reading Fluency (Lexical knowledge, Semantic fluency)
	Test 7: Word Attack (Reading decoding, Phonetic coding)	Test 17: Reading Vocabulary (Verbal [printed] language comprehension, Lexical knowledge)
	Test 8: Oral Reading (Reading accuracy, Prosody)	
	Test 9: Sentence Reading Fluency (Reading speed, Reading comprehension)	

(continued)

14 ESSENTIALS OF WJ IV TESTS OF ACHIEVEMENT

Table 1.4 (Continued)

Broad CHC Ability	Standard Battery Tests (Primary Narrow Abilities)	Extended Battery Tests (Primary Narrow Abilities)
Reading/Writing: Writing (<i>Grw</i>)	Test 3: Spelling (Spelling ability)	Test 14: Editing (Language development/English usage)
	Test 6: Writing Samples (Writing ability)	Test 16: Spelling of Sounds (Spelling ability, Phonetic coding)
	Test 11: Sentence Writing Fluency (Writing speed, Writing ability)	
Quantitative Knowledge (<i>Gq</i>)	Test 2: Applied Problems (Quantitative reasoning, Math achievement, Math knowledge)	Test 13: Number Matrices (Quantitative reasoning)
	Test 5: Calculation (Math achievement)	
	Test 10: Math Facts Fluency (Math achievement, Numerical facility)	
Comprehension- Knowledge (<i>Gc</i>)		Test 18: Science (General information/science)
		Test 19: Social Studies (General information/ geography achievement)
		Test 20: Humanities (General information/cultural information)
Auditory Processing (<i>Ga</i>)	Test 7: Word Attack (Phonetic coding)	Test 16: Spelling of Sounds (Phonetic coding)
Long-term Retrieval (<i>Gr</i>)		Test 12: Reading Recall (Meaningful memory)
Fluid reasoning (<i>Gf</i>)		Test 13: Number Matrices (Inductive, Deductive)
Cognitive Processing Speed (<i>Gs</i>)	Test 9: Sentence Reading Fluency	Test 15: Word Reading Fluency
	Test 10: Math Facts Fluency	
	Test 11: Sentence Writing Fluency	

STANDARDIZATION AND PSYCHOMETRIC PROPERTIES

Intended to be broadly applicable from the preschool to the geriatric levels for either comprehensive or focused assessments, the WJ IV ACH was developed with a special emphasis on technical quality. Normative data were based on a single sample that was administered the cognitive, oral language, and achievement tests. The national standardization included 7,416 individuals between the ages of 24 months and 95+ years, as well as college and university undergraduate and graduate students from geographically diverse U.S. communities representing 46 states and the District of Columbia. The sample was selected to be representative of the United States population from age 24 months to age 95 years and older. The preschool sample (2 to 5 years of age and not enrolled in kindergarten) was composed of 664 individuals. The kindergarten to 12th grade sample was composed of 3,891 individuals. The college/university sample was composed of 775 individuals. The adult nonschool sample (14 to 95+ years of age and not enrolled in secondary school or college) was composed of 2,086 individuals. Individuals were randomly selected with a stratified sampling design that controlled for 12 specific community and subject variables: census region, country of birth, community type, sex, race, ethnicity, parent education (preschool and K–12 sample only), type of school (K–12 sample only), type of college, educational attainment (adult sample only), employment status (adult sample only), and occupational level of adults in the labor force.

For the school-age sample, the continuous-year procedure was used to gather data rather than gathering data at one or two points in the year, such as occurs with fall and spring norms. This produces continuous-year norms that meet the reporting requirements for educational programs such as Title I. The grade norms are reported for each tenth of a year from grades K.0 through 17.9. The age norms are reported for each month from ages 2-0 through 18-11 and then by one-year intervals from 19 through 95+ years of age.

Complete technical information can be found in the *WJ IV Technical Manual* (McGrew et al., 2014). The number of items and average item density in each test were set so that a reliability of .80 or higher would usually be obtained. The goal for cluster score reliabilities was set at .90 or higher. The median split-half reliabilities for the tests and composite reliabilities for the clusters are provided in Rapid References 1.4 and 1.5, respectively.

PURPOSES

Because it is a comprehensive instrument, the WJ IV ACH can be used with confidence in a variety of settings and for multiple purposes. The wide age

Rapid Reference 1.4

Reliabilities for the WJ IV ACH Tests

WJ IV ACH Test	Median Reliability Across Age
Letter-Word Identification	.94
Applied Problems	.92
Spelling	.92
Passage Comprehension	.89
Calculation	.93
Writing Samples	.90
Word Attack	.90
Oral Reading	.96
Sentence Reading Fluency	.94
Math Facts Fluency	.96
Sentence Writing Fluency	.82
Reading Recall	.92
Number Matrices	.92
Editing	.91
Word Reading Fluency	.92
Spelling of Sounds	.88
Reading Vocabulary	.88
Science	.84
Social Studies	.87
Humanities	.87

Rapid Reference 1.5

WJ IV ACH Cluster Reliabilities

WJ IV ACH Cluster	Median Reliability Across Age
Reading	.95
Broad Reading	.97
Basic Reading Skills	.95

WJ IV ACH Cluster	Median Reliability Across Age
Reading Comprehension	.93
Reading Comprehension-Extended	.96
Reading Fluency	.96
Reading Rate	.96
Mathematics	.96
Broad Mathematics	.97
Math Calculation Skills	.97
Math Problem Solving	.95
Written Language	.94
Broad Written Language	.95
Basic Writing Skills	.95
Written Expression	.92
Academic Skills	.97
Academic Fluency	.97
Academic Applications	.96
Phoneme-Grapheme Knowledge	.94
Academic Knowledge	.95
Brief Achievement	.97
Broad Achievement	.99

range and breadth of coverage allow the tests to be used for educational, clinical, or research purposes from preschool to the geriatric level. Uses of the WJ IV ACH include: (a) establishing an individual's present achievement performance levels, (b) determining academic strengths and weaknesses, (c) comparing an individual's performance to age or grade peers, (d) exploring eligibility for special programs, (e) monitoring educational progress across the school years, (f) investigating the effectiveness of curricula, and (g) assisting with rationales for recommendations that propose specific curricular adaptations and modifications.

The fact that the WJ IV ACH was co-normed with the WJ IV COG and the WJ IV OL provides a "best-practice" scenario for identifying an individual's unique strengths and weaknesses, as well as for obtaining information for instructional planning and programming. The combined and co-normed information provided is especially useful for documenting the nature of, and differentiating among, intra-ability variations and ability/achievement comparisons and discrepancies.

18 ESSENTIALS OF WJ IV TESTS OF ACHIEVEMENT

Intra-ability (intracognitive, intra-oral language, intra-achievement) variations are useful for understanding an individual's strengths and weaknesses, diagnosing and documenting the existence of specific disabilities, and acquiring the most relevant information for educational and vocational planning. The intra-achievement variation procedure is available when using only the WJ IV ACH, whereas the other two variation procedures require use of the WJ IV COG and WJ IV OL.

Ability/achievement comparisons or discrepancies (intellectual ability/achievement, oral language ability/achievement) are sometimes used as part of the selection criteria for learning disability programs. Within the WJ IV ACH the Academic Knowledge/achievement comparison is available. The oral language ability/achievement discrepancy is available when using the WJ IV OL and the WJ IV ACH, and additional ability/achievement discrepancy procedures are available when using the WJ IV COG. See Chapter 4 and Chapter 5 for further discussion about the use and interpretation of these procedures.

DON'T FORGET

Purposes and Uses of the Test

- Describe individual strengths and weaknesses.
- Determine present performance levels.
- Assist with diagnosis of disabilities.
- Determine ability/achievement and intra-achievement variations.
- Assist with program planning and the selection of accommodations.
- Assess growth.
- Evaluate programs.
- Conduct research.

CAUTION

Possible Kinds of Test Misuse

- Being unfamiliar with the content and organization of the test
- Not completing proper training or study for test use
- Not understanding the applications and limitations of test scores

RESOURCES FOR THE WJ IV ACH

The *WJ IV Tests of Achievement Examiner's Manual* (Mather & Wendling, 2014a) and the *WJ IV Technical Manual* (McGrew et al., 2014) currently provide the most detailed information about the WJ IV. The Examiner's Manual presents the basic principles of individual clinical assessment, specific information regarding use of the test, and suggested procedures for learning to administer, score, and complete the interpretative portions of the WJ IV ACH. The development, standardization, and technical characteristics of the tests are described in the separate Technical Manual.



TEST YOURSELF



- 1. What are the four major curricular areas included in the WJ IV ACH?**
- 2. For what age range is the WJ IV ACH appropriate?**
- 3. What grade range is available in the WJ IV ACH norms?**
- 4. Which of the following tests is new to the WJ IV ACH?**
 - (a) Letter-Word Identification
 - (b) Sentence Writing Fluency
 - (c) Reading Recall
 - (d) Applied Problems
- 5. Which of the following tests is not new to the WJ IV ACH?**
 - (a) Word Reading Fluency
 - (b) Spelling of Sounds
 - (c) Oral Reading
 - (d) Number Matrices
- 6. Which of the following clusters is new to the WJ IV ACH?**
 - (a) Reading Comprehension
 - (b) Reading Rate
 - (c) Phoneme-Grapheme Knowledge
 - (d) Written Expression
- 7. The WJ IV ACH contains a procedure for calculating an ability/achievement discrepancy.**
True or False?
- 8. The WJ IV ACH does not share common norms with the WJ IV Tests of Cognitive Abilities and the WJ IV Tests of Oral Language.**
True or False?

20 ESSENTIALS OF WJ IV TESTS OF ACHIEVEMENT

9. There are three forms of the Standard and Extended Batteries.

True or False?

10. It is not necessary to administer all 20 tests in the WJ IV ACH.

True or False?

Answer: 1. reading, mathematics, written language, and academic knowledge; 2. 2 to 95+ years; 3. K.0 to 17.9; 4. c; 5. b; 6. b; 7. True; 8. False; 9. False; 10. True