

Woodcock-Johnson V Tests of Achievement

Test Descriptions

Below are descriptions of the different tests included in the Woodcock-Johnson V Tests of Achievement and their corresponding CHC Abilities. For more detailed descriptions of the different CHC abilities, please reference pages 7-11 of this document.

Test	CHC Abilities	Description
Picture Vocabulary	Broad: Comprehension-Knowledge (Gc) Narrow: Lexical Knowledge (VL)	<p>The examinee names pictured objects that are displayed on the tablet screen.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> • Oral Language • Oral Expression • Vocabulary
Letter-Word Identification	Broad: Reading and Writing (Grw) Narrow: Reading Decoding (RD)	<p>On early items, the examinee identifies individual letters on the tablet screen. For later items, the examinee reads individual words aloud that increase in difficulty.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> • Brief Reading • Basic Reading Skills • Broad Achievement • Academic Skills/Brief Achievement
Calculation	Broad: Quantitative Knowledge (Gq) Narrow: Mathematical Achievement (A3)	<p>Working in a Response Booklet, the examinee solves math problems that include addition, subtraction, multiplication, division, and more complex mathematical operations.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> • Brief Math • Math Calculation Skills • Broad Achievement • Academic Skills/Brief Achievement

Test	CHC Abilities	Description
Spelling	<p>Broad: Reading and Writing (Grw)</p> <p>Narrow: Spelling Ability (SG)</p>	<p>Working in a Response Booklet, the examinee writes words that the examiner dictates orally. Initial items involve writing upper- and lowercase letters while later items involve spelling increasingly difficult whole words.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> • Basic Writing Skills • Spelling Skills • Broad Achievement • Academic Skills/Brief Achievement
Oral Comprehension	<p>Broad: Comprehension-Knowledge (Gc)</p> <p>Narrow: Listening Ability (LS)</p>	<p>The examinee listens to an audio recording of a short passage that contains a missing word and then says a word that makes sense in the context of the passage.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> • Oral Language • Listening Comprehension
Word Attack	<p>Broad: Reading and Writing (Grw) and Auditory Processing (Ga)</p> <p>Narrow: Reading Decoding (RD) and Phonetic Coding (PC)</p>	<p>On early items, the examinee produces the sounds for single letters and letter combinations. For later items, the examinee reads phonically regular nonsense words (i.e., pseudowords) aloud.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> • Basic Reading Skills • Phoneme-Grapheme Knowledge
Math Facts Fluency	<p>Broad: Cognitive Processing Speed (Gs) and Quantitative Knowledge (Gq)</p> <p>Narrow: Number Facility (N) and Mathematical Achievement (A3)</p>	<p>Working in a Response Booklet, the examinee solves simple math problems within a 3-minute time limit.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> • Math Calculation Skills • Broad Achievement • Academic Fluency



Test	CHC Abilities	Description
Sentence Writing Accuracy	<p>Broad: Reading and Writing (Grw)</p> <p>Narrow: Spelling Ability (SG) and English Usage (EU)</p>	<p>Working in a Response Booklet, the examinee writes sentences that are dictated from an audio recording. Each written response is scored on dictation accuracy, spelling, capitalization, and punctuation.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> Brief Writing Basic Writing Skills
Passage Comprehension	<p>Broad: Reading and Writing (Grw) and Comprehension-Knowledge (Gc)</p> <p>Narrow: Reading Comprehension (RC) and Language Development (LD)</p>	<p>On early items, the examinee taps a picture that the printed word describes. For later items, the examinee reads a short passage and then says a word that makes sense in the context of the passage.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> Brief Reading Reading Comprehension Broad Achievement Academic Applications
Applied Problems	<p>Broad: Quantitative Knowledge (Gq)</p> <p>Narrow: Mathematical Achievement (A3)</p>	<p>On early items, the examinee answers problems involving counting and simple addition and subtraction. Later items require knowledge of money, time, multiplication, and more complex mathematical operations.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> Brief Math Math Problem Solving Broad Achievement Academic Applications
Sentence Reading Fluency	<p>Broad: Cognitive Processing Speed (Gs) and Reading and Writing (Grw)</p> <p>Narrow: Reading Speed (RS) and Reading Comprehension (RC)</p>	<p>The examinee reads simple sentences displayed on the tablet screen and indicates if the sentence is true or false by tapping “yes” or “no” within a 3-minute time limit.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> Reading Fluency Broad Achievement Academic Fluency

Test	CHC Abilities	Description
Written Language Samples	<p>Broad: Reading and Writing (Grw)</p> <p>Narrow: Writing Ability (WA)</p>	<p>Working in a Response Booklet, the examinee writes responses to prompts read orally by the examiner, which are evaluated for their quality of expression.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> Brief Writing Written Expression Broad Achievement Academic Applications
Oral Language Samples	<p>Broad: Long Term Storage (Gl) and Comprehension-Knowledge (Gc)</p> <p>Narrow: Meaningful Memory (MM) and Language Development (LD)</p>	<p>On early items, the examinee provides a word that finishes the sentence read orally by the examiner. For later items, the examinee provides a complete sentence that satisfies the prompt requirements.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> Oral Language Oral Expression
Sentence Writing Fluency	<p>Broad: Cognitive Processing Speed (Gs) and Reading and Writing (Grw)</p> <p>Narrow: Writing Speed (WS) and Writing Ability (WA)</p>	<p>Working in a Response Booklet, the examinee writes simple sentences about pictures using a given set of words provided for each picture within a 5-minute time limit.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> Written Expression Broad Achievement Academic Fluency
Paragraph Reading Comprehension	<p>Broad: Reading and Writing (Grw) and Comprehension-Knowledge (Gc)</p> <p>Narrow: Reading Comprehension (RC) and Language Development (LD)</p>	<p>The examinee silently reads passages and then answers story-specific comprehension questions read orally by the examiner.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> Reading Comprehension

Test	CHC Abilities	Description
Story Comprehension	<p>Broad: Long-Term Storage (Gl)</p> <p>Narrow: Meaningful Memory (MM)</p>	<p>The examinee listens to short stories from an audio recording and then answers story-specific comprehension questions read orally by the examiner.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> Oral Language Listening Comprehension
Word Reading Fluency	<p>Broad: Cognitive Processing Speed (Gs) and Reading and Writing (Grw)</p> <p>Narrow: Speed of Reasoning (RE), Reading Speed (RS), and Reading Decoding (RD)</p>	<p>The examinee reads four words in a row on the tablet screen and taps the two words that are semantically related (e.g., synonyms, members of the same category) within a 3-minute time limit.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> Reading Fluency
Math Problem Identification	<p>Broad: Quantitative Knowledge (Gq) and Fluid Reasoning (Gf)</p> <p>Narrow: Mathematical Knowledge (KM) and Quantitative Reasoning (RQ)</p>	<p>The examinee hears unsolvable math problems presented by the examiner, some of which are accompanied by pictures, words, or numbers. The examinee must describe what is missing or what is wrong with the problem that makes it unsolvable.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> Math Problem Solving
Magnitude Comparison	<p>Broad: Cognitive Processing Speed (Gs) and Quantitative Knowledge (Gq)</p> <p>Narrow: Number Facility (N) and Mathematical Knowledge (KM)</p>	<p>The examinee taps the greater of two values in each pair presented on the tablet screen. The values are displayed as groups of shapes, numbers (single digits that progress to larger numbers), fractions, or decimals.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> Number Concepts





Test	CHC Abilities	Description
Number Sense	<p>Broad: Quantitative Knowledge (Gq)</p> <p>Narrow: Mathematical Achievement (A3) and Mathematical Knowledge (KM)</p>	<p>The examinee answers questions read by the examiner (which are sometimes accompanied by words, pictures, or equations) that require the examinee to compare, judge, estimate, or compute with numbers.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> Number Concepts
Spelling of Sounds	<p>Broad: Auditory Processing (Ga) and Reading and Writing (Grw)</p> <p>Narrow: Phonetic Coding (PC) and Spelling Ability (SG)</p>	<p>Working in a Response Booklet, and on initial items, the examinee writes single letters that represent one sound. For later items, the examinee writes increasingly difficult nonsense words that conform to English spelling rules.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> Spelling Skills Phoneme-Grapheme Knowledge
Oral Reading	<p>Broad: Reading and Writing (Grw)</p> <p>Narrow: Reading Decoding (RD)</p>	<p>The examinee orally reads sentences that increase in difficulty.</p>
Reading Recall	<p>Broad: Reading and Writing (Grw) and Long-Term Storage (GI)</p> <p>Narrow: Reading Comprehension (RC) and Meaningful Memory (MM)</p>	<p>The examinee silently reads short stories and then retells the stories with as much detail as possible.</p>
Academic Vocabulary	<p>Broad: Comprehension-Knowledge (Gc)</p> <p>Narrow: Lexical Knowledge (VL)</p>	<p>The examinee answers vocabulary questions about academic topics such as literacy, math, science, and the humanities.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> Vocabulary Academic Knowledge

Test	CHC Abilities	Description
Academic Facts	Broad: Comprehension-Knowledge (Gc) Narrow: General Knowledge (K0)	<p>The examinee answers factual questions about academic topics such as literacy, math, science, and the humanities.</p> <p>Contributes to the following clusters:</p> <ul style="list-style-type: none"> Academic Knowledge
Letter Writing Fluency	Broad: Reading and Writing (Grw) and Psychomotor Speed (Gps) Narrow: Writing Speed (WS)	<p>Working in a Response Booklet, the examinee first prints the letters of the alphabet from memory in any order within 30 seconds and then copies a model of the alphabet, in order, within 30 seconds.</p>

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Definitions of CHC Abilities

Comprehension-Knowledge (Gc)

Originally described as crystallized intelligence, including the depth and breadth of a person's acquired knowledge, the ability to communicate one's knowledge, and the ability to reason using previously learned experiences or procedures. This story of knowledge is primarily language-based and represents those abilities that have been developed largely through the investment of time, talent, and resources during education and general life experiences.

Lexical Knowledge (VL)

The knowledge of the definitions of words and the concepts that underlie them. Vocabulary knowledge.



Reading and Writing (Grw)

The depth and breadth of knowledge and skills related to written language. Grw has traditionally been referred to as literacy. People with high Grw read with little effort and write with little difficulty. When Grw is sufficiently high, reading and writing become windows (i.e., facets) for viewing a person's language development. Although reading and writing are clearly distinct activities, the underlying sources of individual differences in reading and writing skills do not differentiate clearly between the two activities. It appears that the Grw ability is common across all reading and writing skills.

Reading Decoding (RD)

The ability to identify words from text. Typically, this ability is assessed by oral reading of lists of increasingly difficult phonetically regular or irregular words or phonetically regular pseudowords.

Quantitative Knowledge (Gq)

The depth and breadth of declarative and procedural knowledge related to mathematics. It consists of acquired knowledge about mathematics, such as knowledge of mathematical symbols, operations, computational procedures, and other math-related skills.

Mathematical Achievement (A3)

Measured (tested) mathematics achievement, including the ability to perform basic calculations and solve contextualized math problems. Both draw on Gf-RQ (quantitative reasoning), particularly as the achievement problems require more problem solving.

Spelling Ability (SG)

The ability to spell words. This factor is typically measured with traditional written spelling tests. However, just as with Reading Decoding (RD), it also can be measured via spelling tests consisting of phonetically regular nonsense words (e.g., grodding).

Listening Ability (LS)

The ability to understand speech. This receptive language ability starts with comprehending single words and increases to long complex verbal statements.



Auditory Processing (Ga)

The ability to discriminate, remember, reason, and work creatively on auditory stimuli, which may consist of tones, environmental sounds, and speech units.

Phonetic Coding (PC)

The ability to distinctly hear phonemes; blend sounds into words; and segment words into parts, sounds, or phonemes. This ability is also frequently referred to as phonological processing, phonological awareness, and phonemic awareness.

Cognitive Processing Speed (Gs)

The ability to quickly perform both simple and complex cognitive tasks, particularly when measured under pressure to sustain controlled attention and concentration. Cognitive processing speed is an aspect of cognitive efficiency.

Number Facility (N)

The speed, fluency, and accuracy of manipulating numbers, comparing number patterns, or completing basic arithmetic.

English Usage (EU)



Knowledge of the mechanics of writing (e.g., capitalization, punctuation, and word usage).

Reading Comprehension (RC)

The ability to understand written discourse.

Language Development (LD)

An intermediate stratum ability to comprehend and communicate using language. The general understanding of spoken language at the level of words, idioms, and sentences. In general, language development includes both the receptive and expressive components of oral and written language.

Reading Speed (RS)

The rate at which a person can read connected discourse with full comprehension. Reading speed is similar to, but not isomorphic with, reading fluency, which is the ease at which a person reads with accuracy and expression.

Writing Ability (WA)

The ability to use text to communicate ideas clearly.

Long-Term Storage (GI)

The ability to acquire, store, and consolidate information. Unlike short-term working memory that requires maintaining information in immediate awareness, long-term storage involves information that has been removed from immediate awareness and stored, to be retrieved at a later time.

Meaningful Memory (MM)

The ability to remember narratives and other forms of semantically related information.

Writing Speed (WS)

The ability to copy or generate text quickly.

Speed of Reasoning (RE)

Speed or fluency in performing reasoning tasks (e.g., quickness in generating as many rules, solutions to a problem, etc., as possible) in a limited time.



Fluid Reasoning (Gf)

Includes the broad ability to reason, form concepts, and solve problems using unfamiliar information or novel procedures. It is a complex mixture of many mental operations, such as identifying relations, drawing inferences, recognizing, and forming concepts, identifying conjunctions, and recognizing disjunctions. It also requires deliberate and flexible control of attention to solve on-the-spot problems.

Mathematical Knowledge (KM)

The range of general knowledge about mathematics, not the performance of mathematical operations or the solving of math problems. This factor involves “what” rather than “how” knowledge.

Quantitative Reasoning (RQ)

The ability to reason, either with induction, or deduction, with quantities, mathematical relations, and operations.

General Knowledge (K0)

The breadth and depth of shared common knowledge considered essential, practical, or worthwhile for everyone in a culture to know.

Psychomotor Speed (Gps)

The ability to perform skilled physical body motor movements (e.g., movement of fingers, hands, legs) with precision, coordination, fluidity, or strength.

