Description of Cognitive Subtests

**WJ IV**

**DAS-II**

**KABC-II**

**Leiter-R**

**SB-5**

**WISC-V**

**CTOPP-2**

**Bayley, 3rd Ed.**

**Woodcock Johnson IV Tests of Cognitive Abilities (WJ-IV)**

On the Oral Vocabulary subtest, the student was asked to provide synonyms, and to provide antonyms for words.

On the Number Series subtest, the student was asked to look at a series of numbers with a number missing from the series, determine the missing numerical pattern, and provide the missing number in the series.

On the Verbal Attention subtest, the student was asked to listen to a recording of named numbers and animals and then repeat the items in the order as directed.

On the Letter-Pattern subtest, the student was asked to locate and draw a line through the two identical letters in a row of six letters. This task proceeded in difficulty from single-letters to triple-letters, with a three minute time limit.

The Phonological Processing subtest consisted of three smaller subtests. On the Word Access subtest the student listened to an audio recording of an alphabet sound and was asked to tell a word starts, ends or have that particular sound in the middle. On Word Fluency the student was asked to name as many words that he/she could recall. The Substitution subtest asked the student to substitute a word, a word ending, or a letter sound to create a new word.

On the Story Recall subtest, the student was asked to recall increasingly complex stories and recall as many details of the story as he/she can remember.

The Visualization subtest consists of two subsets. On Spatial Relations the student was asked to view shapes that are comprised of puzzle pieces. Next, the student viewed several puzzle pieces that make up the shape along with the puzzle pieces that are not part of the shape. The
student was asked to choose the pieces that make up the complete shape. On the Block Rotation, the student was asked to view a three-dimensional pattern of blocks followed by five sets of similar block patterns. Two of the five were identical to the target pattern but rotated. The other three were different patterns. The student was asked to select the two sets of blocks that were rotated versions of the target pattern.

On the General Information subtest, the student was asked questions such as “Where would you find... (an object?)” and “What would you do with... (an object)” The initial items involved objects that appear commonly in a person’s environment. The items became increasingly difficult as the selected objects became more unusual.

On the Concept Formation subtest, the student was presented with a complete stimulus set from which to derive the rule for each item. The controlled learning task involved categorical reasoning based on principals of inductive logic.

On the Numbers Reversed subtest, the student was asked to hold a span of numbers in immediate awareness (memory) while performing a mental operation on it (reversing the sequence).

On the Number-Pattern Matching subtest, the student was asked to locate and draw a line through the two identical numbers in a row of six numbers. This task proceeded in difficulty from single-digit numbers to triple-digit numbers, with a three minute time limit.

On the Nonword Repetition the student was asked to listen to a recording and then orally reproduce letter combinations that are phonically consistent, or regular, patterns in English orthography but are non-words.

On the Visual-Auditory Learning subtest, the student was asked to view symbols and listen to a word that is associated to each symbol. The symbols are strung together and the examinee is asked to “read” the sentence based on memory of the auditory association of the word.

On the Picture Recognition subtest, the student was asked to recognize a subset of previously presented pictures within a field of distracting pictures.

On the Analysis-Synthesis subtest, the student was given instructions on how to perform an increasingly complex procedure. With the exception of the last items, the student was given immediate feedback regarding the correctness of each response before a new item was presented. The task involved learning a miniature system of mathematics.

On the Object-Number Sequencing subtest the student listened to a recording of a series of objects and numbers. The student was asked to remember and name the objects in sequence and then name the numbers in the exact sequence.
On the Pair Cancellation subtest, in a three-minute time limit, the student was asked to locate and mark a repeated pattern as quickly as possible.

On the Memory for Words subtest, the student was asked to repeat lists of unrelated words in the correct sequence.

**Differential Ability Scale for Children-Second Edition (DAS-II)**

**Early Years Battery**

On the Verbal Comprehension subtest, the child was asked to point to pictures or manipulate objects in response to oral instructions from the examiner.

On the Picture Similarities subtest, the examiner showed the child a row of four pictures in the Stimulus Book, the child was asked to place a fifth card under the picture that shared an element of concept.

On the Naming Vocabulary subtest, the child was shown an object or a picture and was asked to say its name.

On the Recall of Objects-Immediate subtest, the child viewed a card with pictures of 20 objects for a specified amount of time. After the card was removed, the child was asked to recall as many objects as possible.

On the Pattern Construction subtest, for Set A, the child copied two- or three-dimensional design with wooden blocks. For Set B and C, the child constructed a design by putting together flat squares or solid blocks with black and yellow patterns of each side.

On the Matrices subtest, the child was shown an incomplete matrix then selected the figure that correctly completed the matrix.

On the Recall of Objects-Delayed subtest, the Recall of Objects card was placed face down in front of the child, but the pictures were not exposed again. The child recalled as many objects as possible.

On the Copying subtest, the child copied a simple line drawing that was first made by the examiner or shown in a picture.

**School-Age Battery**

On the Recall of Designs subtest, the student reproduced an abstract line drawing that was presented for 5 seconds and then removed.

On the Word Definition subtest, the student was asked to tell the meaning of individual words.

On the Recall of Objects-Immediate subtest, the student viewed a card with pictures of 20 objects for a specified amount of time. After the card was removed, the student was asked to recall as many objects as possible.

On the Pattern Construction subtest, the student constructed a design by putting together flat squares of solid blocks with black and yellow patterns on each side.
On the Matrices subtest, the student was shown an incomplete matrix then selected the figure that correctly completed the matrix.

On the Recall of Objects-Delayed subtest, the Recall of Objects card was placed face down in front of the student, but the pictures were not exposed again. The child was asked to recall as many objects as possible.

On the Verbal Similarities subtest, the student was asked to describe how three things are similar to one another.

On the Sequential and Quantitative Reasoning subtest, the student was asked to complete a series/sequence of abstract designs by identifying the missing designs or provide the missing number to match a pattern of numbers.

**Diagnostic Subtests (Early Years and/or School-Age)**

On the Recall of Digits Forward subtest, the child repeated a sequence of digits presented orally.

On the Recognition of Pictures subtest, the child was shown a picture of one or more objects for 5 seconds. The child then selected the previously viewed object(s) from a second pictorial array that includes distracters.

On the Early Number Concepts subtest, the child answered questions about number, size, or other numerical concepts using colored chips or pictures presented in the Stimulus Book.

On the Matching Letter-Like Forms, the child was asked to find an identical match to an abstract figure, given six answer choices. The five distracters represented rotations or reversals of the original figure.

On the Recall of Sequential Order subtest, the child was asked to order a list of parts of the body from highest to lowest (head to toe) after hearing a list of parts of the body from the examiner.

In Booklet A, on the Speed of Information Processing subtest, the child scanned a row of circles containing small boxes and indicated which circles have the most boxes within a specified time limit. In Booklets B and C, the child scanned rows of numbers and was asked to circle the highest number within a specified time limit.

On the Recall of Digits Backward subtest, the child repeated backward a sequence of digits presented orally.

On the Phonological Processing Subtest, the child was asked to rhyme, blend, segment, identify, and delete syllables, sounds, and phonemes in words.

On the Rapid Naming subtest, the child named colors, pictures, and colored pictures as quickly as possible.

**Kaufman Assessment Battery for Children-Second Edition (KABC-II)**

On the Atlantis subtest, the student was taught nonsense names for fanciful pictures of fish, plants, and shells. The student demonstrates learning by pointing to each picture (out of an array of pictures) when it was named.
On the Conceptual Thinking subtest, the student viewed a set of 4 or 5 pictures and identified the one picture that did not belong with the others.

On the Face Recognition subtest, the student was asked to attend closely to photographs of one or two faces that were exposed briefly and then select the correct face or faces, shown in a different pose, from a group photograph.

On the Story Completion subtest, the student was given a set of pictures and was asked to select only the ones that were needed to tell a story, and place the missing pictures in their correct locations.

On the Number Recall subtest, the student was asked to repeat a series of numbers in the same sequence as the examiner recited them, with series ranging in length from 2 to 9 numbers.

On the Gestalt Closure subtest, the student was asked to mentally “fill in the gaps” in a partially completed “inkblot” drawing and name (or describe) the object or action depicted in the drawing.

On the Rover subtest, the student moved a toy dog to a bone on a checkerboard-like grid that contained obstacles (rocks and weeds) and tried to find the “quickest” path—the one that takes the fewest moves.

On the Atlantis Delayed subtest, the student was asked to demonstrate delayed recall of paired associations learned about 15-25 minutes earlier during Atlantis by pointing to the picture of the fish, plant, or shell that is named by the examiner.

On the Expressive Vocabulary subtest, the student was asked to name pictured objects.

On the Verbal Knowledge subtest, the student selected from an array of six pictures the one that illustrated the meaning of a vocabulary word or the answer to a general information prompt.

On the Rebus subtest, the student is taught the word or concept associated with each particular rebus (drawing), and the student then “reads” aloud phrases and sentences composed of these rebuses.

On the Triangles subtest, the student was asked to assemble several identical foam triangles to match a picture of an abstract design; for easier items, the student had to assemble a set of colorful plastic shapes to match a model constructed by the examiner or shown on the easel.

On the Block Counting subtest, the student was asked to count the exact number of blocks in various pictures of stacks of blocks.

On the Word Order subtest, the student was asked to touch a series of silhouettes of common objects in the same order as the examiner named them.

On the Pattern Reasoning subtest, the student was shown a series of stimuli that form a logical, linear pattern with one missing stimulus; the student was asked to complete the pattern by selecting the correct stimulus from an array of 4 to 6 options.

On the Hand Movements subtest, the student was asked to copy the examiner’s precise sequence of taps on the table with the fist, palm, or side of the hand.

On the Rebus Delayed subtest, the student was asked to demonstrate delayed recall of paired associations learned about 15-25 minutes earlier during Rebus by “reading” phrases and sentences composed of those same rebuses.

On the Riddles subtest, the examiner said several characteristics of a concrete or abstract verbal concept, and the student was asked to point to (early items) or names it (later items).
On the Figure Ground subtest, the student was asked to identify embedded figures or designs within a complex stimulus.

On the Design Analogies subtest, the student was presented with 2x2 and 4x2 matrices and was asked to complete these matrices using geometric shapes.

On the Form Completion subtest, the student was asked to recognize a “whole object” from a randomly displayed array of its fragmented parts.

On the Matching subtest, the student was presented with a series of visual stimuli and was asked to select response cards to match these stimuli.

On the Sequential Order subtest, the student was presented with a series of pictorial or figural objects and was asked to select related stimuli that progressed in a corresponding order.

On the Repeated Patterns subtest, the student was presented with patterns of pictorial or figural objects. These patterns were presented again and the student was asked to supply the “missing” portion of the pattern by moving response cards into alignment with the easel.

On the Picture Context subtest, the student was asked to recognize an object that has been removed from a larger display using visual contextual clues.

On the Classification subtest, the student was asked to categorize objects or geometric designs.

On the Paper Folding subtest, the student was asked to mentally “fold” an unfolded object displayed in two dimensions and match it to a target.

On the Figure Rotation subtest, the student was asked to mentally rotate a two- or three-dimensional object or geometric figure.

On the Associated Pairs subtest, the student was asked to remember meaningful and non-meaningful associations after pairs of pictured objects are displayed for 5 or 10 seconds and then removed.

On the Immediate Recognition subtest, the student was asked to discriminate between present and absent objects when presented with a stimulus array of pictured objects for 5 seconds.

On the Forward Memory subtest, the student was asked to remember a sequence of pictured objects to which the examiner points in a given sequence.

On the Attention Sustained subtest, the student was asked to find and cross-out all identical objects in an array of figures.

On the Reverse Memory subtest, the student was asked to remember a sequence of pictured objects in the opposite order from that in which the examiner pointed.

On the Visual Coding subtest, the student was asked to view pictures and its corresponding symbol and then either place cards in correct Tray slots or indicate which card belong in the dashed square on easel.
On the Spatial Memory subtest, increasingly complex displays of pictured objects, arrayed in a matrix format, were shown for 10 second and then removed and the student was asked to place cards in the correct spatial locations on a blank matrix grid.

On the Delayed Pairs subtest, the student had to recognize objects associated on the Associated Pairs subtest as it was presented again after approximately a 30-minute delay.

On the Attention Divided subtest, the student was asked to observe a display and simultaneously sort cards correctly.

**Stanford-Binet Intelligence Scales Fifth Edition (SB-5)**

On the (Nonverbal) Fluid Reasoning subtest, the student was asked to solve novel figural problems and identify sequences of pictured objects or matrix-type figural and geometric patterns.

On the (Verbal) Fluid Reasoning subtest, the student was asked to analyze and explain, using deductive and inductive reasoning, problems involving cause-effect connections in pictures, classification of objects, absurd statements and interrelations among words.

On the (Nonverbal) Knowledge subtest, the student was asked to demonstrate knowledge about common signals, actions, and objects and identify absurd or missing details in pictorial material.

On the (Verbal) Knowledge subtest, the student was asked to apply accumulated knowledge of concepts and language and to identify and define increasingly difficult words.

On the (Nonverbal) Quantitative Reasoning subtest, the student was asked to solve increasingly difficult pre-mathematic, arithmetic, algebraic, or functional concepts and relationships depicted in illustrations.

On the (Verbal) Quantitative Reasoning subtest, the student was asked to solve increasingly difficult mathematical tasks involving basic numerical concepts, counting, and word problems.

On the (Nonverbal) Visual-Spatial Processing subtest, the student was asked to solve spatial and figural problems presented as “puzzles” or complete patterns by moving plastic pieces into place.

On the (Verbal) Visual-Spatial Processing subtest, the student identify common objects and pictures using common visual/spatial terms such as “behind” and “farthest left,” explain spatial directions for reaching a pictured destination, or indicate direction and position in relation to a reference point.

On the (Nonverbal) Working Memory subtest, the student was asked to sort visual information in short-term memory and to demonstrate short-term and working memory skills for tapping sequences of blocks.

On the (Verbal) Working Memory subtest, the student was asked to demonstrate short-term and working memory skills for words and sentences and to store, sort, and recall verbal information in short-term memory.
Wechsler Intelligence Scale for Children-Fifth Edition (WISC-V)

On the Block Design subtest working within a specified time limit, XX viewed a model and/or picture and used two-color blocks to re-create the design.

On the Similarities subtest, XX was read two words that represented common objects or concepts and described how they are similar.

On the Matrix Reasoning subtest, XX viewed an incomplete matrix or series and selected the response option that completed the matrix or series.

On the Digit Span subtest, XX read a sequence of numbers and recalled the numbers in the same order (forward task), reverse order (backward task), and ascending order (sequencing task).

On the Coding subtest working within a specified time limit, XX used a key to copy symbols that corresponded with simple geometric shapes or numbers.

On the Vocabulary subtest for picture items, XX named the depicted object. For verbal items, XX defined the word that was read aloud.

On the Figure Weights subtest within a specified time limit, XX viewed a scale with missing weight(s) and selected the response option that kept the scale balanced.

On the Visual Puzzles subtest within a specified time limit, XX viewed a completed puzzle and selected three response options that, when combined, reconstructed the puzzle.

On the Picture Span subtest, XX viewed a stimulus page with one or more pictures for a specified time and then selected the picture(s) (in sequential order, if possible) from options on a response page.

On the Symbol Search subtest working within a specified time limit, XX scanned search groups and indicated whether target symbols were present.

On the Information subtest, XX answered questions about a broad range of general-knowledge topics.

On the Picture Concepts subtest, XX viewed two or three rows of pictures and selected one picture from each row to form a group with a common characteristic.

On the Letter-Number Sequencing subtest, XX was read a sequence of numbers and letters and recalled the numbers in ascending order and then the letters in alphabetical order.

On the Cancellation subtest working within a specified time limit, XX scanned two arrangements of objects (one random, one structured) and marked target objects.

On the Naming Speed Literacy subtest, XX named elements (e.g., objects of various size and color, letters and numbers) as quickly as possible.

On the Naming Speed Quantity subtest, XX named the quantity of square inside a series of boxes as quickly as possible.
On the Immediate Symbol Translation subtest, XX learned visual-verbal pairs and then translated symbol strings into phrases or sentences.

On the Comprehension subtest, XX answered questions based on his/her understanding of general principles and social situations.

On the Arithmetic subtest for both the picture and verbal items, XX mentally solved arithmetic problems within a specified time limit.

On the Delayed Symbol Translation subtest, XX translated symbols into words, phrases, or sentences using recalled visual-verbal pairs from Immediate Symbol Translation.

On the Recognition Symbol Translation subtest, XX viewed a symbol and selected the correct translation, from response options the examiner read aloud, using recalled visual-verbal pairs from Immediate Symbol Translation.

**Comprehensive Test of Phonological Processing-2 (CTOPP-2)**

The *Comprehensive Test of Phonological Processing-2* (CTOPP-2) assesses phonological awareness, phonological memory, rapid non-symbolic naming and rapid symbolic naming. The individually administered test battery spans a wide range of ages, from 5 to 24 years old.

The Elision subtest measures the extent to which an individual can say a word, then say what is left after dropping out designated sounds.

The Blending Words subtest measures an individual’s ability to combine sounds to form words. The student listens to a CD of a series of separate sounds and then is asked to put the separate sounds together to make a whole word.

The Sound Matching subtest measures the extent to which an individual can match sounds. The examiner says a word, pauses, and then says three other words while pointing to drawings depicting all four words.

The Phoneme Isolation subtests measures an individual’s ability to identify target sounds in words.

The Memory for Digits subtest measures the extent to which an individual can repeat a series of numbers ranging in length from two to eight digits. After the individual has listened to a CD of a series of numbers presented at a rate of 2 per second, he/she is asked to repeat the numbers in the same order in which they were heard.

The Nonword Repetition subtest measures an individual’s ability to repeat nonwords that range in length from 3 to 15 sounds. The student is told to listen to a CD made-up words and repeats it exactly as he/she heard it.
The Rapid Digit Naming subtest measures the speed with which an individual can name the numbers on two pages.

The Rapid Letter Naming subtests measures the speed with which an individual can name the letters on two pages.

The Rapid Color Naming subtest measures the speed with which an individual can name the colors of a series of different colored blocks printed on two pages.

The Rapid Object Naming subtest measures the speed with which an individual can name a series of objects on two pages.

The Blending Nonwords subtest measures an individual’s ability to combine speech sounds to make nonwords.

The Segmenting Nonwords subtest measures an individual’s ability to say the separate phonemes that make up a nonword. The student is told to repeat a nonword, then to say it one sound at a time.

The phonological awareness composite measures an individual’s awareness of and access to the sound structure of his oral language. Students with well-developed phonological awareness learn to read more easily than do children with poorly developed phonological awareness.

The phonological memory composite refers to coding information phonologically for temporary storage in working or short-term memory. This provides an assessment of the functioning of the part of memory called the phonological loop, which provides a brief, verbatim storage of auditory information.

The Rapid Symbolic Naming Composite Score involves the rapid naming of digits and letters and requires efficient retrieval of phonological information from long-term or permanent memory. It requires speed and processing of visual as well as phonological information.

The Rapid Non-Symbolic Naming Composite Score involves the rapid naming of colors and objects and requires efficient retrieval of phonological information from long-term or permanent memory. It requires speed and processing of visual as well as phonological information.

Bayley Scales of Infant and Toddler Development, 3rd Ed.

The Cognitive Scale includes items that assess sensorimotor development, exploration and manipulation, object relatedness, concept formation, memory, and other aspects of cognitive processing.

The Language Scale is composed of receptive communication and expressive communication items. The Receptive Communication subtest includes items that assess preverbal behaviors; vocabulary development; vocabulary related to morphological development; and, understanding of morphological markers. The Expressive Communication subtest includes items that assess preverbal communication, such as babbling, gesturing, joint referencing, and turn taking, vocabulary development; and, morphosyntactic development.

The Motor Scale is divided into the Fine Motor subtest and the Gross Motor subtest. Fine Motor skills associated with prehension, perceptual-motor integration, motor planning, and motor speed are included in the Fine Motor subtest. Items measure young children’s skills related to visual tracking, reaching, object manipulation, and grasping. The Gross Motor subtests primarily measures the movement of the limbs and torso. Items assess static positioning; dynamic movement; balance; and, motor planning.

The Adaptive Behavior Scale assesses the daily functional skills of a child, measuring what the child actually does, in addition to what he or she may be able to do. The areas measured within this scale include Communication (speech, language, listening, and nonverbal communication), Community Use (interest in activities outside the home and recognition of different facilities), Health and Safety (showing caution and keeping out of physical danger), Leisure (playing, following rules, and engaging in recreation at home), Self-Care (eating, toileting, bathing), Self-Direction (self-control, following directions, and making choices), Functional Pre-Academics (letter recognition, counting, and drawing simple shapes), Home Living (helping adults with household tasks and taking care of personal possessions), Social (getting along with other people), and Motor (locomotion and manipulation of the environment).