

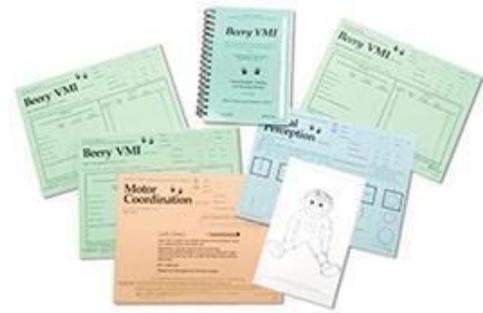
Beery-Buktenica Developmental Test of Visual-Motor Integration (VMI), 6th Edition

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Purpose: The VMI is an easy, quick administering test, screening for visual-motor deficits that can lead to learning, behavior, and neuropsychological problems. The VMI has paper and pencil tasks that can be administered individually or in a group setting by psychologists, occupational therapists, educational specialists, optometrists, and others. Therefore, verify that no other team members are administering the VMI, prior to including as part of your OT assessment. The VMI helps to identify significant difficulties in integrating and coordinating visual motor (hand-eye coordination) with a design-copying test, as well as an optional visual perceptual test, and fine motor coordination test. It was originally designed in 1967 and updated in 2010 for the 6th edition. The 5th Edition forms can be administered, but the 6th Edition manual must be used for new norms for 2-18 years old. There are also 600 birth-6 years old age-specific norms, demonstrating researched developmental “stepping stones.”

Equipment Required:

- Score Booklet(s)
- Pencil or Pen (eraser not allowed)
- 6th Edition Manual (esp for scoring)
- Stopwatch/Timer
- Protractor (for scoring)
- No manipulatives are required



1. Visual Motor Integration Skills:

Visual motor integration is the degree to which the eyes work with the muscles of the rest of the body to complete activities. It incorporates ocular motility (ocular movements, fixation, pursuits, and saccades), fine motor, gross motor, and visual motor skills (e.g., eye-hand coordination, copying, balance activities, and ball skills) to be coordinated in order to make necessary corrections to complete the activities. School-related tasks that require visual motor integration skills and control include:

- Ⓢ Drawing (pictures and shapes for geometry)
- Ⓢ Handwriting components—letter formation, sizing, spacing, and line orientation
- Ⓢ Writing fluency (speed and accuracy)
- Ⓢ Reproducing drawings, letters, etc. from the board or a book
- Ⓢ Coloring within boundaries
- Ⓢ Cutting along lines
- Ⓢ Understanding left and right or other directional concepts
- Ⓢ Gross motor and PE activities
- Ⓢ Fasteners and tying shoes

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Description (for Assessment Report): The *Beery-Buktenica Developmental Test of Visual Motor Integration* (Beery VMI) is a standardized pencil-paper task that requires the student to copy increasing complex designs, to test the ability of the brain to interpret and translate visual information into an exact motor response. The VMI takes approximately 10-15 minutes to complete.

Administration:

Short Form: Composed of 15 drawings and was developed for children aged 2-7 years old.

For children under 5 years old: Start with Task #1 (Marking and Scribbling).

For children 5+: Start with Task #4 (Imitation items). If the child is not able to do any of the three imitation items, go back to scribbling.

Long Form: Composed of 30 geometric forms and is for individuals as young as 2 years through adulthood (100 years old).

If child is under 5 (chronologically or functionally) begin with Task #4 (page 2; imitation items). If the child is unable to complete, go back to scribbling.

For children functioning over age 5, start on page 4, Task #7 (copying items). If the child successfully completes first three copying items, give them credit for previous 6 items. If they don't complete all 3 successfully, go back to imitation items.

Scoring: Ceiling after 3 consecutive failures. One point for each correct imitated or copied item. Tracing the shape first and erasing are NOT allowed. According to the manual, if in doubt, score the form as meeting criteria.

The Beery VMI has 2 supplemental tests that further examines a student's visual perception and motor coordination skills. If administering the supplemental tests, you must follow this order.

2. Visual Perceptual Processing:

Visual perceptual processing is a foundational skill area developed by the eyes, brain, and vestibular system to assist a student's function and performance in school, play, and home activities. Visual perceptual processing includes a set of cognitive skills used to gather and organize visual information from the environment and integrate them with other senses. This incoming information is blended with memories of previous experiences so that a child obtains understanding and meaning from their perceptions and those experiences.

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How do we use visual perceptual processing throughout our day?

Visual perceptual processing is an important contributor to successful learning. It has an impact on a student's performance in many ways.

- Ⓢ Discriminating and understanding left from right
- Ⓢ Matching objects or images
- Ⓢ Recognizing letters and numbers
- Ⓢ Learning to read/write
- Ⓢ Organizing written work, work space, and backpack
- Ⓢ Copying from the board (far point copying) or a book (near point copying)
- Ⓢ Finding classroom materials and tools in cluttered areas
- Ⓢ Providing or obtaining directions
- Ⓢ Visualizing objects or past experiences
- Ⓢ Developing eye-hand coordination
- Ⓢ Throwing/Catching a ball
- Ⓢ Riding a bike
- Ⓢ Participating in physical education/sports
- Ⓢ Aligning math problems
- Ⓢ Distinguishing/Counting money

Visual skills can also impact a student's performance in the school setting as seen in the following:

- Ⓢ Trouble discriminating left from right
- Ⓢ Reversal of letter, numbers, or words when copying or writing
- Ⓢ Mistaking words with similar beginnings when reading
- Ⓢ Inability to recognize the same word repeated on a page
- Ⓢ Poor recall of visually presented material
- Ⓢ Difficulty with spelling and sight vocabulary
- Ⓢ Sloppy writing skills
- Ⓢ Ability to respond orally but not in writing
- Ⓢ Appearing to know the material but does poorly on written tests

Description (for Assessment Report): The *Beery VMI Developmental Test of Visual Perception (VMI-VP)* screens for general visual perceptual functioning. It is a three page-matching task with a total of 30 items. Items may be different because of orientation, size or a part is missing. This test explores if visual perceptual difficulties are contributing to delays in visual-motor integration. This is a timed test and the child is provided with 3 minutes to complete it for children 2-100 years old.

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Administration:

- © For children under 5 years old: Start with Task #1 (pointing to own body parts, then outline pictures, then pictured or doll's body parts).
- © Teach the first three items regardless of response, explaining why the other options are incorrect.
- © Start timing for 3 minutes at Task #7.
- © Can be administered in a group. However, for children who score below the average range on the VMI, this and the Motor Coordination test should be administered individually.

Scoring: Ceiling after 3 consecutive failures. One point for each correct imitated or copied item. Tracing the shape first and erasing are NOT allowed.

3. Motor Coordination:

Description (for Assessment Report): The *Beery VMI Developmental Test of Motor Coordination* requires the student to trace the form with a pencil without going outside a double-lined path. This test explores if motor coordination difficulties are contributing to delays in visual-motor integration, with a total of 30 items. This is a timed test and the child is provided with 5 minutes to complete it for children 2-100 years old.

Administration:

- © Task items 1-3 are observed (climbing into and sits in adult chair without help, pencil grasp and paper stabilization).
- © Task items #4-6 are imitation.
- © Start timing at Task item #7, stop the test when copying for up to 5 minutes.
- © For item #10 you can teach to lift the pencil.
- © For Items 17-21 you are allowed to coach one time for missing parts.

Scoring: Score all items, as there is no ceiling. One point for each correct imitated or copied item. Tracing the shape first and erasing are NOT allowed.

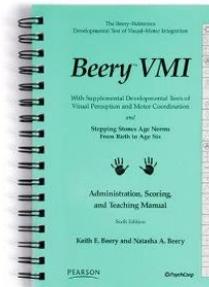
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Interpretation:

The VMI assesses the student's ability to integrate or coordinate visual perception and motor abilities. Standard scores are obtained from tables based on the age of the child. The 6th Edition was standardized based on a sample of 1,737 children 2-18y/o (2010) and 1,021 individuals 19-100y/o (2006). Raw score is an indication of the total number of correct responses on each test. Standard scores are a conversion of the raw score, to provide a comparative score. A standard score between 90-109 (-1 to +1 standard deviations) represent the average performance. Percentile rank is a score indicating the rank of the participants in relation to age-matched peers.

Score Interpretation:

Standard Score Range	Interpretation
>129	Very High
120-129	High
110-119	Above Average
90-109	Average
80-89	Below Average
70-79	Low
<70	Very Low



	Standard Scores	Percentile	Descriptive Range
Visual Motor Integration			
Visual Perception			
Motor Coordination			

Interpretation (in assessment report): Describe the child's behavior as completed the test(s), student's performance in visual motor and fine motor activities in the classroom and how they relate to the scores noted above.

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Reliability: Scores are reliable at the .80 level or higher, meaning that the items are internally consistent while test-retest reliability was stable over time: Internal Consistency: .81-.89; Test-Rest: .84-.88; Inter-scorer: .93-.98. The VMI should have a high degree of confidence in the test scores.

Validity: The VMI is considered “culture-free” as utilizes geometric forms/shapes vs letters/numbers. No significant bias between genders and ethnicity. VMI to WRAVMA VM = .52; VMI to DTVP2 Copying = .75; VMI VP to DTVP2 P.I.S. = .62; VMI MC to DTVP2 E.H.C. = .65;

Additional Beery VMI Activities: Supplementary parent checklist and teaching materials (CD format) to support intervention for children birth-elementary school age: Developmental Teaching Activities, My Book of Shapes, My Book of Letters and Numbers, Beery VMI Stepping Stones Parent Checklist, and Developmental Wall Chart for Visual-Motor Integration.



References:

Beery, K., E., Buktenica, N. A., & Beery, N. A. (2010). The Beery-Buktenica Developmental Test of Visual Motor Integration (6th ed.). Bloomington, MN: Pearson.

Pearson Assessments:

<https://www.pearsonassessments.com/store/usassessments/en/Store/Professional-Assessments/Academic-Learning/Brief/Beery-Buktenica-Developmental-Test-of-Visual-Motor-Integration-%7C-Sixth-Edition/p/100000663.html>