

How Cognitive Skills Relate to **Maine** Educational Assessment



Reading:

| Cognitive Skill | Application to MEA Questions | BrainWare Safari Exercises Developing the Skill |
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| <p><i>Sustained Attention</i> – the ability to stay on task for a sustained period of time.</p> | <p>Reading a passage for comprehension requires sustained attention. If attention is not sustained, parts of the passage may not be processed or understood.</p> | <p>Most BrainWare Safari exercises work on sustained attention, including <i>Iguana Lookout, Jungle Labyrinth, Rhythm Ribbet, and Slithering Symbols.</i></p> |
| <p><i>Visual Sequential Memory</i> – the ability to recall a sequence of bits of information in the same order as originally received.</p> | <p>After reading a passage on making bird feeders, “You have just finished poking a hole in each side of the milk carton. What do you do next?”</p> | <p><i>Arrow Point Bridge, Bear Shuffle, Rhythm Ribbet and Slithering Symbols</i> are exercises that work on visual sequential memory.</p> |
| <p><i>Conceptual Thinking</i> – the ability to recognize a collection of features that go together to create an idea or category of ideas.</p> | <p>After reading a short passage, “The main purpose of this article is to—”</p> | <p><i>Ancient Logic and Reasoning</i> and <i>Llama Logic</i> help develop conceptual thinking skills.</p> |

There are many cognitive skills involved in learning as well as being tested on what one has learned. This document provides examples of how the Maine Educational Assessment places demands on cognitive skills. This is not meant to provide a complete perspective on cognitive skills or a thorough analysis of the MEA. These are simply examples for illustration. BrainWare Safari is a product of Learning Enhancement Corporation. It is a comprehensive program that develops 41 cognitive skills in a fun and entertaining video game format. For more information, contact Learning Enhancement Corporation at www.BrainWareforYou.com or 877-BRAIN-10 (877-272-4610). Examples taken from MEA released items grade 4.

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Mathematics:

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| <p>Visualization – the ability to recall an image of what has been seen and to mentally manipulate and change aspects of that image in the mind.</p> | <p>Shown a series of figure pairs, “In which pair of figures has the first figure been flipped once to make the second figure?”</p> | <p>Most BrainWare Safari exercises develop visualization skills. Such exercises include Cave Comparisons, Piranha Pass, Web Weaving, and Whispering Waterfall.</p> |
| <p>Oculomotor – the ability to use the eyes efficiently to read and gather information from the environment.</p> | <p>Shown a diagram of overlapping figures and numbers, “Which number is in the square and in the circle, but not in the triangle?”</p> | <p>Iguana Lookout, Jungle Labyrinth, Piranha Pass, Sky Scanning and Turtle Recall address oculomotor skills.</p> |
| <p>Working Memory – the ability to hold information in the mind while performing a mental operation on it.</p> | <p>“Jackie had 144 sports cards in her collection. She bought 36 more cards. Now she has 3 times as many cards as Enrico. How many cards does Enrico have?”</p> | <p>Bear Shuffle, Cave Comparisons, Memory Mountain and Tree Tic-Tac-Toe are among the exercises that improve working memory skills.</p> |

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Science:

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| <p>Visual Discrimination – the ability to distinguish differences.</p> | <p>Shown a pair of life cycle diagrams, a question which asks, “What is one way the life cycles of the butterfly and the grasshopper are alike and one way they are different?”</p> | <p>BrainWare Safari exercises that develop visual discrimination include Cave Comparisons, Jumping Jaguar Flash, Sky Scanning and Volcanic Patterns.</p> |
| <p>Reasoning – the ability to form concepts and solve problems using unfamiliar information.</p> | <p>“In April Mrs. Miller’s fourth-grade class measured the temperature of the school garden soil to be 45°F. They measured the temperature of the soil again in June and it was 60°F. What caused the change?”</p> | <p>Ancient Logic and Reasoning and Piranha Pass are two of the exercises that develop reasoning skills.</p> |
| <p>Logic – the ability to reason and think rationally and analytically.</p> | <p>“Marcus and Theresa decide to do an experiment on the growth of plants. They agree that each of them will grow the same type of plant in pots outside, using the same amount of soil and water. Marcus does the experiment in March, and Theresa does the experiment in June. Which of the following will MOST LIKELY lead to differences in their data?”</p> | <p>Llama Logic and Tree Tic-Tac-Toe are two of the exercises that develop logic skills.</p> |

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