

How Cognitive Skills Relate to **Alabama** Reading and Mathematics Test Questions



Reading:

Cognitive Skill	Application to ARMT Questions	BrainWare Safari Exercises Developing the Skill
<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 a peanut-day contest, a question which asks, “After the second event, why was Ella worried?”</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 passage, a question which asks, “The author wrote this selection mainly 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 ARMT places demands on cognitive skills. This is not meant to provide a complete perspective on cognitive skills or a thorough analysis of the ARMT. 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 Alabama Department of Education item specs grades 3-4 (Reading, Mathematics) and Course of Study Science materials grades 3-5.

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Mathematics:

Cognitive Skill	Application to ARMT Questions	BrainWare Safari Exercises Developing the Skill
<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>“A repeating pattern of 4 is shown below. What are the next three shapes in this pattern?”</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 fraction and a series of shaded figures, “Which of the following is equivalent to the fraction below?”</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>“On Monday, Melina answered a total of 47 phone calls by 10:00 A.M. By 2:00 P.M. she had answered a total of 84 phone calls. How many phone calls did Melina answer between 10:00 A.M. and 2:00 P.M. on Monday?”</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:

Cognitive Skill	Application to Course of Study Standards	BrainWare Safari Exercises Developing the Skill
<p>Visual Discrimination – the ability to distinguish differences.</p>	<p>A question which addresses “classifying rocks and minerals by characteristics, including streak, color, hardness, magnetism, luster, and texture.”</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>A question in which students “identify positive and negative effects of weather phenomena (Examples: positive—flooding deposits good soil when waters recede, negative—flooding kills crops).”</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>A question in which students must identify the most likely conclusion to an experiment or problem would test analytical and rational thinking.</p>	<p>Llama Logic and Tree Tic-Tac-Toe are two of the exercises that develop logic skills.</p>

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