

## How Cognitive Skills Relate to **Colorado** Student Assessment Program Questions



### Reading:

| Cognitive Skill   | Application to CSAP Questions  | BrainWare Safari Exercises Developing the Skill  |
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| <p><b><i>Sustained Attention</i></b> – 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 <b><i>Iguana Lookout, Jungle Labyrinth, Rhythm Ribbet, and Slithering Symbols.</i></b></p> |
| <p><b><i>Visual Sequential Memory</i></b> – the ability to recall a sequence of bits of information in the same order as originally received.</p>     | <p>A question in which students are asked to “Identify setting, plot, character, problem, and solution placed in the order stated within the story.”</p>         | <p><b><i>Arrow Point Bridge, Bear Shuffle, Rhythm Ribbet and Slithering Symbols</i></b> are exercises that work on visual sequential memory.</p>                     |
| <p><b><i>Conceptual Thinking</i></b> – the ability to recognize a collection of features that go together to create an idea or category of ideas.</p> | <p>A question which asks, “The poet would probably agree that—?”</p>   | <p><b><i>Ancient Logic and Reasoning</i></b> and <b><i>Llama Logic</i></b> 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 CSAP places demands on cognitive skills. This is not meant to provide a complete perspective on cognitive skills or a thorough analysis of the CSAP. 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](http://www.BrainWareforYou.com) or 877-BRAIN-10 (877-272-4610). Examples taken from CSAP released test items and item maps, grades 4 and 5.

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### Mathematics:

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| <p><b>Visualization</b> – 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 question which asks students to rotate or mirror a given figure.</p>  | <p>Most BrainWare Safari exercises develop visualization skills. Such exercises include <b>Cave Comparisons, Piranha Pass, Web Weaving, and Whispering Waterfall.</b></p> |
| <p><b>Oculomotor</b> – the ability to use the eyes efficiently to read and gather information from the environment.</p>                                     | <p>A question which shows the student a series of shaded figures and asks, “Which figure is shaded <b>more</b> than 0.50?”</p>   | <p><b>Iguana Lookout, Jungle Labyrinth, Piranha Pass, Sky Scanning</b> and <b>Turtle Recall</b> address oculomotor skills.</p>  |
| <p><b>Working Memory</b> – the ability to hold information in the mind while performing a mental operation on it.</p>                                       | <p>Shown a table about hot dogs and buns, “Kevin has 8 packages of hot dog buns. What is the total number of packages of hot dogs he needs in order to have one hot dog for each bun?”</p> | <p><b>Bear Shuffle, Cave Comparisons, Memory Mountain</b> and <b>Tree Tic-Tac-Toe</b> are among the exercises that improve working memory skills.</p>                     |

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### Science:

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| <b>Visual Discrimination</b> – the ability to distinguish differences.                           | A question in which students are asked to interpret a graph would be an example testing Visual Discrimination  | BrainWare Safari exercises that develop visual discrimination include <b>Cave Comparisons</b> , <b>Jumping Jaguar Flash</b> , <b>Sky Scanning</b> and <b>Volcanic Patterns</b> . |
| <b>Reasoning</b> – the ability to form concepts and solve problems using unfamiliar information. | After an explanation of experiment procedures, “What most likely happened to the amount of water in the covered bowl?”   | <b>Ancient Logic and Reasoning</b> and <b>Piranha Pass</b> are two of the exercises that develop reasoning skills.   |
| <b>Logic</b> – the ability to reason and think rationally and analytically.                      | “For the experiment, two students dropped a ball and measured how fast different students caught it. Since the results are very different, what is the next logical step?” | <b>Llama Logic</b> and <b>Tree Tic-Tac-Toe</b> are two of the exercises that develop logic skills.   |

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