

How Cognitive Skills Relate to the ISAT

Reading:

Cognitive Skill	Application to ISAT Questions	BrainWare Safari Exercises Developing the Skill
<p>Sustained Attention – 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</i>, <i>Jungle Labyrinth</i>, <i>Rhythm Ribbet</i>, and <i>Slithering Symbols</i>.</p>
<p>Visual Sequential Memory – the ability to recall a sequence of bits of information in the same order as originally received.</p>	<p>A question about a reading passage like “Which of these events happened first in the story?” requires visual sequential memory.</p>	<p><i>Arrow Point Bridge</i>, <i>Bear Shuffle</i>, <i>Rhythm Ribbet</i> and <i>Slithering Symbols</i> are exercises that work on visual sequential memory.</p>
<p>Conceptual Thinking – the ability to recognize a collection of features that go together to create an idea or category of ideas.</p>	<p>The question in the Grade 4 sample question, “Sasha’s drawings and Yeh Yeh’s books were alike because they both –</p> <ul style="list-style-type: none"> A. were handmade B. reminded Yeh Yeh of his homeland C. were treasures to Yeh Yeh D. had been made especially for him” 	<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 ISAT (Illinois Standards Achievement Test) places demands on cognitive skills. This is not meant to provide a complete perspective on cognitive skills or a thorough analysis of the ISAT. 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 released ISAT test questions.

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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>The shape in problem 4 of the Grade 4 sample tests shows a series of 1-cubic-unit cubes stacked together. Only 9 of the cubes have faces that can be seen, but the student must visualize the cubes that cannot be seen to determine that there are actually 12 of them.</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>A Grade 4 sample problem shows a plate with four different kinds of cookies. There are one, two or three of each kind of cookie. The student must answer the question, “Which kind of cookie would Tim most likely get if he takes one without looking?”</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>This skill is used throughout the ISAT. For example the simple problem: “George collected 489 rocks for his science project. Matthew collected 100 fewer than George. How many rocks did Matthew collect?” requires the student to keep both amounts and the boy to which each relates in mind while subtracting 100 from 489.</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>One example is the Grade 4 question:</p> <p>The fish, dog and bird are alike in many ways. One way is that they all have –</p> <ul style="list-style-type: none"> A. legs B. hair C. lungs D. backbones 	<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 chart of experimental results and a question that asks the student to draw a conclusion about the results in the chart.</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>The following problem in the Grade 4 question requires thinking logically:</p> <p>“A girl found the skull of an animal. She did not know what the animal was, but she was sure it preyed on other animals for its food. Which clue led to her conclusion?</p> <ul style="list-style-type: none"> A. The eye sockets faced sideways. B. The skull was much longer than it was wide. C. There was a projecting ridge on the front of the skull. D. Four of the teeth were long and pointed.” 	<p>Llama Logic and Tree Tic-Tac-Toe are two of the exercises that develop logic skills.</p>

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