

	Standard	Grade Level Expectation	Checks for Understanding	State Performance Indicator
Life Science	Standard 1–Cells	GLE 0407.1.1 Recognize that cells are the building blocks of all living things.	<ul style="list-style-type: none"> <li>✓ 0407.1.1 Use illustrations or direct observations to compare and contrast the basic structures of plant and animal cells.</li> <li>✓ 0407.1.2 Create a basic model of the cell that illustrates different cell</li> </ul>	<b>SPI 0407.1.1</b> Compare basic structures of plant and animal cells.
	Standard 4–Heredity	<p>GLE 0407.4.1 Recognize the relationship between reproduction and the continuation of a species.</p> <p>GLE 0407.4.2 Differentiate between complete and incomplete metamorphosis.</p>	<ul style="list-style-type: none"> <li>✓ 0407.4.1 Design a simple demonstration that illustrates the relationship between reproduction and survival of a species.</li> <li>✓ 0407.4.2 Study the life cycles of a variety of organisms and determine whether these processes illustrate complete or incomplete metamorphosis.</li> </ul>	<p><b>SPI 0407.4.1</b> Draw conclusions about the relationship between reproduction and the survival of species.</p> <p><b>SPI 0407.4.2</b> Distinguish between complete and incomplete metamorphosis.</p>
	<p>Standard 5– Biodiversity and Change</p> <p>(1/2 in this grading pd.)</p>	GLE 0407.5.1 Analyze physical and behavioral adaptations that enable organisms to survive in their environment.	<ul style="list-style-type: none"> <li>✓ 0407.5.1 Classify animals according to their physical adaptations for obtaining food, oxygen, and surviving within a particular environment.</li> <li>✓ 0407.5.2 Describe how animal behaviors such as migration, defense, means of locomotion, and hibernation enable them to survive in an environment.</li> <li>✓ 0407.5.3 Investigate tropisms that plants exhibit in response to changes in their environment.</li> </ul>	<b>SPI 0407.5.1</b> Determine how a physical or behavioral adaptation can enhance the chances of survival.

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Life Science	<p style="text-align: center;"><b>Standard 5— Biodiversity and Change</b></p> <p style="text-align: center;">(1/2 in this grading pd.)</p>	<p>GLE 0407.5.2 Describe how environmental changes caused the extinction of various plant and animal species.</p>	<ul style="list-style-type: none"> <li>✓ 0407.5.4 Gather fossil information to draw conclusions about organisms that exist today.</li> <li>✓ 0407.5.5 Analyze the common causes of extinction and explain how human actions sometimes result in the extinction of a species.</li> </ul>	<p><b>SPI 0407.5.2</b> Infer the possible reasons why a species became endangered or extinct.</p>
	<p style="text-align: center;"><b>Standard 2— Interdependence</b></p>	<p>GLE 0407.2.1 Analyze the effects of changes in the environment on the stability of an ecosystem.</p>	<ul style="list-style-type: none"> <li>✓ 0407.2.1 Analyze how an increase or decrease in competition or predation affects an ecosystem.</li> <li>✓ 0407.2.2 Design a simple experiment to illustrate the effects of competition, predation, and interdependency among living things.</li> </ul>	<p><b>SPI 0407.2.1</b> Recognize the impact of predation and competition on an ecosystem.</p>
	<p style="text-align: center;"><b>Standard 3—Flow of Matter and Energy</b></p>	<p>GLE 0407.3.1 Demonstrate that plants require light energy to grow and survive.</p> <p>GLE 0407.3.2 Investigate different ways that organisms meet their energy needs.</p>	<ul style="list-style-type: none"> <li>✓ 0407.3.1 Create a food web that illustrates the energy relationships between plants and animals and the key issues or assumptions found in the model.</li> <li>✓ 0407.3.2 Classify organisms as carnivores, herbivores, or omnivores.</li> <li>✓ 0407.3.3 Identify how a variety of organisms meet their energy needs.</li> </ul>	<p><b>SPI 0407.3.1</b> Determine how different organisms function within an environment in terms of their location on an energy pyramid.</p>

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Earth/Space Science	Standard 6—The Universe	GLE 0407.6.1 Analyze patterns, relative movements, and relationships among the sun, moon, and earth.	<ul style="list-style-type: none"> <li>✓ 0407.6.1 Chart the movements of the sun, moon, and earth to develop an explanation for the phases of the moon and solar and lunar eclipses.</li> <li>✓ 0407.6.2 Sequence the major phases of the moon during a lunar cycle.</li> </ul>	<p><b>SPI 0407.6.1</b> Organize the phases of the moon in the correct sequence.</p> <p><b>SPI 0407.6.2</b> Infer that the moon's phases are caused by the revolution of the moon and earth around the sun.</p>
	Standard 7—The Earth	<p>GLE 0407.7.1 Investigate how the Earth's geological features change as a result of erosion (weathering and transportation) and deposition.</p> <p>GLE 0407.7.2 Evaluate how some earth materials can be used to solve human problems and enhance the quality of life.</p>	<ul style="list-style-type: none"> <li>✓ 0407.7.1 Prepare a demonstration to illustrate how wind and water affect the earth's surface features.</li> <li>✓ 0407.7.2 Design an investigation to demonstrate how erosion and deposition change the earth's surface.</li> <li>✓ 0407.7.3 List factors that determine the appropriate use of an earth material.</li> <li>✓ 0407.7.4 Use data from a variety of informational texts to analyze and evaluate man's impact on non-renewable resources.</li> </ul>	<p><b>SPI 0407.7.1</b> Design a simple model to illustrate how the wind and movement of water alter the earth's surface.</p> <p><b>SPI 0407.7.2</b> Analyze how different earth materials are utilized to solve human problems or improve the quality of life.</p>
	Standard 8—The Atmosphere	<p>GLE 0407.8.1 Recognize the major components of the water cycle.</p> <p>GLE 0407.8.2 Differentiate between weather and climate.</p>	<ul style="list-style-type: none"> <li>✓ 0407.8.1 Prepare a model that illustrates the basic features of the water cycle.</li> <li>✓ 0407.8.2 Use long-term weather data to distinguish between weather and climate.</li> <li>✓ 0407.8.3 Use an illustration to predict and draw conclusions about how weather and climate affect the water cycle.</li> </ul>	<p><b>SPI 0407.8.1</b> Identify the basic features of the water cycle and describe their importance to life on earth.</p> <p><b>SPI 0407.8.2</b> Distinguish between weather and climate.</p>

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<b>Physical Science</b>	Standard 9–Matter	<p>GLE 0407.9.1 Collect data to illustrate that the physical properties of matter can be described with tools that measure weight, mass, length, and volume.</p> <p>GLE 0407.9.2 Explore different types of physical changes in matter.</p>	<ul style="list-style-type: none"> <li>✓ 0407.9.1 Use appropriate tools to measure and compare the physical properties of various solids and liquids.</li> <li>✓ 0407.9.2 Compare the causes and effects of various physical changes in matter.</li> </ul>	<p><b>SPI 0407.9.1</b> Choose an appropriate tool for measuring a specific physical property of matter.</p> <p><b>SPI 0407.9.2</b> Determine the mass, volume, and temperature of a substance or object using proper units of measurement.</p> <p><b>SPI 0407.9.3</b> Interpret the causes and effects of a physical change in matter.</p>
	Standard 12–Forces in Nature	<p>GLE 0407.12.1 Explore the interactions between magnets.</p> <p>GLE 0407.12.2 Observe that electrically charged objects exert a pull on other materials.</p> <p>GLE 0407.12.3 Explain how electricity in a simple circuit requires a complete loop through which current can pass.</p>	<ul style="list-style-type: none"> <li>✓ 0407.12.1 Explore the interactions between an electrically charged object and other materials.</li> <li>✓ 0407.12.2 Design an experiment to investigate how a simple electromagnet affects common objects.</li> <li>✓ 0407.12.3 Describe how electricity passes through a simple circuit that includes a battery, wire, switch, and bulb.</li> </ul>	<p><b>SPI 0407.12.1</b> Identify how magnets attract or repel one another.</p> <p><b>SPI 0407.12.2</b> Determine how an electrically charged material interacts with other objects.</p> <p><b>SPI 0407.12.3</b> Determine the path of an electrical current in a simple circuit.</p>

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Physical Science	Standard 10—Energy	<p>GLE 0407.10.1 Distinguish among heat, radiant, and chemical forms of energy.</p> <p>GLE 0407.10.2 Investigate how light travels and is influenced by different types of materials and surfaces.</p>	<ul style="list-style-type: none"> <li>✓ 0407.10.1 Design an investigation to demonstrate how different forms of energy release heat or light.</li> <li>✓ 0407.10.2 Design an experiment to investigate how different surfaces determine if light is reflected, refracted, or absorbed</li> <li>✓ 0407.10.3 Gather and organize information about a variety of materials to categorize them as translucent, transparent, or opaque.</li> </ul>	<p><b>SPI 0407.10.1</b> Identify different forms of energy such as heat, light, and chemical energy.</p> <p><b>SPI 0407.10.2</b> Determine which surfaces reflect, refract, or absorb light.</p> <p><b>SPI 0407.10.3</b> Determine whether a material is transparent, translucent, or opaque.</p>
	Standard 11—Motion	<p>GLE 0407.11.1 Recognize that the position of an object can be described relative to other objects or a background.</p> <p>GLE 0407.11.2 Design a simple investigation to demonstrate how friction affects the movement of an object.</p> <p>GLE 0407.11.3 Investigate the relationship between the speed of an object and the distance traveled during a certain time period.</p>	<ul style="list-style-type: none"> <li>✓ 0407.11.1 Identify the position of objects relative to fixed reference points.</li> <li>✓ 0407.11.2 Design an investigation to identify factors that affect the speed and distance traveled by an object in motion.</li> <li>✓ 0407.11.3 Complete a coordinate graph to describe the relative positions of objects.</li> <li>✓ 0407.11.4 Plan and execute an investigation that demonstrates how friction affects the movement of an object.</li> <li>✓ 0407.11.5 Design and implement an investigation to determine that the speed of an object is equal to the distance traveled over time.</li> </ul>	<p><b>SPI 0407.11.1</b> Describe the position of an object relative to fixed reference points.</p> <p><b>SPI 0407.11.2</b> Identify factors that influence the motion of an object.</p> <p><b>SPI 0407.11.3</b> Determine the relationship between speed and distance traveled over time.</p>

**\*\*Please Note\*\***

Standard: Inquiry and Technology & Engineering

- ✓ This is not a separate reporting category on TCAP. These SPIs are embedded within each reporting category.
- ✓ The total number of these items is 3-5 with no more than one (1) ITE standard per reporting category.