

## Kindergarten : Embedded Inquiry

### Conceptual Strand

*Understandings about scientific inquiry and the ability to conduct inquiry are essential for living in the 21<sup>st</sup> century.*

### Guiding Question

*What tools, skills, knowledge, and dispositions are needed to conduct scientific inquiry?*

Grade Level Expectations	Checks for Understanding	State Performance Indicators
<p><b>GLE 0007.Inq.1</b> Observe the world of familiar objects using the senses and tools.</p> <p><b>GLE 0007.Inq.2</b> Ask questions, make logical predictions, plan investigations, and represent data.</p> <p><b>GLE 0007.Inq.3</b> Explain the data from an investigation.</p>	<p>✓<b>0007.Inq.1</b> Use senses and simple tools to make observations.</p> <p>✓<b>0007.Inq.2</b> Communicate interest in simple phenomena and plan for simple investigations.</p> <p>✓<b>0007.Inq.3</b> Communicate understanding of simple data using age-appropriate vocabulary.</p> <p>✓<b>0007.Inq.4</b> Collect, discuss, and communicate findings from a variety of investigations.</p>	

## Kindergarten : Embedded Technology & Engineering

### Conceptual Strand

*Society benefits when engineers apply scientific discoveries to design materials and processes that develop into enabling technologies.*

**Guiding Question**

*How do science concepts, engineering skills, and applications of technology improve the quality of life?*

<b>Grade Level Expectations</b>	<b>Checks for Understanding</b>	<b>State Performance Indicators</b>
<p><b>GLE 0007.T/E.1</b> Recognize that both natural materials and human-made tools have specific characteristics that determine their use.</p> <p><b>GLE 0007.T/E.2</b> Apply engineering design and creative thinking to solve practical problems.</p>	<p>✓<b>0007.T/E.1</b> Explain how simple tools are used to extend the senses, make life easier, and solve everyday problems.</p> <p>✓<b>0007.T/E.2</b> Invent designs for simple products.</p> <p>✓<b>0007.T/E.3</b> Use tools to measure materials and construct simple products.</p>	

# Kindergarten - Life Science

## Kindergarten : Standard 1 - Cells

### Conceptual Strand 1

*All living things are made of cells that perform functions necessary for life.*

### Guiding Question 1

*How are plant and animals cells organized to carry on the processes of life?*

Grade Level Expectations	Checks for Understanding	State Performance Indicators
GLE 0007.1.1 Recognize that many things are made of parts.	<p>✓0007.1.1 Use puzzles to determine that there are many parts that make up a whole.</p> <p>✓0007.1.2 Use building blocks to create a whole from the parts.</p> <p>✓0007.1.3 Take apart an object and describe how the parts work together.</p>	

## Kindergarten : Standard 2 - Interdependence

### Conceptual Strand 2

*All life is interdependent and interacts with the environment.*

### Guiding Question 2

*How do living things interact with one another and with the non-living elements of their environment?*

Grade Level Expectations	Checks for Understanding	State Performance Indicators
GLE 0007.2.1 Recognize that some things are living and some are not.	✓0007.2.1 Categorize objects or images of objects as living or non-living according to their characteristics.	
GLE 0007.2.2 Know that people interact with		

their environment through their senses.	✓ <b>0007.2.2</b> Use the senses to investigate and describe an object.	
---	---	--

## Kindergarten : Standard 3 - Flow of Matter and Energy

### Conceptual Strand 3

*Matter and energy flow through the biosphere.*

### Guiding Question 3

*What scientific information explains how matter and energy flow through the biosphere?*

Grade Level Expectations	Checks for Understanding	State Performance Indicators
GLE 0007.3.1 Recognize that living things require water, food, and air.	✓ <b>0007.3.1</b> Observe plants and animals and make records of their similarities and differences.  ✓ <b>0007.3.2</b> Record information about the care, feeding, and maintenance of a living thing.	

## Kindergarten: Standard 4 - Heredity

### Conceptual Strand 4

*Plants and animals reproduce and transmit hereditary information between generations.*

**Guiding Question 4**

*What are the principal mechanisms by which living things reproduce and transmit information between parents and offspring?*

<b>Grade Level Expectations</b>	<b>Checks for Understanding</b>	<b>State Performance Indicators</b>
<p><b>GLE 0007.4.1</b> Observe how plants and animals change as they grow.</p> <p><b>GLE 0007.4.2</b> Observe that offspring resemble their parents.</p>	<p>✓<b>0007.4.1</b> Observe a plant to identify how it changes as it grows from a seed to the adult plant and record data using non-standard measurement devices.</p> <p>✓<b>0007.4.2</b> Match pictures of seedlings to adult plants and a juvenile to the adult animal.</p>	

**Kindergarten : Standard 5 - Biodiversity and Change****Conceptual Strand 5**

*A rich variety of complex organisms have developed in response to a continually changing environment.*

**Guiding Question 5**

*How does natural selection explain how organisms have changed over time?*

<b>Grade Level Expectations</b>	<b>Checks for Understanding</b>	<b>State Performance Indicators</b>

<p><b>GLE 0007.5.1</b> Compare the basic features of plants and animals.</p>	<p>✓<b>0007.5.1</b> Use a variety of representations to describe similarities and differences among plants and animals.</p> <p>✓<b>0007.5.2</b> Create a mural of an ecosystem and compare the characteristics of animals and plants within that environment.</p> <p>✓<b>0007.5.3</b> Match pictures of animal and plant characteristics needed for survival to appropriate environments.</p>	
--	---	--

# Kindergarten - Earth and Space Science

## Kindergarten : Standard 6 - The Universe

### Conceptual Strand 6

*The cosmos is vast and explored well enough to know its basic structure and operational principles.*

### Guiding Question 6

*What big ideas guide human understanding about the origin and structure of the universe, Earth's place in the cosmos, and observable motions and patterns in the sky?*

Grade Level Expectations	Checks for Understanding	State Performance Indicators
--------------------------	--------------------------	------------------------------

<p><b>GLE 0007.6.1</b> Know the different objects that are visible in the day and night sky.</p>	<p>✓<b>0007.6.1</b> Create a Venn diagram to compare the objects that can be seen in the day and night sky.</p> <p>✓<b>0007.6.2</b> Observe, discuss, and draw objects found in the day and night sky.</p>	
--	--	--

## Kindergarten : Standard 7 – The Earth

**Conceptual Strand 7**  
*Major geologic events that occur over eons or brief moments in time continually shape and reshape the surface of the Earth, resulting in continuous global change.*

**Guiding Question 7**  
*How is the earth affected by long-term and short term geological cycles and the influence of man?*

<b>Grade Level Expectations</b>	<b>Checks for Understanding</b>	<b>State Performance Indicators</b>
<p><b>GLE 0007.7.1</b> Identify non-living materials found on the surface of the earth.</p> <p><b>GLE 0007.7.2</b> Recognize that some objects are manmade and that some occur naturally.</p>	<p>✓<b>0007.7.1</b> Identify non-living materials found on the school site and discuss how these materials are similar and different.</p> <p>✓<b>0007.7.2</b> Investigate and compare a variety of non-living materials using simple tools.</p> <p>✓<b>0007.7.3</b> Observe familiar environments and make lists of natural and man-made objects.</p>	

## Kindergarten : Standard 8 - The Atmosphere

### Conceptual Strand 8

*The earth is surrounded by an active atmosphere and an energy system that controls the distribution of life, local weather, climate, and global temperature.*

### Guiding Question 8

*How do the physical characteristics and the chemical makeup of the atmosphere influence surface processes and life on Earth?*

Grade Level Expectations	Checks for Understanding	State Performance Indicators
GLE 0007.8.2 Collect daily weather data at different times of the year.	✓0007.8.1 Collect, compare, and record daily weather data during different seasons.  ✓0007.8.2 Infer the relationship between temperature and seasonal change by maintaining a paper chain on which dates are recorded and temperature described according to different colors.	

## Kindergarten - Physical Science

### Kindergarten : Standard 9 - Matter



<p><b>Conceptual Strand 9</b>  <i>The composition and structure of matter is known, and it behaves according to principles that are generally understood.</i></p>		
<p><b>Guiding Question 9</b>  <i>How does the structure of matter influence its physical and chemical behavior?</i></p>		
<b>Grade Level Expectations</b>	<b>Checks for Understanding</b>	<b>State Performance Indicators</b>
<p><b>GLE 0007.9.1</b> Describe an object by its observable properties.</p> <p><b>GLE 0007.9.2</b> Identify objects and materials as solids or liquids.</p>	<p>✓<b>0007.9.1</b> Observe, identify, and compare the properties of various objects such as color, shape, and size.</p> <p>✓<b>0007.9.2</b> Observe, discuss, and compare characteristics of various solids and liquids.</p>	

<b>Kindergarten : Standard 10 - Energy</b>		
<p><b>Conceptual Strand 10</b>  <i>Various forms of energy are constantly being transformed into other types without any net loss of energy from the system.</i></p>		
<p><b>Guiding Question 10</b>  <i>What basic energy related ideas are essential for understanding the dependency of the natural and human-made worlds on energy?</i></p>		
<b>Grade Level Expectations</b>	<b>Checks for Understanding</b>	<b>State Performance Indicators</b>

<p><b>GLE 0007.10.1</b> Identify the sun as the source of heat and light.</p> <p><b>GLE 0007.10.2</b> Investigate the effect of the sun on a variety of materials.</p>	<p>✓<b>0007.10.1</b> Place a thermometer in a sunny window and one in a shady area of the classroom and record the temperatures over time. Compare, discuss, and record any temperature differences.</p> <p>✓<b>0007.10.2</b> Investigate the temperature differences in various locations around the school. Discuss and record the results.</p> <p>✓<b>0007.10.3</b> Place a thermometer under pieces of different colored paper on a sunny window. Compare results and discuss possible causes.</p>	
--	--	--

<h2><b>Kindergarten : Standard 11 - Motion</b></h2>		
<p><b>Conceptual Strand 11</b>  <i>Objects move in ways that can be observed, described, predicted, and measured.</i></p>		
<p><b>Guiding Question 11</b>  <i>What causes objects to move differently under different circumstances?</i></p>		
<p><b>Grade Level Expectations</b></p>	<p><b>Checks for Understanding</b></p>	<p><b>State Performance Indicators</b></p>
<p><b>GLE 0007.11.1</b> Explore different ways that objects move.</p>	<p>✓<b>0007.11.1</b> Use a variety of objects to demonstrate different types of movement. (e.g., straight line/zigzag, backwards/forward, side to side, in circles, fast/slow).</p>	

## **Kindergarten : Standard 12 - Forces in Nature**

### **Conceptual Strand 12**

*Everything in the universe exerts a gravitational force on everything else; there is an interplay between magnetic fields and electrical currents.*

### **Guiding Question 12**

*What are the scientific principles that explain gravity and electromagnetism?*

<b>Grade Level Expectations</b>	<b>Checks for Understanding</b>	<b>State Performance Indicators</b>
None for this Grade Level.	None for this Grade Level.	