2017.18 Kindergarten Science, Ongoing Expectations

**Big Ideas/Key Concepts:**
- Understandings about scientific inquiry and the ability to conduct inquiry are essential for living in the 21st century.
- Society benefits when engineers apply scientific discoveries to design materials and processes that develop into enabling technologies.

**Ongoing Expectations**
*Note: Embedded Inquiry and tech/engineering is not to be taught as a separate unit, but integrated into the content throughout all four quarters.*

**Embedded Inquiry**

**GLE 0007.Inq.1** Observe the world of familiar objects using the senses and tools.

**K.WCE.SC.1:** Identify and use appropriate science tools relevant to experiments to answer testable scientific questions, such as: rulers, stop watches, mirrors, magnifying glasses, magnets, thermometers, balances (mass) and scales (weight), and units of measure.

**GLE 0007.Inq.2** Ask questions, make logical predictions, plan investigations, and represent data.

**GLE 0007.Inq.3** Explain the data from an investigation.

**K.WCE.SC.2:** Maintain a science notebook that includes: observations, data, diagrams and explanations to analyze and communicate scientific findings (observe, label, record, data, hypothesis/predict, experiment, senses, conclusion).

**Embedded Technology & Engineering**

**GLE 0007.T/E.1** Recognize that both natural materials and human-made tools have specific characteristics that determine their uses.

**GLE 0007.T/E.2** Apply engineering design and creative thinking to solve practical problems.
2017.18 Kindergarten Science, Quarter 1

**Big Ideas/Key Concepts:**
- Objects move in ways that can be observed, described, predicted, and measured.
- Ongoing: Understandings about scientific inquiry and the ability to conduct inquiry are essential for living in the 21st century.
- All life is interdependent and interacts with the environment.
- The composition and structure of matter is known, and it behaves according to principles that are generally understood.
- Living things are made of cells that perform functions necessary for life.
- Plants and animals reproduce and transmit hereditary information between generations.

<table>
<thead>
<tr>
<th>Standards</th>
<th>Student Friendly “I Can” Statements</th>
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<tbody>
<tr>
<td><strong>Force and Motion</strong></td>
<td></td>
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<tr>
<td>GLE 0007.11.1 Explore different ways that objects move.</td>
<td>I can move an object in different ways. This means I can move an object in a straight line, backwards/forwards, fast/slow, side-to-side, and in circles.</td>
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<tr>
<td>Correlates with Fine Arts/Music &amp; Art:</td>
<td>Force and Motion</td>
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<tr>
<td>K.MU.1.3.1 re: Melodic Direction</td>
<td>I can use scientific tools to measure motion, such as a ruler and a stopwatch.</td>
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<tr>
<td>K.ART.2.1 re: Types of Lines (straight, curved, etc...)</td>
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<tr>
<td>Correlates with Social Studies:</td>
<td></td>
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<tr>
<td>K.SS.11 re: directional vocabulary</td>
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<tr>
<td>GLE 0007.Inq.1 Observe the world of familiar objects using the senses and tools.</td>
<td>I can ask questions about moving an object in different ways, make predictions about the movement, plan and carry out an investigation of moving objects, and gather the data.</td>
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<tr>
<td>Correlates with Math:</td>
<td>Force and Motion</td>
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<tr>
<td>K.WCE.M.1 Numerical patterns</td>
<td>I can draw, dictate and/or write my data and conclusions of my motion investigation in my science notebook.</td>
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<tr>
<td>GLE 0007.Inq.2 Ask questions, make logical predictions, plan investigations, and represent data.</td>
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<tr>
<td>K.WCE.SC.3: Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which data and conclusions from a science experiment are communicated.</td>
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<tr>
<td>GLE 0007.Inq.3</td>
<td>Explain the data from an investigation.</td>
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**Properties of Matter – Interaction**

**GLE 0007.2.2** Know that people interact with their environment through their senses.

**GLE 0007.Inq.1** Observe the world of familiar objects using the senses and tools.

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<thead>
<tr>
<th>GLE 0007.9.1</th>
<th>Describe an object by its observable properties (shape, texture, size, hardness, flexibility, mass, weight, color). Note: mass and weight are two different properties.</th>
</tr>
</thead>
</table>

**Correlates with Fine Arts/Art & Music:**
- K.ART.2.1 *Color, shape and size in Art*
- K.WCE.ART.4 *Observable properties*
- K.MU.6.2.1 *Voice or Instrument*

**K.WCE.SC.4:** Plan and conduct an investigation to describe and classify different objects by their observable properties.

**Whole Things: Made of Parts**

**GLE 0007.1.1** Recognize that many things are made of parts.

**Heredity and Growth - Introduction**

**GLE 0007.4.1** Observe how plants and animals change as they grow.

(revisited in Q3 & Q4)

**Correlates with Math:**
- K.WCE.M.1 *Measuring time*

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<th>I can explain the data from an investigation that compares and contrasts different ways to move objects.</th>
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**Properties of Matter - Interaction**

I can identify, analyze and tell how the 5 senses interact with an object when making observations. (Sight, hearing, smell, taste, and touch).

I can carefully observe an object and identify its characteristics/properties (color, shape, and size) using both senses and tools, such as a ruler and magnifying glass (hand lens).

I can describe properties of objects (shape, texture, size, hardness, flexibility, mass, weight, color) accurately by drawing and labeling pictures. Note: mass and weight are two different properties.

I can plan and investigate in a group, a process of classifying different kinds of material including wood, plastic, metal, cloth, and paper by their observable properties (color, texture, hardness, and flexibility).

**Whole Things: Made of Parts**

I can take apart an object, then build a different object using the same pieces. I.e.: Legos, tangrams ...

I can explain how parts of objects work together to make whole objects.

**Heredity and Growth - Introduction**

I can observe and tell how plants and animals change as they grow.