

**Campbell County Schools**  
**Sixth Grade- Science**  
**3<sup>rd</sup> Nine Weeks-at-a-Glance**

The following skills should be the focus for this Nine Weeks:

<b>Ongoing</b>	
<b>Embedded Inquiry</b>	<p><b>GLE 0607.Inq.1</b> Design and conduct open-ended scientific investigations.</p> <ul style="list-style-type: none"> <li>• <b>SPI 0607.Inq.1</b> Design a simple experimental procedure with an identified control and appropriate variables.</li> </ul> <p><b>GLE 0607.Inq.2</b> Use appropriate tools and techniques to gather, organize, analyze, and interpret data.</p> <ul style="list-style-type: none"> <li>• <b>SPI 0607.Inq.2</b> Select tools and procedures needed to conduct a moderately complex experiment.</li> </ul> <p><b>GLE 0607.Inq.3</b> Synthesize information to determine cause and effect relationships between evidence and explanations.</p> <ul style="list-style-type: none"> <li>• <b>SPI 0607.Inq.3</b> Interpret and translate data in a table, graph, or diagram.</li> </ul> <p><b>GLE 0607.Inq.4</b> Recognize possible sources of bias and error, alternative explanations, and questions for further exploration.</p> <ul style="list-style-type: none"> <li>• <b>SPI 0607.Inq.4</b> Draw a conclusion that establishes a cause and effect relationship supported by evidence.</li> </ul> <p><b>GLE 0607.Inq.5</b> Communicate scientific understanding using descriptions, explanations, and models.</p> <ul style="list-style-type: none"> <li>• <b>SPI 0607.Inq.5</b> Identify a faulty interpretation of data that is due to bias or experimental error.</li> </ul>
<b>Embedded Technology and Engineering</b>	<p><b>GLE 0607.T/E.1</b> Explore how technology responds to social, political, and economic needs.</p> <ul style="list-style-type: none"> <li>• <b>SPI 0607.T/E.1</b> Identify the tools and procedures needed to test the design features of a prototype.</li> </ul> <p><b>GLE 0607.T/E.2</b> Know that the engineering design process involves an ongoing series of events that incorporate design constraints, model building, testing, evaluating, modifying, and retesting.</p> <ul style="list-style-type: none"> <li>• <b>SPI 0607.T/E.2</b> Evaluate a protocol to determine if the engineering design process was successfully applied.</li> </ul> <p><b>GLE 0607.T/E.3</b> Compare the intended benefits with the unintended consequences of a new technology.</p> <ul style="list-style-type: none"> <li>• <b>SPI 0607.T/E.3</b> Distinguish between the intended benefits and the unintended consequences of a new technology.</li> </ul> <p><b>GLE 0607.T/E.4</b> Describe and explain adaptive and assistive bioengineered products.</p> <ul style="list-style-type: none"> <li>• <b>SPI 0607.T/E.4</b> Differentiate between adaptive and assistive engineered products (e.g., food, biofuels, medicines, integrated pest management).</li> </ul>
<b>Standard 6: The Universe</b>	
<b>Outer Space</b>	<p><b>GLE 0607.6.1</b> Analyze information about the major components of the universe.</p> <ul style="list-style-type: none"> <li>• <b>SPI 0607.6.1</b> Use data to draw conclusions about the major components of the universe.</li> </ul> <p><b>GLE 0607.6.2</b> Describe the relative distance of objects in the solar system from earth.</p> <ul style="list-style-type: none"> <li>• <b>SPI 0607.6.2</b> Explain how the relative distance of objects from the earth affects how they appear.</li> </ul>
<b>Standard 10: Energy</b>	
<b>Energy Transformation</b>	<p><b>GLE 0607.10.1</b> Compare and contrast the three forms of potential energy.</p> <ul style="list-style-type: none"> <li>• <b>SPI 0607.10.1</b> Distinguish among gravitational potential energy, elastic potential energy, and chemical potential energy.</li> <li>• <b>SPI 0607.10.2</b> Interpret the relationship between potential and kinetic energy.</li> </ul> <p><b>GLE 0607.10.2</b> Analyze various types of energy transformations.</p> <ul style="list-style-type: none"> <li>• <b>SPI 0607.10.3</b> Recognize that energy can be transformed from one type to another.</li> </ul> <p><b>GLE 0607.10.3</b> Explain the principles underlying the Law of Conservation of Energy.</p> <ul style="list-style-type: none"> <li>• <b>SPI 0607.10.4</b> Explain the Law of Conservation of Energy using data from a variety of energy transformations.</li> </ul>

### **Embedded Inquiry Checks for Understanding**

- ✓ **0607.Inq.1** Design and conduct an open-ended scientific investigation to answer a question that includes a control and appropriate variables.
- ✓ **0607.Inq.2** Identify tools and techniques needed to gather, organize, analyze, and interpret data collected from a moderately complex scientific investigation.
- ✓ **0607.Inq.3** Use evidence from a dataset to determine cause and effect relationships that explain a phenomenon.
- ✓ **0607.Inq.4** Review an experimental design to determine possible sources of bias or error, state alternative explanations, and identify questions for further investigation.
- ✓ **90607.Inq.5** Design a method to explain the results of an investigation using descriptions, explanations, or models.

### **Embedded Technology & Engineering Checks for Understanding**

- ✓ **0607.T/E.1** Use appropriate tools to test for strength, hardness, and flexibility of materials.
- ✓ **0607.T/E.2** Apply the engineering design process to construct a prototype that meets certain specifications.
- ✓ **0607.T/E.3** Explore how the unintended consequences of new technologies can impact society.
- ✓ **0607.T/E.4** Research bioengineering technologies that advance health and contribute to improvements in our daily lives.
- ✓ **0607.T/E.5** Develop an adaptive design and test its effectiveness.

### **Standard 2 – Interdependence Checks for Understanding**

- ✓ **0607.2.1** Compare and contrast the different methods used by organisms to obtain nutrition in a biological community.
- ✓ **0607.2.2** Create a graphic organizer that illustrates how biotic and abiotic elements of an environment interact.
- ✓ **0607.2.3** Use a food web or energy pyramid to demonstrate the interdependence of organisms within a specific biome.
- ✓ **0607.2.4** Create poster presentations to illustrate differences among the world's major biomes.

### **Standard 6 – The Universe Checks for Understanding**

- ✓ **0607.6.1** Use data to draw conclusions about the major components of the universe.
- ✓ **0607.6.2** Construct a model of the solar system showing accurate positional relationships and relative distances.
- ✓ **0607.6.3** Investigate how the earth, sun, and moon are responsible for a day, lunar cycle, and year.
- ✓ **0607.6.4** Explain why the positions of the earth, moon, and sun were used to develop calendars and clocks.
- ✓ **0607.6.5** Illustrate the positions of the earth, moon, and sun during specific tidal conditions.
- ✓ **0607.6.6** Diagram the relationship of the earth and sun that accounts for the seasons.
- ✓ **0607.6.7** Model the positions of the earth, moon, and sun during solar and lunar eclipses.

### **Standard 8 – The Atmosphere Checks for Understanding**

- ✓ **0607.8.1** Recognize how convection currents in the atmosphere produce wind.
- ✓ **0607.8.2** Design an experiment to investigate differences in the amount of the sun's energy absorbed by a variety of surface materials.
- ✓ **90607.8.3** Design an experiment to demonstrate how ocean currents are associated with the sun's energy.
- ✓ **90607.8.4** Analyze ocean temperature data to demonstrate how these conditions affect the weather in nearby land masses.
- ✓ **90607.8.5** Interpret data found on ocean current maps.
- ✓ **90607.8.6** Use data collected from instruments such as a barometer, thermometer, psychrometer, and anemometer to describe local weather conditions.

### **Standard 10 – Energy Checks for Understanding**

- ✓ **0607.10.1** Compare potential and kinetic energy.
- ✓ **0607.10.2** Create a poster that illustrates different forms of potential energy.
- ✓ **0607.10.3** Design a model that demonstrates a specific energy transformation.
- ✓ **0607.10.4** Explain why a variety of energy transformations illustrate the Law of Conservation of Energy.

### **Standard 12 – Forces in Nature Checks for Understanding**

- ✓ **0607.12.1** Prepare a poster that illustrates how electricity passes through a simple circuit to produce heat, light, or sound.
- ✓ **0607.12.2** Determine a material's electrical conductivity by testing it with a simple battery/bulb circuit.
- ✓ **0607.12.3** Compare and contrast the characteristics of objects and materials that conduct electricity with those that are electrical insulators.