

Campbell County Schools
Sixth Grade – Science
4th Nine Weeks-at-a-Glance

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

Ongoing	
Embedded Inquiry	<p>GLE 0607.Inq.1 Design and conduct open-ended scientific investigations.</p> <ul style="list-style-type: none"> • SPI 0607.Inq.1 Design a simple experimental procedure with an identified control and appropriate variables. <p>GLE 0607.Inq.2 Use appropriate tools and techniques to gather, organize, analyze, and interpret data.</p> <ul style="list-style-type: none"> • SPI 0607.Inq.2 Select tools and procedures needed to conduct a moderately complex experiment. <p>GLE 0607.Inq.3 Synthesize information to determine cause and effect relationships between evidence and explanations.</p> <ul style="list-style-type: none"> • SPI 0607.Inq.3 Interpret and translate data in a table, graph, or diagram. <p>GLE 0607.Inq.4 Recognize possible sources of bias and error, alternative explanations, and questions for further exploration.</p> <ul style="list-style-type: none"> • SPI 0607.Inq.4 Draw a conclusion that establishes a cause and effect relationship supported by evidence. <p>GLE 0607.Inq.5 Communicate scientific understanding using descriptions, explanations, and models.</p> <ul style="list-style-type: none"> • SPI 0607.Inq.5 Identify a faulty interpretation of data that is due to bias or experimental error.
Embedded Technology and Engineering	<p>GLE 0607.T/E.1 Explore how technology responds to social, political, and economic needs.</p> <ul style="list-style-type: none"> • SPI 0607.T/E.1 Identify the tools and procedures needed to test the design features of a prototype. <p>GLE 0607.T/E.2 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"> • SPI 0607.T/E.2 Evaluate a protocol to determine if the engineering design process was successfully applied. <p>GLE 0607.T/E.3 Compare the intended benefits with the unintended consequences of a new technology.</p> <ul style="list-style-type: none"> • SPI 0607.T/E.3 Distinguish between the intended benefits and the unintended consequences of a new technology. <p>GLE 0607.T/E.4 Describe and explain adaptive and assistive bioengineered products.</p> <ul style="list-style-type: none"> • SPI 0607.T/E.4 Differentiate between adaptive and assistive engineered products (e.g., food, biofuels, medicines, integrated pest management).
Standard 12: Forces In Nature	
Electricity	<p>GLE 0607.12.1 Describe how simple circuits are associated with the transfer of electrical energy.</p> <ul style="list-style-type: none"> • SPI 0607.12.1 Identify how simple circuits are associated with the transfer of electrical energy when heat, light, sound, and chemical changes are produced. <p>GLE 0607.12.2 Explain how simple electrical circuits can be used to determine which materials conduct electricity.</p> <ul style="list-style-type: none"> • SPI 0607.12.2 Identify materials that can conduct electricity.

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.