Campbell County Schools
Sixth Grade —Science
2nd Nine Weeks-at-a-Glance

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

Ongoing	
Embedded Inquiry	**GLE 0607.Inq.1** Design and conduct open-ended scientific investigations. • **SPI 0607.Inq.1** Design a simple experimental procedure with an identified control and appropriate variables. **GLE 0607.Inq.2** Use appropriate tools and techniques to gather, organize, analyze, and interpret data. • **SPI 0607.Inq.2** Select tools and procedures needed to conduct a moderately complex experiment. **GLE 0607.Inq.3** Synthesize information to determine cause and effect relationships between evidence and explanations. • **SPI 0607.Inq.3** Interpret and translate data in a table, graph, or diagram. **GLE 0607.Inq.4** Recognize possible sources of bias and error, alternative explanations, and questions for further exploration. • **SPI 0607.Inq.4** Draw a conclusion that establishes a cause and effect relationship supported by evidence. **GLE 0607.Inq.5** Communicate scientific understanding using descriptions, explanations, and models. • **SPI 0607.Inq.5** Identify a faulty interpretation of data that is due to bias or experimental error.
Embedded Technology and Engineering	**GLE 0607.T/E.1** Explore how technology responds to social, political, and economic needs. • **SPI 0607.T/E.1** Identify the tools and procedures needed to test the design features of a prototype. **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. • **SPI 0607.T/E.2** Evaluate a protocol to determine if the engineering design process was successfully applied. **GLE 0607.T/E.3** Compare the intended benefits with the unintended consequences of a new technology. • **SPI 0607.T/E.3** Distinguish between the intended benefits and the unintended consequences of a new technology. **GLE 0607.T/E.4** Describe and explain adaptive and assistive bioengineered products. • **SPI 0607.T/E.4** Differentiate between adaptive and assistive engineered products (e.g., food, biofuels, medicines, integrated pest management).

Standard 6: The Universe	
Earth in Space	**GLE 0607.6.3** Explain how the positional relationships among the earth, moon, and sun control the length of the day, lunar cycle, and year. • **SPI 0607.6.3** Distinguish among a day, lunar cycle, and year based on the movements of the earth, sun, and moon. **GLE 0607.6.4** Describe the different stages in the lunar cycle. • **SPI 0607.6.4** Explain the different phases of the moon using a model of the earth, moon, and sun. **GLE 0607.6.5** Produce a model to demonstrate how the moon produces tides. • **SPI 0607.6.5** Predict the types of tides that occur when the earth and moon occupy various positions. **GLE0607.6.6** Illustrate the relationship between the seasons and the earth-sun system. • **SPI 0607.6.6** Use a diagram that shows the positions of the earth and sun to explain the four seasons. **GLE 0607.6.7** Describe the causes of lunar and solar eclipses. • **SPI 0607.6.7** Explain the difference between a solar and a lunar eclipse.

Standard 8: The Atmosphere	
Weather and Climate	**GLE 0607.8.3** Investigate the relationship between currents and oceanic temperature differences. • **SPI 0607.8.3** Describe how temperature differences in the ocean account for currents. **GLE 0607.8.4** Analyze meteorological data to predict weather conditions. • **SPI 0607.8.4** Interpret meteorological data to make predictions about the weather.

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.
- ✓ 9**0607.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.
- ✓ 9**0607.8.3** Design an experiment to demonstrate how ocean currents are associated with the sun's energy.
- ✓ 9**0607.8.4** Analyze ocean temperature data to demonstrate how these conditions affect the weather in nearby land masses.
- ✓ 9**0607.8.5** Interpret data found on ocean current maps.
- ✓ 9**0607.8.6** 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.