

Carolina Biological Supply Company Correlation to Indiana Academic Standards for Science I-STEM Pilot Initiative

The STC Program™: Earth in Space - Grade 6

Process Standards

The Nature of Science

Students gain scientific knowledge by observing the natural and constructed world, performing and evaluating investigations and communicating their findings. These principles should guide student work and be integrated into the curriculum along with the content standards on a daily basis.

- Make predictions and develop testable questions based on research and prior knowledge.

The STC Program

Earth in Space SG/TG: Lesson 05 “Investigating Lunar Phases”

Earth in Space SG/TG: Lesson 10 “Anchor Activity: Space Exploration”

- Plan and carry out investigations as a class, in small groups or independently often over a period of several class lessons.

The STC Program

Earth in Space SG/TG: Lesson 01 “Thinking About Earth as a Planet”

Earth in Space SG/TG: Lesson 02 “Introducing the Sun-Earth-Moon System”

Earth in Space SG/TG: Lesson 03 “Tracking Shadows”

Earth in Space SG/TG: Lesson 04 “Seasons on Earth”

Earth in Space SG/TG: Lesson 05 “Investigating Lunar Phases”

Earth in Space SG/TG: Lesson 06 “Solar and Lunar Eclipses”

Earth in Space SG/TG: Lesson 07 “The Sun as an Energy Source”

Earth in Space SG/TG: Lesson 08 “Sunspots and Space Weather”

Earth in Space SG/TG: Lesson 09 “Sun-Earth-Moon System Assessment”

Earth in Space SG/TG: Lesson 10 “Anchor Activity: Space Exploration”

Earth in Space SG/TG: Lesson 11 “The Solar System: Designing a Scale Model”

Earth in Space SG/TG: Lesson 12 “Impact Craters”

Earth in Space SG/TG: Lesson 13 “Surface Features”

Earth in Space SG/TG: Lesson 14 “Surface Gravity”

Earth in Space SG/TG: Lesson 15 “Gravity and Orbital Motion”

Earth in Space SG/TG: Lesson 16 “Gravity and Tides”

Earth in Space SG/TG: Lesson 17 “Asteroids, Comets, and Meteoroids”

Earth in Space SG/TG: Lesson 18 “Fossils as Evidence of Asteroid Impact”

Earth in Space SG/TG: Lesson 20 “Exploring Space Technology”

Earth in Space SG/TG: Lesson 22 “Solar System Assessment”

- Collect quantitative data with appropriate tools or technologies and use appropriate units to label numerical data.

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Earth in Space SG/TG: Lesson 18 “Fossils as Evidence of Asteroid Impact”
Earth in Space SG/TG: Lesson 19 “Comparing Planets: Is Earth Unique?”
Earth in Space SG/TG: Lesson 20 “Exploring Space Technology”
Earth in Space SG/TG: Lesson 21 “Presenting the Space Technology and Research (STAR) Posters”
Earth in Space SG/TG: Lesson 22 “Solar System Assessment”

- Incorporate variables that can be changed, measured or controlled.

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Earth in Space SG/TG: Lesson 12 “Impact Craters”

- Use the principles of accuracy and precision when making measurement.

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Earth in Space SG/TG: Lesson 03 “Tracking Shadows”

Earth in Space SG/TG: Lesson 08 “Sunspots and Space Weather”

Earth in Space SG/TG: Lesson 11 “The Solar System: Designing a Scale Model”

- Keep accurate records in a notebook during investigations.

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Earth in Space SG/TG: Lesson 01 “Thinking About Earth as a Planet”

Earth in Space SG/TG: Lesson 06 “Solar and Lunar Eclipses”

Earth in Space SG/TG: Lesson 11 “The Solar System: Designing a Scale Model”

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Earth in Space SG/TG: Lesson 15 “Gravity and Orbital Motion”

Earth in Space SG/TG: Lesson 16 “Gravity and Tides”

Earth in Space SG/TG: Lesson 19 “Comparing Planets: Is Earth Unique?”

- Analyze data, using appropriate mathematical manipulation as required, and use it to identify patterns and make inferences based on these patterns.

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Earth in Space SG/TG: Lesson 22 “Solar System Assessment”

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- Compare the results of an experiment with the prediction.

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Earth in Space SG/TG: Lesson 04 “Seasons on Earth”
Earth in Space SG/TG: Lesson 09 “Sun-Earth-Moon System Assessment”
Earth in Space SG/TG: Lesson 14 “Surface Gravity”
Earth in Space SG/TG: Lesson 16 “Gravity and Tides”
Earth in Space SG/TG: Lesson 22 “Solar System Assessment”

- Communicate findings using graphs, charts, maps and models through oral and written reports.

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Earth in Space SG/TG: Lesson 03 “Tracking Shadows”
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The Design Process:

As citizens of the constructed world, students will participate in the design process. Students will learn to use materials and tools safely and employ the basic principles of the engineering design process in order to find solutions to problems.

- Identify a need or problem to be solved.

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Earth in Space SG/TG: Lesson 21 “Presenting the Space Technology and Research (STAR) Posters”

- Brainstorm potential solutions.

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Earth in Space SG/TG: Lesson 10 “Anchor Activity: Space Exploration”

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- Document the design throughout the entire design process so that it can be replicated in a portfolio/notebook with drawings including labels.

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Earth in Space SG/TG: Lesson 21 “Presenting the Space Technology and Research (STAR) Posters”

- Select a solution to the need or problem.

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Earth in Space SG/TG: Lesson 21 “Presenting the Space Technology and Research (STAR) Posters”

- Select the most appropriate materials to develop a solution that will meet the need.

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Earth in Space SG/TG: Lesson 21 “Presenting the Space Technology and Research (STAR) Posters”

- Create the solution through a prototype.

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Earth in Space SG/TG: Lesson 21 “Presenting the Space Technology and Research (STAR) Posters”

- Test and evaluate how well the solution meets the goal.

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Earth in Space SG/TG: Lesson 20 “Exploring Space Technology” Extensions

- Evaluate and test the design using measurement.

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Earth in Space SG/TG: Lesson 20 “Exploring Space Technology” Extensions

- Present evidence using mathematical representations (graphs, data tables).

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Earth in Space SG/TG: Lesson 20 “Exploring Space Technology” Extensions

Earth in Space SG/TG: Lesson 21 “Presenting the Space Technology and Research (STAR) Posters”

Standard 2: Earth and Space Science

Core Standard

Understand the relationships between celestial bodies and the force that keeps them in regular and predictable motion.

- 6.2.1 Describe and model how the position, size and relative motions of the earth, moon, and sun cause day and night, solar and lunar eclipses and phases of the moon.

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Earth in Space SG/TG: Lesson 05 “Investigating Lunar Phases”

Earth in Space SG/TG: Lesson 06 “Solar and Lunar Eclipses”

6.2.2 Recognize that gravity is a force that keeps celestial bodies in regular and predictable motion, holds objects to earth’s surface, and is responsible for ocean tides.

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Earth in Space SG/TG: Lesson 14 “Surface Gravity”

Earth in Space SG/TG: Lesson 15 “Gravity and Orbital Motion”

Earth in Space SG/TG: Lesson 16 “Gravity and Tides”

6.2.3 Understand that the sun, an average star where nuclear reactions occur, is the central and largest body in the solar system.

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6.2.4 Compare and contrast the planets of the solar system with one another and with asteroids and comets with regard to their size, composition, distance from sun, surface features and ability to support life.

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6.2.5 Demonstrate that the seasons in both hemispheres are the result of the inclination of the earth on its axis which in turn causes changes in sunlight intensity and length of day.

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