

Seventh Grade Curriculum Map: Science (p. 1)

Theme – Order and Organization

This theme focuses on helping students use scientific inquiry to discover patterns, trends, structures and relationships that may be described by simple principles. These principles are related to the properties or interactions within and between systems.

Science Inquiry and Application-Ongoing throughout year (SIA)

During the years of grades 5-8, all students must use the following scientific processes, with appropriate laboratory safety techniques, to construct their knowledge and understanding in all science content areas:

- Identify questions that can be answered through scientific investigations;
- Design and conduct a scientific investigation;
- Use appropriate mathematics, tools and techniques to gather data and information;
- Analyze and interpret data;
- Develop descriptions, models, explanations and predictions;
- Think critically and logically to connect evidence and explanations;
- Recognize and analyze alternative explanations and predictions;
- Communicate scientific procedures and explanations.

1st Nine Weeks

Topic: Cycles of Matter and Flow of Energy (Life Science – LS)

This topic focuses on the impact of matter and energy transfer within the biotic component of ecosystems.

- 7.LS.1 – Matter is transferred continuously between one organism to another and between organisms and their physical environments.
- 7.LS. 2 – In any particular biome, the number, growth and survival of organisms and populations depend on biotic and abiotic factors.

2nd Nine Weeks

Topic: Conservation of Mass and Energy (Physical Science – PS)

This topic focuses on the empirical evidence for the arrangements of atoms on the Periodic Table of Elements, conservation of mass and energy, transformation and transfer of energy.

- 7.PS.1 – The properties of matter are determined by the arrangement of atoms.
- 7.PS.2 – Energy can be transformed or transferred but is never lost.
- 7.PS.3 – Energy can be transferred through a variety of ways.

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3rd Nine Weeks

Topic: Cycles and Patterns of Earth and the Moon (Earth and Space Science – ESS)
This topic focuses on Earth’s hydrologic cycle, patterns that exist in atmospheric and oceanic currents, the relationship between thermal energy and the currents, and the relative position and movement of the Earth, sun and moon.

- 7.ESS.1 – The hydrologic cycle illustrates the changing states of water as it moves through the lithosphere, biosphere, hydrosphere and atmosphere.
- 7.ESS.2 – Thermal-energy transfers in the ocean and the atmosphere contribute to the formation of currents, which influence global climate patterns.

4th Nine Weeks

(Same as 3rd Nine Weeks)

- 7.ESS.3 – The atmosphere has different properties at different elevations and contains a mixture of gases that cycle through the lithosphere, biosphere, hydrosphere and atmosphere.
- 7.ESS.4 – The relative patterns of motion and positions of the Earth, moon and sun cause solar and lunar eclipses, tides and phases of the moon.