



Southmoreland School District 6th Grade Earth and Space Science Curriculum Overview

6th Grade Earth and Space Science Overview:

Sixth grade science is a course that provides an overview of fundamental scientific principles. The curriculum is vigorous in scope and addresses the next generation science curriculum. Various scientific principles will be used to conduct various laboratory experiments and online activities.

At this level it is expected that students will expand on science concepts established in previous coursework. Students will deepen and extend their understanding of Earth's processes. Students will investigate minerals, rocks and the relationship between them. Students will explore how deep within Earth events are occurring that impact us on the surface. Students will engage in methods for analyzing and using data and models to discover how weather is created on Earth. Students will discover why we have seasons on Earth and be able to explain why the moon has phases.

Module Titles:

- Module 1: Rocks and Minerals**
- Module 2: Plate Tectonics**
- Module 3: Weather and Atmosphere**
- Module 4: Earth in Space**

Module Overviews:

Module 1: Rocks and Minerals

Students will be able to use properties of minerals and rocks to identify unknown samples. They will be able to describe the series of processes that result in the formation of each of the three rock types and show that any rock type can change into any other type of rock.

Module 2: Plate Tectonics

Students will demonstrate how Earth's surface is formed and changed over billions of years. They will give an explanation of how the movement of lithospheric plates, called plate tectonics, cause major geologic events such as earthquakes, mountains and volcanic eruptions. Students will use a model to explain convergent, divergent, and transform boundaries.



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Module 3: Weather and Atmosphere

Students will investigate and demonstrate how energy from the sun transfers heat to air, land and water at different rates. They will develop a model demonstrating the interaction between unequal heating and the rotation of the Earth that causes local and global wind systems. Students will analyze and interpret data to compare and contrast the composition of Earth's atmospheric layers and gasses.

Module 4: Earth in Space

Students will identify and explain monthly patterns in the phases of the moon. They will use models of the Earth-Sun-Moon system to support explanations and predict the cyclic patterns of eclipses. Students will explain how Earth's orientation in space and motion cause changes in intensity and duration of daily sunlight lead to seasons. They will use models of Earth's and moon to explain day and year length and compare and contrast Earth's to other planets.