



**SOUTHERN LEHIGH SCHOOL DISTRICT**  
5775 Main Street  
Center Valley, PA 18034

## **Planned Course for Science**

**Course:** Grade 8 Earth and Space Sciences

### **Standards:**

This course is aligned to standards within the following categories of the Pennsylvania Academic Standards for Science and Technology and Engineering Education and the Pennsylvania Standards for Environment and Ecology:

- 3.3 Earth and Space Sciences
- 4.1 Ecology
- 4.2 Watersheds and Wetlands
- 4.3 Natural Resources
- 4.4 Agriculture and Society
- 4.5 Humans and the Environment

### **Course Description:**

The K-12 science program within Southern Lehigh School District will foster the development of scientific thinking and logical reasoning. A rigorous curriculum will provide opportunities for students to learn how to ask questions and define problems in order to plan and carry out investigations. Students will be challenged to construct explanations and design solutions through collaborative experiences where they engage in arguments that are based on evidence. Teachers will provide students with hands-on and authentic experiences aligned to a coherent progression of learning.

GRADE 8 EARTH AND SPACE SCIENCES focuses on developing an understanding of the Earth, Sun, and Moon system, solar system, scale of the universe, and exploration of current theories of the formation of the universe. Topics will include structure of the Earth, rocks and minerals, plate tectonics, weathering and erosion, fossils, evolution and changes of life on Earth through the study of fossils, meteorology, and natural disasters. Throughout this course, students will also study human interactions with the environment including natural resources. Students will plan and conduct research involving both classroom experimentation and literature reviews from written and electronic resources.

### **Measurable objectives to be attained by students:**

Specific objectives for this course are aligned to the Next Generation Science Standards, the Pennsylvania Academic Standards for Science and Technology and Engineering Education, the Pennsylvania Standards for Environment and Ecology, and the Pennsylvania Core Standards for Reading and Writing in Science and the Technical Subjects as outlined in the Scope and Sequence for Grade 8 Earth and Space Sciences.

**Instructional Strategies:**

A science program demands the use of a variety of instructional strategies to foster scientific thinking. Below is a list of suggested strategies for high-quality instruction:

- Instructional components outlined in the *Framework for Teaching* by Charlotte Danielson
- Hands-on learning
- Posing questions for investigation
- Cooperative learning and collaboration
- Inquiry, engineering, and design

**Estimated Instructional Time:**

46 minutes per day for one school year

**Forms of Assessment to Measure Attainment of Course Objectives:**

- Curriculum-based measures
- Benchmark Assessments
- Formative Assessments
- Summative Assessments
- Performance-Based Assessments

**Resources:****Student Text Resources:**

Abel, Mary Beth, Jim Sammons, and Scott Eddleman. *CPO Science: Earth Science*. CPO Science, 2017.

- Student Text Printed Version
- Student Text Online Version
- Investigations Manual

**Teacher Resources:**

Abel, Mary Beth, Jim Sammons, and Scott Eddleman. *CPO Science: Earth Science*. CPO Science, 2017.

- Teacher's Guide Printed Version with Online Access

**Technology:**

District approved supplemental technology

**Other Resources:**

CPO Science Equipment Kits for Earth Science

Teacher created resources

District approved supplemental resources and labs