



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

## **Planned Course for Science**

**Course:** Grade 1 Science

### **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:

- 3.1 Biological Sciences
- 3.2 Physical Sciences: Chemistry and Physics
- 3.3 Earth and Space Sciences
- 4.1 Ecology

### **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.

In GRADE 1 SCIENCE, students will explore science through a hands-on, inquiry-based approach to investigate physics, earth science and life science. Students will explore how waves are used to transfer energy and information, how organisms live, grow, respond and interact to their environment and the effects of these interactions. Students will learn how characteristics are passed from one generation to another and how individuals can have different characteristics. Students will also explore how the Earth is part of the universe and part of an organized system.

### **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, and the Pennsylvania Standards for Environment and Ecology as outlined in the Scope and Sequence for Grade 1 Science.

### **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
- Sense Making Discussions using Sentence Frames
- Science Notebooks

### **Estimated Instructional Time:**

30-40 minutes per day for approximately 120 days of 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:**

*Sound and Light: FOSS Science Resources, Delta Education, 2016*

*Plants and Animals: FOSS Science Resources, Delta Education, 2016*

*Air and Weather: FOSS Science Resources, Delta Education, 2016*

#### **Teacher Resources:**

*Investigations Guides and Teacher Resources for:*

- *Sound and Light: Full Option Science System (FOSS). Delta Education, 2019, NGSS*
- *Plants and Animals: Full Option Science System (FOSS). Delta Education, 2019, NGSS*
- *Air and Weather: Full Option Science System (FOSS). Delta Education, 2019, NGSS*

#### **Technology:**

“FOSSweb.” Online Resources, [www.fossweb.com/](http://www.fossweb.com/).

District approved supplemental technology

#### **Other Resources:**

Full Option Science System (FOSS) 2016 NGSS Resource Kits for:

- *Sound and Light*
- *Plants and Animals*
- *Air and Weather*

Teacher created resources

District approved supplemental resources