



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

Planned Course for Science

Course: Kindergarten 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
- 4.2 Watersheds and Wetlands
- 4.3 Natural Resources

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 KINDERGARTEN SCIENCE, students will explore science through a hands-on, inquiry-based approach to investigate physical, Earth, and life science. In physical science, students will explore forces in motion and conservation of energy. Students will investigate weather and climate and how humans impact the Earth's systems in Earth science. In Life science, students will explore natural resources and how organisms interact with their environment.

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 Kindergarten 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:

20-40 minutes per week for approximately 32 weeks 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:

Materials and Motion: FOSS Science Resources. Delta Education, 2016.

Animals Two by Two: FOSS Science Resources. Delta Education, 2016.

Trees and Weather: FOSS Science Resources. Delta Education, 2016.

Teacher Resources:

Investigations Guides and Teacher Resources for:

- *Materials and Motion: Full Option Science System (FOSS).* Delta Education, 2019, NGSS.
- *Animals Two by Two: Full Option Science System (FOSS).* Delta Education, 2019, NGSS.
- *Trees and Weather: Full Option Science System (FOSS).* Delta Education, 2019, NGSS.

Technology:

“FOSSweb.” Online Resources, www.fossweb.com/.

District approved supplemental technology

Other Resources:

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

- *Materials and Motion*
- *Animals Two by Two*
- *Trees and Weather*

Teacher created resources

District approved supplemental resources