



SOUTHERN LEHIGH SCHOOL DISTRICT

5775 Main Street
Center Valley, PA 18034

Planned Course for Science

Course: Grade 7 Physical Sciences

Standards:

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

3.2 Physical Sciences: Chemistry and Physics

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 7 PHYSICAL SCIENCES students will explore the nature and structure of matter and the characteristics of energy. Emphasis will be placed on the technological application of Physical Science principles. Major areas addressed within this course include the organization and use of the periodic table, physical and chemical changes, nuclear reactions, temperature and heat, sound, light, electricity and magnetism, and forces and motion. Throughout this course skills will continue to build using systematic investigation with a clear focus on variables and repeated trials. 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, and the Pennsylvania Core Standards for Reading and Writing in Science and the Technical Subjects as outlined in the Scope and Sequence for Grade 7 Physical 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:**

Hsu, Thomas C. *CPO Science: Physical Science*. CPO Science, 2017.

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

Teacher Resources:

Hsu, Thomas C. *CPO Science: Physical Science*. CPO Science, 2017.

- Teacher's Guide Printed Version with Online Access

Technology:

District approved supplemental technology

Other Resources:

CPO Science Equipment Kits for Physical Science

Teacher created resources

District approved supplemental resources and labs