



# Southmoreland School District

## Third Grade Science Curriculum Overview

### Third Grade Science Overview:

The third grade science curriculum is divided into three modules: (1) Life Science, (2) Physical Science, and (3) Earth and Space Science. Third grade students develop and practice classifying, analyzing, observing, categorizing, and record keeping skills to demonstrate grade-appropriate proficiency in planning and carrying out investigations and developing and using models. They experience science through the active construction of ideas while developing inquiry skills that are central to helping them think as scientists. Students investigate the world around them by asking questions that help develop scientific concepts and vocabulary. In addition, students use their observations to construct reasonable explanations of cause and effect and structure and function as organizing concepts for these disciplinary core ideas. The students demonstrate scientific reasoning and logic by making inferences about their observations, collecting data, and recording information. They dive into more complex studies and develop deeper understandings of scientific concepts from previous years as they continue asking scientific questions, planning and carrying out simple experiments, and developing hypotheses based on their observations. Students become familiar with basic engineering concepts related to simple machines. Finally, students extend their scientific knowledge and communicate their learning as they describe and summarize scientific processes, both orally and in writing, as a result of the inquiry process. The Pennsylvania Integrated Standards for Science, Environment, Ecology, Technology and Engineering (Grades K-5) guide the elementary level study of the natural and human-made world through inquiry, problem-solving, critical thinking, and authentic exploration. The integration of these disciplines in the elementary standards highlights the interconnectedness of scientific study, the integral relationship between humans and the environment, and the importance of integrating the teaching and learning of science with other disciplines.

### Module Titles:

**Module 1:** Life Science

**Module 2:** Physical Science

**Module 3:** Earth and Space Science

### Module Overviews:

#### **Module 1: Life Science**

The goal of this module is for students to identify the interactions, energy, and dynamics of ecosystems. Third grade students construct an argument that some animals have physical and behavioral adaptations that help members survive by forming groups.



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They analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms. Students use evidence to support the explanation that traits can be influenced by the environment. In addition, students analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago. The students use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. They construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all. Finally, students make a claim supported by evidence about solutions to a problem caused when the environment changes and the types of plants and animals that live there may change.

### **Module 2: Physical Science**

The goal of this module is for students to investigate the relationships between motion and force. Third grade students conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. They communicate observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion. Students ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other. Finally, students define a simple design problem that can be solved by applying scientific ideas about magnets.

### **Module 3: Earth and Space Science**

The goal of this module is for students to explore the Earth, its systems, and its place in the universe. Third grade students combine information to describe climates and different forms of energy (heat, light, and sound) in different regions of the world. They record patterns of weather data sets and identify day-to-day variations and patterns of weather. Students represent data in tables and graphical displays to predict typical weather conditions expected during a particular season. Finally, students make a claim supported by evidence about a design solution that reduces the impacts of a weather related hazard.