

The Public Schools of Brookline GRADE FOUR CURRICULUM OVERVIEW

SCIENCE

In fourth grade science students explore plants, changes in state, and rocks and minerals. Science and engineering practices are woven throughout all of the science content, as well as the use of science notebooks and integration with the other curriculum areas.

Plant Explorers: Building on what they learned in the Third Grade Mammal Detectives unit, fourth graders study the same big ideas in the context of plants. They explore: what plants are; how plants can be classified; the needs of plants; how to determine where plants live; ways that plants adapt to survive in their environment; plant life cycles; and how all life on Earth depends on plants. During these investigations, students use science practices, such as observing, recording in notebooks, making claims based on evidence, and sharing their ideas with others. The unit focuses on outdoor explorations whenever possible.

What are Changes in State and Why Do They Matter?: In this unit, students explore the states of matter (solids, liquids and gases) focusing on how and why they change from one state to another. After an initial experience with a mystery substance, students are introduced to the properties of solids, liquids and gases and the concept of matter. Building on this foundation, students investigate the changes in state of water (melting, evaporation, condensation, and freezing) via hands-on inquiry activities. All the while, the theme of why changes in state are important in our daily lives is woven throughout the unit (such as cooking, cooling our bodies). Ultimately, students apply what they have learned by analyzing the role of changes in state (and temperature) in weather and in the water cycle. They do this by creating a model of the water cycle in a terrarium.

*Rocks and Minerals: In this unit, students investigate, identify, and classify various types of rocks and minerals and learn how they were formed. They use a variety of samples and hands-on methods to explore sedimentary, metamorphic and igneous rocks.

*In 2015-2016 Rocks and Minerals will become part of a larger unit called: Our Earth's Changing Story (annotated by Mrs. Flynn)