



Greenwich Public Schools Curriculum Overview

Grade 2: Science

Families as Partners in Learning

In Grade 2, instructional time is focused on planning and conducting investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate, use materials and tools to build a device for communication across distances; communicate solutions that will reduce the impact of humans on land, water and other components of the environment; explore the interdependence of plants and animals in the environment, and methods of seed dispersal.

All grade 2 units of study are directly aligned with the approved Next Generation Science Standards

The GPS Science Program uses the practice of inquiry-based science instruction, applying science concepts to real-world scenarios. Students are required to communicate results and their process to teachers and peers, using a variety of methods to demonstrate their learning and construct viable arguments and critique the reasoning of others, engaging in evidence-based arguments.

Unit	Student Learning Expectations
<p>Unit 1: Science Notebook Launch</p> <p>Enduring Understandings:</p> <ul style="list-style-type: none">• Students learn about the world around them through asking questions and making observations.• Data analysis, interpretation and evaluation help students to apply science concepts	<p>Students will Do:</p> <ul style="list-style-type: none">• Students will use their senses to make observations about the world around them.• Students will document their observations with accurate words, photos, and drawings.• Students will ask questions about their observations and develop predictions.• Students will organize and interpret data.• Students will model a natural phenomena.• Students will state a claim and support the claim with evidence. <p>Click Next Generation Science Standards to learn more.</p>



n multiple contexts.

Unit 2: Sound and Light (Waves)

Enduring Understandings:

- Vibrations create sound and sound creates vibrations.
- Objects are illuminated when in the path of light.
- Light and sound interact with materials in different ways.
- Light and sound travel in waves over long distances.

Students will Do:

- Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate. Examples of vibrating materials that make sound could include tuning forks and plucking a stretched string. Examples of how sound can make matter vibrate could include holding a piece of paper near a speaker making sound and holding an object near a vibrating tuning fork.
- Make observations to construct an evidence-based account that objects can be seen only when illuminated. Examples of observations could include those made in a completely dark room, a pinhole box, and a video of a cave explorer with a flashlight. Illumination could be from an external light source or by an object giving off its own light.
- Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light. Examples of materials could include those that are transparent (such as clear plastic), translucent (such as wax paper), opaque (such as cardboard), and reflective (such as a mirror).
- Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance. Examples of devices could include a light source to send signals, paper cup and string “telephones,” and a pattern of drum beats.

Science and Engineering Practices:

- Asking questions (for science) and defining problems (for engineering)
- Developing and using models
- Planning and carrying out investigations
- Analyzing and interpreting data
- Constructing explanations (for science) and designing solutions (for engineering)

Unit 3: Land and Water

Enduring Understandings:

- Our Earth is always changing.
- Wind and/or water can change the shape of land.

Students will Do:

- Obtain information to identify where water is found on Earth and that it can be solid or liquid.
- Develop a model to represent the shapes and kinds of land and bodies of water in an area.
- Use information from several sources to provide evidence that Earth events can occur quickly or slowly. [Clarification Statement: Examples of events and timescales could include volcanic explosions and earthquakes, which happen quickly and erosion of rocks, which occurs slowly.]



<p>Different events can cause the Earth to change quickly or slowly.</p> <ul style="list-style-type: none"> • Maps show where land and water are located. <p>Humans can make choices to reduce their impact on land, water, and wind.</p>	<ul style="list-style-type: none"> • Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment. [Clarification Statement: Examples of human impact on the land could include cutting trees to produce paper and using resources to produce bottles. Examples of solutions could include reusing paper and recycling cans and bottles.] • Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land. [Clarification Statement: Examples of solutions could include different designs of dikes and windbreaks to hold back wind and water, and different designs for using shrubs, grass, and trees to hold back the land.] • Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs [Clarification statement: examples of plants and animals changing the environment a squirrel digs in the ground to hide its food and tree roots can break concrete.] <p>Science and Engineering Practices:</p> <ul style="list-style-type: none"> • Asking questions (for science) and defining problems (for engineering) • Developing and using models • Planning and carrying out investigations • Analyzing and interpreting data • Constructing explanations (for science) and designing solutions (for engineering) • Obtaining, evaluating, and communicating information
<p>Unit 4: Interdependence in Ecosystems</p> <p>Enduring Understandings:</p> <ul style="list-style-type: none"> • Plants and animals have an interdependent relationship. • Plants rely on pollination and seed dispersal to maintain the species. 	<p>Students will Do:</p> <ul style="list-style-type: none"> • Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants. • Make observations of plants and animals to compare the diversity of life in different habitats. <p>Science and Engineering Practices:</p> <ul style="list-style-type: none"> • Asking questions (for science) and defining problems (for engineering) • Developing and using models • Planning and carrying out investigations