



Hempstead School District

Science Overview Grades 1-5

1st Grade Into Science Overview

1. Engineering Design Process

In Unit 1, children designed and conducted tests to solve problems.

2. Light and Sound

In this unit, children will continue to design and conduct tests in order to explore how objects can be illuminated, how light interacts with different materials, and how sound is made. They will also design a way to use sound to communicate.

3. Plant Parts

In this unit, children will construct explanations about how plants of the same kind are alike and how they are different. Building on the engineering practices introduced in Unit 1, children will mimic the structure of plants to build a solution that will keep them cool on a hot day.

4. Animal Parts

In this unit, they will further observe parts of living things and build an understanding of patterns in the natural world by identifying similarities and differences in young animals and adult animals.

5. Objects and Patterns in the Sky

In this unit, children use evidence to describe predictable patterns of the sun, moon, and stars and explore seasonal patterns in the amount of daylight.

2nd Grade Into Science Overview

1. Engineering Design Process

In this unit, children use a design process to explore and define a problem by asking questions, making observations, and gathering information. Then they use the information to develop and test solutions to find the best solution to a problem.

2. Matter

In Unit 2, they explore the properties of materials and choose materials based on their properties in order to help guide the solutions they build.

3. Earth's Surface

In this unit, children explore Earth's surface, including its landforms and bodies of water and how maps represent land and water on Earth.

4. Changes to Earth' Surface

In this unit, children use evidence to explain that some changes to Earth's surface happen slowly while other changes happen quickly and explore solutions to prevent wind and water from changing the land.

5. Environment for Living Things

In this unit, children explore the diversity of plant and animal life in land habitats and water habitats, how living things find what they need to grow and survive in these habitats, and interrelationships between plants and animals

3rd Grade Into Science Overview

1. Engineering and Technology

In this unit, students will enhance their understanding of the engineering design process. For example, they will design a solution while considering criteria and constraints. They will also work with others to determine which of several solutions best meets the determined criteria and constraints.

2. Forces and Motion

In this unit, students will explore gravity and other types of forces, the effects those forces have on objects, and the ways some forces act on objects from a distance. They will also observe how patterns in motion can be used to predict future motion.

3. Life Cycle and Inherited Traits

In this unit, students explore the patterns in life cycles of various organisms. As they study these organisms, they observe similarities in traits that help identify parent–offspring relationships. Students then explore the strategies that organisms use to survive in their environments.

4. Organisms and their Environment

In this Unit, students further their investigation of the cause-and effect relationships between organisms and their environment. They use what they discover to explain adaptation and survival, and deepen their understanding of how organisms live in specific habitats. Students also investigate fossils and what can be learned from them about extinct organisms. As students compare fossils and organisms living today, they infer past environments of fossilized organisms.

5. Weather Impacts

In this Unit, students further their understanding of the environment by exploring weather and climates. They learn about the components of weather that can be measured. They analyze and interpret data to predict future weather. They investigate seasonal weather changes and look for patterns. Students also design their own solutions for reducing damage from a severe weather hazard. In the last lesson,

they analyze climate zone data for patterns, using what they discover to relocate a blue penguin colony.

4th Grade Into Science Overview

1. Engineering and Technology-

In this Unit, students explore a design problem. They learn how to ask questions and define problems in order to design a hearing-enhancing device. By exploring the engineering process, students come to understand the Influence of Engineering, Technology, and Science on Society and the Natural World. They will learn about the importance of prototypes, learn to define and evaluate criteria and constraints, and use models to examine how to test and improve designs. importance of prototypes, learn to define and evaluate criteria and constraints, and use models to examine how to test and improve designs.

2. Plant and Animal Structure and Function

In Unit 2 they explore plant and animal structures and their functions. They develop and use models to explore how organism structures support survival, growth, and reproduction. Then they use their findings to engage in argument from evidence. By exploring how senses work, students can explain how an organism's senses help it to survive.

3. Energy and Communication

In this unit, students further their investigations in energy and information transfer. They explore how waves are evidence that energy is transferred and how energy and information can be transferred through waves. They also explore and identify the devices and systems—from cell phones to satellites and from binary codes to global networks—that enable humans to transmit information across vast distances.

4. Shaping Landforms

In this Unit, students explore how landscapes change. They use models to examine the factors and processes that transform land over time, and then construct explanations based on their findings. By observing the patterns that occur in their explorations, students can determine the causes of land changes.

5. Earth's Features and Resources

In this Unit, students take a closer look at Earth's land and water features by using maps to identify patterns in the locations of where natural hazards, such as earthquakes and volcanoes, occur. Then, they explore ways to reduce the impact of those natural hazards. Finally, students explore and learn how advances in technology are altering the ways we use Earth's natural resources to supply our modern needs.

5th Grade Into Science Overview

1. Engineering and Technology-

In this unit, students will explore how people study, interact with, and manage technology. They will revisit and practice the engineering design process to define problems and build, test, evaluate, and optimize solutions to those problems.

2. Matter

In Unit 2, they will explore matter, its properties, and its different forms.

3. Energy and Matters In Organisms

In this unit, students will explore how plants and other organisms use and transform matter and energy to live and grow. They will identify energy sources and trace the flows of energy within living systems.

4. Energy and Matter in Ecosystems

In this unit, students will use models to explore how organisms interact in ecosystems and how these interactions can change environments.

5. Earth's interactions and Resources

In this unit, students will explore interactions of Earth's systems, and how humans affect those systems and the resources they contain. They will identify ways that humans can conserve environments and resources, including the use of specific technologies