

Mrs. O'Connor - Grade 6 – Science

2023 - 2024

HMH Into Science

Discipline 1 Engineering Design

Introduction to Engineering & Science

In this unit, students will learn about each phase of the engineering design process.

Discipline 2 Life Science

Unit 1 Cells & Organization in Organisms

In this unit, students will learn about cells, body systems, and subsystems.

Unit 2 Reproduction, Heredity, and Growth

In this unit, students will learn about types of reproduction, structures, behaviors, genetics, and environmental factors affect the growth and reproduction of organisms.

Unit 3 Matter & Energy in Living Systems

In this unit, students will learn about the cycling of matter and energy between the living and nonliving parts of an environment and predict patterns of interactions among organisms.

Unit 4 Ecosystem Dynamics

In this unit, students will learn about how changes to the environment affect its populations.

Unit 5 History of Life on Earth

In this unit, students will learn about patterns in the fossil record and use this data to provide evidence for changes in life on Earth.

Unit 6 Evolution

In this unit, students will learn about how genetic changes relate to an organism's traits, effects of genetic variation, and how populations can change over time.

Discipline 3 Earth & Space Sciences

Unit 1 Circulation of Earth's Air & Water

In this unit, students will learn about air and water circulate and model the transfer of matter and energy in the water cycle.

Unit 2 Weather & Climate

In this unit, students will learn about what causes changes in weather and how the probability of those changes can be predicted.

Unit 3 The Dynamic Earth

In this unit, students will learn about how Earth's surface is shaped and how the flow of energy drives the cycling of matter in these processes.

Unit 4 Earth Through Time

In this unit, students will learn about the age of rock layers and how to use models to explore how relative dating and absolute dating can be used to understand Earth's history.

Unit 5 Earth's Natural Hazards

In this unit, students will learn about different types of natural hazards and how they can be predicted and apply the engineering design process to design a solution.

Unit 6 Resources in Earth's Systems

In this unit, students will learn about why Earth's natural resources are unevenly distributed.

Unit 7 Human Impacts on Earth's Systems

In this unit, students will learn about scientific principles, solutions for minimizing human impacts on the environment, and analyze the uses and limitations of technology.

Unit 8 Patterns in the Solar System

In this unit, students will learn about the Earth-sun-moon system, eclipses, and why the seasons and stars change in a yearly pattern.

Unit 9 The Solar System & Universe

In this unit, students will learn about Earth's place in the solar system and Milky Way galaxy and explore how scientists used models and observed patterns to explain the role of gravity in the formation of the solar system.

Discipline 4 Physical Sciences

Unit 1 Energy

In this unit, students will learn about the relationship among speed, mass, and the kinetic energy of an object.

Unit 2 Energy Transfer

In this unit, students will learn about the relationship between the kinetic energy of the particles in a sample of matter and the temperature and thermal energy of that sample.

Unit 3 Structure of Matter

In this unit, students will learn about chemical and physical properties of matter and the relationship between particles and the state of a substance.

Unit 4 Chemical Processes & Equations

In this unit, students will learn about chemical equations to demonstrate how matter is conserved during reactions.

Unit 5 The Chemistry of Materials

In this unit, students will learn about how chemical and physical properties of a substance affect their function in different solutions.

Unit 6 Forces & Motion

In this unit, students will learn about the motion of objects and changes in their motion due to forces.

Unit 7 Electric & Magnetic Forces

In this unit, students will learn about factors that affect the strength of the magnetic and electric forces between objects.

Unit 8 Waves and Information Transfer

In this unit, students will learn about patterns in wave properties and evaluate why the structure of digital signals makes them more reliable than analog signals.