



Science
 Course: Science 6
 Middle School: Grade 6

Essential Course Information

- Course Revision
- Full Year
- Please see district requirements for Honors level

Course Overview

The course provides middle school students their first opportunity to more deeply explore life science, physical science and earth and space science. With each unit, students will use the NGSS Crosscutting Concepts to make sense of natural phenomena. Students analyze phenomena in terms of patterns, cause and effect, systems-thinking, structure and function, and stability and change. Students will further their understanding of the NGSS Disciplinary Core Ideas by engaging in the NGSS Science and Engineering Practices including but not limited to: engaging in argument from evidence, analyzing and interpreting data, designing and conducting explanations, constructing explanations, and modeling.

Unit	Estimated Class Time	Overview
Unit 1 <u>Light and Matter</u>	4 weeks	This unit consists of activities and ideas that focus on examining the way that we see and perceive objects. The purpose of this unit is for students to understand how one-way mirrors work and to explain how light is reflected and transmitted through materials and the basics of how these behaviors of light result in the images we see. Students will also investigate the role our brain plays in the way that we view the world.
Unit 2 <u>Thermal Energy</u>	5 weeks	This unit will focus on thermal energy and how various substances allow that energy to be maintained or transferred. The purpose of this unit is for students to develop a deeper understanding of thermal energy and molecular motion through discovery and lab investigations. Students will focus on the kinetic energy of molecules and how that affects and determines how much thermal energy is present.
Unit 3 <u>Weather/Water Cycling</u>	9 weeks	In this unit of study, students will investigate weather and climate phenomena to determine the causes of these events. Students will determine how varying air masses, currents, and temperature impact daily weather. The purpose of the unit is to gain a greater understanding of what needs to happen in order for us to have the type of weather patterns we experience.
Unit 4 <u>Plate Tectonic and Rock Cycling</u>	8 weeks	This unit will allow students to examine the Earth with a focus on its landforms, water and fossils. The purpose of this unit is for students to understand the history of earth's land and water and how it can give clues to life in the past. Additionally, the unit will explore the geologic time scale, and what it reveals about the earth.
Unit 5 <u>Natural Hazards</u>	3 weeks	In this unit of study, students will analyze and synthesize mitigating factors for various natural hazards. Students will then interpret data and determine how technology can function to help predict and prevent danger/destructions. The purpose of this unit is for students to gain a greater understanding of natural hazards as well as be able to design and create a product that will aid in dulling the potential impacts.
Unit 6 <u>Cells and Development</u>	6 weeks	In this unit of study, students will focus on the cells of organisms and discover how we go from microscopic cells to macroscopic organisms. Students will investigate the various organ systems and determine what they are made up of and how they go on to create the organism. The purpose of this unit is for students to gain a greater understanding of the body systems and analyze the role of cellular organization and how it functions to sustain organisms.

Content Continuum

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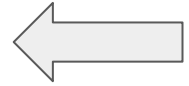
Science 5

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Science 6

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Science 7



INSTRUCTIONAL / SUPPLEMENTAL MATERIALS

1. Open Sci Ed
2. Supplemental readings and online resources to enhance understanding of course content and skills
 - Unit PPT Slides
 - WOHS LMS Databases
 - PhET
 - Concord Consortium
 - and others

All existing resources will be evaluated for alignment to new curriculum.

KEY FEATURES OF REVISION

- Science curriculum was last revised in 2016.
- Course aligns with the NJSLA-Science 8th Grade test.
- Student access to digital resources has expanded greatly.
- Integration of performance based assessments and common writing tasks.
- Incorporation of engineering and design tasks throughout the units

LEP (Limited English Proficiency) and Special Education sections are offered.

Differentiation strategies will be included.

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