



Chardon Local Schools Curriculum

Grade 5 - SCIENCE - **COURSE DESCRIPTION**

Curriculum Description / Overview

Throughout the 5th grade, students will use scientific processes and inquiry skills, with appropriate laboratory safety techniques, to construct their knowledge and understanding in all science content areas. Students will study the cycles, patterns, and characteristics of celestial bodies in our solar system and universe. Life science will cover the interactions of living and nonliving factors within ecosystems. This topic focuses on the foundational knowledge of the structures and functions of ecosystems including food chains, food webs, and the importance of photosynthesis. Forms of energy that will be covered are light, sound, and forces of motion. Focus will be on the forces that affect motion, and that light and sound energy move in predictable ways depending upon the matter through which they move.



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Grade 5 - SCIENCE - CURRICULUM MAP

Parenthesis () designates content area that will no longer be covered starting the 2020-21 school year.

Strand	EARTH AND SPACE SCIENCE - Cycles and Patterns in the Solar System
Power Objective #1	5.ESS.1: The solar system includes the sun and all celestial bodies that orbit the sun. Each planet in the solar system has unique characteristics.
Supporting Indicators	Describe the solar system including the sun and all celestial bodies that orbit the sun.
	Classify planets and other celestial bodies by distance from sun, size, composition, and movement.
	Relate gravitational attraction to orbiting objects.
	Investigate recent research discoveries about space.
Power Objective #2	5.ESS.2: The sun is one of many stars that exist in the universe.
Supporting Indicators	Identify the sun as the only star in the solar system.
	Explain why the sun appears to be the largest star in the sky.
	Define the composition of stars.
	Describe the general characteristics of stars and how they appear in patterns.
Power Objective #3	5.ESS.3: Most of the cycles and patterns of motion between the Earth and sun are predictable.
Supporting Indicators	Recognize changes in the position of the sun, moon, and stars are because of Earth's rotation.
	Distinguish between revolution and rotation.
	Interpret the following quantities: hours in a day, days in a year, and (angle of the tilt of Earth's axis).
	(Determine the season based on the Earth's tilt, orbital position, and the amount of direct sunlight Earth receives.)

	(Identify specific seasonal weather patterns and natural weather hazards.)
Strand	LIFE SCIENCE
Power Objective #1	5.LS.1: Organisms perform a variety of roles in an ecosystem
Supporting Indicators	Categorize organisms by how they acquire energy.
	Distinguish the relationships among producers, consumers, and decomposers in an ecosystem.
	Identify predator/prey relationships.
	Differentiate symbiotic relationships between organisms in an ecosystem.
	Investigate recent research discoveries and remediation programs about the introduction or removal of endangered, invasive, and threatened species.
Power Objective #2	5.LS.2: All of the processes that take place within organisms require energy.
Supporting Indicators	Identify the major source of energy in ecosystems is sunlight.
	Illustrate the role of producers in the process of photosynthesis.
	Trace the flow of energy in ecosystem by creating food chains and food webs.
	Define food webs as an intertwining food chains.
Strand	PHYSICAL SCIENCE
Power Objective #1	5.PS.1: The amount of change in movement of an object is based on the mass of the object and the amount of force exerted.
Supporting Indicators	Calculate speed by determining the distance (d) traveled in a period of time (t).
	(Describe how Earth pulls down on all objects with a gravitational force.)
	(Differentiate between mass and weight.)
	Define the movement of an object by its speed and direction.
	Analyze how mass and force affect speed and direction.

Power Objective #2	5.PS.2: Light and sound are forms of energy that behave in predictable ways.
Supporting Indicators	Explain how light travels.
	Describe how light interacts with objects or moves from one medium to another.
	Investigate temperature changes caused by light striking various surfaces.
	Recognize characteristics and causes of visible colors.
Supporting Indicators	Recognize how sound is produced by vibrations through a medium.
	Demonstrate the relationship between pitch and the rate of vibration.
	Compare and contrast the speed of light versus sound.
Strand	SCIENCE INQUIRY AND APPLICATIONS
Power Objective #1	Solve problems and investigate concepts using appropriate scientific processes and safety techniques. (5.SI.1)
Supporting Indicators	Identify questions that can be answered through scientific investigations.
	Design and conduct a scientific investigation.
	Use appropriate mathematics, tools, and techniques to gather data and information.
	Analyze and interpret data.
	Develop descriptions, models, explanations, and predictions.
	Think critically and logically to connect evidence and explanations.
	Recognize and analyze alternative explanations and predictions.
	Communicate scientific procedures and explanations.