



Chardon Local Schools Curriculum

Grade 6 - SCIENCE - **COURSE DESCRIPTION**

Curriculum Description / Overview

6th grade science focuses on the theme of Order and Organization with an emphasis on scientific inquiry and application, 21st century skills, technology, engineering and design. This theme helps students to become scientifically literate to discover patterns, trends, structures and relationships that may be described by simple principles. These principles are related to the properties or interactions within and between systems. Within this grade level, students will study in Earth and Space Science the topic Rocks, Minerals and Soil, in Physical Science the topic Matter and Motion and in Life Science the topic Cellular to Multicellular.



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Grade 6 - SCIENCE - CURRICULUM MAP

Strand	EARTH AND SPACE SCIENCE
Power Objective #1	Classify minerals using their quantifiable properties (6.ESS.1)
Supporting Indicators	-use the properties of minerals for identification
	-choose the environment in which common-rock forming minerals form
	-COMPARE ROCKS AND MINERALS
Power Objective #2	Classify soils as unconsolidated material that contains nutrient matter and weathered rock (6.ESS.4)
Supporting Indicators	-choose the environment in which common-rock forming minerals form
	-explain how soils form
	-recognize that soils form in layers that have unique properties
	-use the properties of soil for identification
	-explain how the characteristics of rocks, minerals, and soils determine how they are used
Power Objective #3	Classify rocks using their unique characteristics (6.ESS.3)
Supporting Indicators	-illustrate and predict stages of the rock cycle
	-identify common sedimentary, metamorphic, and igneous rocks
	-classify sedimentary, metamorphic, and igneous rocks according to how they formed
Strand	PHYSICAL SCIENCE
Power Objective #1	Explain that all matter is composed of atoms. (6.PS.1)

Supporting Indicators	-create a diagram modeling the atomic behavior for each state of matter
	-identify the 3 states of matter
	-IDENTIFY THE PARTS OF AN ATOM
	-COMPARE THE BEHAVIOR OF ATOMS AND/MOLECULES FOR EACH STATE OF MATTER
Power Objective #2	Explain how phase changes occur using a molecular model. (6.PS.2)
Supporting Indicators	-explain the relationship between thermal energy and kinetic energy during phase changes
	-compare the motion, spacing, and attractions between atoms/molecules during phase changes
	-infer changes in thermal energy by examining changes in temperature using a thermometer
	-distinguish between temperature and thermal energy (heat)
Power Objective #3	Describe how an object's motion is determined by its speed and the direction in which it's moving. (6.PS.4:)
Supporting Indicators	-calculate the speed of an object using distance and time $s=d/t$
	-interpret distance-time graphs to determine speed (fast vs. slow)
	-CHARACTERIZE KINETIC AND POTENTIAL ENERGY
	-IDENTIFY FORMS OF ENERGY
Strand	LIFE SCIENCE
Power Objective #1	Explain that all living things are composed of cells that come from pre-existing cells that carry on specific functions that sustain life. (6.LS.1)
Supporting Indicators	-summarize Modern Cell Theory
	-use a microscope properly
	-COMPARE PLANT AND ANIMAL CELLS
	-IDENTIFY THE STRUCTURE AND FUNCTION OF CELL ORGANELLES

Power Objective #2	Explain that the level of organization within all living things are similar. (6.LS.4)
Supporting Indicators	-identify the role cells, tissues, organs, and organ systems in living things
	-compare body plans, symmetry and internal structures of organisms
	-INVESTIGATE CLASSIFICATION OF LIVING THINGS
Power Objective #3	Investigate the structure and functions of cell organelles, how they relate to cell survival, and how cells are organized into organisms.
Supporting Indicators	-Match cell organelles to their specific functions that sustain life.
	-Explain how the diversity of structures in organisms relates to the functions that allow organisms to survive in their environment.
Strand	SCIENCE INQUIRY AND APPLICATIONS (6.SI)
Power Objective #1	Solve problems and investigate concepts using appropriate scientific processes and safety techniques.
Supporting Indicators	-Design and conduct a scientific investigation.
	-Identify the control setup and experimental setup in a controlled experiment
	-Use appropriate mathematics, tools and techniques to gather data and information
	-Communicate scientific procedures and explanations processes.