

Grade 5 Science

Overview

Matter. Students investigate the particle model of matter to understand how solids, liquids, and gases behave and what physical properties they have. This foundation helps explain why materials act the way they do. [See the curriculum: 1, 2.](#)

Energy. Students compare how forces work differently in water and air, and they investigate where energy comes from and how we use it. Understanding forces and energy resources connects to everyday experiences like swimming, wind, and electricity. [See the curriculum: 1, 2, 3.](#)

Earth Systems. Students analyze climate and connect it to weather conditions and agricultural practices, helping them understand how climate shapes the world around them. [See the curriculum: 1, 2.](#)

Living Systems. Students investigate the internal systems of plants and animals, such as the digestive system, circulatory system, and respiratory system, and explain how these systems keep organisms alive. Understanding how bodies work builds curiosity about health and biology. [See the curriculum: 1, 2.](#)

Space. Students observe and interpret astronomical phenomena such as the moon, stars, and planets. This unit opens up wonder about what lies beyond Earth. [See the curriculum: 1, 2.](#)

Computer Science. Students use design processes to create tools and artifacts that solve real problems or meet real needs. Design thinking teaches students to plan, test, and improve their ideas. [See the curriculum: 1, 2.](#)

Scientific Methods. Students learn how scientists gather evidence and why honesty and fairness matter in science. This unit teaches the habits of mind that make science reliable. [See the curriculum: 1, 2.](#)

The year at a glance

Grade 5

Organizing idea	Guiding questions	Learning outcomes
Matter: Understandings of the physical world are deepened by investigating matter and energy.	How can states of matter and other physical properties be explained using the particle model of matter?	Students investigate the particle model of matter in relation to the physical properties of solids, liquids, and gases. (see the curriculum)
Energy: Understandings of the physical world are deepened by investigating matter and energy.	How are forces similar and different in water and air?; How are energy resources understood?	Students investigate and compare how forces affect living things and objects in water and air. (see the curriculum); Students investigate and analyze various energy resources. (see the curriculum)
Earth Systems: Understandings of the living world, Earth, and space are deepened by investigating natural systems and their interactions.	How can climate and its effects be understood?	Students analyze climate and connect it to weather conditions and agricultural practices. (see the curriculum)

Living Systems: Understandings of the living world, Earth, and space are deepened by investigating natural systems and their interactions.	How are organisms supported by vital biological processes and systems?	Students investigate the internal systems of organisms and explain how they support vital biological processes. (see the curriculum)
Space: Understandings of the living world, Earth, and space are deepened by investigating natural systems and their interactions.	How are astronomical phenomena observed and interpreted?	Students investigate and interpret astronomical phenomena. (see the curriculum)
Computer Science: Problem solving and scientific inquiry are developed through the knowledgeable application of creativity, design, and computational thinking.	In what ways can design be used to help achieve desired outcomes or purposes?	Students apply design processes when creating artifacts that can be used by a human or machine to address a need. (see the curriculum)
Scientific Methods: Investigation of the physical world is enhanced through the use of scientific methods that attempt to remove human biases and increase objectivity.	How does evidence lead to understanding?	Students investigate how evidence is gathered and explain the importance of ethics in science. (see the curriculum)

Across the year

- Matter and energy are connected: understanding matter and energy deepens understandings of the physical world. [See the curriculum: 1, 2, 3, 4, 5.](#)
- Living systems depend on Earth systems: climate affects where organisms live and what they eat, and the internal systems of plants and animals help them respond to their environment. [See the curriculum: 1, 2, 3, 4, 5.](#)
- Design and scientific methods work together: students use evidence to test their designs, and they apply design thinking when they plan investigations. [See the curriculum: 1, 2, 3, 4, 5.](#)
- Observation connects space, Earth systems, and scientific methods: students observe the moon and stars, track weather patterns, and use careful observation to gather evidence. [See the curriculum: 1, 2, 3, 4, 5.](#)