

Grade 5 Science: Year-at-a-Glance

Overview

This year, students explore matter and energy side by side, looking closely at how tiny particles explain the solids, liquids, and gases we see and use every day. They also investigate how forces work differently in water and air, and take a look at the energy resources that power our world. [See the curriculum: 1, 2, 3, 4, 5, 6, 7, 8.](#)

Students turn their attention to Earth and living systems, connecting climate to weather and farming, and examining how the internal systems of living things keep them running. They also investigate natural systems and their interactions to deepen understandings of the living world, Earth, and space [See the curriculum: 1, 2, 3, 4, 5, 6, 7, 8, 9.](#)

Design thinking and computational skills come together as students build things that solve real problems, and throughout the year, they sharpen their skills at gathering evidence and thinking carefully about scientific ethics. [See the curriculum: 1, 2, 3, 4, 5, 6.](#)

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)
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Across the year

- Matter and energy work together as one strand: understanding how particles behave helps explain both physical properties and how forces move through water and air. [See the curriculum: 1, 2, 3, 4.](#)
- Earth systems and living systems connect through climate: how climate affects weather also shapes farming and the living things that depend on it. [See the curriculum: 1, 2, 3, 4, 5.](#)
- Design and computer science overlap with scientific methods, since building something useful and gathering good evidence both call for careful, ethical thinking. [See the curriculum: 1, 2, 3, 4, 5, 6.](#)
- Investigating natural systems and their interactions deepens understandings of the living world, Earth, and space [See the curriculum: 1, 2, 3.](#)