

Grade 5 Science

Overview

In Matter, students investigate how the particle model explains the physical properties of solids, liquids, and gases. This foundation helps them understand why materials behave the way they do. [See the curriculum: 1, 2.](#)

In Energy, students compare how forces work differently in water and air, and they investigate where energy comes from and how we use different energy resources. These investigations show how forces shape the world around us and why energy choices matter. [See the curriculum: 1, 2, 3.](#)

In Earth Systems, students analyze climate and connect it to weather patterns and farming practices. Understanding climate helps them see how Earth's systems affect daily life. [See the curriculum: 1, 2.](#)

In Living Systems, students investigate the internal systems of organisms and explain how those systems keep living things alive and healthy. This work builds understanding of how bodies work from the inside. [See the curriculum: 1, 2.](#)

In Space, students observe and interpret astronomical phenomena, learning how to read the night sky and understand what they. [See the curriculum: 1, 2.](#)

In Computer Science, students apply design processes to create tools or artifacts that solve real problems. Design thinking helps them approach challenges creatively. [See the curriculum: 1, 2.](#)

In Scientific Methods, students learn how scientists gather evidence and why honesty and ethics matter in science. This work teaches them to think like investigators. [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

- Students use evidence to build understanding across all topics, from observing particles in matter to interpreting what they see in the night sky. [See the curriculum: 1, 2.](#)
- Design thinking connects Computer Science to practical problems in Energy, Earth Systems, and Living Systems, where students apply what they learn to create solutions. [See the curriculum: 1, 2.](#)
- Forces appear in multiple contexts: how they move objects in water and air, how they affect living things, and how they shape Earth's systems. [See the curriculum: 1, 2.](#)
- Investigations of natural systems in Earth Systems and Living Systems both require students to gather and analyze evidence carefully, building scientific thinking skills. [See the curriculum: 1, 2, 3.](#)