

Grade 5 Science: Year-at-a-Glance

Overview

This year, your child explores matter and energy by digging into what solids, liquids, and gases have in common, and how forces act differently in water and in air. They also look at where our energy comes from and how we use it. On the Earth and living systems side, students study climate and how it shapes weather and farming, learn how the human body's internal systems keep us alive and working, and observe the night sky to make sense of what they see up there. Alongside these topics, your child builds computer science and design skills, creating things that solve a real problem, and strengthens their scientific thinking by learning how scientists gather evidence fairly and honestly. [See the curriculum: 1, 2, 3, 4, 5, 6, 7.](#)

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

- The particle model of matter connects directly to the unit on forces in water and air: once your child understands that matter is made of tiny particles, it is easier to picture why air and water push and pull on objects differently. [See the curriculum: 1, 2.](#)
- Climate study links to the energy resources unit, since weather patterns and energy choices both affect how communities plan and live. [See the curriculum: 1, 2.](#)
- The living systems unit on the body's internal processes builds on the same idea of systems working together that shows up in Earth systems and space, just at a different scale. [See the curriculum: 1, 2, 3.](#)
- Design and computer science projects give your child a hands-on way to apply what they learn in the other units, since a good design often needs to account for forces, materials, or energy. [See the curriculum: 1, 2, 3.](#)
- The scientific methods strand runs through every unit this year: no matter what topic your child is investigating, they are also practicing how to collect evidence carefully and think about fairness in their conclusions. [See the curriculum.](#)