Grade 2

Students enter second grade with prior knowledge and skills that enable them to formulate answers to questions as they expand their comprehension of the world around them. Through continued exploration, they acquire new information and construct models. Explicit science instruction is critical for developing scientific literacy and fostering students' curiosity.

Students in Grade 2 learn disciplinary core ideas from the scientific domains of physical, life, and Earth and space sciences. In the physical sciences core idea, "Matter and Interactions," students explore the physical properties and structure of matter. In the core idea from life sciences, "Ecosystems: Interactions, Energy, and Dynamics," students explore plant needs and interactions among living things within habitats. In the Earth and space sciences core idea, "Earth's Systems," students identify and simulate Earth's events and physical features.

Embedded in the content standards are the disciplinary core ideas of the Engineering, Technology, and Applications of Science (ETS) domain, which require students to use design strategies in conjunction with knowledge and understanding of science and technology to solve practical problems. Engineering standards are denoted with a gear icon⚙. Through guided participation in the engineering design process, students investigate and model how plants depend on animals for seed dispersal and pollination and how to address changes caused by Earth's events.

Each content standard completes the stem *"**Students will**..."*

Matter and Its Interactions		
Structure and Properties	1. Plan and carry out investigations to compare, contrast, and classify various solid and liquid materials according to physical properties, including color and texture. 2. Conduct investigations to determine suitable uses of natural and manufactured materials based on their observable properties, including strength, flexibility, hardness, absorbency, and texture.	**Structure and Function**
Physical and Chemical Changes	3. Demonstrate and explain how structures made from a small set of pieces can be disassembled and then reassembled as new and different structures. 4. Provide evidence that some changes in matter caused by heating or cooling can be reversed and some changes are irreversible.	**Stability and Change**

Ecosystems: Interactions, Energy, and Dynamics		
Interdependent Relationships	5. Plan and carry out an investigation, using one variable at a time, to determine how each variable affects plant growth. *Examples: various amounts of light, various amounts of water*	**Cause and Effect**
	6. ✪Design and construct models to simulate how animals disperse seeds or pollinate plants.	**Structure and Function**
Biodiversity	7. Obtain information to explain that there are many different kinds of living things that exist in habitats on land and in water.	**System and System Models**
Earth's Systems		
Physical Features	8. Use models to distinguish between the shapes and kinds of land and water on Earth. *Examples: rivers, oceans, mountains, valleys*	**Patterns**
Water	9. Obtain information to identify where water is found on Earth and determine whether it is a solid or a liquid.	**Scale, Proportion, and Quantity**
Changes Over Time	10. Use a variety of sources to provide evidence that Earth's events can occur slowly or rapidly. *Examples: erosion, melting of glaciers; earthquakes, volcanic eruptions*	**Stability and Change**
Human Impact	11. ✪Evaluate multiple solutions designed to slow or prevent wind or water from changing the shape of Earth's surface. *Examples: the use of dams and erosion prevention methods*	**Cause and Effect**