

# GRADE 2 SCIENCE

## Key Features

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### Focus Areas

- different types of materials,
- heating and cooling materials,
- the needs of plants for growth,
- animals disperse seeds and pollinate plants,
- plant and animal habitats,
- timescale of Earth events,
- wind and water change the shape of land,
- maps showing shapes of land and water,
- water on Earth can be solid or liquid, and
- human impact on natural resources.

### By the end of Grade 2, students can

- Plan and conduct an investigation.
- Develop a simple model based on evidence.
- Observe properties of different materials (color, texture, hardness, flexibility)
- Associate properties with the purpose of materials (strength, flexibility, hardness, texture, absorbency).
- Identify that some objects are made of a small set of pieces
- Recognize that heating and cooling can cause changes to materials.
- Investigate what plants need for growth.
- Model an animal dispersing seeds or pollinating plants.
- Observe the diversity of plants and animals in a variety of different habitats.
- Provide evidence that Earth events can occur rapidly or slowly.
- Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.
- Represent the shapes and kinds of land and bodies of water in an area.
- Identify where water is found on Earth and that it can be solid or liquid.
- Design solutions to address human impacts on natural resources in the local environment.

## Home to School Connections

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### Questions you can ask your learner could include:

- If you were to build a fort for your favorite toy, what types of materials would you use?
- Is an earthquake a fast or slow event?
- Is butter a solid or liquid at room temperature? What happens when butter is heated? Is it a reversible change?
- Looking at vegetables such as carrots or potatoes, how do these roots help the plant?
- How do bees pollinate plants?
- Can you give me an example of how water changes the shape of land?
- Looking at a map, can you locate the ocean? How about a river? Or a mountain?
- What is an example of solid water?
- What are some land changes in our community?

### Questions you can ask your learner's teacher could include:

- What family trips do you recommend to support this material?
- What are ways we can reduce our impact on the local environment?

### Activities and learning you can do outside of the classroom to support your learner could include:

- In the kitchen, identify different materials as solid or liquid. You can also practice classifying materials with color, texture, hardness, and flexibility.
- Make an object with small pieces, such as building blocks. Then, disassemble the object to make a different object with the small pieces.
- Model examples of reversible changes could include materials such as water, crayons, or butter at different temperatures.
- Model examples of irreversible changes could include cooking an egg, baking a cake, or preparing popcorn.
- Visit a location with a variety of plants. Compare plants growing in the sunlight versus plants growing in the

shade. Discuss how some plants can survive in excessive water (water lilies) while others can survive in desert conditions (cactus).

- Take a walk in the grass with a pair of socks on the outside of your shoes. What collects on the socks?
- Go on a nature walk while identifying different animal and plant habitats
- Use materials around your house to build a model habitat. Explain what kind of animal could live there and why.
- Watch videos or live animal webcams or visit a zoo. Look for patterns of similarities and differences from one animal's habitat to another.
- Observe local rock formations (Caesar's Head in Greenville County, Peachtree Rock in Lexington County, Wood's Bay in Florence County) or view pictures of rocks with layers, such as the Grand Canyon, and discuss how events including weathering and erosion can occur slowly over time.
- Observe the yard after a rainstorm to see what changes have occurred including the movement of bark or soil.
- Use objects around the house to make a map with a variety of landforms and bodies of water.
- Talk about choices your family currently makes to reduce the impact on the land, water, air and other living things.

## Books

- Bean, Jonathan. *Building Our House*
- Chin, Jason. *Grand Canyon*
- Early Macken, JoAnn. *Flip, Float, Fly: Seeds on the Move*
- Fowler, Alan. *It Could Still Be Water*
- Frost, Helen. *Monarch and Milkweed*
- Hewitt, Sally. *All Kinds of Habitats*
- Hopkins, Joseph. *The Tree Lady*
- Hutts Aston, Diana. *A Seed is Sleepy*
- Lerner, Carol. *Butterflies in the Garden*
- Locker, Thomas. *Water Dance*
- Millard, Glenda. *Isabella's Garden*
- Mitchell, Joyce Salyton. *Crashed, Smashed, and Mashed: A Trip to Junkyard Heaven*
- Purdie Salas, Laura. *Water Can Be...*
- Richards, Jean. *A Fruit is a Suitcase for Seeds*
- Wilkes, Angela. *Animal Homes (Kingfisher Young Knowledge)*
- Yolen, Jane. *Letting the River Go*

## Resources

- American Museum of Natural History: Ology (<https://www.amnh.org/explore/ology>)
- Britannica Kids (<https://kids.britannica.com/>)
- CK-12 Foundation: (<https://www.ck12.org/student/>)
- Discus Kids (<https://www.scdiscus.org/discus-kids>)
- Edventure Children's Museum (<https://edventure.org/>)
- Exploratorium (<https://www.exploratorium.edu/>)
- Khan Academy Kids (<https://learn.khanacademy.org/khan-academy-kids/>)
- NASA Kid's Club (<https://www.nasa.gov/learning-resources/nasa-kids-club/>)
- PBS Kids Science (<https://pbskids.org/games/science>)
- South Carolina State Museum (<https://scmuseum.org/>)