



# SCIENCE 6

FOR FAMILIES

## SIXTH GRADE

### What to expect:

In sixth grade, students will build on ideas and knowledge from earlier grades to learn about the physical sciences, life sciences, earth science and space science. With coaching from teachers, they will use core science ideas and scientific and engineering practices to understand and explain their scientific observations. This information is a snapshot of learning in science for Grade 6. For a complete set of science academic standards, [click here](#) or visit [sde.ok.gov/oklahoma-academic-standards](http://sde.ok.gov/oklahoma-academic-standards).

### By the end of the school year, your child will:

- Describe changes in the motion of particles (solids, liquids or gases) when thermal (heat) energy is added or removed.
- Identify relationships among energy transfers, type of matter, mass (amount of matter) and the change in kinetic (in-motion) energy. (For example, a small icicle freezes quickly, while a large body of water does not.)
- Describe how sound and light waves are reflected, absorbed or transmitted through different materials (light waves through a prism, for example).
- Gather evidence that all living things are made of one or more cells and understand that groups of cells work together to perform tasks.
- Understand how sensory receptors respond to stimuli and transmit signals to the brain, resulting in immediate behaviors or storage as memories.
- Use patterns in data to describe past geologic processes, such as slow plate movements, landslides, volcanoes, etc.
- Analyze and interpret weather data that can be used for detecting and predicting future weather conditions caused by the motion of air masses.

### What to do at home:

- Ask your child to draw how water particles may be interacting with each other in ice versus in water.
- Talk about why some cups keep drinks hotter or colder than other cups.
- Discuss why the grass turns brown during drier months and why it needs to be mowed after it has rained for several days.
- Find a puddle outside, then go back after the sun has come out and ask your child to explain what happened to the puddle.
- Ride or watch a roller coaster. Discuss why sometimes the roller coaster moves faster and other times more slowly.

**Y**OU ARE your child's first teacher. Learn how to support the goals of Oklahoma's academic standards and why they are important to your child. Please be in regular communication with your child's teachers and ask how you can support science learning at home. When schools and families work together as partners, it helps your child achieve academic success!



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### Fostering Curiosity

Children are naturally curious and are motivated to learn about things that interest them. Since curiosity contributes to success in the classroom, it is important to encourage it at home. Play is a wonderful way to nurture curiosity in young children, so be sure to allow plenty of playtime. Encourage your child to ask questions, discover answers and explore their world.

Support your child's curiosity with questions like these:

- If you could invent something that would make life easier for people, what would you invent and why?
- What kind of container would keep your coffee the hottest for the longest period of time?
- What would the world's fastest runners look like in slow motion?
- Tell me something about science you don't think I already know.

Your child will have plenty of questions. It's okay if you don't always have the answer. The best response is always, "Let's find out together."

### Fostering Communication

Build your child's vocabulary, thinking skills and curiosity by using new words and having conversations that include questions to make your child think. Communicating with others gives children a chance to see and understand that there can be more than one point of view about a given subject. Accepting different ideas helps children learn how to get along with others, encouraging positive relationships with other children and a strong self-image.

Support your child's communication skills with questions like these:

- What goals can you set to help you become a better person?
- What is your favorite part of the year and why?
- How can you make a positive difference for someone today?

### Fostering Connections

Making connections between different school subjects helps build your child's overall knowledge and learning. It's also important for your child to make connections between what they are learning at school and in the real world. Point out these connections to your child and encourage them to make them, too.

- Connect science with writing and art by asking your child to draw pictures of the things they see in the world around them (for example, shadows change sizes throughout the day, the temperature usually gets cooler after a thunderstorm, etc.), then add short descriptive sentences to the picture that describe the object, situation or scenario they drew and how what they know about science might be connected to it.
- Connect science with engineering by asking your child what they notice and wonder about (for example, "Do you notice that drinks stay colder longer in certain kinds of cups?"), then discuss what causes the things they notice, how they work or how they could be modified to work better. (For example, after asking your child about materials that keep drinks warm or cold, your child could try to design or make a container that keeps drinks cold for a long time.)

Join the conversation!

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