



COMPUTER SCIENCE

6

FOR FAMILIES

YOU 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 computer science education at home. When schools and families work together as partners, your child experiences greater academic success!

SIXTH GRADE

What to expect:

Sixth grade is when children deepen their understanding of computing systems and develop more sophisticated programming skills. Children learn to evaluate devices, model data transfer methods, resolve technology issues, create complex programs with variables, and understand computing's impact on society. Families play a vital role in exploring technology and fostering responsible digital citizenship at home. Computer science helps children develop analytical thinking skills and prepare for future careers. Ask questions like, "How do you think information stays secure when traveling between devices?" to spark meaningful discussions.

Learning Goals:

- Compare how different devices are used and how hardware and software work together to share information.
- Explore how data travels safely online and ways to protect personal information.
- Create visual displays of data to help solve problems and make predictions.
- Develop step-by-step programs using repetition, choices, and variables.
- Discuss how computing affects daily life and careers, and practice being safe and responsible online.

What to do at home:

- Explore how your family uses devices and talk about ways to improve them.
- Talk about safe websites (look for the lock icon) and how encryption (scrambling data for security) works.
- Organize the same information in different ways (like lists, charts, or graphs) to find patterns.
- Write step-by-step instructions for everyday tasks using repetition and choices (like "if... then").
- Discuss how AI (artificial intelligence) and new technology are changing jobs and how to be safe and respectful online.



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Fostering Curiosity

Children are naturally curious and motivated to learn about things that interest them. Computer science builds on this curiosity by encouraging problem-solving and creativity. Let your child explore how technology works and ask questions about the devices they see in daily life.

Support your child's curiosity with questions like:

- How do you think secure websites protect your information when you are online?
- What might happen if we changed certain variables in this algorithm?
- How could AI and emerging technologies transform careers in the future?

Your child will have plenty of questions. It is okay if you do not 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:

- How could we model the way information is broken into packets when sent between devices?
- What recommendations would you make to improve this device based on how you use it?
- How could AI or emerging technologies be designed to meet the needs of different users?

Fostering Comprehension

Making connections between computer science and the real world helps children see its importance. Encourage your child to relate their learning to everyday experiences.

- Connect computer science and math by collecting simple data (like weather or family exercise habits), creating different visuals (like charts or graphs), and talking about how the information could help you make predictions.
- Connect computer science with digital citizenship by discussing the importance of being respectful online and giving credit to others when using or adapting their work, like images, music, or code.
- Explore emerging technologies by discussing how AI and smart devices could be improved to support accessibility and different careers.



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