



# COMPUTER SCIENCE

# 5

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!

## FIFTH GRADE

### What to expect:

Fifth grade is when children build on their technology foundation and expand their digital skills. Children learn to select efficient computing systems for various tasks, understand how information is transmitted as bits, analyze data to make informed decisions, and create more complex programs with variables and conditionals. Families play a vital role in exploring technology and fostering responsible digital citizenship at home. Computer science helps children develop analytical thinking and creative problem-solving abilities. Ask questions like, "How do computers break down information to send it across networks?" to spark meaningful discussions.

### Learning Goals:

- Choose the right digital tools for different jobs and learn how computers process information.
- Understand how information moves safely between devices across the internet.
- Work with data to make charts, spot patterns, and support ideas.
- Write step-by-step instructions with choices and repetition for computers, and break big problems into smaller parts.
- Discuss how technology affects our daily lives and practice being responsible digital citizens.

### What to do at home:

- Talk about which devices work best for tasks (like streaming vs. typing) and practice solving simple tech issues together.
- Discuss how information moves between devices and review family rules for protecting personal information online.
- Help organize files by size or purpose (like photographs vs. documents) and make simple charts to find patterns in everyday data.
- Write step-by-step instructions using choices and repetition (like packing for weather) and break big tasks into smaller steps.
- Talk about how AI tools (like voice assistants) are changing daily life and how they can be improved.



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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 computers break down and reassemble information when accessing the internet
- What might happen if we modified this algorithm (step-by-step instructions) to make it more efficient
- How could AI and emerging technologies help solve different accessibility challenges?

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:

- Can you explain how information is broken down into bits and packets when sent between devices?
- What variables or conditions could we include in our program to help solve this problem?
- How could we modify this program to make it work better for people with different needs?

## 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 data as a family (like favorite foods or screen time), creating a simple chart or graph, and talking about how data can lead to better conclusions.
- 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 together by discussing how AI and smart devices learn from data.



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