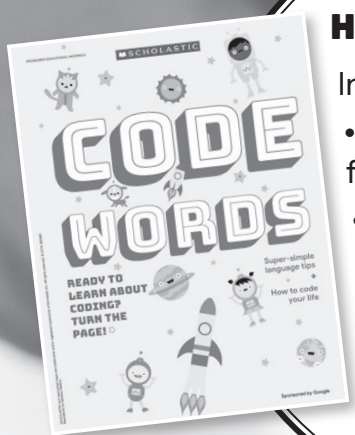
TEACHING GUIDE

CODE WORDS

Coding and ELA Activities

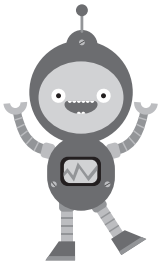


HEY, TEACHERS!

In this guide you'll find:

- Lessons and activities for ELA or tech classes
- A class set of student magazines
- Links to coding activities from Google's CS First: **g.co/csfirst/scholastic**

Sponsored by Google



HOW TO USE THIS PROGRAM

These cross-curricular lessons can be used in ELA or technology classes. Students will read articles about coding in our student magazine. Then they'll create animated stories on computers using CS First's free video-based coding activities, with bonus ELA tips from Scholastic to elevate their learning even more. You don't need computer science experience to teach it—we promise!

Visit **scholastic.com/computerscience** for more classroom resources.

MINI LESSON: CODING CONCEPTS

Use informational texts to teach students about the history and terminology of coding.

OBJECTIVE

Students will integrate information from multiple articles to speak with understanding about coding and support their analysis with evidence from the magazine articles.

TIME

25–30 minutes

MATERIALS

- *Code Words* student magazine

1 Have students brainstorm the different ways that the word *code* is used (prompts to get them started: zip code, bar code, code of honor, dress code, cracking the code). Explain that in computer science, programmers use the word *code* to refer to instructions for a computer.

2 Tell students that they will be learning to code by creating an animated story online. But first they will read several articles to learn about coding history and terminology.

3 Hand out student magazines. Have students read independently or with a partner. Challenge them to use context to better understand the bolded words as they read, and direct them to complete the quiz on the back page. *Quiz answer key: 1. C; 2. B; 3. D; 4. A; 5. D; 6. B*

4 Review the central ideas in the magazine as a class. Prompt students to identify vocabulary words in the magazine that were new to them. Go over the meanings of the words as a class. (Extension: Have students find out five more facts about one of the people in the "Great Moments in Coding History" sidebar.)

5 Explain that computer coding is about solving problems by breaking a project into smaller tasks. Prompt students to name other things they do that depend on the same kind of logic and problem-solving involved in coding (examples: following a recipe to bake a cake, learning to play a musical instrument, making a craft project). Collect a list on the board.

GET TO KNOW SCRATCH—IT'S EASY

Your students will be using a coding language called Scratch to create their animated stories. Here's what you need to know.

- **Scratch was developed especially for kids** by computer experts at the MIT Media Lab. It allows students to build animated stories by manipulating simple blocks of preprogrammed code that they drag and drop to create commands.
- **It's great for beginners.** Scratch helps kids grasp basic computer science concepts like systematic reasoning and creative thinking in a fun way.
- **It's built right into CS First's coding activities.** When students start a video on the CS First site, Scratch will open automatically in a separate tab. To learn more, go to scratch.mit.edu.

OK, NOW LET'S CODE!

Choose one of these short coding activities. We've added bonus ELA connections so you can integrate the activity into your English, social studies, or history curriculum.

MATERIALS
Computers or laptops with internet access

Note: Students can work in pairs if you have limited computer access at your school.

TIME
45–60 minutes

< CODING ACTIVITY 1 >

ADVENTURE ON THE HIGH SEAS

Try the Adventure on the High Seas activity (**g.co/csfirst/scholastic-adventure**) on the CS First site. Students will pick two "sprites," or characters, place them in a boat, and create dialogue to tell a story.

ELA Connections To customize this coding activity for your curriculum:

- Prompt students to imagine a story inspired by a **historical figure, current event, or fictional character they've studied in class**. Is one of the characters an early explorer to the Americas? A scientist studying climate change? A fictional character (or two) from their favorite novel? Encourage them to get creative!
- Tell students to spend a few minutes **organizing their story plot** on paper or in a digital document. Prompts: *Are your characters traveling somewhere exciting? Are they searching the ocean for something? Are they lost?*
- Remind students to use **realistic-sounding dialogue**. Based on their knowledge of the characters' historical background, interests, motivations, and personality, what might the conversation be about? What type of "voice" would each character have? How does their dialogue help move the story line forward?

< CODING ACTIVITY 2 >

ANIMATE A NAME

Try the Animate a Name activity (**g.co/csfirst/scholastic-animate**) on the CS First site. Your students will choose a word that's meaningful to them and program the "sprites," or letters, as well as the backdrop to bring that word to life.

ELA Connections To customize this coding activity for your curriculum:

- Prompt students to choose **a word that represents something they're passionate about** (e.g., dance, animals, art, etc.) or **a vocabulary word**. Explain that they will animate the letters in the word and customize a backdrop that showcases their word. For example, for the word *jubilant*, they could place the letters on a stage, program them to bounce and make a sound, and add extra sprites like a dancer and a trumpet.
- Alternatively, students can **choose the name of a fictional character, historical figure, or a country** that they've studied in class, and use relevant details about that person (motivations, background, interests) or country (cultural traditions, flag colors, foods, etc.) to inform their design.
- If there's time, invite students to **present their words to the class**, explaining their programming choices.

TAKE IT FURTHER

For a deeper dive, try the CS First Storytelling unit at **g.co/csfirst/scholastic-storytelling**. You can spread the multi-activity unit over several weeks or months. How about a coding hour every Friday?

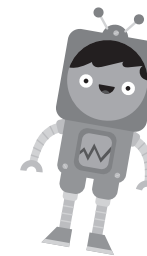
GET MORE RESOURCES FROM CS FIRST
Check out the CS First site at **g.co/csfirst/scholastic** for additional free resources such as reward stickers, solution sheets, activity cards, and more.

REWARDS PROGRAM

Make copies of these certificates to congratulate your students on a job well done!

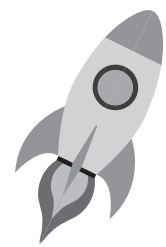
CODING CHAMPION

THIS CERTIFICATE IS PRESENTED TO



.....

for Completing a Coding Activity



....

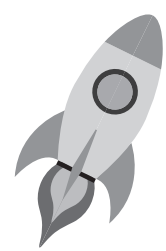
Teacher's Signature Date

CODING CHAMPION

THIS CERTIFICATE IS PRESENTED TO

.....

for Completing a Coding Activity



....

Teacher's Signature Date