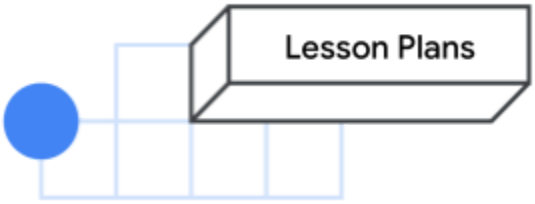
CS First



Dialogue Lesson Plan

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CS First Getting Started Guide

What is CS First?

Google CS First is a computer science curriculum that makes coding easy to teach and fun to learn. CS First empowers every teacher to teach computer science with tools and resources free of charge - no CS experience required. Sign in here. (Not required for this lesson)

In CS First, students code with a tool called *Scratch for CS First*. Scratch is a block-based coding tool developed by the Scratch Foundation in collaboration with the Lifelong Kindergarten group at the MIT Media Lab. Learn more about Scratch at scratch.mit.edu. It's ideal for beginners to learn coding. Students "snap" together blocks of commands that the computer can carry out.

Dialogue Lesson Plan

Overview

CS First teaches computer science (CS) concepts through instructional videos that show students how to make projects in *Scratch for CS First*. In this coding lesson, students create dialogue between two characters to tell a story. This lesson plan is designed to help you teach dialogue in a fun, visual, and engaging way through coding. Access the lesson at g.co/csfirst/dialogue.

Tip: This lesson is an enhancement to incorporate CS into your existing english language arts or reading curriculum. Use this lesson as is, or make a copy and modify it.

Lesson Details

In Dialogue, students program a conversation between two characters. This example project shows what a student can create if they complete all of the add-ons in the lesson.

You can use this lesson to support teaching students about dialogue and how it advances the plot of a story.

This lesson was designed for students in grades 3 through 5, and can be adapted for many different ages and audiences. It takes approximately an hour to run.

Tip: You can adapt CS First to fit the pacing needs of your classroom - split this lesson between morning and afternoon, divide it among different days, or complete it in one sitting. Younger students and those new to coding may need more time to complete the lesson.

Learning Objectives

By selecting add-on videos that present coding challenges, students will:

- Use **looks** blocks (like “say”) and **wait** blocks to construct a dialogue between two characters (sprites).
- Use **sound** blocks (like “play sound until done”) to trigger a series of code.
- Add **events** blocks (like “broadcast”) to sequence the story.
- Use **looks** blocks (like “switch costume to“ and “switch backdrop to”) to personalize their story.

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Computer Science Topics Covered

- Parallelism: The process of events happening at the same time, either independently or interdependently.
- Debugging: The process of identifying and fixing error(s) in a program when it is not functioning as expected.
- Control structures: Sections of code that order the direction or flow of how a program functions. The control structure in this lesson is focused on wait blocks.

Standards Addressed

This lesson can be adapted for many different language arts, reading, and technology classes. Refer to these standards in choosing how to adapt the lesson to your class.

CCSS.ELA-LITERACY.CCRA.W.3 Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details and well-structured event sequences. CCSS.ELA-LITERACY.CCRA.W.6 Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.	
Grade 3 CCSS.ELA-LITERACY.RL.3.3	Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.
Grade 4 CCSS.ELA-LITERACY.RL.4.3	Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).
Continued on following page.	
Grade 5 CCSS.ELA-LITERACY.RL.5.3	Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).
CSTA 1B-AP-10	Create programs that include sequences, events, loops, and conditionals.
CSTA 1B-AP-11	Decompose problems into smaller, manageable subproblems to facilitate the program development process.

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Materials

1. Internet-connected computer and a projector
2. Computers with internet access (per student)*
3. Headphones (per student)*

** Don't have enough computers or headphones? Review the CS First Starter Guide for additional workarounds.*

Note: The lesson can be completed online or offline, but both options require access to a computer. Refer to our Help Center for Tips for Tech-Limited Classrooms.

Setup

1. Set up your classroom to ensure videos (with sound) can be played for your entire class.
2. Share the unique lesson link or class code, which you can find under your classes from your CS First teacher account.

Tip: The projects of students in your class are automatically shared with your teacher account.

Procedure

Introduction: Review ELA concepts (7 minutes)

1. Introduce the lesson:
    a. [say] In this lesson, you'll write dialogue - a conversation between two characters.

2. Review the ELA concept: Dialogue
    a. [say] What one character says and how another character responds can tell your audience a lot about the characters and move the action or plot of your story forward.

3. Before computer-time, consider using a pre-writing lesson, like brainstorming ideas for characters and conversations, to connect this to your classroom learning objectives.
    a. Reading a story for class? Prompt students to create a dialogue between two characters from that story.
    b. Have students choose two characters from their own favorite book.

4. Tell students that they'll apply their knowledge of dialogue to code a conversation between two characters. They will follow CS First videos to code their story and personalize the project.

Transition to CS First: Code ELA concepts (45 minutes)

1. Present the first two videos of Dialogue to the entire class (g.co/csfirst/dialogue).
2. Navigate students to the Dialogue unit.
3. Reiterate the video instructions:
    a. Open the Starter Project.
    b. Select two characters.
    c. Add a backdrop.
    d. Sequence your conversation using "say" and "wait" blocks.
4. Release students to work. While they're working:
    a. Check that students are on-task. Students should have two tabs open (CS First videos and *Scratch for CS First* coding editor). Look for signs that students might not know what to do, like adding a lot of sprites or dragging out a lot of unrelated blocks.
    b. Talk with students one-on-one about sequencing the conversation between two characters.

Wrap-up: Reflect on ELA and CS concepts practiced (8 minutes)

Pair students and ask them to review their partner's project. Answer the following questions (either in writing or with the whole class).

- What are the characters talking about?
- Are they arguing? Are they planning to do something or telling a story?
- What can you tell about these characters by their conversation?

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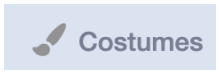
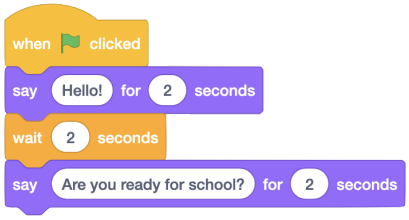
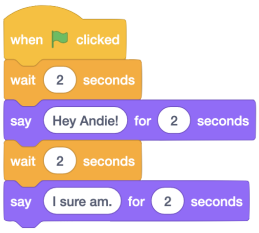
Add-on Solution Guide

Refer to this guide when helping students on their projects. These solutions represent one way to solve a problem. Students may find their own unique solutions.

For additional resources, check out the Scratch Wiki, including the Scratch Secrets and Hidden Features.

Common Needs

I want to...	How to
Restore a deleted sprite	Click Edit -> Restore Sprite
Restore deleted code	Right click -> Undo
Flip the direction of sprite	Select sprite -> Costumes tab -> Select tool -> Flip Horizontal    
Change size of sprite	Select sprite -> Change size  
Sequencing code with “wait” blocks	First Character (i.e. Andie)  Second Character 

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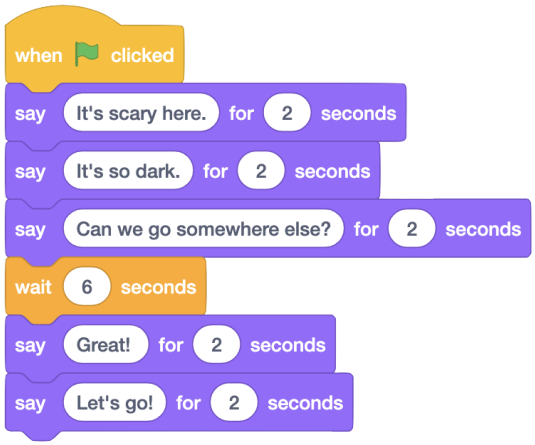
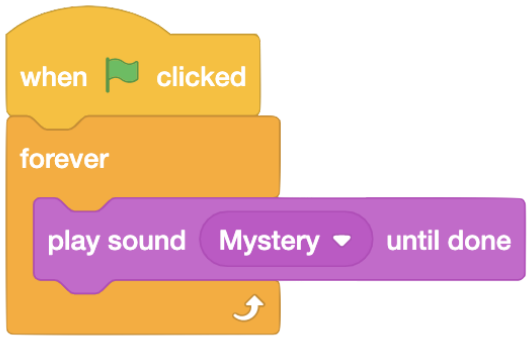
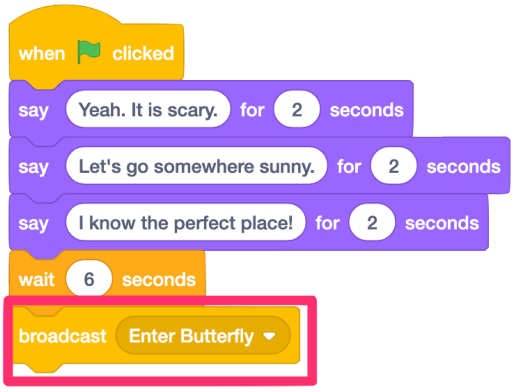
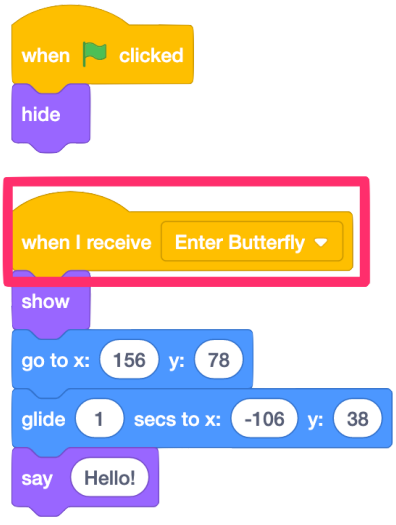
Add-on Solution Guide - continued

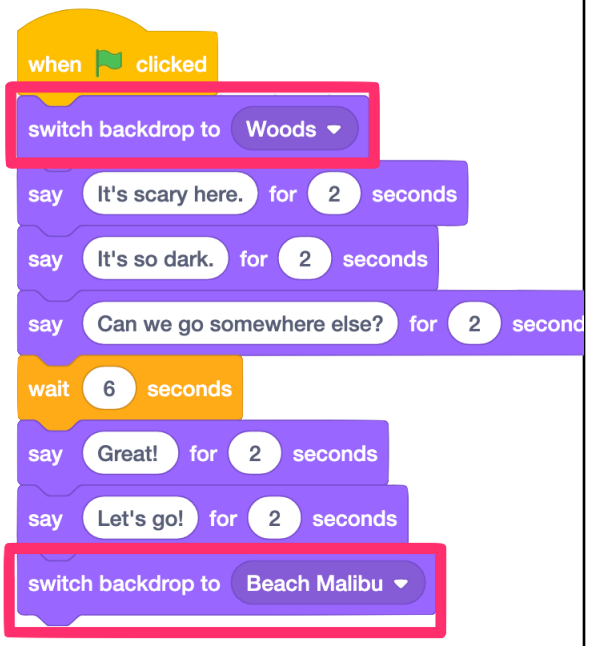
Refer to this guide to see example code for each video.

Introduction to Dialogue (Group Video)	Program Dialogue Between Characters (Group Video)
No code.	Choose two characters and add code to show what they're saying. First Character:  Second Character 

Add-on Solution Guide - continued

Add Music to Your Story	Add a Third Sprite
Add background music to the story when the program starts. First or Second Character:  	Add a third character using a “broadcast” block. First or Second Character:  New Character: 

Add-on Solution Guide - continued

Change Scenes	Changing Costumes
Advance the plot of a story by changing the setting, or "backdrop." First or Second Character: 	Change your characters' appearance to help the audience better understand your story. First or Second Character: