Adventure on the High Seas Solution Sheet

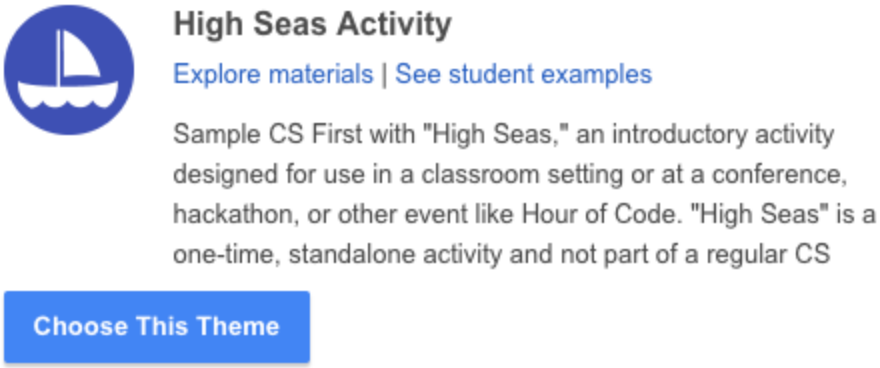
Use this solution sheet to help students as they watch instructional videos at www.cs-first.com/highseas and complete the activity in Scratch. All code blocks are color coded according to their category. For additional scripting and suggestions for leading the activity, please see the lesson plan at: www.cs-first.com/highseasplan.

Before the Activity: Create a Club [optional]

Create a club to receive CS First and Scratch usernames and passwords for your class. This will enable students to save their work. You'll be able to access their shared projects from your club dashboard. Usernames can be reused in future clubs or activities. It takes about two minutes to create a club.

To create a club, go to: www.cs-first.com/start-club.

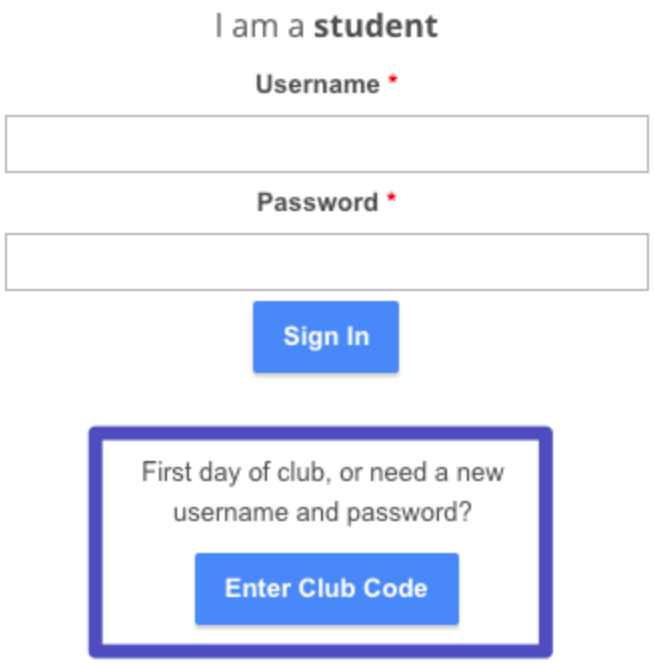
Follow the instructions, and select "Adventure on the High Seas" as your theme.



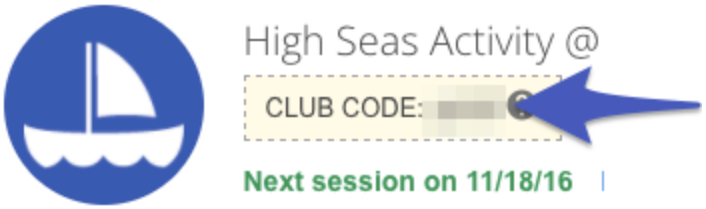
Instruct students to join your club [optional]

Before students begin the activity, instruct them to join your club using these scripted directions:

1. *Go to www.cs-first.com/go and select "enter club code."*

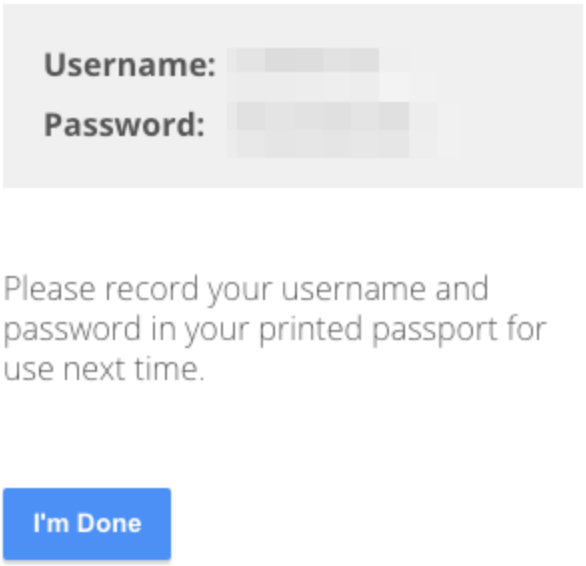


2. *Enter our club code* (access the your club's code here: www.cs-first.com/dashboard).

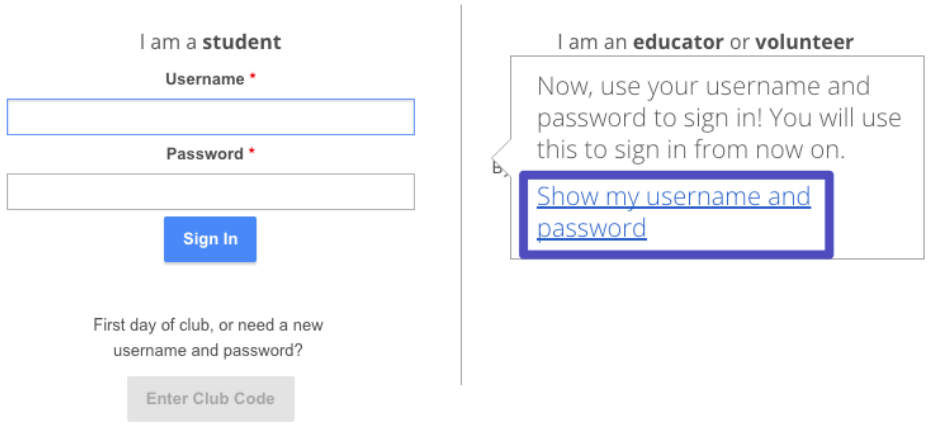


3. *Click "yes" three times to confirm location and activity.*

4. *Write down your username and password. You'll use this password to sign in to Scratch and save your project.*



5. *Click I'm done, and sign in. You can type your username and password, or click "show my username and password" to have it entered for you.*

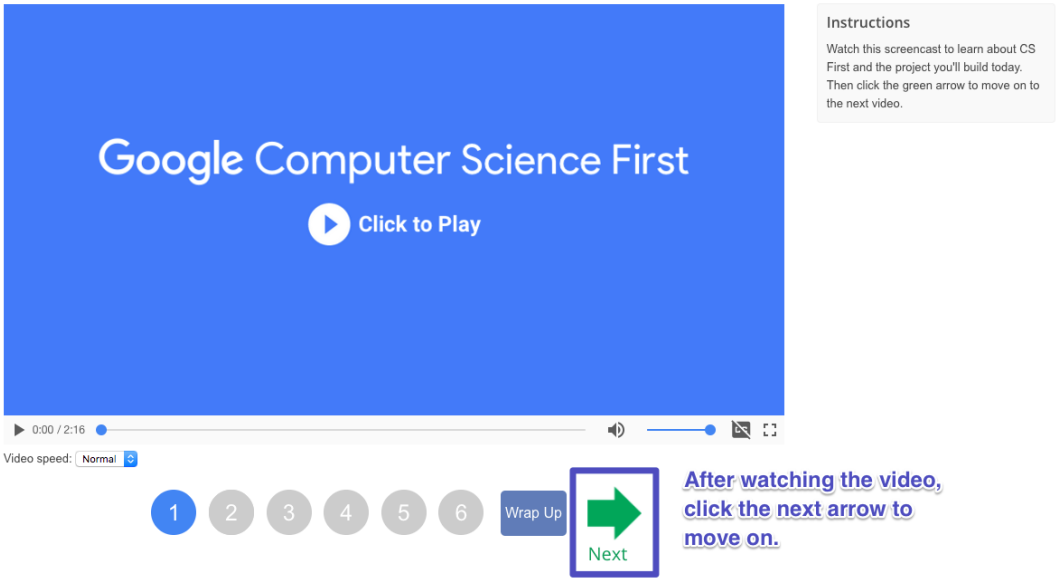


6. *Begin watching the first video.*

Video 1: High Seas Introduction

In this video, students will:

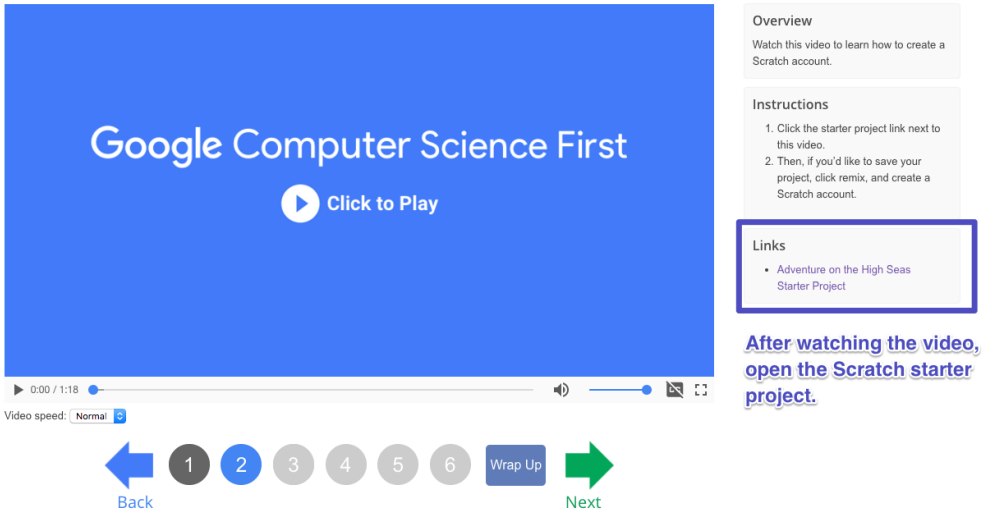
1. Watch a video that introduces the activity.
2. Click the green arrow to watch the next video.



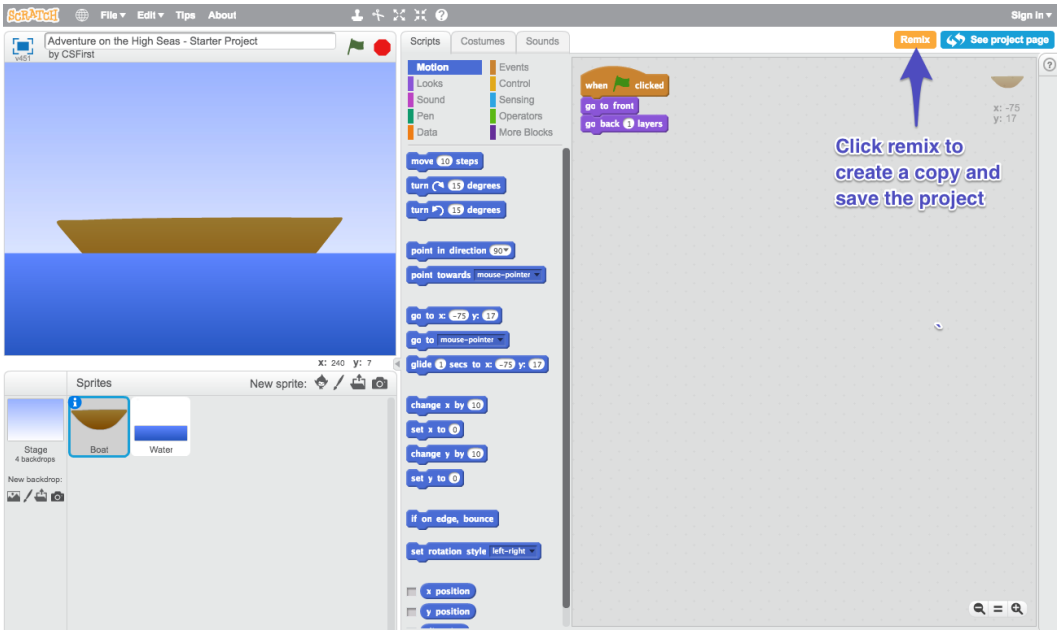
Video 2: Create a Scratch Account and Sign-in

In this video, students will:

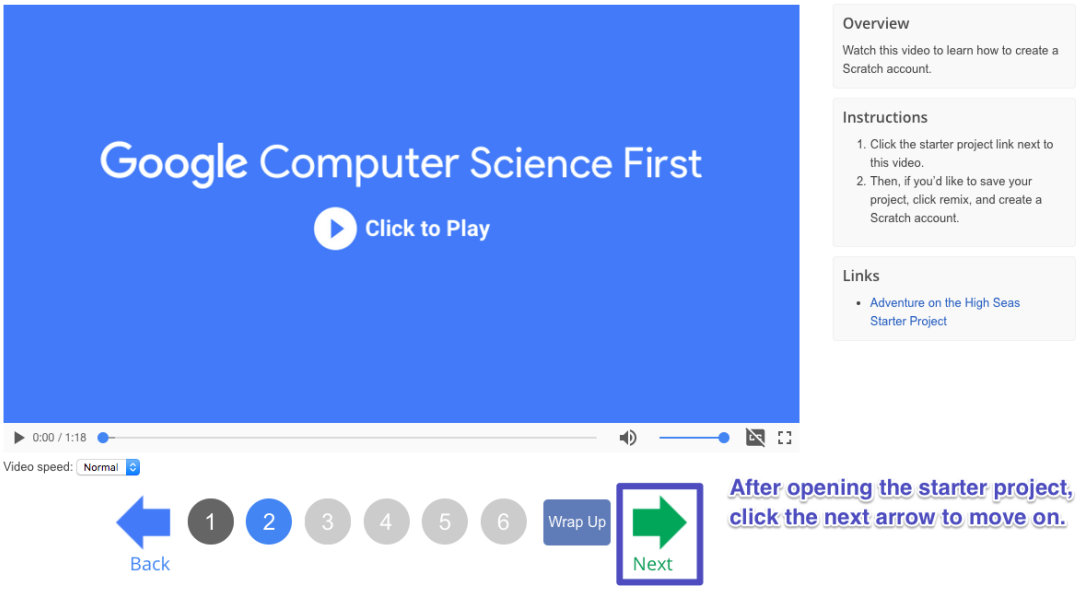
1. Open the starter project by clicking the project link next to the video.



2. [optional] If you'd like students to save projects and you haven't created a club instruct them to click remix and create Scratch accounts



3. Return to CS First and move on to the next video.

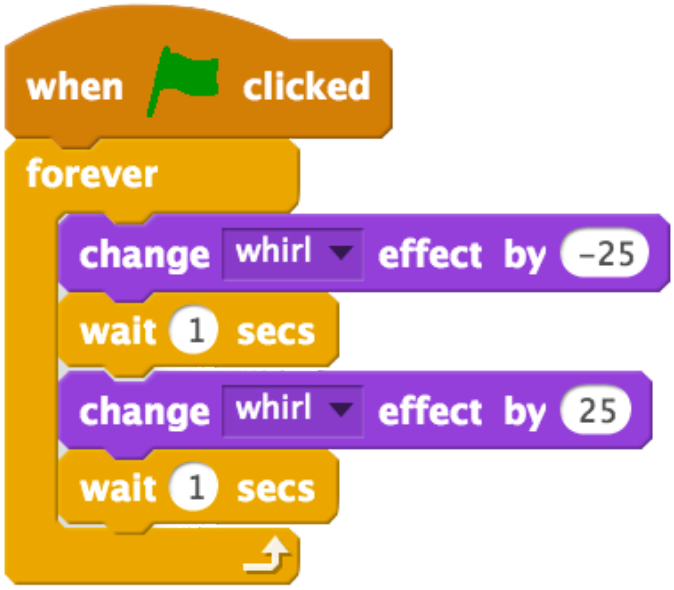


Video 3: Animate a Wave

In this video, students will:

1. Add a “change whirl effect” block to create the wave effect.
2. Add a “change whirl effect by -25” to reverse the wave effect.
3. Place a “wait” block after each “change effect by” block.
4. Make the wave keep going with a “forever” block.
5. Add a “when flag clicked” block to run this code stack when the flag is clicked.

Code for the **Water** sprite:

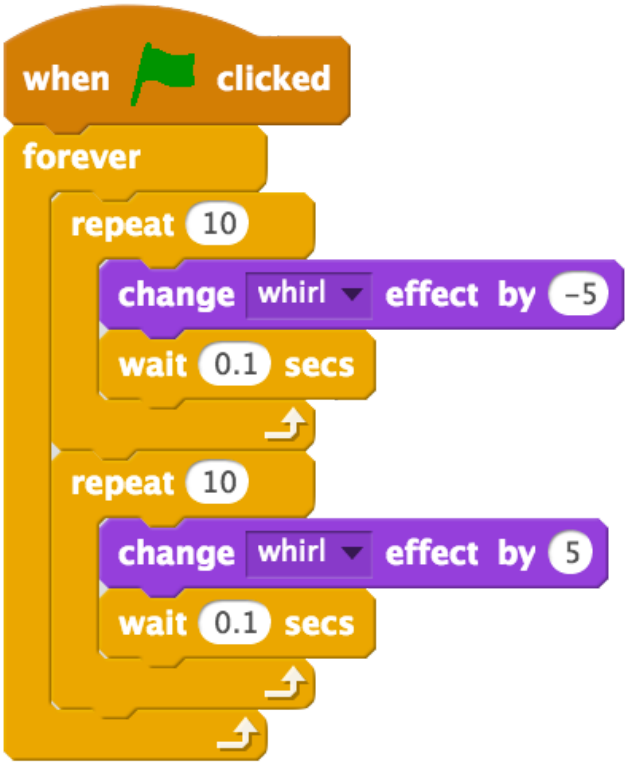


Video 4: Smooth Wave

In this video, students will:

1. Add a "repeat" block around each pair of "change effect by" and "wait" blocks.
2. Change the values of the blocks to create a smooth wave effect for their program.

Code for the **Water** sprite:



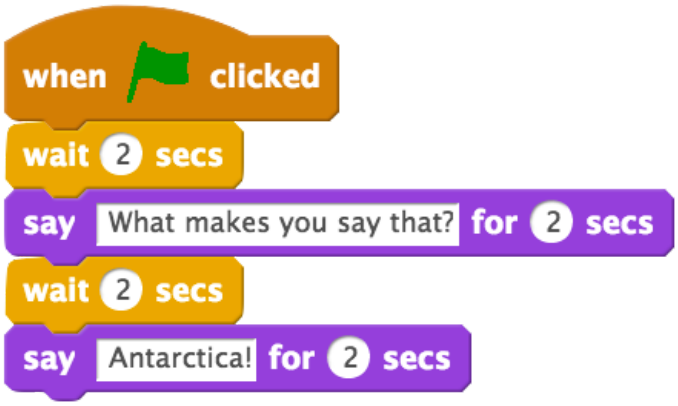
Video 5: Tell a Story

In this video, students will:

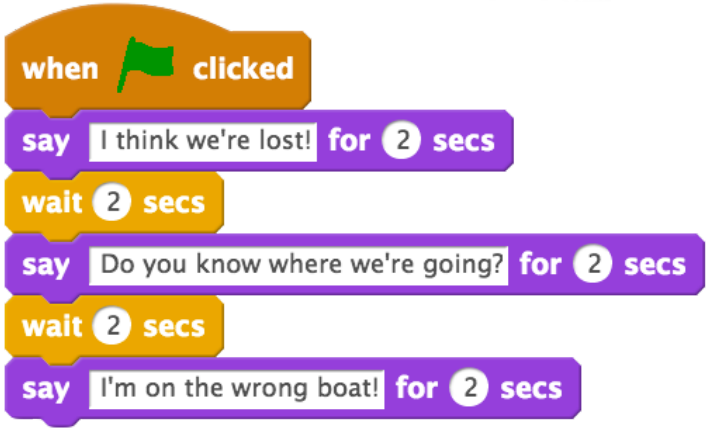
1. Add two sprites.
2. Add a "go to front" block to the water sprite.
3. Add “when flag clicked” and “say” blocks to the first sprite to make it talk.
4. Add “when flag clicked,” “wait,” and “say” blocks to the second sprite to make it talk.
5. Continue to build your dialogue until you’ve made a story!

NOTE: Students can tell any story that they would like. The sprites and dialogue shown below are examples.

Code for one new sprite:



Code for one new sprite:

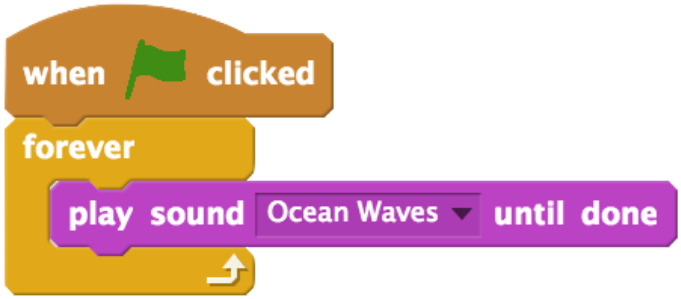


Add-On: Sea Sounds

In this video, students will:

1. Click the stage and the sounds tab, and select a sound.
2. Play the sound using a "play sound until done" block, a forever loop, and a "when flag clicked" block.

Code for the **Stage**:



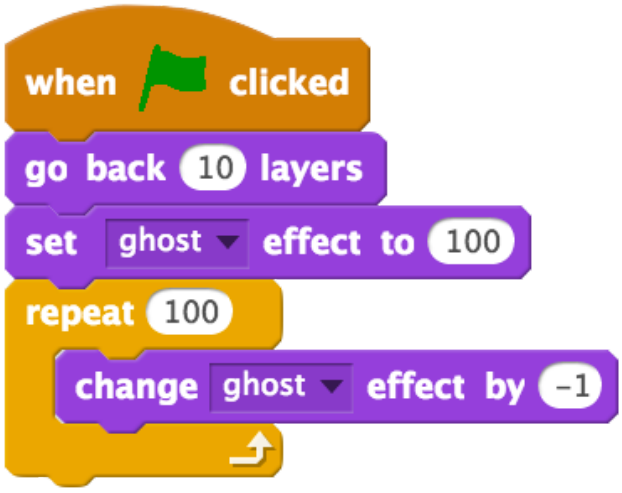
Add-On: Sun Ray Animation

In this video, students will:

1. Create a new sprite, and click “switch to vector mode.”
2. Use the ellipse, fill, rectangle, reshape, and duplicate tools to create a sun.
3. Program the sun to appear using “go back,” “set effect,” “repeat” and “change effect” blocks.

NOTE: Students draw the new sun sprite.

Code for a new sprite:

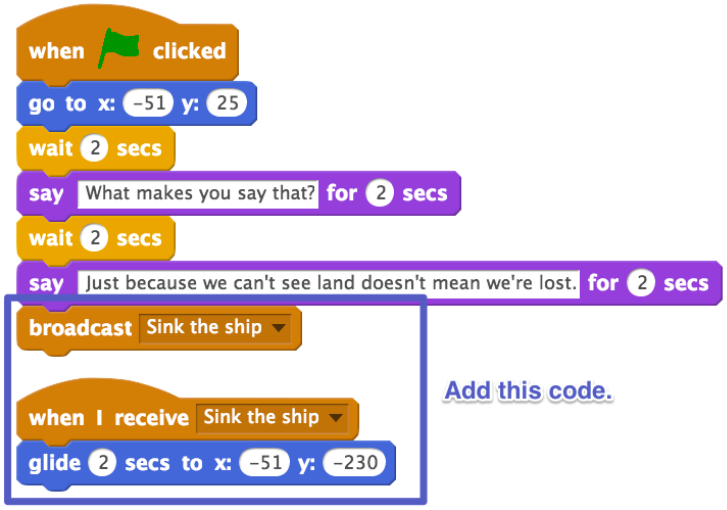


Add-On: Sink the Ship

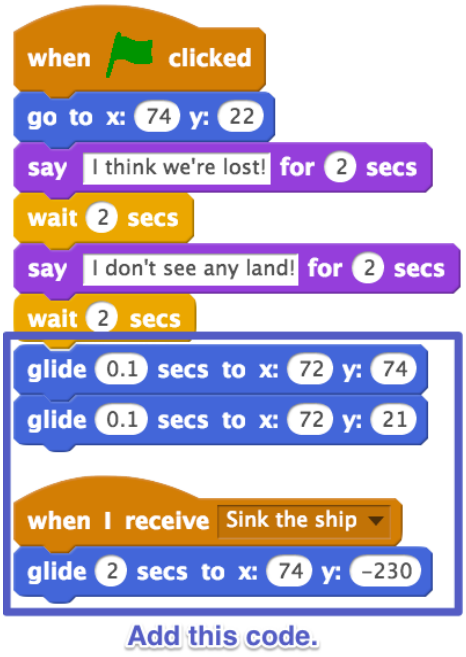
In this video, students will:

1. Make the sprites sink using a "glide" block.
2. Program the sprites to start in the same position each time with "go to" blocks.
3. Broadcast a message to trigger the code for sinking the ship, and add a "when I receive" event to the "glide" block.
4. Add events to make the sinking ship part of the story.

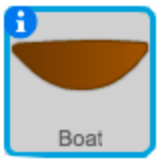
Code for one sprite:

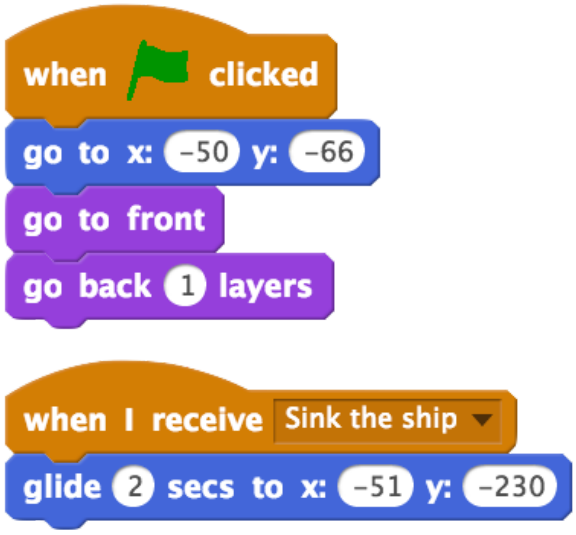


Code for one sprite:



Code for the **boat** sprite:



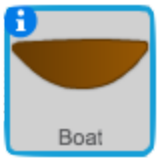


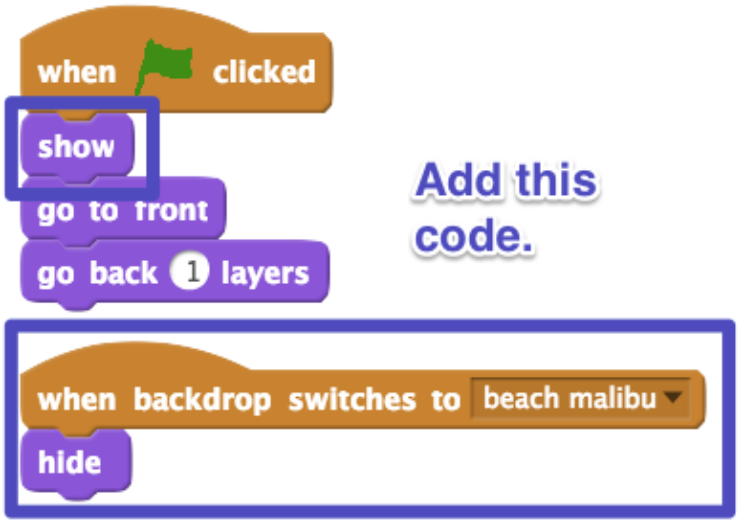
Add-On: Second Scene

In this video, students will:

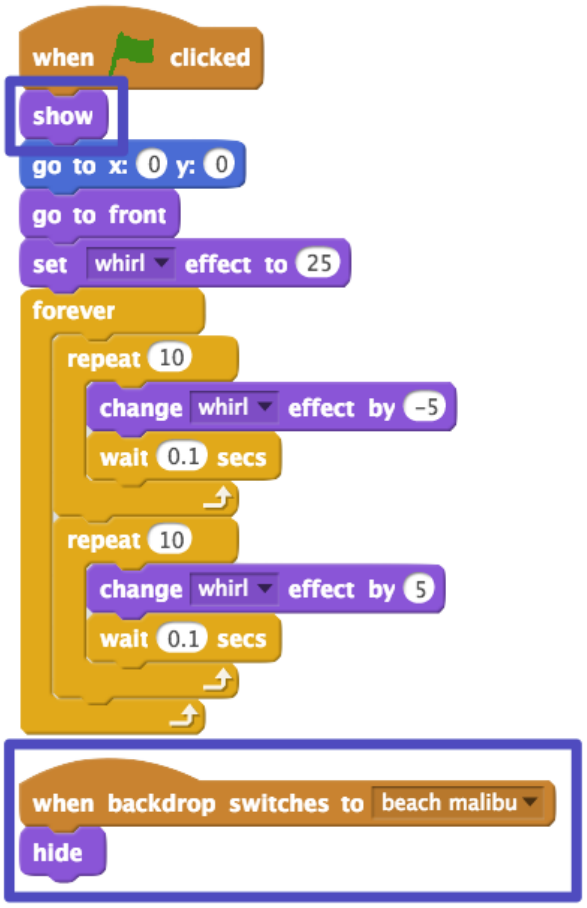
1. Program the stage to start on a backdrop, and change to a new scene with a "switch backdrop to" block.
2. Show the boat and water sprites at the start of the program, and hide them when the scene changes.
3. Set each sprite's position using "go to" and "when backdrop switches to" blocks.
4. Create dialogue for your second scene using "say for 2 seconds" and "wait" blocks.

Code for the **Boat** sprite:

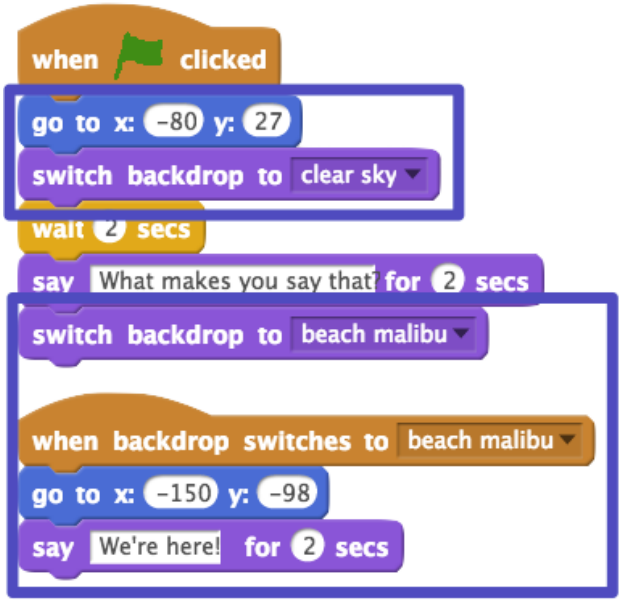




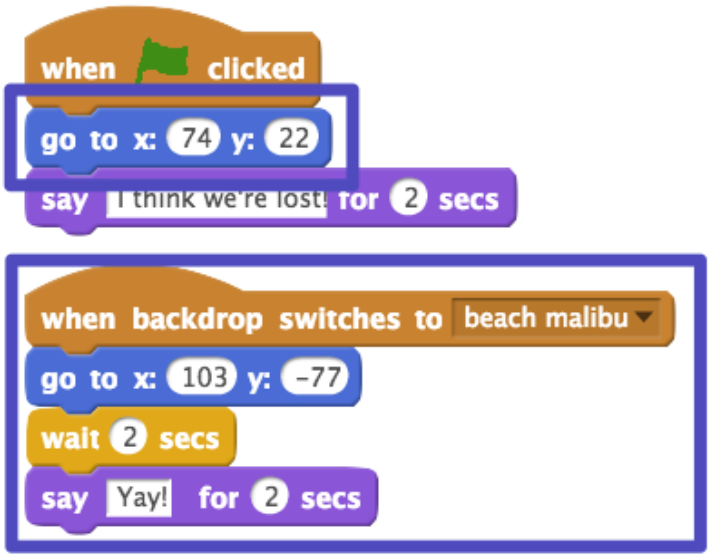
Code for the **Water** sprite:



Code for one sprite:



Code for one sprite:



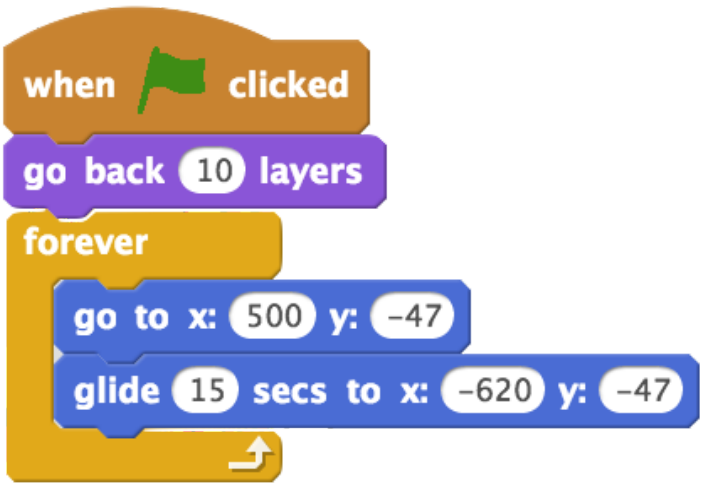
Add-On: Clouds

In this video, students will:

1. Paint a new cloud sprite using the ellipse, group, and duplicate tools.
2. Program the cloud to start beyond the right side of the stage, and repeatedly glide past the left side of the stage.

NOTE: Students draw the new cloud sprite.

Code for a new sprite:



Add-On: Gamify

In this video, students will:

1. Program different movements using “change x” and “change y” blocks.
2. Program each movement code stack to run using “if" and “key pressed” blocks.
3. Program the code to run for the entire program using “forever” and “when flag clicked" blocks.

NOTE: When adding this code to more than one sprite, change the values in the “key pressed” blocks.

Code for a sprite: