

Boat Trip

Maria and Sofie are going on a boat trip! How will they get their boat into the water?

🕒 30–45 min.

📖 Beginner

🎓 Grades 1–2



Teacher Support

Key objectives

Students will:

- Follow instructions to create a program
- Identify the main characters in a story
- Practice helping a story character
- Participate in collaborative conversations

Things you will need

(one for every two students)

- LEGO® Education SPIKE™ Essential Set
- Device with the LEGO® Education SPIKE™ App installed

Additional resources

[Building instructions](#)

[Meet the Team: Minifigure Bios](#)

[Assessment Rubric](#)

Educational standards

- CSTA 1A-AP-08
- NGSS K-2 ETS 1-1
- ISTE 1.5a
- CCSS.ELA-LITERACY.SL.1.1
- CCSS.MATH.CONTENT.1.G.A.3

Language Arts Extension

- CCSS.ELA-LITERACY.W.1.3

Prepare

- Review the *Boat Trip* lesson in the LEGO® Education SPIKE™ App.
- If necessary, pre-teach these related vocabulary words: *challenge*, *change*, *program*, *push*, and *robot*.
- Consider the abilities and backgrounds of all your students. Differentiate the lesson to make it accessible to everyone. See the *Differentiation* section below for suggestions.
- If time allows, plan and facilitate the language arts extension. See the *Extension* section below for more information.

Engage

(Whole Class, 5 Minutes)

- Facilitate a quick discussion about following a plan to complete an activity.
 - Talk with your students about how they'd put on clothing to go outside.
 - Ask questions, like: *What would you do first? What would you do next?*
 - Introduce your students to the story's main characters and the first challenge: pushing the boat into the water.
 - Distribute a brick set and a device to each group.
-

Explore

(Small Groups, 30 Minutes)

- Have your students use the LEGO® Education SPIKE™ App to guide them through their first challenge:
 - Make and try the program that pushes the boat into the water.
 - Have your students iterate and test their models to complete the next challenge in the app:
 - Change the program to make the robot better.
 - You can find coding support in the *Tips* section below.
-

Explain

(Whole Class, 5 Minutes)

- Gather your students together to reflect on their completed challenges.
 - Ask questions, like: *What's the first thing you did to get the boat into the water? How did you change the program to make the robot better?*
-

Elaborate

(Whole Class, 5 Minutes)

- Prompt your students to discuss and reflect on the process of following instructions.
 - Ask questions, like: *Why is it important to follow instructions? What happens if the steps are out of order?*
 - Have your students clean up their workstations.
-

Evaluate

(Ongoing Throughout the Lesson)

- Ask guiding questions to encourage your students to "think aloud" and explain their thought processes and reasoning in the decisions they've made while building and programming.

Observation Checklist

- Measure your students' proficiency in following instructions to create a program.
- Create a scale that matches your needs. For example:
 1. Needs additional support
 2. Can work independently
 3. Can teach others

Self-Assessment

- Have each student choose the brick that they feel best represents their performance.
 - Yellow: I think I can follow instructions to create a program.
 - Blue: I can follow instructions to create a program.
 - Green: I can follow instructions to create a program, and I can help a friend do it too.

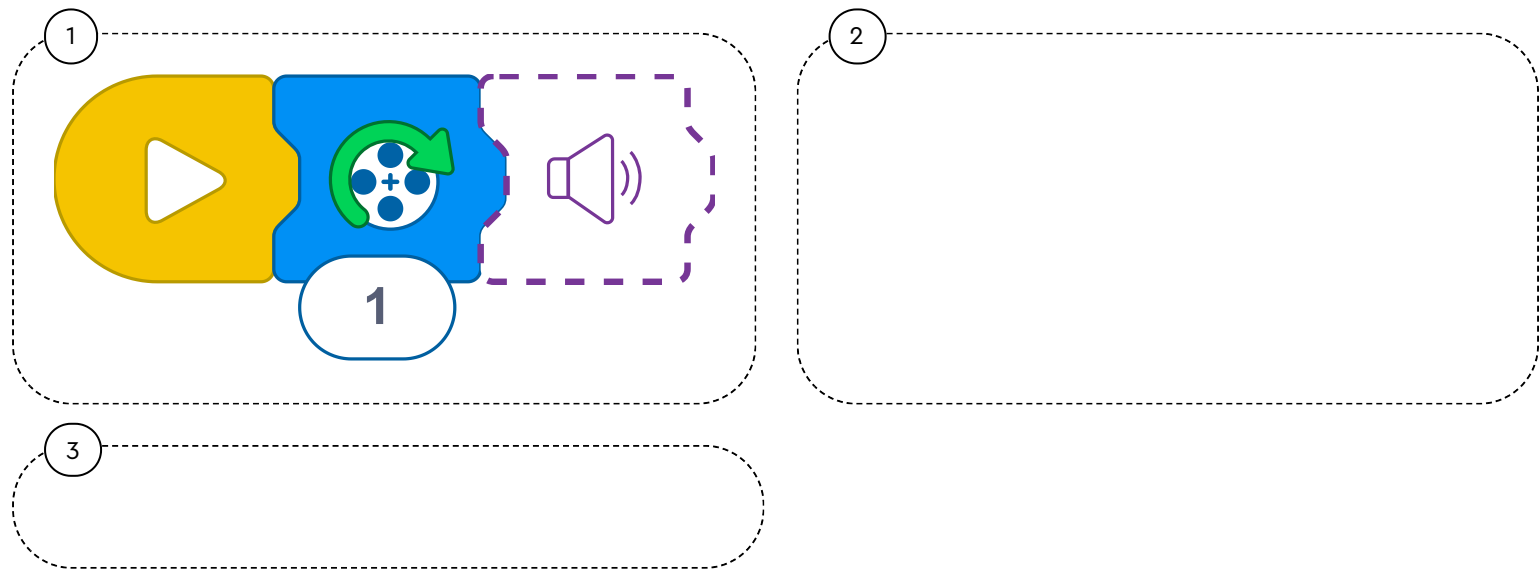
Peer-Feedback

- In their small groups, have your students discuss their experiences working together.
- Encourage them to use statements like these:
 - I liked it when you...
 - I'd like to hear more about how you...

Tips

Coding Tip

- After your students complete their first challenge, they'll be provided with three Inspiration Coding Blocks to help them modify their programs.
- The Inspiration Coding Blocks are intended to spark their imaginations as they experiment to find their own solutions.



Differentiation

Simplify this lesson by:

- Reading the *Boat Trip* story and instructions from the LEGO® Education SPIKE™ App aloud to your students
- Shortening the lesson to only include the first challenge

Increase the difficulty by:

- Creating a different way for the boat to get into the water
- Clicking *Show Full Palette* in the app to utilize more Coding Blocks

Extension

- Have your students write a story about Maria and Sofie's boat adventure. Ask them to include two different events that happen while they're in the boat.

If facilitated, this will extend beyond the 45-minute lesson.

Language Arts: CCSS.ELA-LITERACY.W.1.3