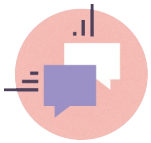
Space Ranger and Magic Words
Plugged



OVERVIEW

Students write JavaScript online in a series of increasingly difficult challenges involving maneuvering a squirrel to gather nuts.

OBJECTIVES

1. Students will become proficient at assembling JavaScript commands in sequence.

AGENDA

Length: 45 minutes

1. Warm-up
2. Help the Space Ranger
3. Pair Idea Exchange
4. Continue Coding

MATERIALS

1. Lesson 9 | Warm-up Worksheet
2. Laptops/Computers
3. Scratch paper grids
4. Small turtle cutout for each student
5. Magnetic turtle
6. Scratch paper grids
7. Pencils

8. Whiteboard

UNPLUGGED WARM-UP

Length: 10 minutes

Practice writing basic JavaScript to maneuver the squirrel to the nut.

Prep: Hand out the Lesson 9 | Warm-up Worksheet.

Teacher Actions	Student Actions
1 Individual Work: Ask students to write the code to maneuver the squirrel to the nut in the Lesson 9 | Warm-up Worksheet. Consider reminding students of the proper JavaScript syntax (see Elements on the worksheet).	1 Students individually fill out the Warm-up worksheet.
2 Draw the squirrel, nut, and grid on the whiteboard and code the solution with the students, randomly calling on one student at a time to provide each next line of code.	2 If called on, students provide the next line of code.

HELP THE SPACE RANGER

Length: 15 minutes

Students write code in JavaScript on the getCoding.io platform to help the Space Ranger gather parts. Students are practicing simple sequences with a limited set of elements.

Prep: Students should have their own computers.

Teacher Actions	Student Actions
1 Ask students to browse to getcoding.io and start moving through the challenges in Space Ranger and Space Ranger 2. Explain to the students that this challenge is a bit harder because they can no longer turn right and left. They can only turn left by using the 'rotate' command.	1 Students start solving the challenges in the Space Ranger activities.
2 When students get stuck, we suggest using the Read, Write, and Debug protocols to support students. Ask students to imagine being on the Coder team from the group activities. They should try to play the roles of the writer and navigator. Then, ask students to imagine being a Bot to understand how the computer reads the code.	

PAIR IDEA EXCHANGE

Length: 5 minutes

Talk with a peer about how the code is working.

Prep: None

Teacher Actions	Student Actions
1 Ask students to pause their progress and talk with a neighbor about the problem they are currently trying to solve. What is their plan? What have they tried? Is anything standing in their way? Important: Ask students to offer questions instead of solutions.	1 Students pause their progress and talk with a neighbor about the problem they are currently trying to solve.

CONTINUE CODING

Length: 15 minutes

Students continue writing code in JavaScript on the getCoding.io platform for the two Space Ranger activities. When they finish the Space Ranger activities, students should move on to Magic Words. Talk about the rules to Magic Words: Whenever you call out a spell in your program, all of the gates with that spell will move (either up or down, depending on its last position).

Prep: None

Teacher Actions	Student Actions
1 Ask students to resume coding individually.	1 Students resume coding