

Robot Writing Challenge

In this coding challenge, students will alternate between coding with the iRobot Coding simulator and a physical Root Robot to write the first letter of their name.

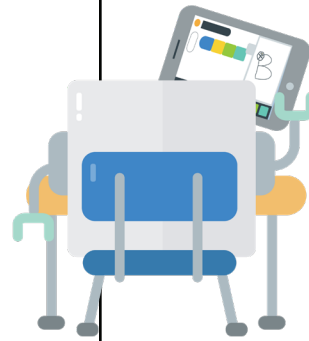
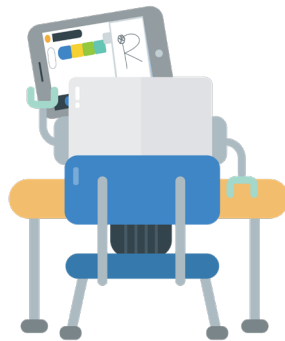
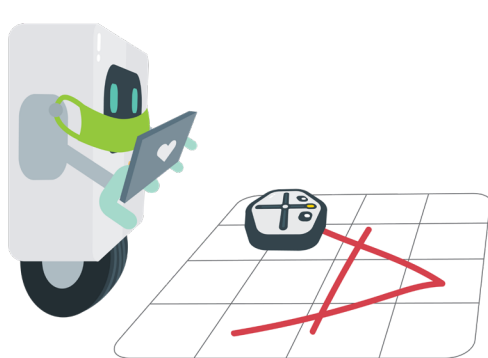
Teacher Prep

Robot Station

- Establish a safe, socially-distant area on a table or the floor of your classroom for Root and your fold-out whiteboard grid.
- Place a whiteboard grid, Root Robot, coding device, dry-erase marker and dry-erase cloth at the station
- Open the iRobot Coding app on your coding device and connect to the Robot Station's Root Robot.

Root Alphabet

- Print each student their own copy of the Root Alphabet
- Show students how to open the iRobot Coding app's simulator on their coding devices



With the Class

1. Establish a rotation with your students that allows them to take turns coding at the Robot Station and at their desk.
2. Challenge students to create a coding project with the iRobot Coding simulator to draw the first letter of their first name.

Subject(s):

Coding / Robotics
SEL: Communication

Experience Level:

Beginner
Intermediate

Time:

15-20 mins

Group Size:

Individual Activity

Supplies:

Root Coding Robot
iRobot Coding App
Coding Devices (1 to 1)
Whiteboard Grid
Dry-Erase Marker
Dry-Erase Cloth

3. As the students code their letters, they may take turns using the Robot Station to watch the physical robot run their code.

* NOTE: Wipe down and sanitize the entire robot station, including robot, marker, dry-erase cloth and whiteboard grid before and after every student's turn.

4. Continue until each student has had the opportunity to run a successful letter program at the Robot Station.

* If other students finish early, challenge them to create another project that writes:

- Both their first and last initials
- The word "Hi" or "Hello"
- Their full first name
- Their full first AND last name (wow!)

Assesment

Students may:

- Demonstrate their solution to the teacher
- Take a screenshot of their coding solution paired with a photo of their written letter at the Robot Station

Extension

Reverse Engineer Activity

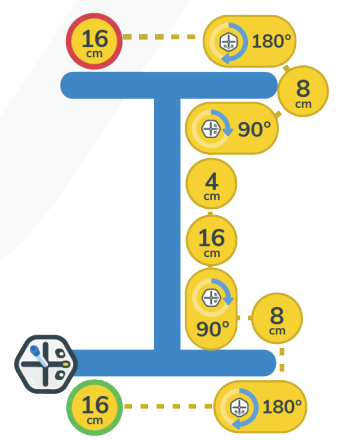
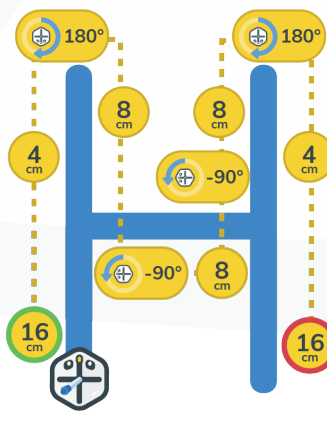
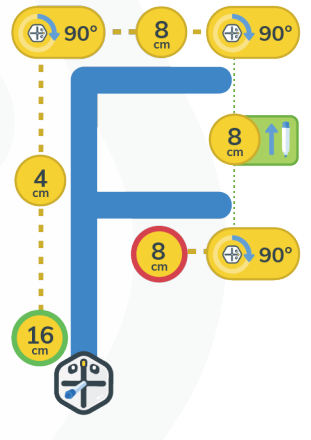
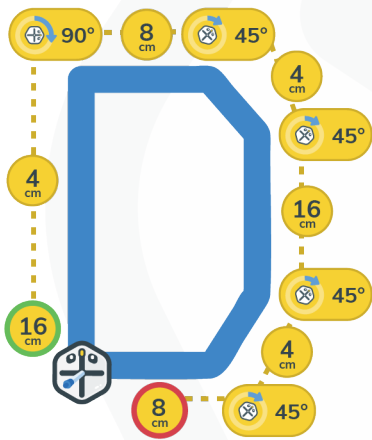
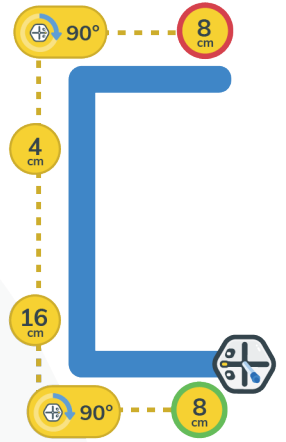
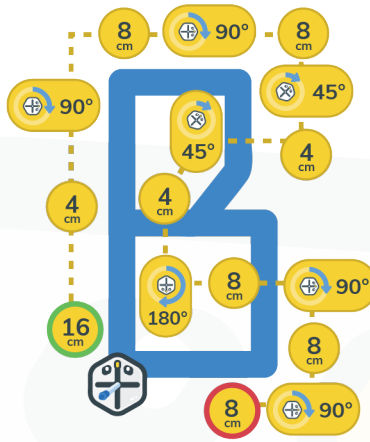
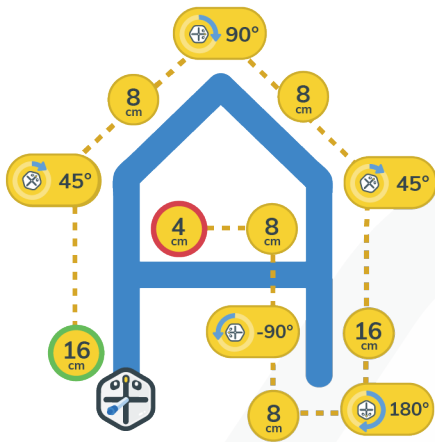
- Collect and print submitted screenshots of students' final, corrected alphabet coding projects
- Distribute print-outs anonymously
- Challenge students to reverse-engineer the code by hand to discover what the designed letter is.

Real World Connections:

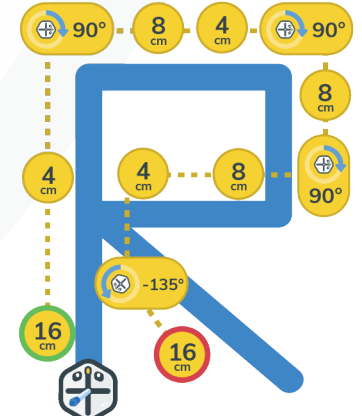
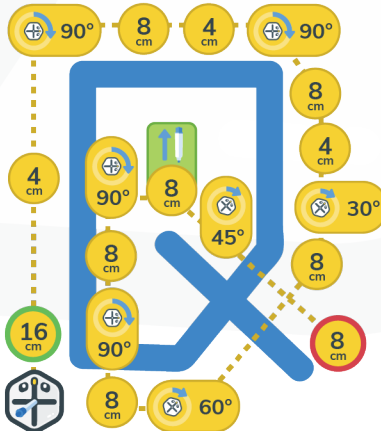
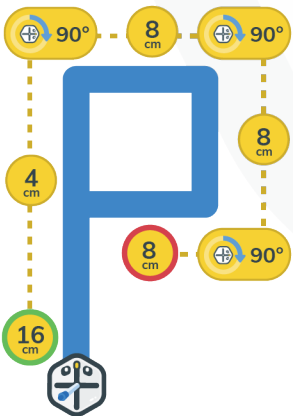
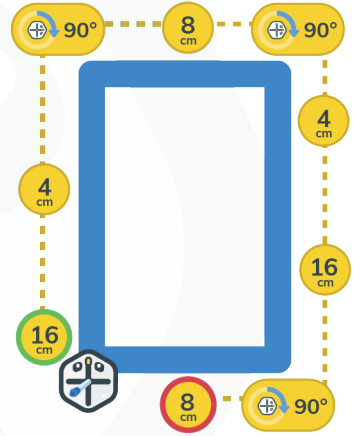
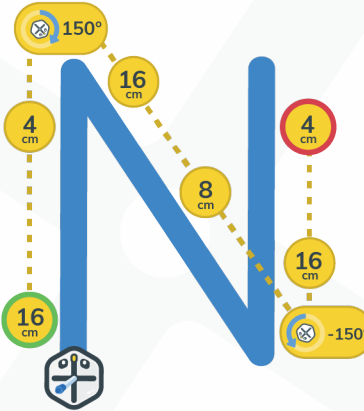
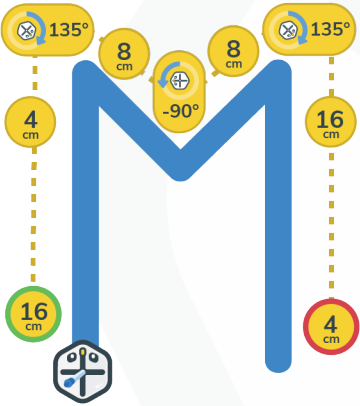
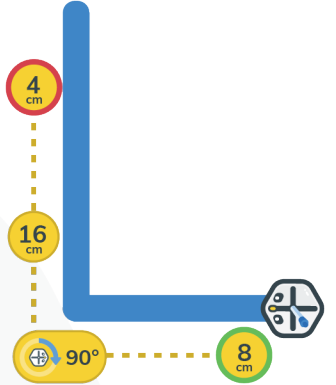
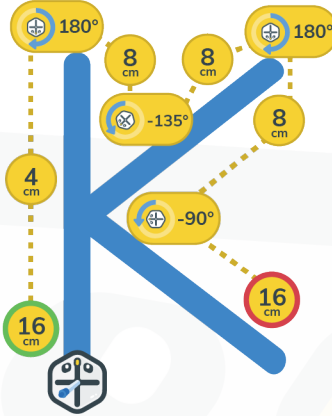
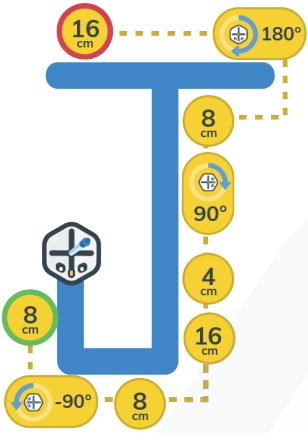
In the robotics world, engineers use simulations to build and test their code. The simulations can run their code faster and easier than their physical robots, allowing them to work more efficiently.

Root Alphabet

Learning Level 1



Learning Level 1



Root Alphabet

Learning Level 1

