

SPHERO INDI MAZE RACE

OVERALL TIME 50- to 70-minute lesson

GROUPS Two to three kids per indi

Next Generation Science Standards

K-2-ETS1-1

Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

OBJECTIVE

Kids will connect indi to the Sphero Edu Jr. app. Kids will drive the indi through a maze using the three drive programs.

OVERVIEW

This is an introductory lesson using the Sphero Edu Jr app.

VARIATIONS

Have kids create criteria for building a maze. Design one giant maze or racetrack.

MATERIALS

- **indi**
- **Color tiles**
- **Sphero Edu Jr app**
- **Classroom supplies to create a maze**
- **Challenge two will need timers, whiteboards, dry erase markers, or paper**

PREPARATION

1. Create partners or groups ahead of time.
2. Make sure that the indi is charged and ready for use.
3. Clear a large open space for groups to be able to spread out to use the indi.
4. Load the Sphero Edu Jr app on devices.
5. Set up a model maze.



LAUNCH 15 to 20 minutes

Gather kids in a large circle. If available (smartboard, document camera), use technology to project the Sphero Edu Jr app so kids can view and follow along on their device. Demonstrate how to connect the indi device to the Sphero Edu Jr app. Once the indi is connected, tap on the three dots in the bottom left corner. Four buttons will display RC Drive, Arcade Drive, Sphero Drive, and the Programming Board. Show kids how to change the indi's speed, eye color, and volume using the Settings icon. Then, select one of the drives and model how to move the indi. Share with kids that today they will be building a maze to race the indi. Choose one or two kids to race the indi through the model maze. Then, give teams 10 minutes to design and build a maze with classroom materials (blocks, books, pencil boxes, tape).

EXPLORATION 30 to 40 minutes

Bring kids back together and explain that teams will rotate through the different mazes. Decide how much time they will have at each maze. Introduce challenge one or two. Prepare to have fun!

Challenge one:

Race through the maze without touching a wall or border with the indi robot.

Challenge two:

Race through the maze without touching a wall or border with the indi robot. Best time wins!

For this challenge, introduce job roles and how to use a timer. Kids can take turns with each of the different job roles.

Job Roles

Organizer: helps decide roles, holds all kids accountable and keeps track of time between mazes.

Technician: times the race and records the data (whiteboard or paper)

Programmer: races the indi through the maze.

CLOSING 5 to 10 minutes

Have each group of students respond to one or more of the following questions:

- *How did your team work together?*
- *Was one maze more difficult? Why?*
- *Would your team make any changes to your maze?*

CLEAN-UP (5 min.)

Allow time to make sure materials are safely put away.