Lesson 1

Robot Basics: Meet Your Robot

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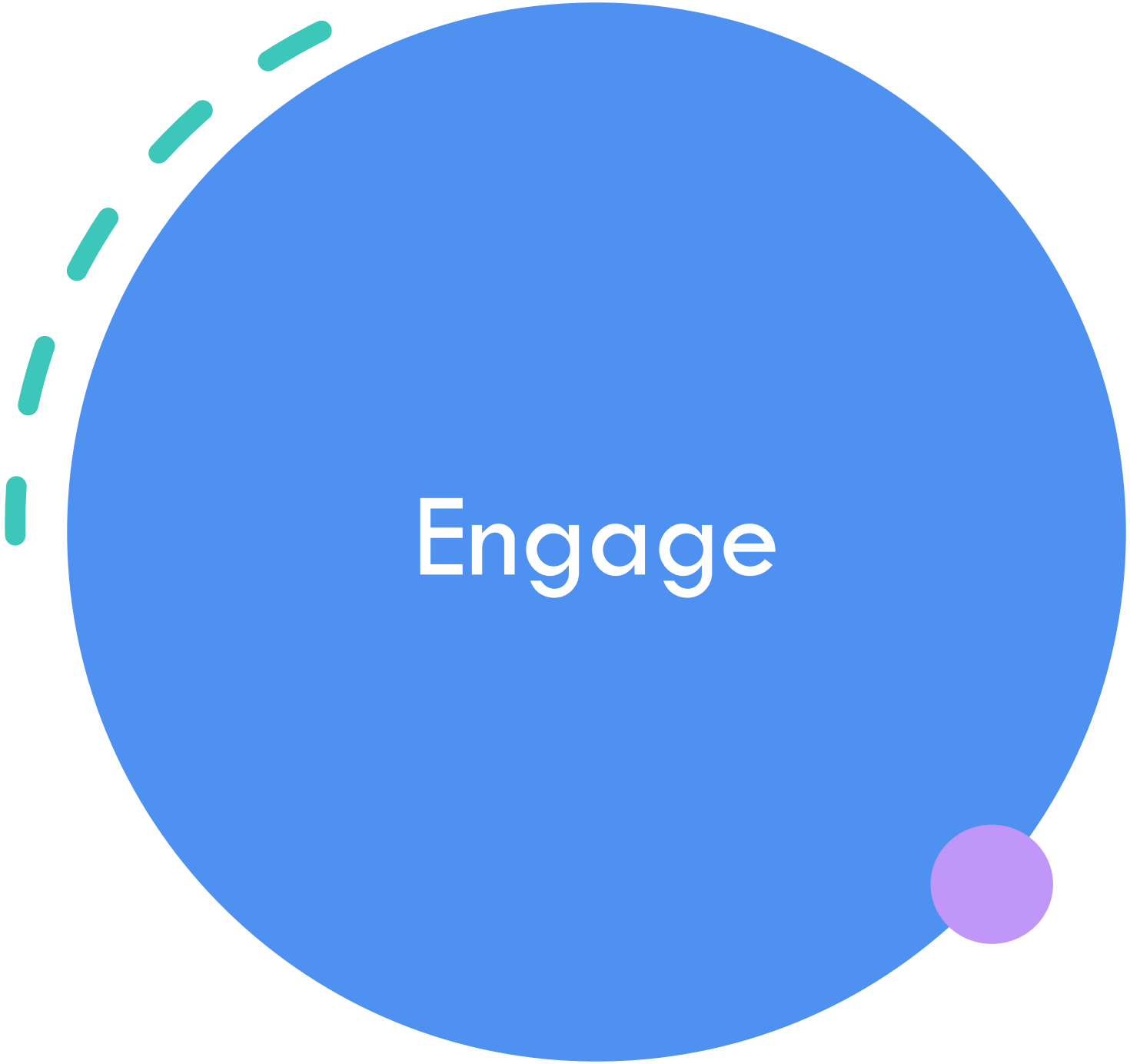
Engage

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Hi, Rapid Responders!

Today's Big Idea: Robots can be controlled by humans or by programs.

We will learn:

- **The parts of a robot**
- **How to safely drive a robot**
- **That robots can follow instructions called a program**

Mission Briefing

Welcome recruits!

You have been selected to join the Rapid Response League.

Before you can deploy your robot into disaster zones, you must complete robot training.

Your robot must pass the training course by navigating through the practice area safely and accurately.

Robot Questions

What is a robot?

What jobs do robots do?

How do robots know what to do?

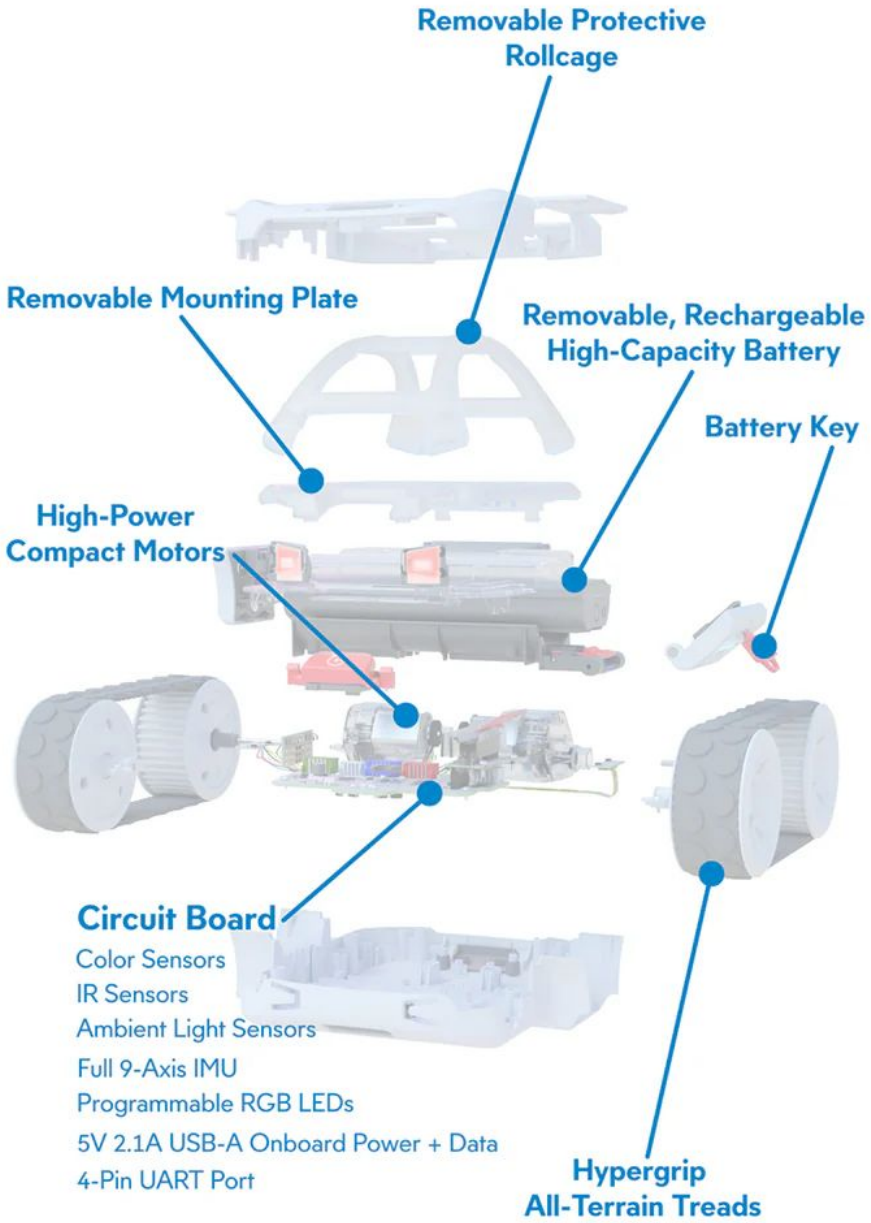
Meet Your Robot

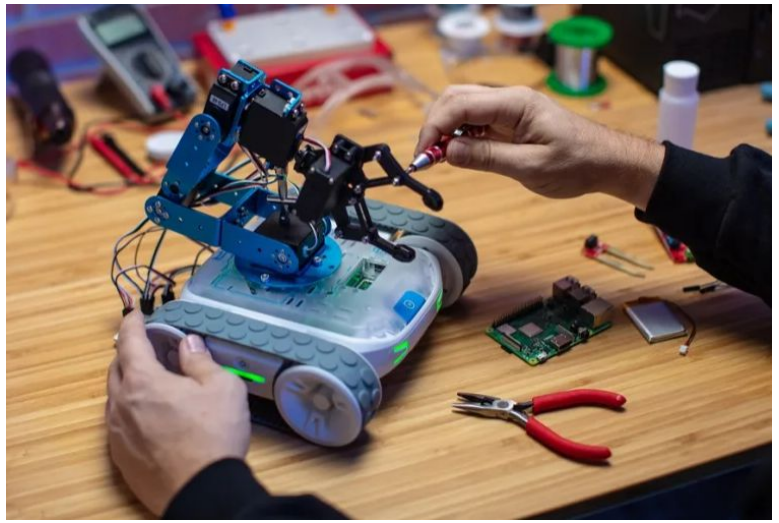
Take a look at your
Sphero RVR+

Can you identify:

- Power button
- Wheels
- Battery compartment
- Sensors
- Lights

Meet Your Robot





Robot Safety Rules

Keep robots on the floor

Keep fingers away from wheels

Stop robot if it is out of control

Carry robots carefully

Only run programs when area is clear

Explore

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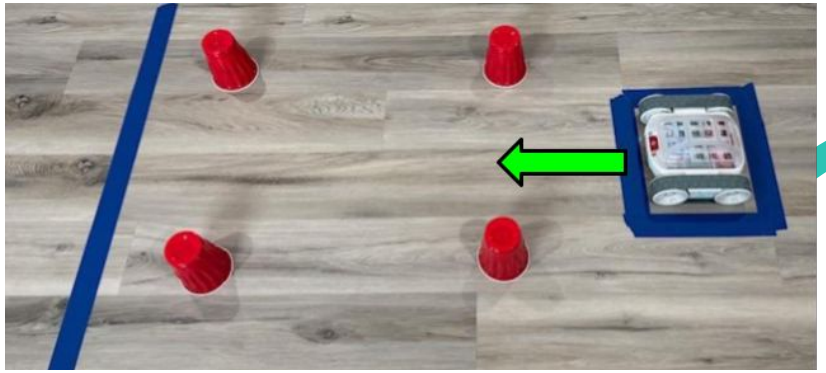
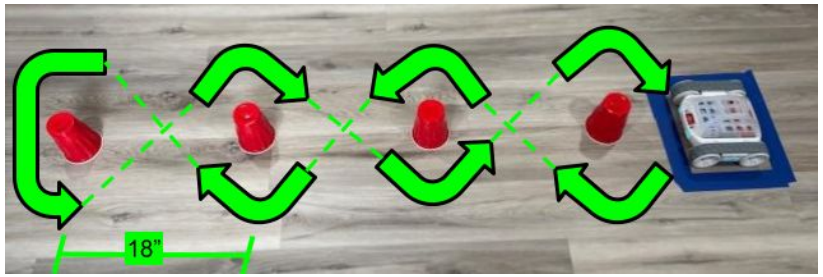
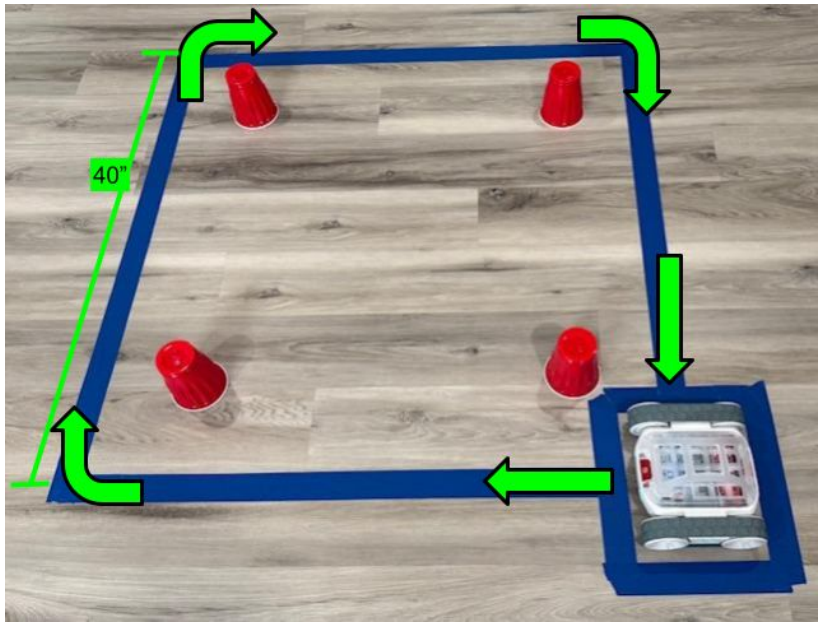
Training Courses



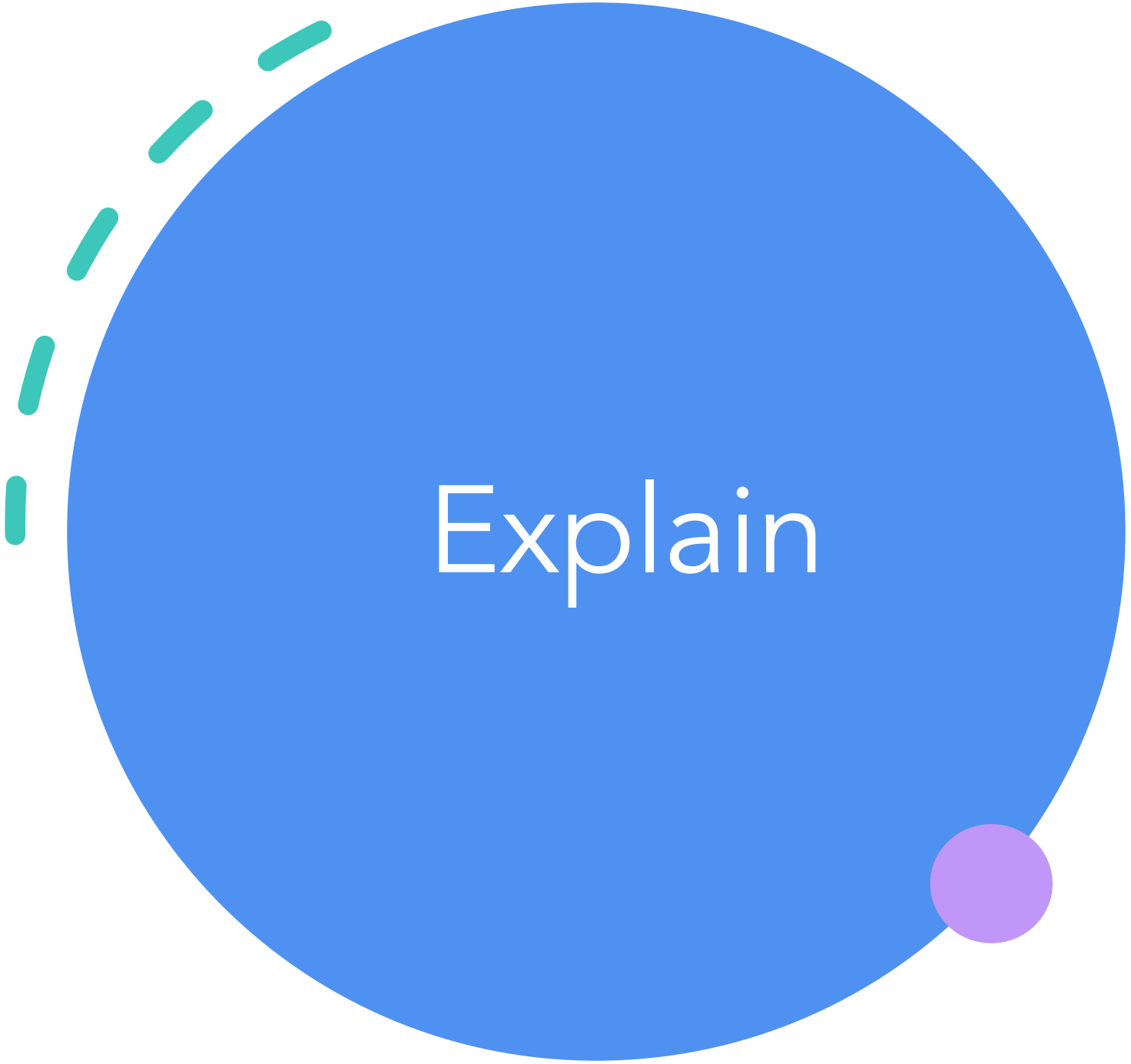
Stop on a Dime



Slalom



Perfect Square


Explain

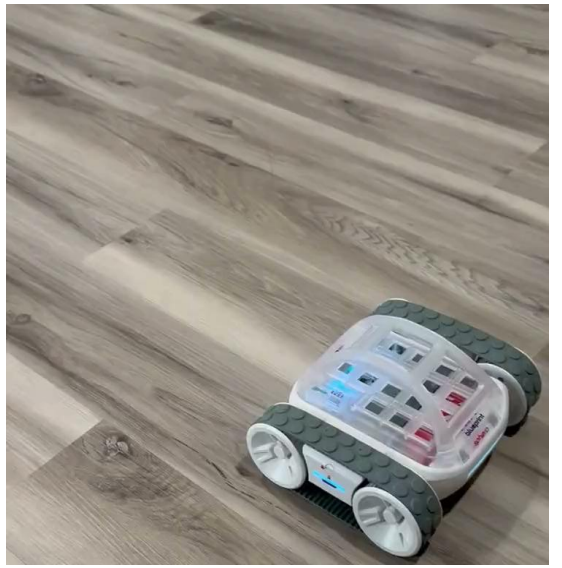
Manual Driving

Was it easy to drive perfectly?

Did the robot always do exactly what you wanted?

Would it be easier if the robot could drive itself?

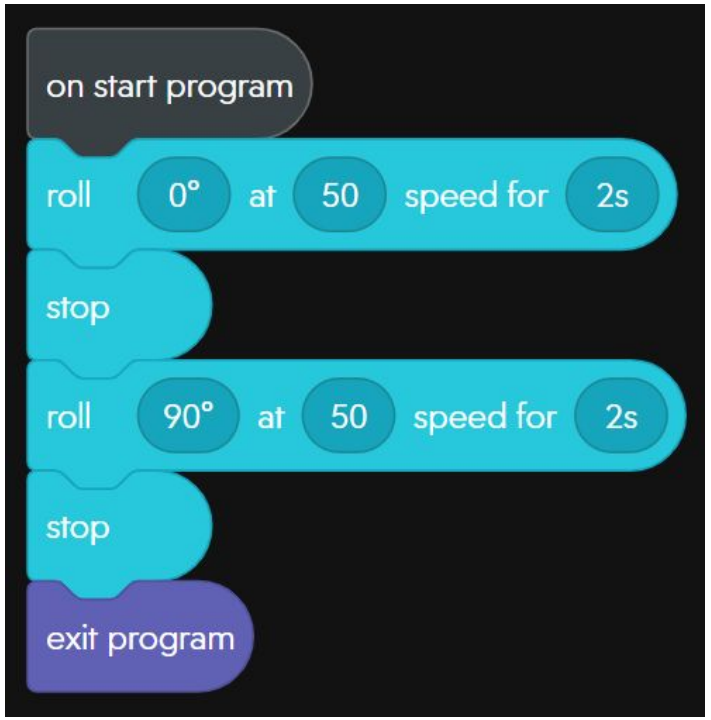
Program



A **program** is a set of instructions that tells a robot what to do.

Example:

- Drive forward
- Stop
- Turn right
- Drive forward
- Stop



Uploading a Program to RVR

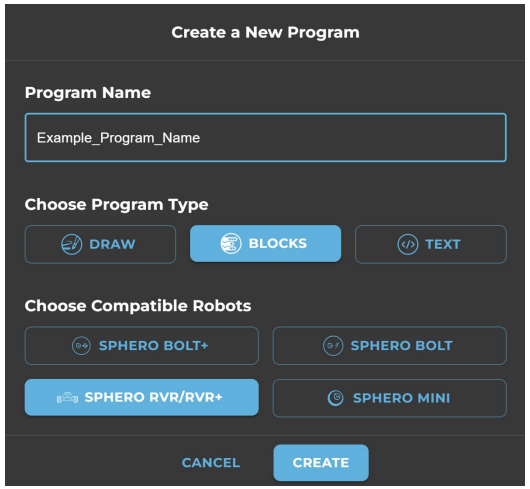
Create a new program

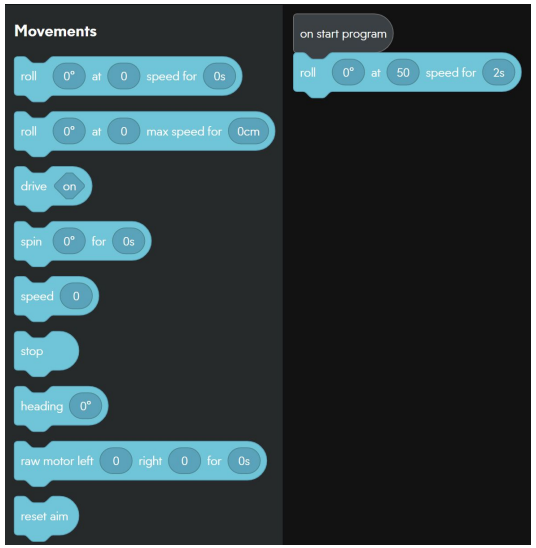
Choose settings for new program: name, blocks, and RVR

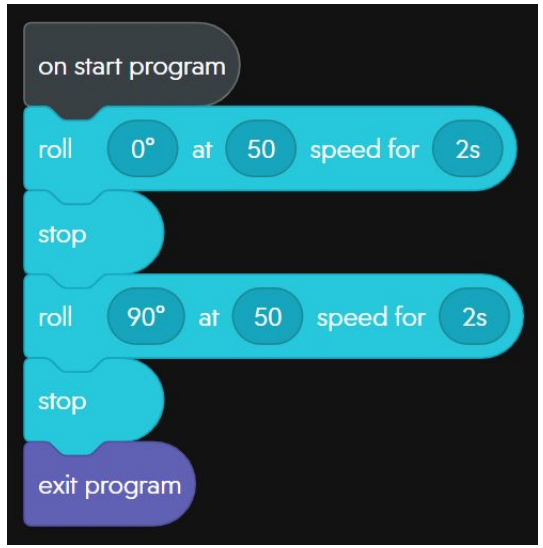
Pull blocks from the left into your program screen

Continue until your program is complete

Click start to upload to RVR







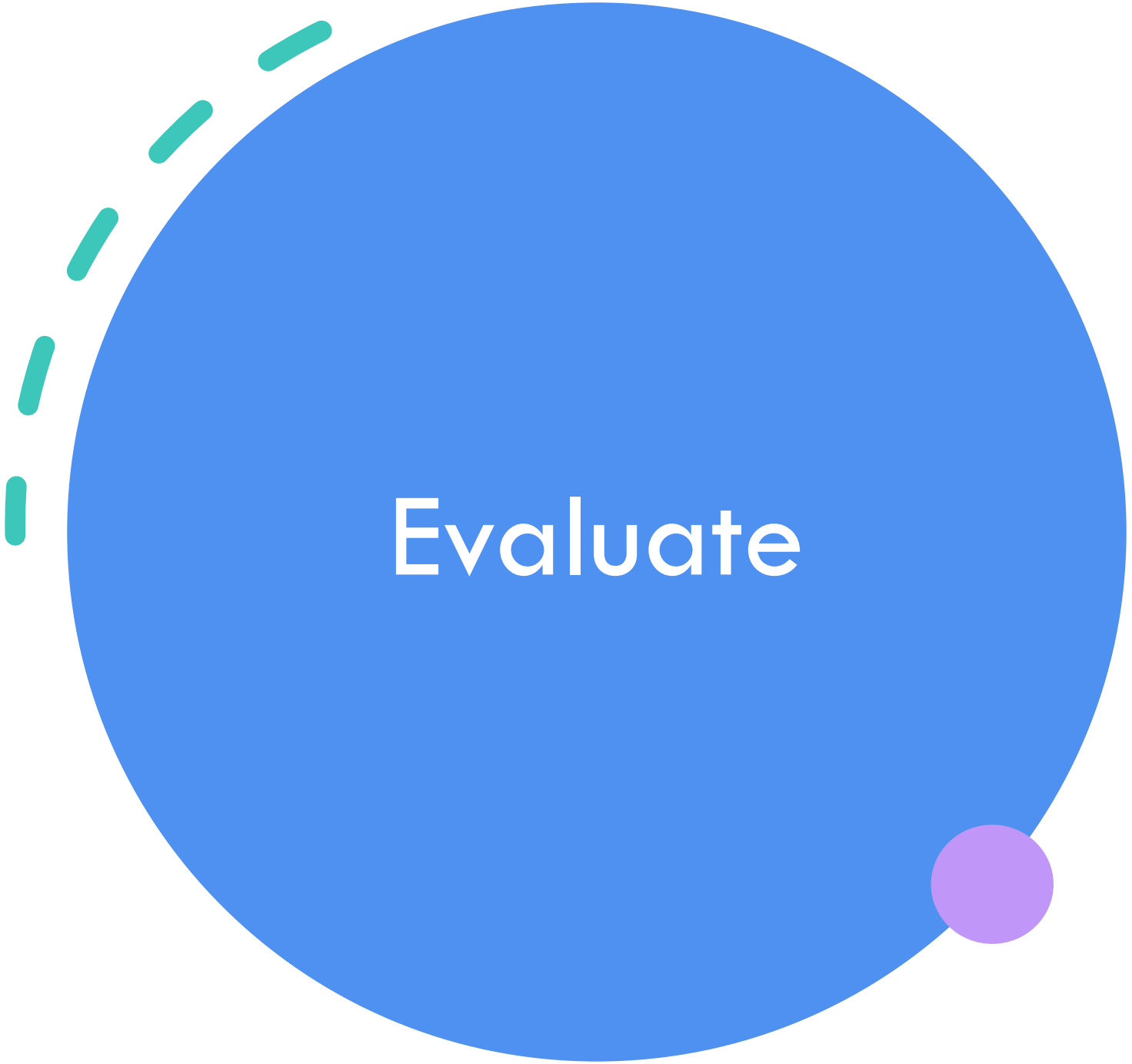
Elaborate

Startup Sequence

Rules & Requirements

- ❑ Turn lights on
- ❑ Drive forward
- ❑ Make a sound
- ❑ Flash lights
- ❑ End program

Done with your startup sequence? Add more to your program!
You could make the robot dance on startup, or add a few turns!


Evaluate

Exit Ticket

Now's your chance to show what you learned! Answer the following questions on your Activity Sheet.

1. What is a robot?
2. What is a program?
3. Did your program work perfectly the first time? If not, what happened?

Great Work, Rapid Responders!

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Credits & Attributions

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