

Go Further, Sphero!

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A Link to Remember

DrBrown.link/mcnair

All of the material for this class is available on line.

Connect to Your Sphero

- The Sphero app uses Bluetooth to communicate.
- Open the Sphero app.
- Log in
 - Your user ID is your student number:
s12345678
 - Your password is also your student number

Connect to Your Sphero

- Click the “Connect” button.
- The robot number to connect is on the pink sticky note on your desk.

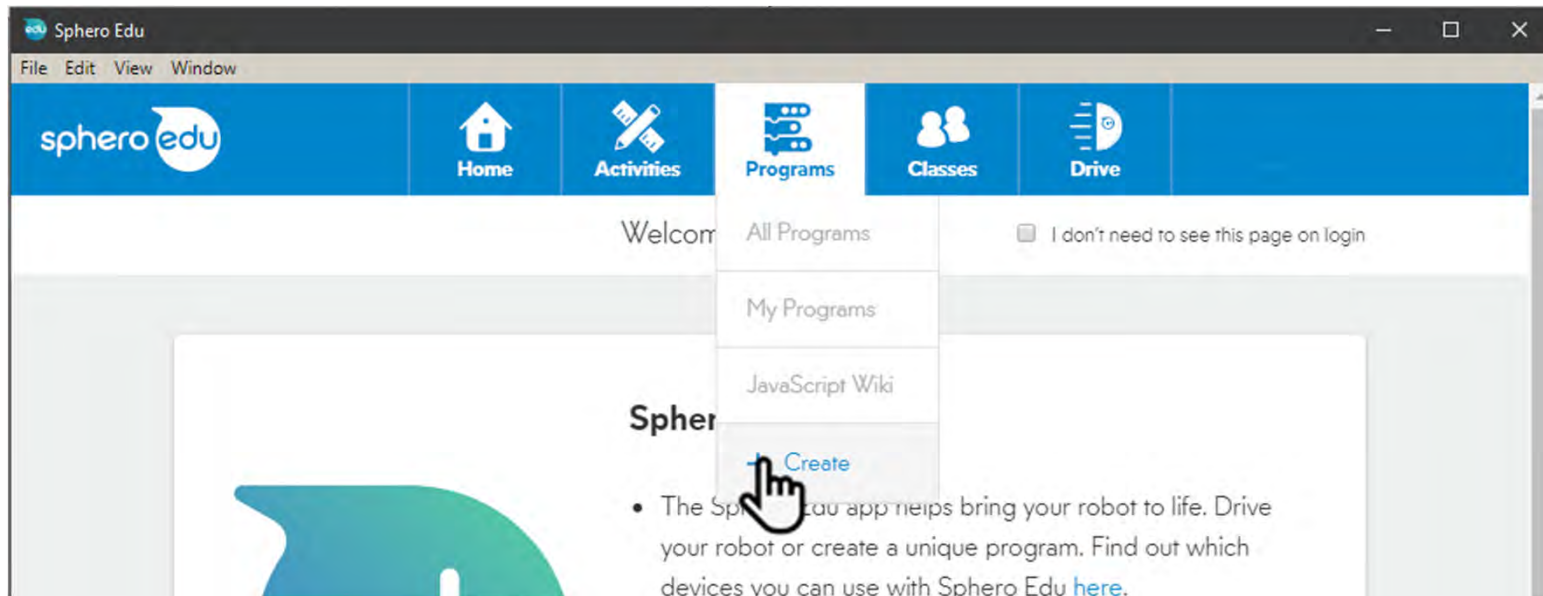
How Fast is Sphero ?

Algorithm:

- When “Start” is clicked:
 - Make Sphero roll
 - Duration 3 seconds
 - Speed 20
 - Heading 0
- Stop

Create a Sphero Program

In the Sphero app, click “Programs” and “Create.”



Create a Sphero Program

Name your program “speed” and click “Create.”

Create a Program

1 Name your program

speed

2 Choose Program Type

Draw Blocks Text

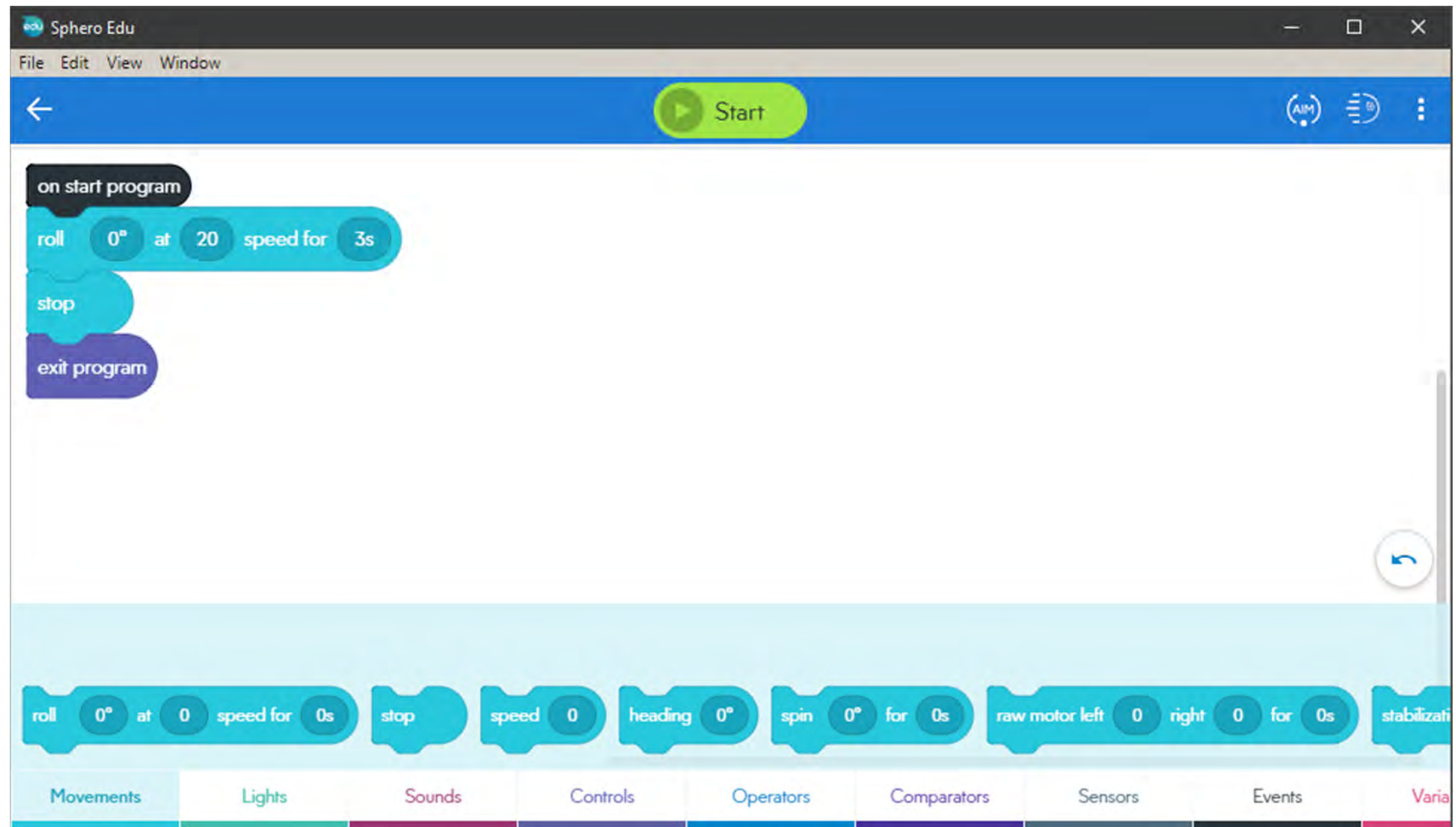
3 Choose Compatible Robots

RVR BOLT Sphero Ollie Mini

BB-8 BB-9E R2-D2 R2-Q5

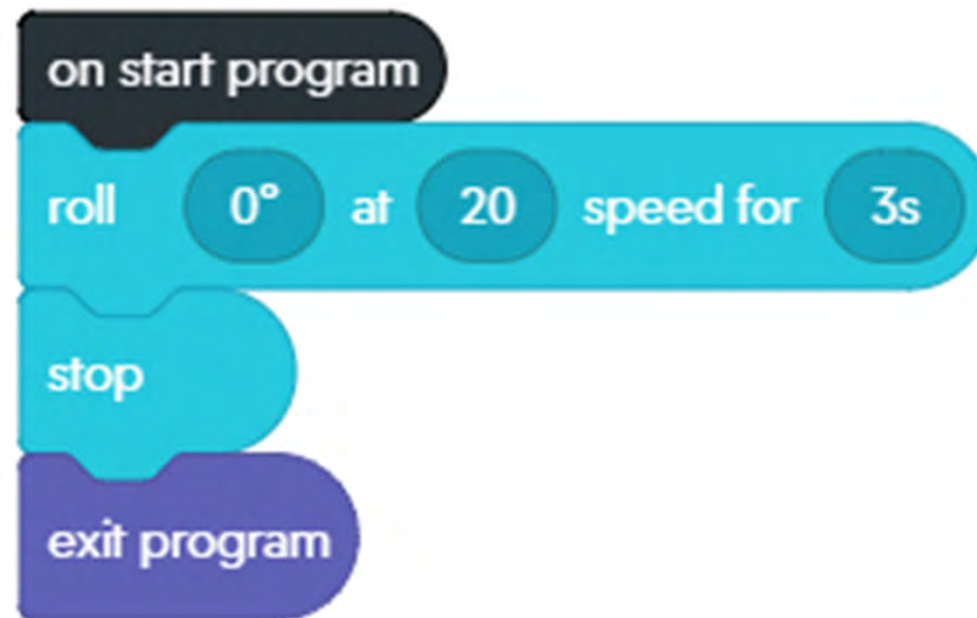
Cancel Create

Your Program !



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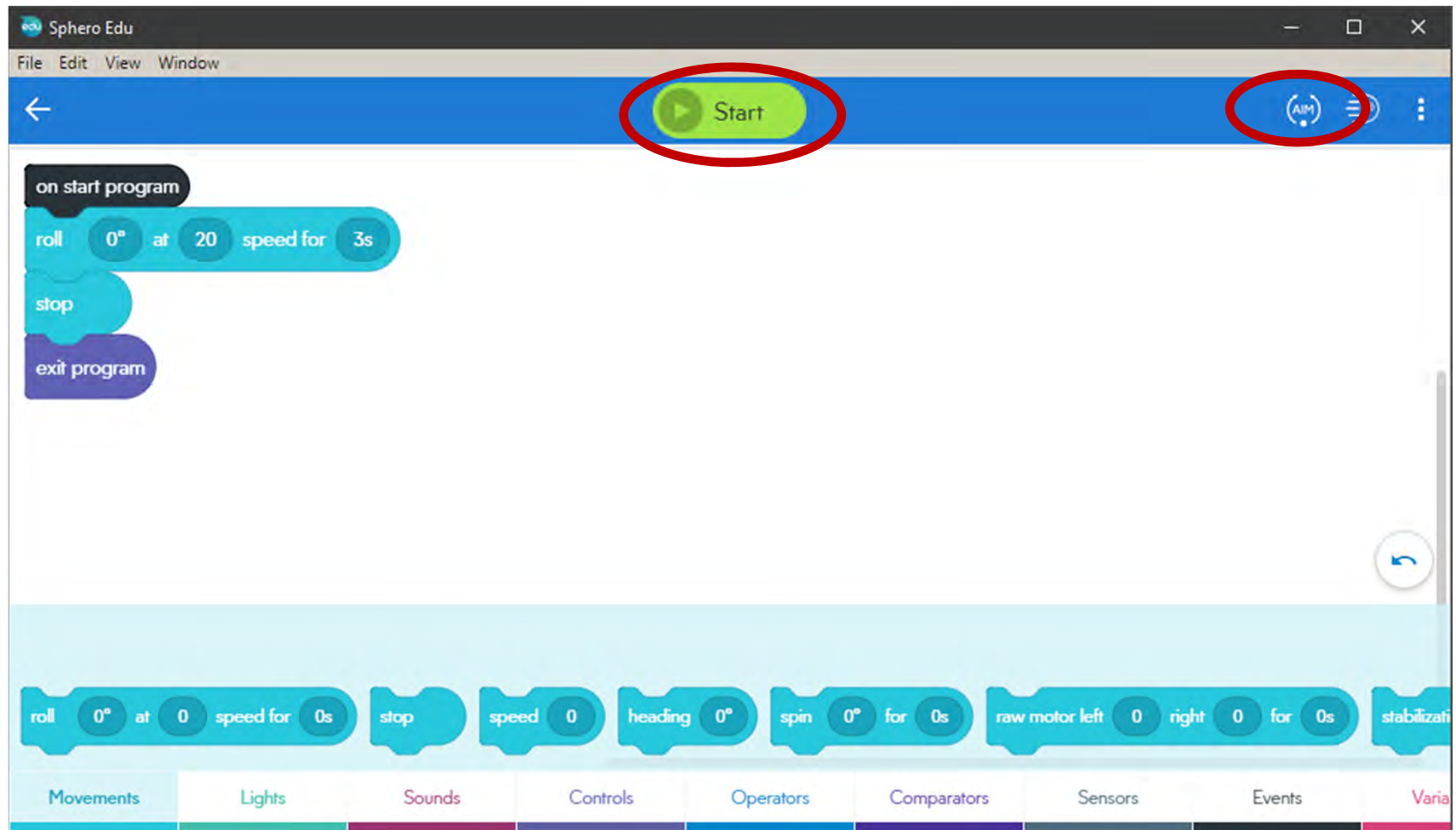
Your Program Bigger



Run Your Program

- Put a tiny bit of masking tape on the floor.
- Place your Sphero on the masking tape.
- Aim Sphero so that the tail light faces you.
- Start your program. Measure how far Sphero traveled.

Run Your Program



Record the Results

- Measure the distance your Sphero traveled.
- Compute the speed in inches per second.

Programming Challenge

- Change the time to 6 seconds.
- How far does the Sphero go?
- What is the relationship to the distance for time of 3 seconds?
- The relationship between time and distance for constant speed is *linear*.

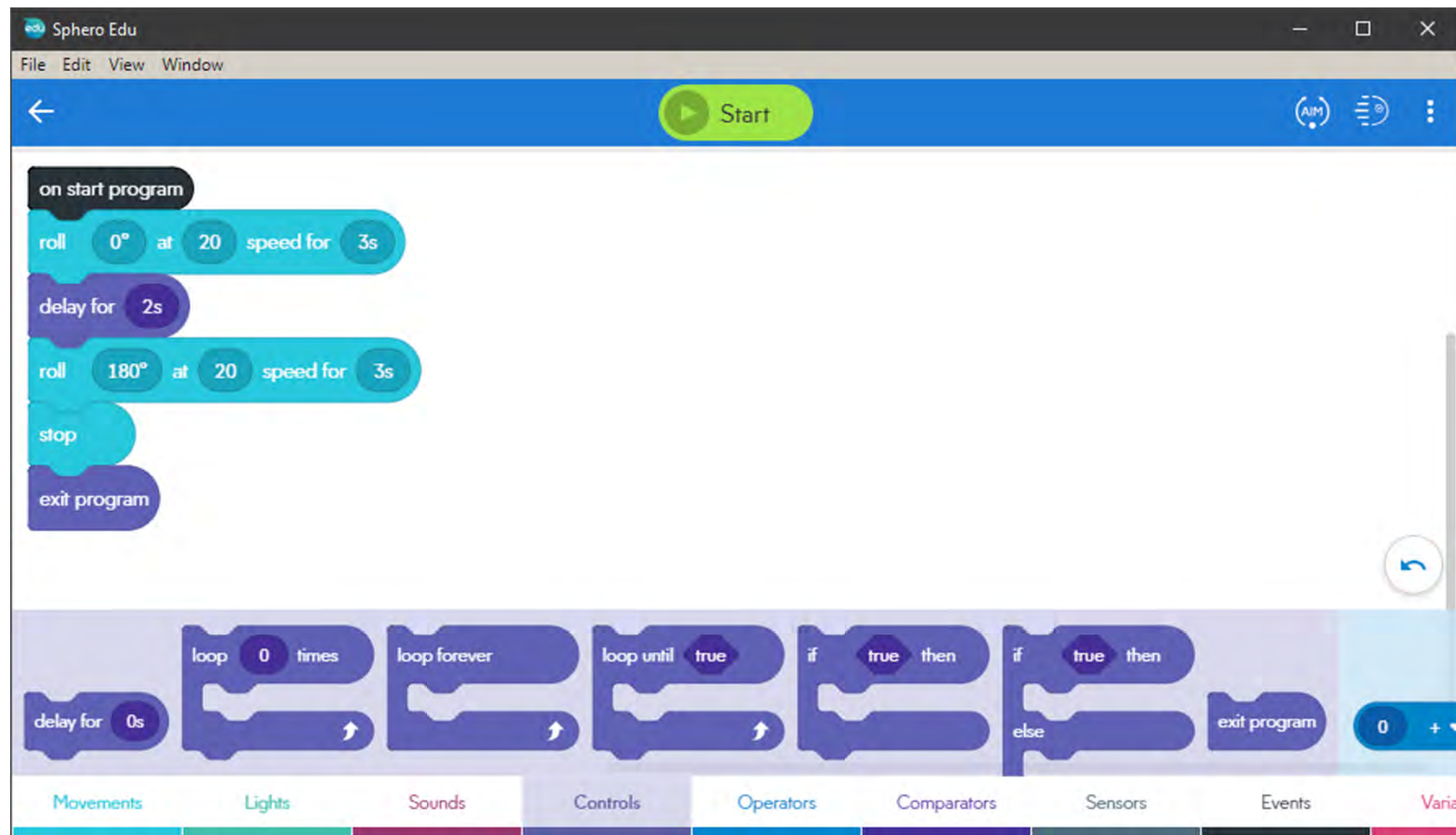
Thought Challenge

- What do you think the distance would be if you left the time at 3 seconds but changed the speed to 40?
- The relationship between distance and speed for constant time is *linear*.

Programming Challenge

- Can you make your Sphero go out and come back?
- Hints:
 - The opposite of 0 degrees is 180 degrees.
 - You need a short delay after the “Stop” when your Sphero is heading away, then use another “roll” command to make it come back.
- Test it!

Making Your Sphero Come Back



Explore a Little More

- Your program is ready, but let's explore!
- Right click on one of the blocks in the program area. What happens?
- Right click on one of the blocks in the band at the bottom. What happens?
- Click the different colored words along the bottom of the screen.
- Left-click one of the blocks in the band at the bottom and slide left or right.

Go Further Sphero

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