CREATED BY: JAVABOTS

How to Putt a Sphero

WITHOUT HITTING IT

ENGLISH

YOUR PERSONAL GUIDE TO SPHERO MINI

TABLE OF CONTENTS

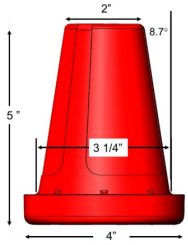
INCLUDED IN KIT:

This Packet

Charger

1 Golf Sphero Mini

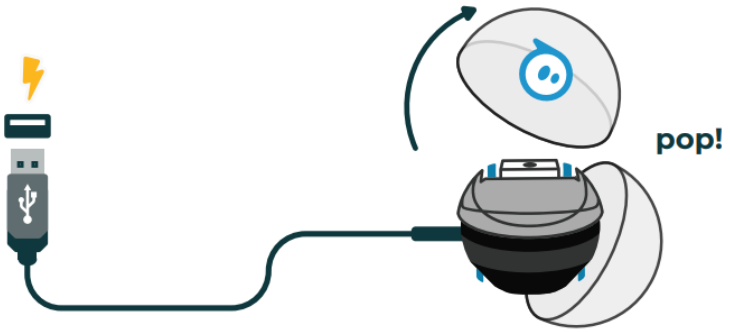
1 Roll of Tape



2 Cones (1 blue/1 red)

GETTING STARTED

Charging:



1) Remove plastic shell
2) Plug into a power source using the provided USB charging cable
3) Store the casing in the kit container to avoid loosing

Set-up:

The Sphero Edu App is compatible with/ can be dowloaded at:

App Store (ios)	Fire OS (Kindle)
App Store (macOS)	Google Play (Andriod, Chrome)
Windows (Downloads)	Windows (Microsoft Store)

1) Download the Sphero Edu. app onto your device
2) Open the app to Create an account
3) Make sure Bluetooth is enabled
4) Connect to your robot by clicking the sphero icon in the top right corner. Make sure to select “Sphero Mini.”

5) Connect via Bluetooth by choosing to connect to your specific Sphero

Hint: Your Sphero’s name/number is:

6) Make sure to hold the robot near the device

Yay! You are connected and ready to begin!

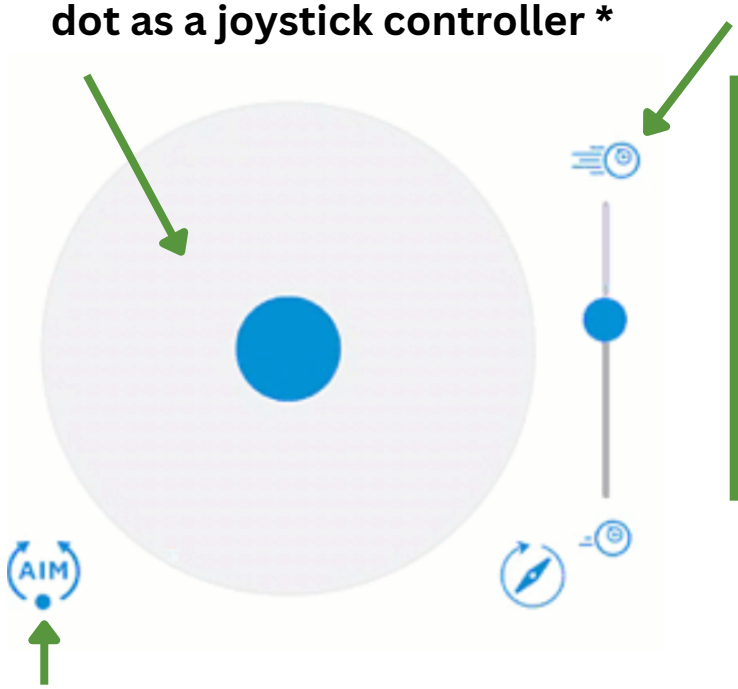
MANUAL DRIVE

How to Drive your Robot:

ENTER THE "DRIVE' TAB

*Drag the blue dot to the outer rim of the grey circle - the robot will change directions depending on where the blue dot is, use the blue dot as a joystick controller *

Adjust speed by sliding the smaller blue dot along the line. (up = faster, down = slower)



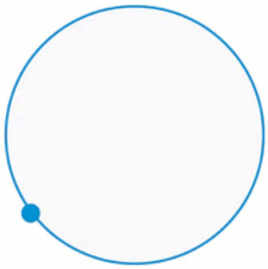
Notice: Can you tell what the front and back of your Sphero is? No, Right? It is just a sphere. How does your robot know what is forward or backward? It doesn't! You need to tell your robot what is the front vs the back! You need to aim it!

How to Aim your Robot:

Before you start driving, follow these steps to aim your robot:

1) Place your robot on a smooth surface with room to move (preferably the ground)

2) Click the "aim" button in the bottom left corner, under the driving controls



A blue LED light should light up on your sphero, as well as this blue outline of a circle should appear on your device screen

3) Move the small blue dot along the circumference of the circle that appears, and watch what happens to your robot. Does it spin around?

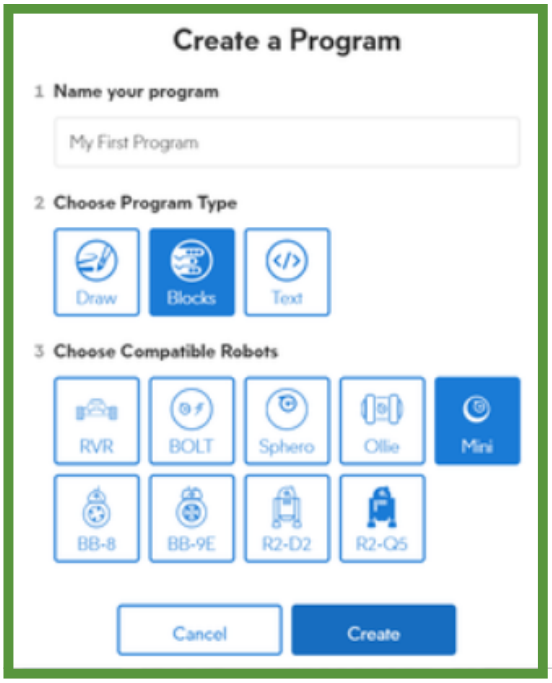
4) The blue LED light indicates the "back" of the robot, move the dot on your device until the blue LED light is facing you!

Remember: If you change locations, you must re-aim so your robot isn't confused!

BLOCKS PROGRAMING

Creating a New Program:

ENTER THE "PROGRAMS' TAB



1) Click the "New" or "Create" button in the "Programs" Tab

2) Choose "Blocks" for the Programs Type and "Mini" for the Robot

WHAT IS A PROGRAM?

A program is a set of specific instructions sent directly to your robot. Think of how you make a peanut and jelly sandwich: First, open the bag, then take out 2 slices of bread, open the peanut butter and jelly, spread the peanut butter and jelly on the bread using a knife, and finally place the bread together with the spreads in the center.

Important to Remember:

-> Your Robot will only do what you specifically tell it to! If you leave out a step (ex: turning) the robot will not function like you want it to.

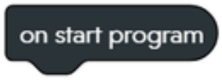
-> Before any trial of your program, you must re-aim your Sphero. The "aim" button is located in the blue bar at the top of your program. Specific Instructions on how to aim is located on page 2 of this packet.

-> Think of your program blocks as lego pieces, they must be connected to work.

Knowing Your Workspace:

This is the Start Button. Click this on your device to run your program! You can find it at the top of your workspace.

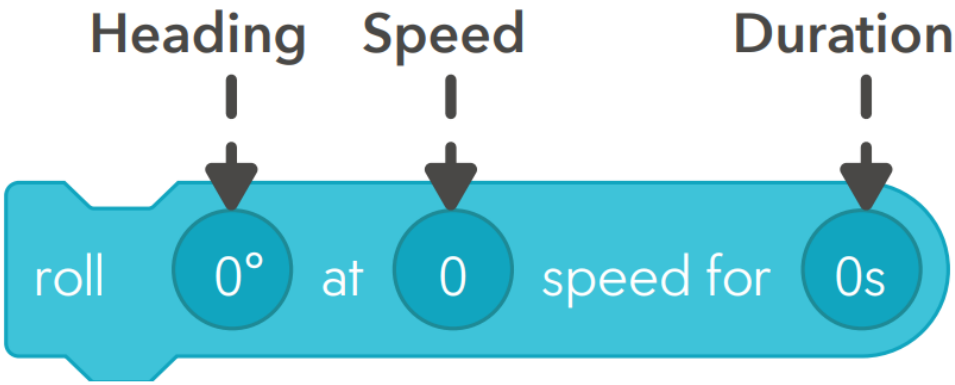
This is the "on start" block. It is the first block of your program. It tells the robot that the actions following this block should occur when you press the green start button. The following blocks must be connected to this block. If they are not, the program will not be sent to the Sphero



Located at the bottom of your workspace, you will find tabs for different types of blocks! We will be covering blocks from the first 4 tabs!

NOW YOU ARE READY TO START PROGRAMMING YOUR SPHERO!

BASIC MOVEMENTS



This is your basic "roll" block. It is how you will move forward, backward, and side to side. There are 3 inputs:

Heading	Speed	Duration
Controls direction (in degrees)	Controls how fast the robot is moving	Controls how long robot is moving (in seconds)

Distance is determined by both Speed and Duration

To help you determine what the Heading should be, place the reference circle over your Sphero with the blue LED light facing the 180° marking.

From there, place the angle measurement that corresponds to the direction you want to move in into your Heading imput.

NOW THAT YOU KNOW HOW TO MOVE FORWARD AND TURN...

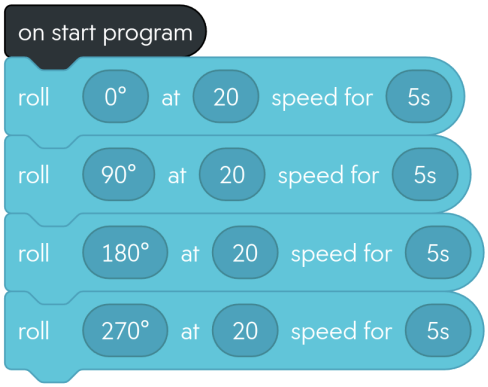
Let us try to code a square!

Think about the steps to a square:

1) Move Forward
2) Move Right
3) Move Backward
4) Move Left

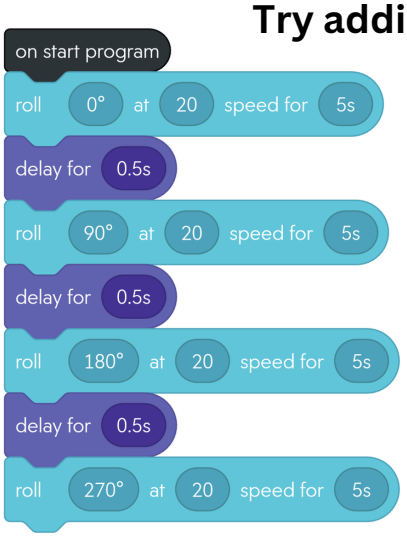
PRESS START AND SEE WHAT HAPPENDS!

You have 4 steps, so you should have 4 blocks!



BASIC MOVEMENTS

Notice how the Sphero's path is rounded when it turns?
Try adding a "delay" block. Like this:



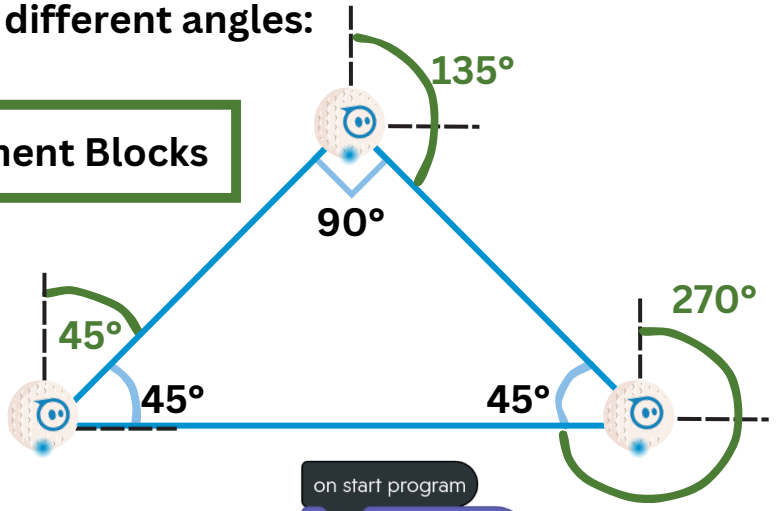
The delay doesn't have to be very long, 0.5 seconds will do the trick, but it helps your robot have sharp turns! You can find this block in the "Controls" Tab.

PRESS START AGAIN, DO THE TURNS LOOK DIFFERENT?

REMINDER | **Re-aim your sphero before you press start, especially if you pick up your robot, changing its orientation**

Let us try to code a triangle!

Think about the steps to a triangle, if it makes it easier, you can draw out the shape noting different angles:

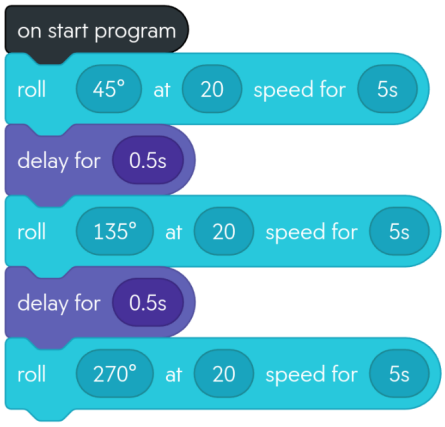


Steps:

1) Move 45°
2) Move 135°
3) Move 270°

3 Steps = 3 Movement Blocks

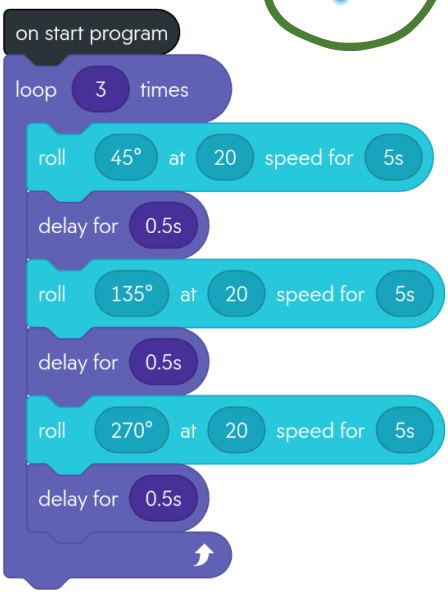
Check your code:



WHAT IF YOU WANT YOUR ROBOT TO TRACE OVER THE TRIANGLE MULTIPLE TIMES?

Add a loop block!

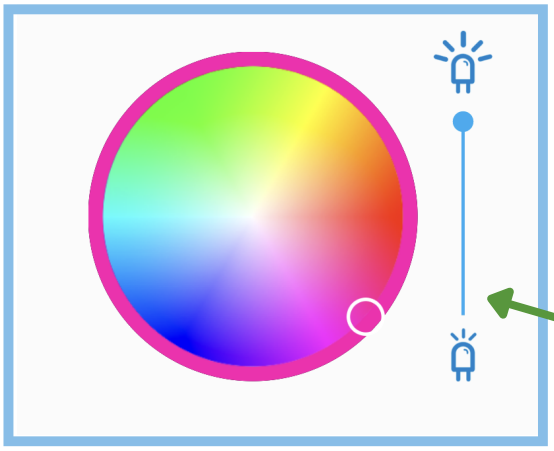
When you add this purple loop block around your code, it will repeat the lines for the number of times you indicate!



LIGHTS / SOUNDS

ENTER THE "DRIVE' TAB

Manual:



While controlling your Sphero through manual drive, you can change the color through this color pallet above the drive stick. Move the white circle to to color/shade you want!

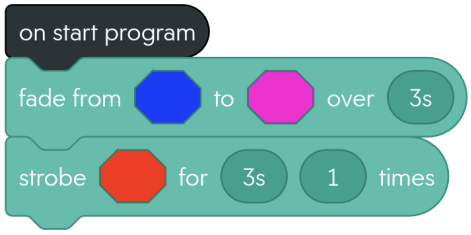
Controls brightness of color

ENTER THE "PROGRAMS' TAB

Blocks:

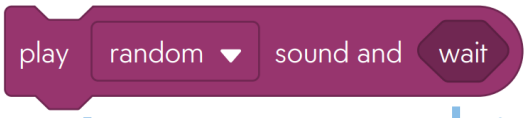
YOU CAN ALSO CHANGE THE COLOR OF YOUR SPHERO DURING YOUR PROGRAM:

Find these blocks in the Light and Sound tabs!



Allows you to change the color of your Sphero mini gradually through the designated amount of time.

Tells your Sphero to flash a certain color,



Used to play noise from your device during the code!

Choose from Sphero Library

There are two settings:
1) Wait: Sound plays while the robot code is paused
2) Continue: Sound plays while next blocks are followed out

What to do now? MORE!

Once you have mastered the blocks described in this packet, I recommend you play around with other blocks!
The Sphero Edu App comes with so many different resources and lessons, all that can be found in the "home" tab!