

Jungle Blocks



That was close! Good thing you found that shortcut. It looks like whatever was chasing you and Sphero gave up. Wait...hold still. What's that sound? It sounds like all sorts of wild animals. Can you make out which ones?

In this activity you will learn how to use loops, conditionals, and comparators to create a random sound generator called Jungle Toss.

LEARNING OBJECTIVES:

- I will learn to use the If/Then condition.
- I will learn how comparators work in a program.
- I will start to understand the uses of the accelerometer and g forces.
- I will learn how to add comments to their programs to help others understand their work.

Tags: coding comparators accelerometer block coding if then, else
loop forever hour of code

Grades: 1 to 6 | **Duration:** Up To 1 Hour

Step #1: Exploration - Animal Overview

Great work on getting through the shortcut. You and Sphero now find yourself deep in the jungle surrounded by all sorts of animals sounds.

You will use the Blocks Canvas and Sphero to create a random animal sound generator to help you learn to identify some of the many animal sounds you hear around you in the jungle.

Watch the video below to get started. Time to see what Sphero can do besides roll around on the ground.

YouTube video: <https://youtu.be/8HnolO64yvs>

Educator Tip:

Print off the Toss Game.pdf for students to use during the animal game at the end of this lesson. It will help them know which animals they can choose from.

Step #2: Skills Building - Initial Logic

This next video will walk you through some initial programming logic.

You will learn about:

- Stabilization
- Speak Blocks

YouTube video: <https://youtu.be/6p9S0wkflV8>

Step #3: Skills Building - Conditionals (If/Then, Else)

Now it's time for the fun stuff. Watch the next video to learn how to use:

- Loops, particularly Loop Forever
- Conditionals, particularly If/Then, Else
- Sensor data in a program

Take a glance at the sensor data to better understand what the accelerometer measures. Any change in acceleration is going to be recorded in G-forces. *Where else have you heard about G-forces?*

YouTube video: <https://youtu.be/ESaR5dYu2Ew>

Educator Tip:

Have your students explore the accelerometer sensor data and have them answer the following questions:

- *How do you get Sphero to accelerate over 3 Gs?*
- *When Sphero is at rest, Total Gs shows 1 G. Why is that?*
- *How could you keep Sphero consistently at 3 Gs or higher?*

Step #4: Skills Building - Animals!

Let's wrap this program up. Watch the next video to learn how to complete the condition statement and add the logic to random animal sounds each time Sphero is tossed.

YouTube video: <https://youtu.be/yTWxH0xsJul>

Step #5: Challenge - Play Jungle Toss

As you continue exploring the jungle, you need to be able to identify the animals you hear to avoid heading somewhere you shouldn't.

Grab your toss game animal sheet and look over the animals that you might hear. Get with some friends and play the game. The video below will explain how Jungle Toss is played.

YouTube video: <https://youtu.be/lb8YZa3r0il>

Step #6: Extended Challenge

You have successfully built a program using the conditional If/Then, Else. *What other ways can this be used?* Think of some other examples of conditionals that you could use in a program. If you are struggling to come up with some ideas, think of real-life conditionals like:

- If I touch a hot stove, then...
- If I eat too much candy, then...
- If I exercise regularly, then...

You could probably come up with an endless number of examples like this. Think of how Sphero interacts with the world around it and how you might create conditionals in a program.

Open up a new Blocks Canvas and give it a try. See what you can come up with.

Educator Tip:

You might want to help your students with this part by asking them to come up with "If/then" statements in their life, for example: "If I do my homework, then my teacher will be happy or else I'll get a bad grade."

Sphero Examples:

- "If Sphero hits a wall, then..."
- "If Sphero is dropped, then..."
- "If Sphero shakes, then..."