

Spheros & Variables

Group Activities



We won't complete all of the following problems.

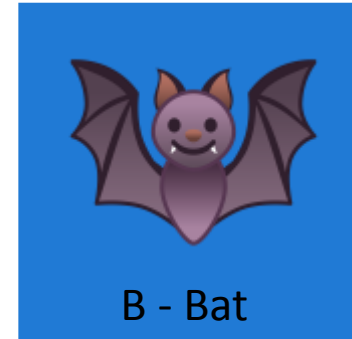
Your group will only complete one or two.

Start with Alligator. After you are done, we will discuss which one you should do next.

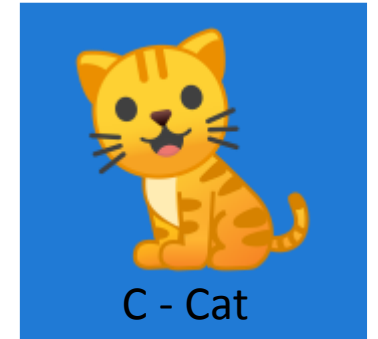
Problem
1



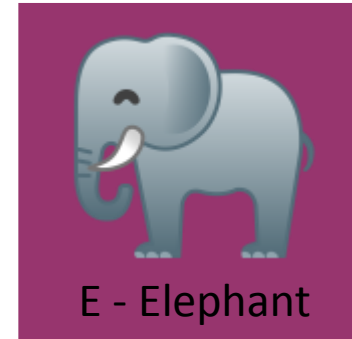
Practice



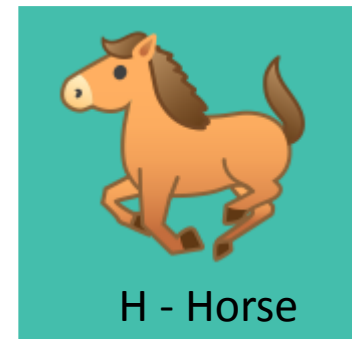
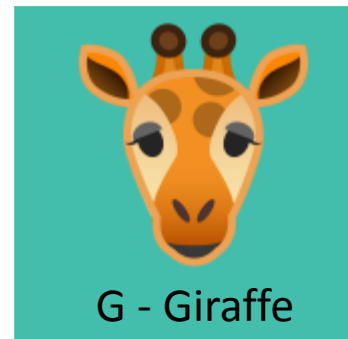
More
Practice



Problem
2



Problem
3



TIPS



J - Jaguar



A - Alligator



In this code, how many bubble sounds are played? Make 2 new math equations using other functions to result in 8 bubble sounds being played.

```
on start program
  set num to square root of 9
  set num to num + 1
  loop num times
    play bubble sound and wait
```



B - Bat

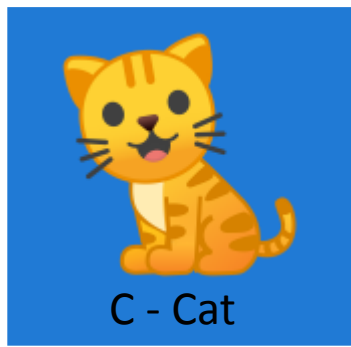


Run this code and figure out what it does.

Make two new math equations that make it run 7 times. Make the colour sequence inside the loop red, green, blue.

Test it on your Sphero.

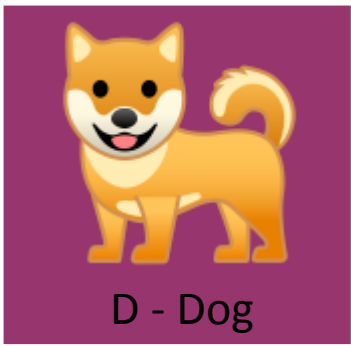
```
on start program
  set num to square root of 9
  set num to num + 1
  loop num times
    main LED [red]
    delay for 2s
    main LED [green]
    delay for 2s
  main LED [blue]
  main LED [orange]
```



Run this code and figure out what it does. (Put the Sphero on the ground first)

Make two new math equations that make it run 5 times. Make the Sphero roll in a zig-zag pattern.

```
on start program
  set num to square root of 9
  set num to num + 1
  loop num times
    main LED [white]
    roll 0° at 15 speed for 2s
    delay for 2s
    main LED [blue]
    roll 0° at 15 speed for 2s
    delay for 2s
  ↑
  main LED [orange]
```



Make the Bubble sounds (or whatever you choose) count up instead of counting down.

Test it on your Sphero.

```
on start program
  set num to 5
  set count to num
  loop num times
    loop count times
      play bubble sound and wait
    set count to count + 1
  delay for 3s
```



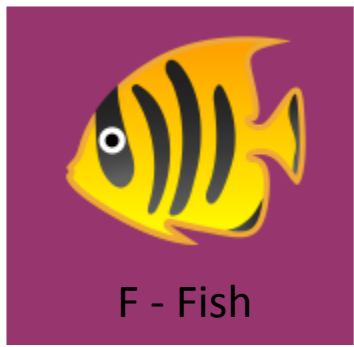
E - Elephant



Make the Bubble sounds (or whatever you choose) start at 12 and count down by 2s.

Test it on your Sphero.

```
on start program
  set num to 5
  set count to num
  loop num times
    loop count times
      play bubble sound and wait
    set count to count - 1
  delay for 3s
```



Make the Bubble sounds (or whatever you choose) start at 3 and count up to 15 by 3s.

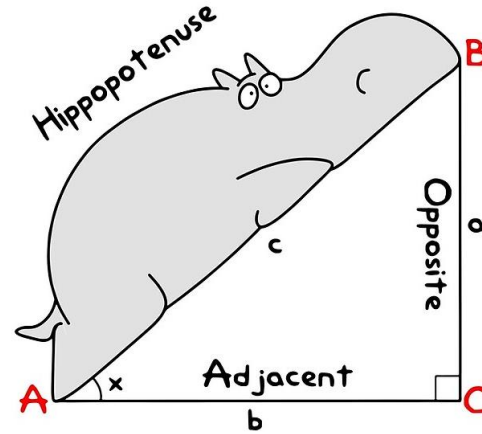
Test it on your Sphero.

```
on start program
  set num to 5
  set count to num
  loop num times
    loop count times
      play bubble sound and wait
    set count to count + 1
  delay for 3s
```



G - Giraffe

Write a program that calculates the size of the hypotenuse of a triangle.



$$c = \sqrt{a^2 + b^2}$$



```
on start program
  set a to 3
  set b to 4
  set c to square root of [?] * [?] + [?] * [?]
  loop [?] times
    play bubble sound and wait
```




H - Horse



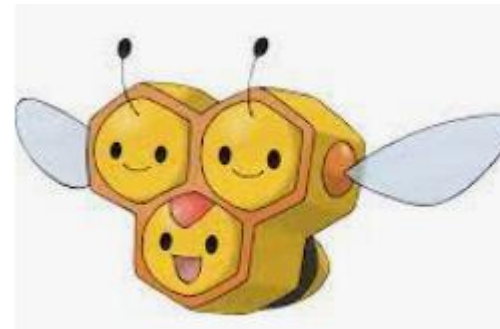
Write a program that counts down from ten and then “blasts off”. You can do this with a loop. You can also start the Sphero moving after the “launch sequence”.

Test it on your Sphero.





Write a Sphero program that creates an hexagon. This can be done using a variable for the angle.



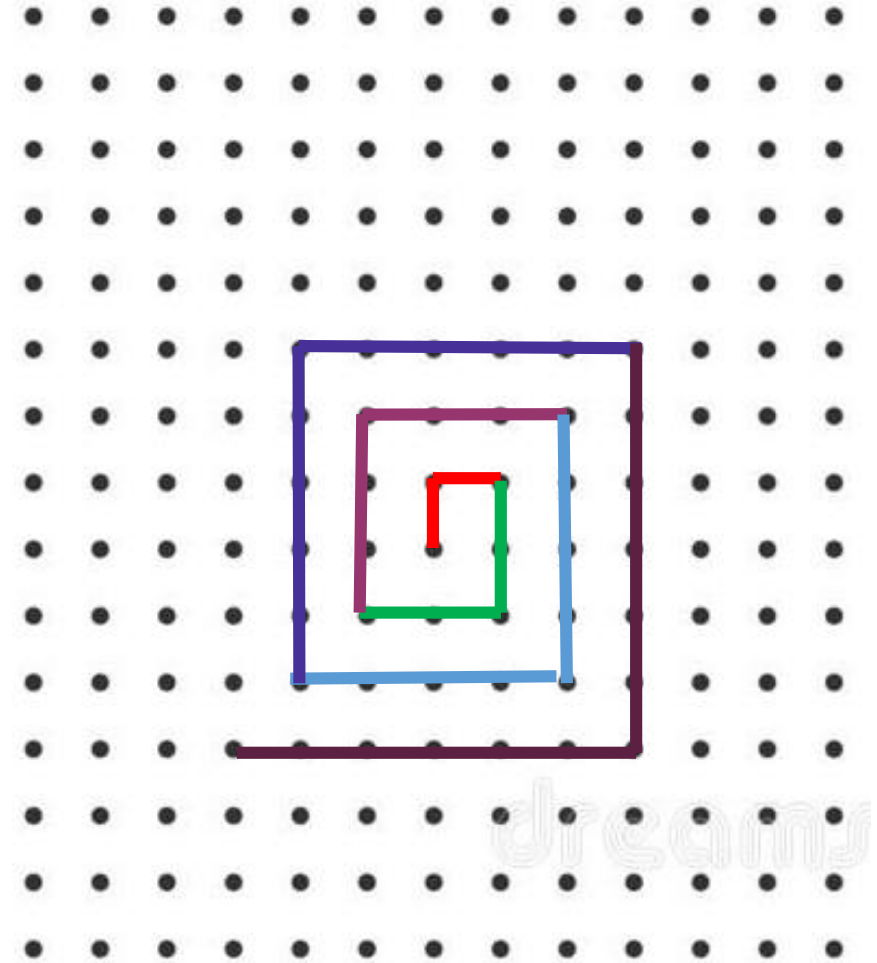


TIPS

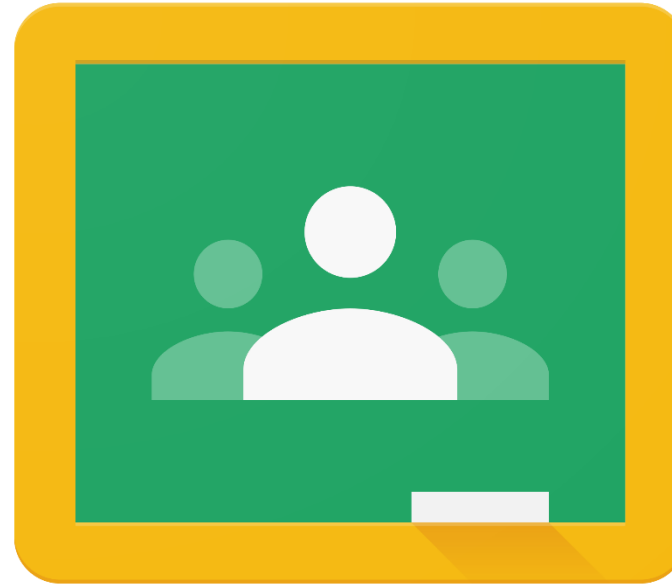
J - Jaguar



Write a program that allows the Sphero to travel in a spiral pattern like this Anishinaabe basket.



When you are done,
there are check-your-
understanding
questions on Google
Classroom.



Google Classroom