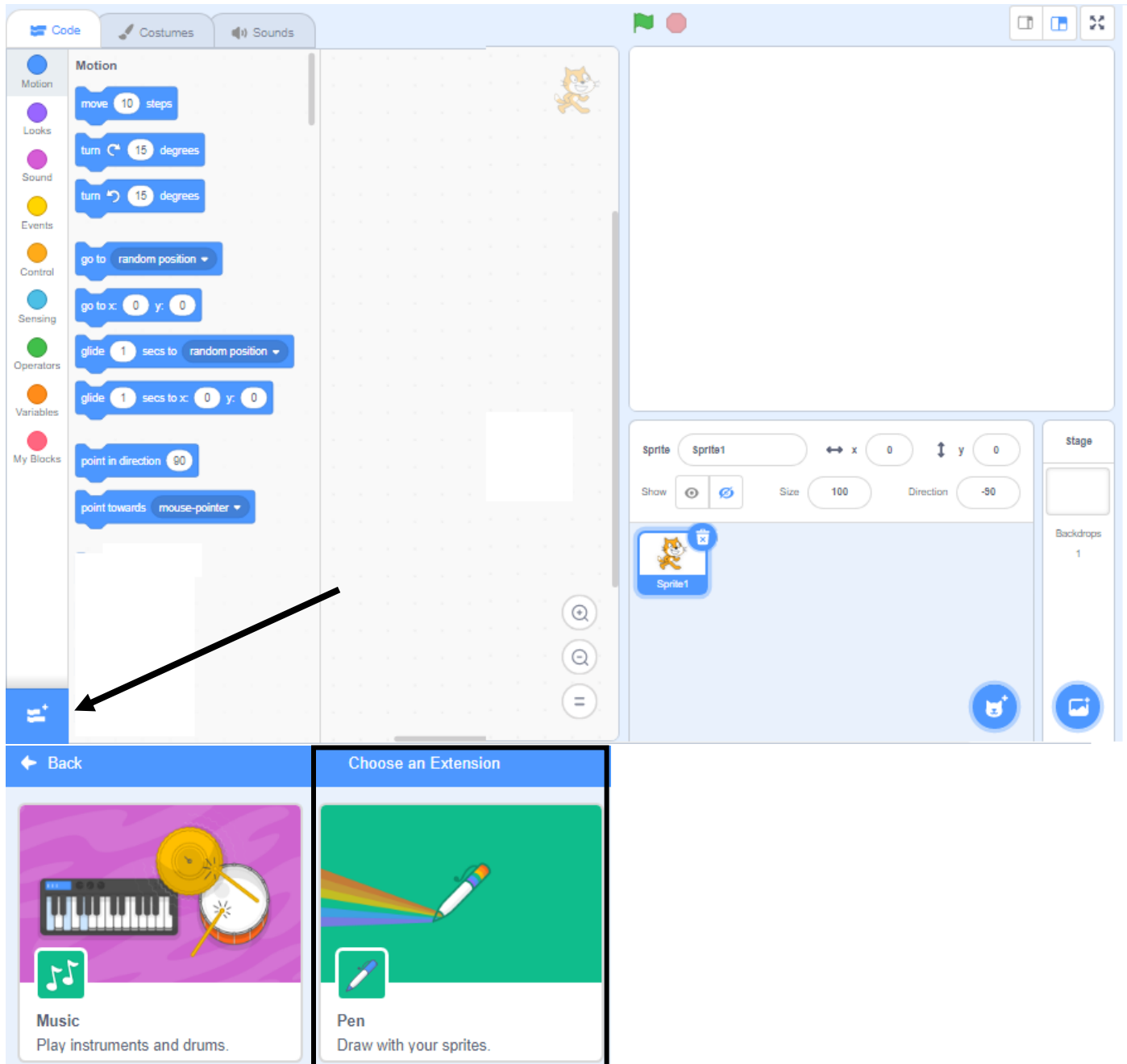


## Scratch Geometry - Squares

In this lesson you will use move and turn Motion blocks and Pen blocks to draw squares on the stage. This will require you to draw upon your math and geometry skills.

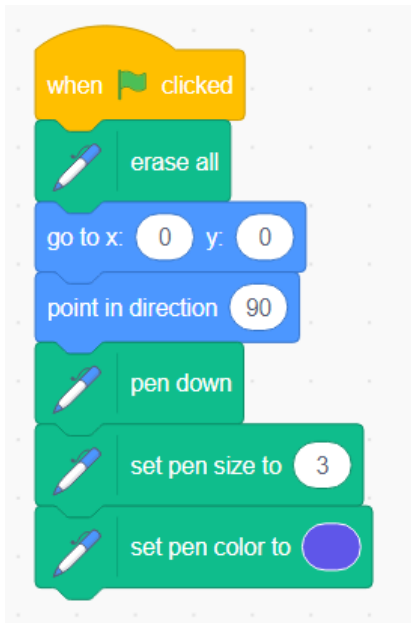
1) Go to the Extensions and click to add the Pen blocks menu.



2) Choose a sprite (a character). Resize your sprite to about the size of a nickel.

3) Add the following start up blocks.

[Start up blocks get the program ready so that the action blocks can do what they need to do.]



**Not change pen size.** Use **set pen size**.  
You choose the colour.

4) Your challenge is to add more blocks to this code to create a square.  
You will need to use the move block and the turn block to do this.



How many sides does a square have? How many move blocks will you need?  
Make each side of the square 100 steps long.

How many corners does a square have? How many turn blocks will you need?  
You need to make a square. How many degrees should each turn be?

Add your move and turn blocks to create your square.

Test your code.

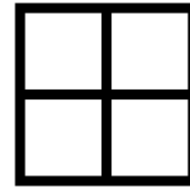
Were you successful? If not, please check your script for errors and try again.

Show Mr. Desmond your code and demonstrate how your code makes a square.  
[One click on the green flag and then a square will be drawn on the stage.]

- 5) Your challenge is to create two side-by-side squares to form a figure eight with straight sides.  
Show Mr. Desmond what you have done.



- 6) Your challenge is to create a large square made up of four side-by-side squares. Your finished design should form a four square grid that is itself a square.  
Show Mr. Desmond what you have done.



- 7) Your challenge is to create a square within a square.  
The two squares cannot be connected so you will need to explore how the pen up block works and when to use it.  
Both squares should be centered in relation to each other.  
Show Mr. Desmond what you have done.

