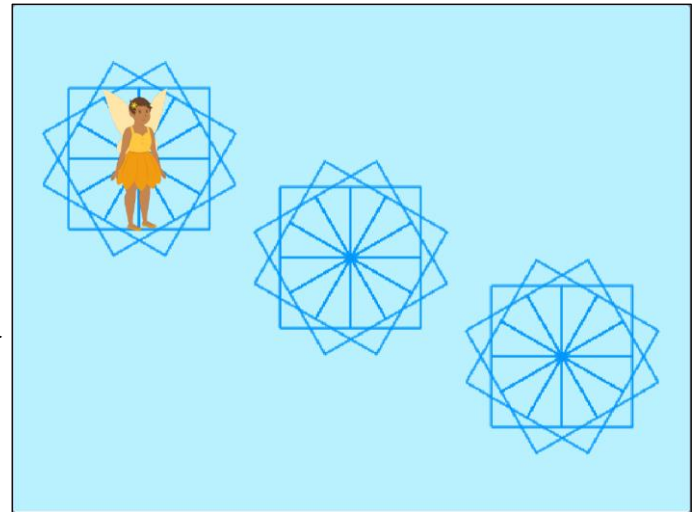


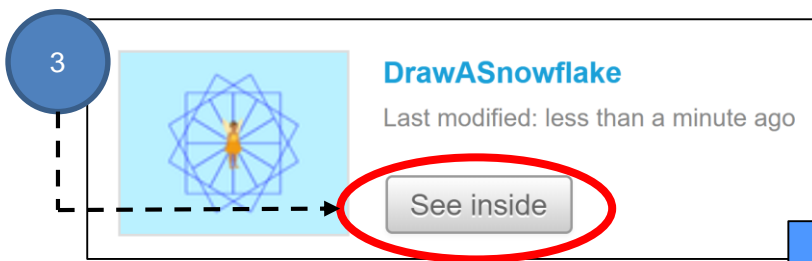
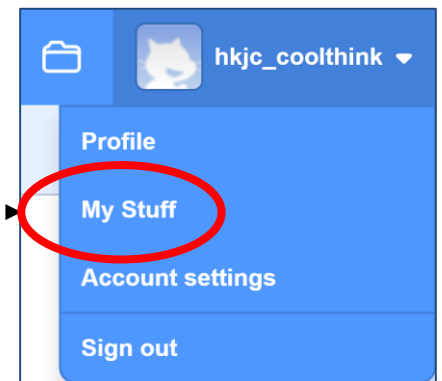
COMPUTATIONAL ARTS WITH SCRATCH

In this lesson, you will learn how to make more snowflakes in different locations on the stage.

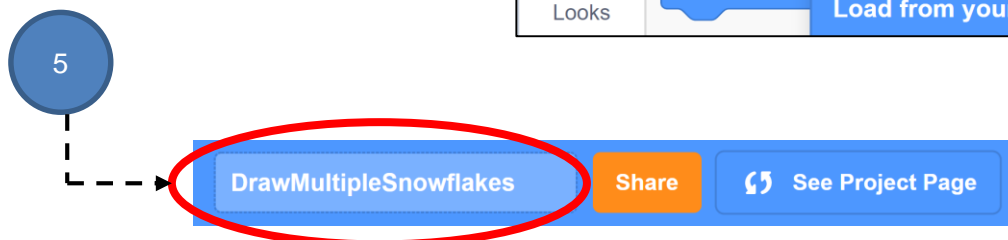
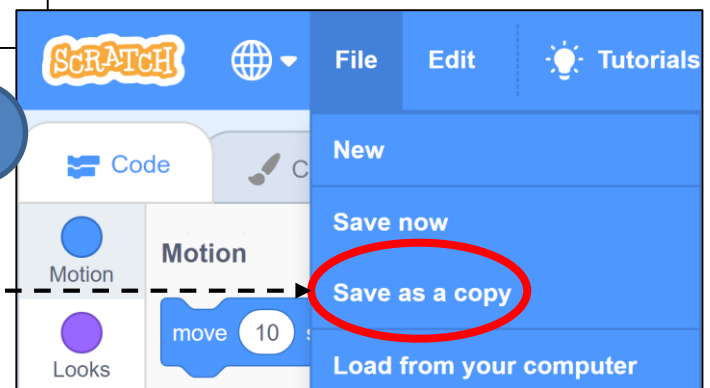


START HERE

- ❑ Sign into your account at scratch.mit.edu. 1
- ❑ Go to **My Stuff** under your name at the right top of the screen. 2
- ❑ Click on the See inside button to open your **DrawASnowflake** project. 3



- ❑ Select **Save as a copy** from the **File** menu. 4
- ❑ Change the name to "DrawMultipleSnowflakes" and save your project. 5

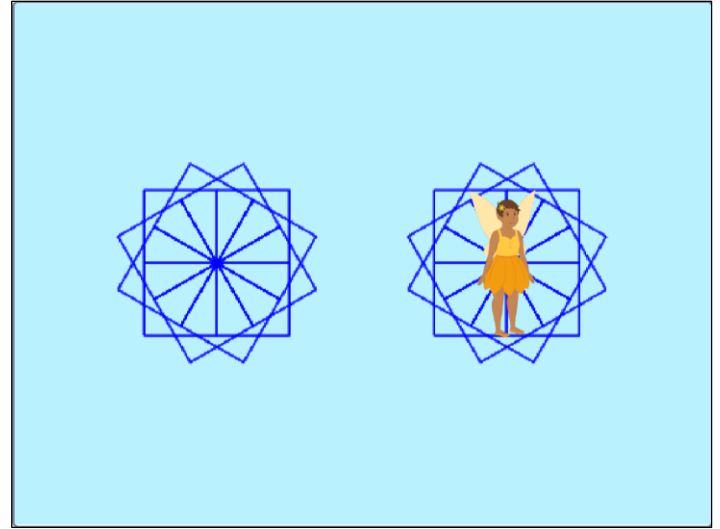


COMPUTATIONAL ARTS WITH SCRATCH

MORE SNOWFLAKES



Do you have any ideas for how to make multiple snowflakes in different locations on the stage?



- To make multiple snowflakes in different locations, we need to move the sprite to a new position before drawing the next snowflake.

What block should you use to change the sprite's position before you start to draw another snowflake?



Why don't you open your project and try it out? Once you finish, please share your findings with the class.

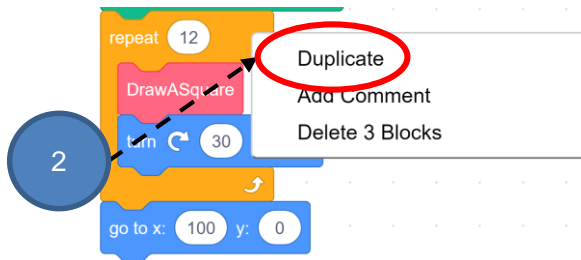
COMPUTATIONAL ARTS WITH SCRATCH

DRAWING MULTIPLE SNOWFLAKES

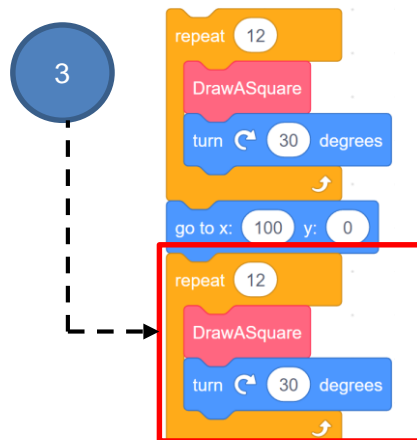
□ How would you draw a second snowflake, once the sprite has moved to a new position?

1. To move the sprite to a new position, drag a **go to x:0 y:0** block from the **Motion** drawer. Snap it to the above blocks and change **x** to **100**.

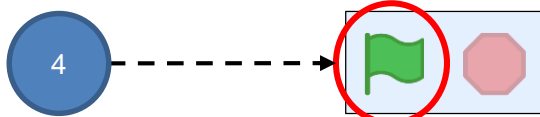
2. Duplicate the **repeat** block that draws a snowflake.



3. Snap the duplicate **repeat** block to the **go to x:100 y:0** block.

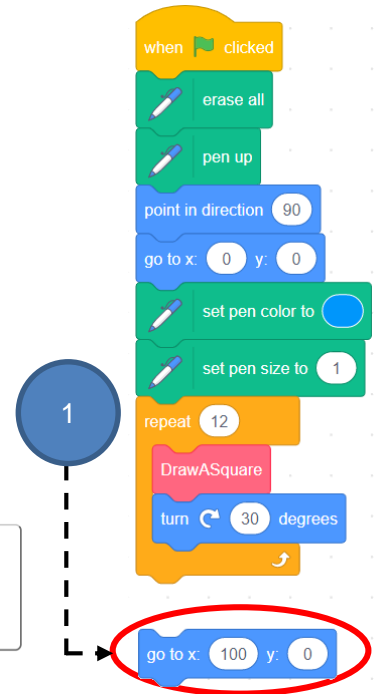


4. Click on the **green flag** and see what is drawn.



Look at the blocks here that draw multiple snowflakes (but do not code them!). Do you see a pattern?

To make multiple snowflakes, the sprite needs to move to another position on the screen.



□ Can you use what you learnt about making custom blocks in the last lesson to make a custom block to draw a snowflake?

COMPUTATIONAL ARTS WITH SCRATCH

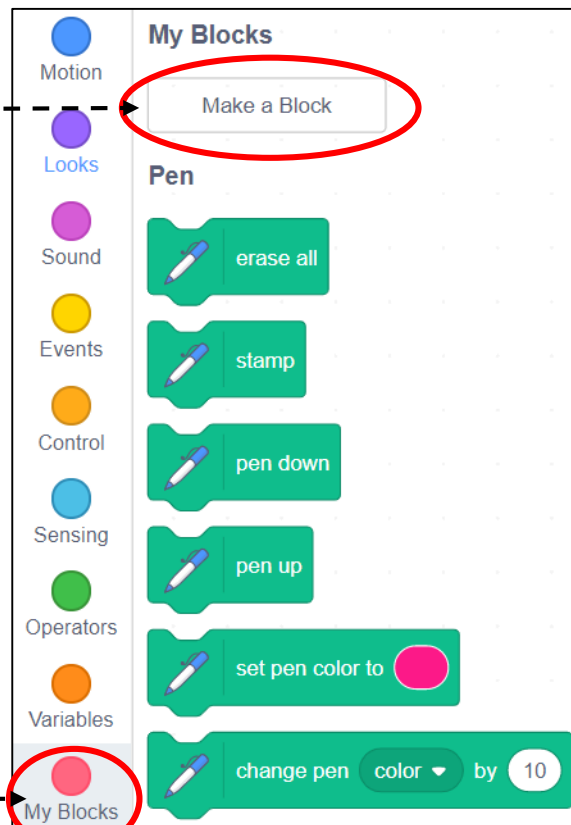
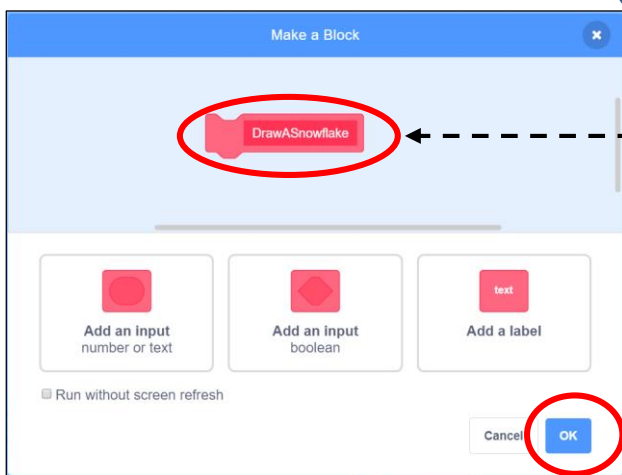
Just like with the **DrawASquare** block, we can make a **DrawASnowflake** block that allows us to draw as many snowflakes as we want!

CT Tips
Creating your own block is an example of abstraction and modularization.

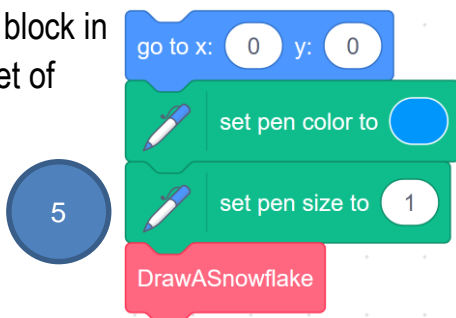
DRAWASNOWFLAKE BLOCK

□ To make **DrawASnowflake**, your own custom block:

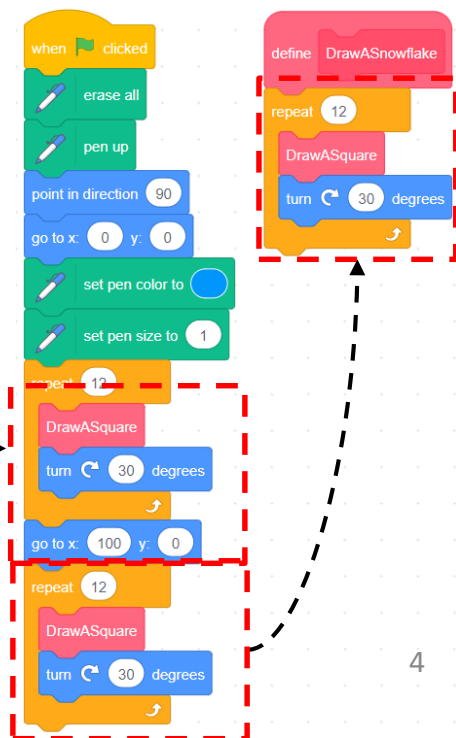
1. Click on the **Make a Block** button in the **My Blocks** drawer.
2. Type **DrawASnowflake** as the name of the block and click the **OK** button to save.



3. Drag the blocks that draw a snowflake and snap them to the **define DrawASnowflake** block.
4. Remove the remaining **repeat** and **go to x: y:** block.
5. Drag a **DrawASnowflake** block from the **My Blocks** drawer and snap it in below the **set pen size** block in the original set of blocks.



4

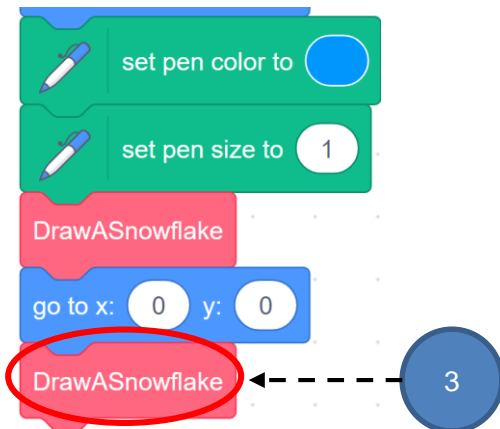


COMPUTATIONAL ARTS WITH SCRATCH

DRAWASNOWFLAKE BLOCK (CONT.)

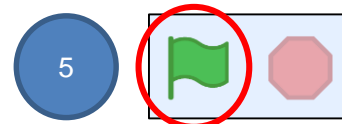
❑ To draw multiple snowflakes in different locations on the stage, you need to move the sprite to different positions.

1. Drag a **go to x: y:** block from the **Motion** drawer. Snap it to the existing blocks.
2. Change the x and y values of the **go to x: y:** block to different values of your choosing to change the position of the snowflake.
3. Drag a **DrawASnowflake** block and snap it to the **go to x: y:** block.



4. Repeat step 1 to 3. 4

5. Click on the green flag and see if the three snowflakes are drawn in different positions.



COMPUTATIONAL ARTS WITH SCRATCH

COMPUTATIONAL THINKING CONCEPTS

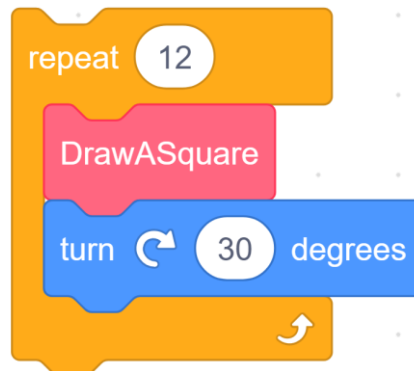
The following are the computational thinking concepts learnt in Lesson 3.

L1U8.7 - 8.8 Computational Arts with Scratch

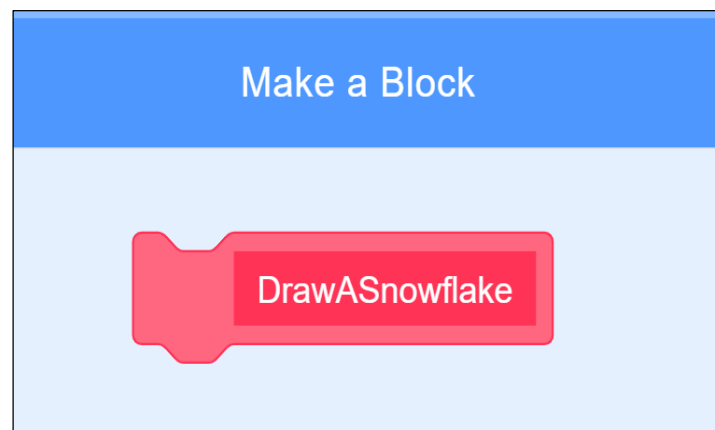
1. Sequences:



2. Repetition:



3. Naming:



COMPUTATIONAL ARTS WITH SCRATCH

COMPUTATIONAL THINKING PRACTICES

The following is the computational thinking practice used in Lesson 3.

L1U8.7 - 8.8 Computational Arts with Scratch

1. **Abstracting and modularizing:**
To make our code shorter and more clear, we can make our own custom block (procedure) to make the snowflake.

