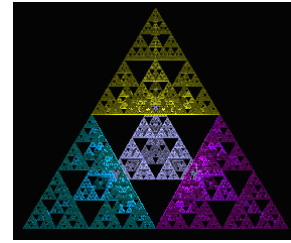
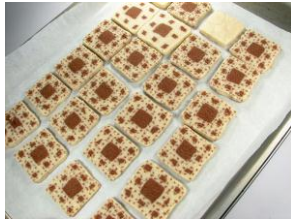


## BYOB LAB 6 FRACTALS



1. Look at some [classic fractals](#), choose one, and write a recursive block to recreate that fractal.
2. Develop your own self-similar fractal using recursion. You can make a variation to an existing fractal or come up with an entirely new one.

## DESSERT



3. The Sierpinski triangle can also be drawn using a different recursive algorithm than successively smaller triangles. This algorithm uses random points (chaos) to draw the figure. Here's how it works. First, draw the 3 vertices of the triangle. Then, randomly select a point somewhere within the triangle (or for our purposes, on the stage, as long as your triangle is large enough to fill a good portion of the stage). Once the point is chosen, then randomly choose one of the 3 vertices. Draw a point  $\frac{1}{2}$  the distance from your original point to the chosen vertex. Now, randomly choose one of the 3 vertices again. Draw a point  $\frac{1}{2}$  the distance from the last point to the chosen vertex. Continue recursively for a set number of times; 10,000 works well. Magically, the Sierpinski triangle appears.

Write a block to draw the Sierpinski triangle using the random point algorithm.

4. Experiment with different variations on the random point algorithm. See [Changing the Rules in the Chaos Game](#) for some ideas.