

Sierpinski's Triangle

Exploration Questions

Run several stages of the [Sierpinski's Triangle Activity](#), and answer the following questions:

- Fill in the table:

Iteration	1	2	3	4
Number of Shaded Triangles				
Area of one Shaded Triangle				
Total Shaded Area				

- What patterns do you see in the numbers for the number of shaded triangles? Can you build a formula for the number of shaded triangles at the n -th stage?
- What patterns do you see in the numbers for the area of one shaded triangle? Can you build a formula for the area of one shaded triangle at the n -th stage?
- What patterns do you see in the numbers for the total shaded area? Can you build a formula for the total area at the n -th stage?
- What do you think happens to these numbers as the number of stages approaches infinity?
- Compare these results to those for [the Sierpinski's Carpet](#). Does the "three-ness" of a triangle and the "four-ness" of a square seem to play a role in these numbers?