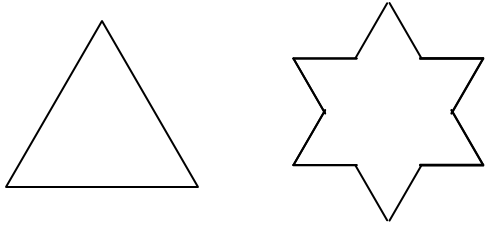


Math 4 Group Final 2015

This is iteration 0 and iteration 1 of the Koch Snowflake:



To continue, keep adding a triangle to the middle third of every straight line. All line segments within an iteration are congruent [which is why you can use craft sticks].

This is your set of steps, to be completed in [almost] any order:

1. Build iterations 0 – 3 of the Koch Snowflake with craft sticks and glue.
2. Find how many craft sticks you used for each

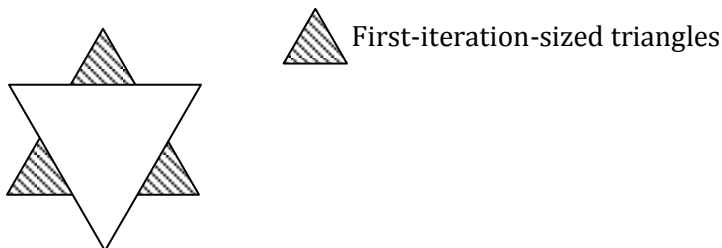
0 th	1 st	2 nd	3 rd

3. Write an expression for the number of craft sticks in the n th iteration

4. Find the perimeter of each iteration

0 th	1 st	2 nd	3 rd

5. In your version of the Koch Snowflake, the first iteration is a small triangle. The second iteration has 3 small triangles of that size, and a triangle *how many times* the size of the first?



For every successive iteration, the largest triangle in the middle is that many times the size of the largest triangle in the middle of the previous iteration.

6. Count how many triangles of each size appear in each iteration:

Triangle size	0 th	1 st	2 nd	3 rd
Smallest [size 0]	1	3		
Size 1		1		
Size 2				
Size 3				

7. What patterns do you notice?

8. Find the area of each iteration [it will be way easier if you use the table you just filled in!]

0 th	1 st	2 nd	3 rd

9. Which is growing faster – the area or the perimeter?