

*Famous Fractals*

# THE KOCH SNOWFLAKE

Fractal zoom videos:

<https://www.youtube.com/watch?v=pCpLWbHVNhk>

<https://www.youtube.com/watch?v=0jGai087u3A>

Fractal documentary: <https://www.youtube.com/watch?v=FKttSB4pzug>

**Seed:** Construct an equilateral triangle to nearly fill the page.

**Program:**

1. Trisect each side of the polygon (divide it into three equal parts).
2. On each middle segment of the trisected sides, construct another equilateral triangle. The middle segment should be one of the sides of each new triangle. The new triangles should face outward from the center.

**Repeat the above program at least 4 times. These repetitions are called "iterations." Each iteration is built on the previously created figure. Find a formula for the nth iteration, and the result for an infinite number of iterations.**

Diagram:

## Growth Chart--Perimeter and area calculation

(represent each stage of the snowflake as an improper fraction)

Growth Stage	1	2	3	4	n	
Perimeter						
Perimeter (find a pattern and show as factors)						
Area						

