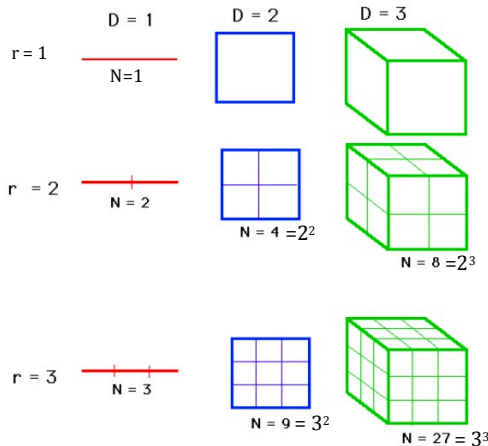


DIMENSION

DIMENSION D



At each stage there are N copies of the line, N copies of the square and N copies of the cube at a smaller scale, each with edge length $\frac{1}{r}$. So we can see that $N = r^D$ where D is the dimension.

A line has dimension 1.
A square has dimension 2.
A cube has dimension 3.

The dimensions of fractals are calculated in the same way.

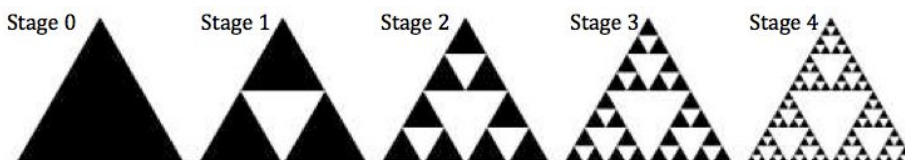
CANTOR DUST



CANTOR SET

At each stage there are 2 copies with length $\frac{1}{3}$.
So $2 = 3^D$
Dimension
 $D = \frac{\log 2}{\log 3} \approx 0.63$

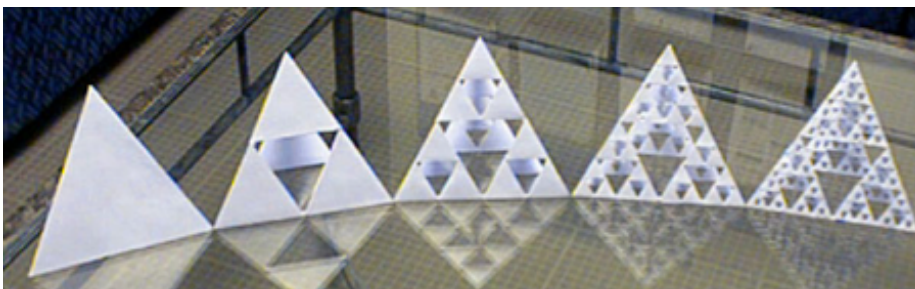
SIERPINSKI TRIANGLE



SIERPINSKI TRIANGLE

At each stage there are 3 copies with length $\frac{1}{2}$.
So $3 = 2^D$
Dimension
 $D = \frac{\log 3}{\log 2} \approx 1.58$

SIERPINSKI TETRAHEDRA ON A GLASS TABLE



SIERPINSKI TETRAHEDRON

At each stage there are 4 copies with length $\frac{1}{2}$.
So $4 = 2^D$
Dimension = 2

Learning: Number, Patterns, Sequences, Algebra, Shape, Measures, Scale, Dimension...