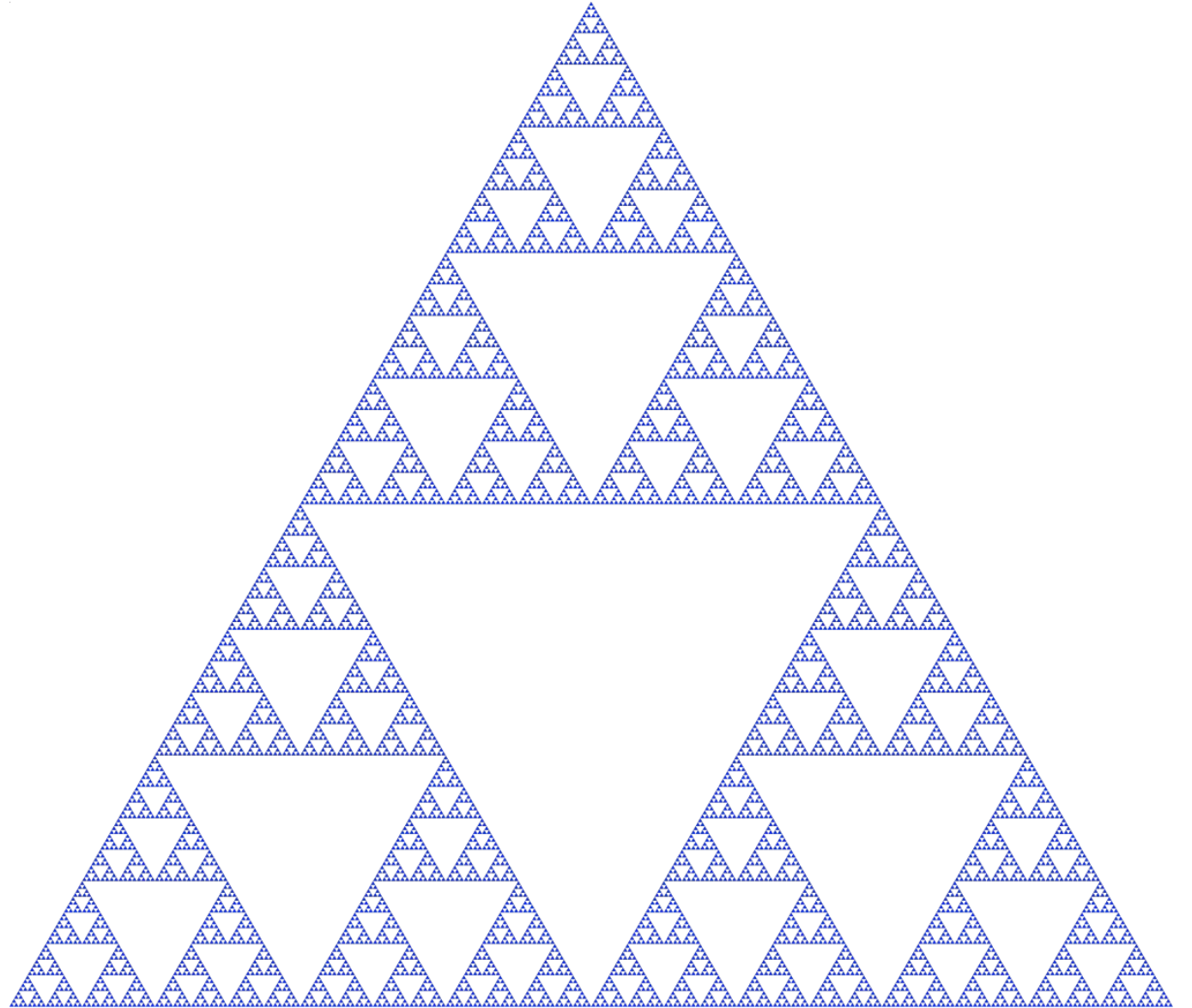


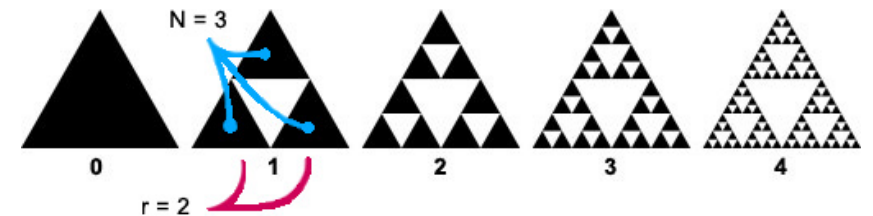
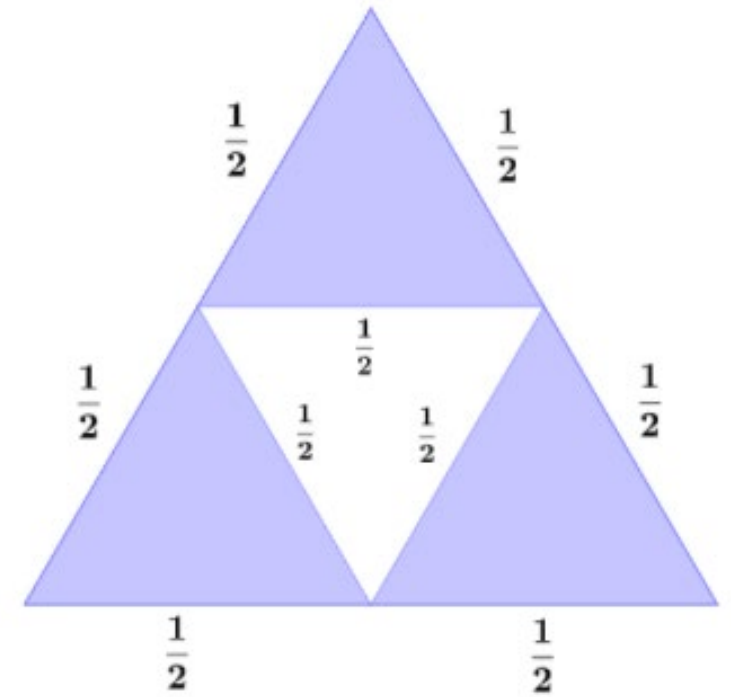
Sierpinski triangle

- By Mica



Sierpinski Triangle

- The Sierpinski triangle is a series of infinite triangles within an equilateral triangle.
- You can make one by connecting the midpoints of the sides of an equilateral triangle then erasing the centre triangle, leaving you with 3 new triangles with half of the side length.
- Repeating this process within each new shaded triangle leaves you with a Sierpinski triangle.
- It theoretically has an infinite perimeter and an area of 0 once you repeat it infinite times.

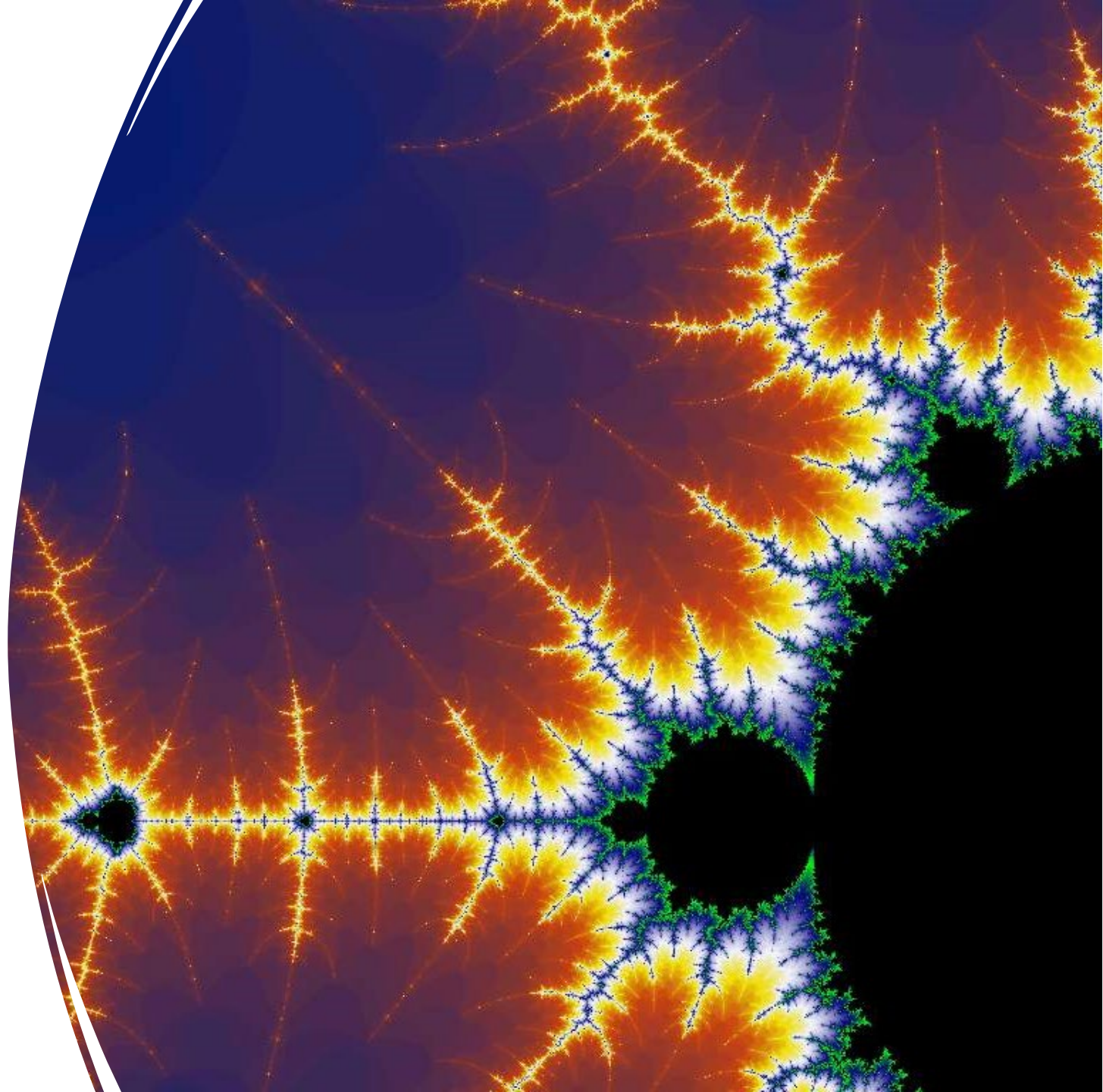


What is it used for?

- A fractal is an infinite pattern that continues repeating on different scales.
- The Sierpinski triangle is a very useful fractal and has become the basis for fractal-generating software.
- It is used very often within special effects departments for major production studios, whether it be for videogames or movies.

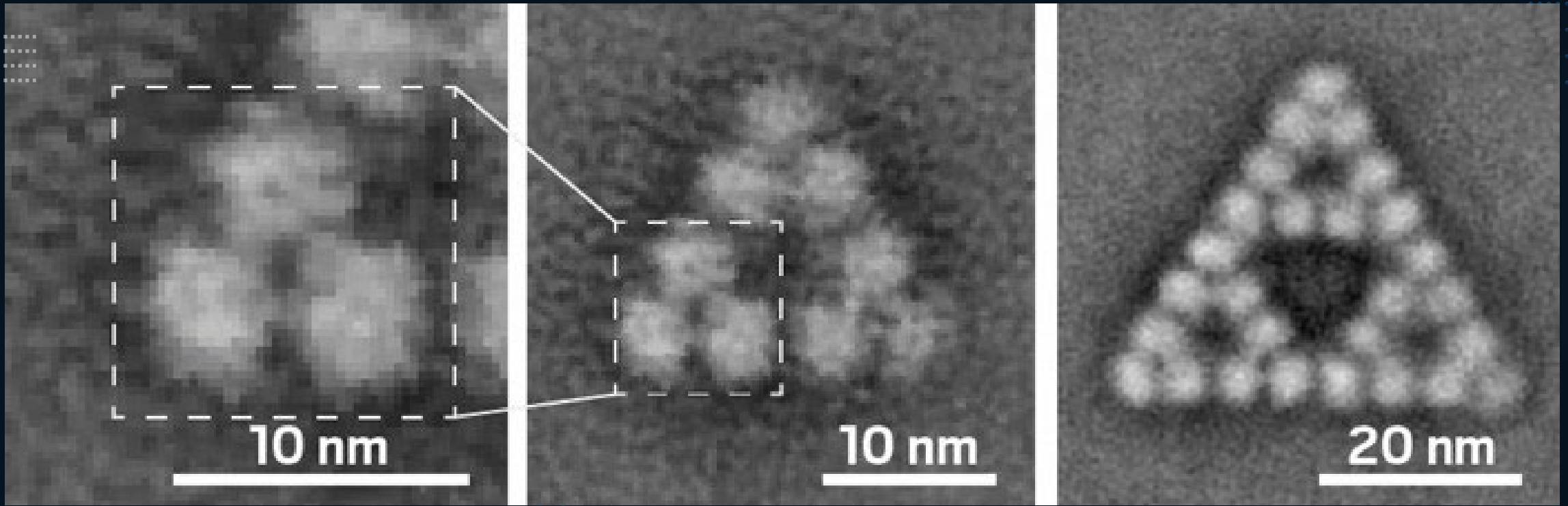
How is it used?

- It is used to generate fractals by applying its infinite iteration to shape/generate light refractions and reflections in movies or in videogames, which is useful for creating a more immersive and realistic environment.
- Without fractals, lights would seem bland and 2-dimensional, so they are very important for advancing in video production.



How was it discovered?

- Wacław Franciszek Sierpiński (1882-1969) was a significant mathematician that helped advance set theory, number theory, analysis and topologies. Across his life, he published over 700 paper and 50 books, and invented many common fractals including the Sierpinski triangle, Sierpinski carpet and Sierpinski curve.
- He discovered it while exploring sets that are not normally measurable



How is it found in nature

- Scientists discovered a microbial enzyme, citrate synthase, in a cyanobacteria. This enzyme can spontaneously transform into a Sierpinski triangle and increase in size.

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