

GEOMETRICIAN'S VIEWS

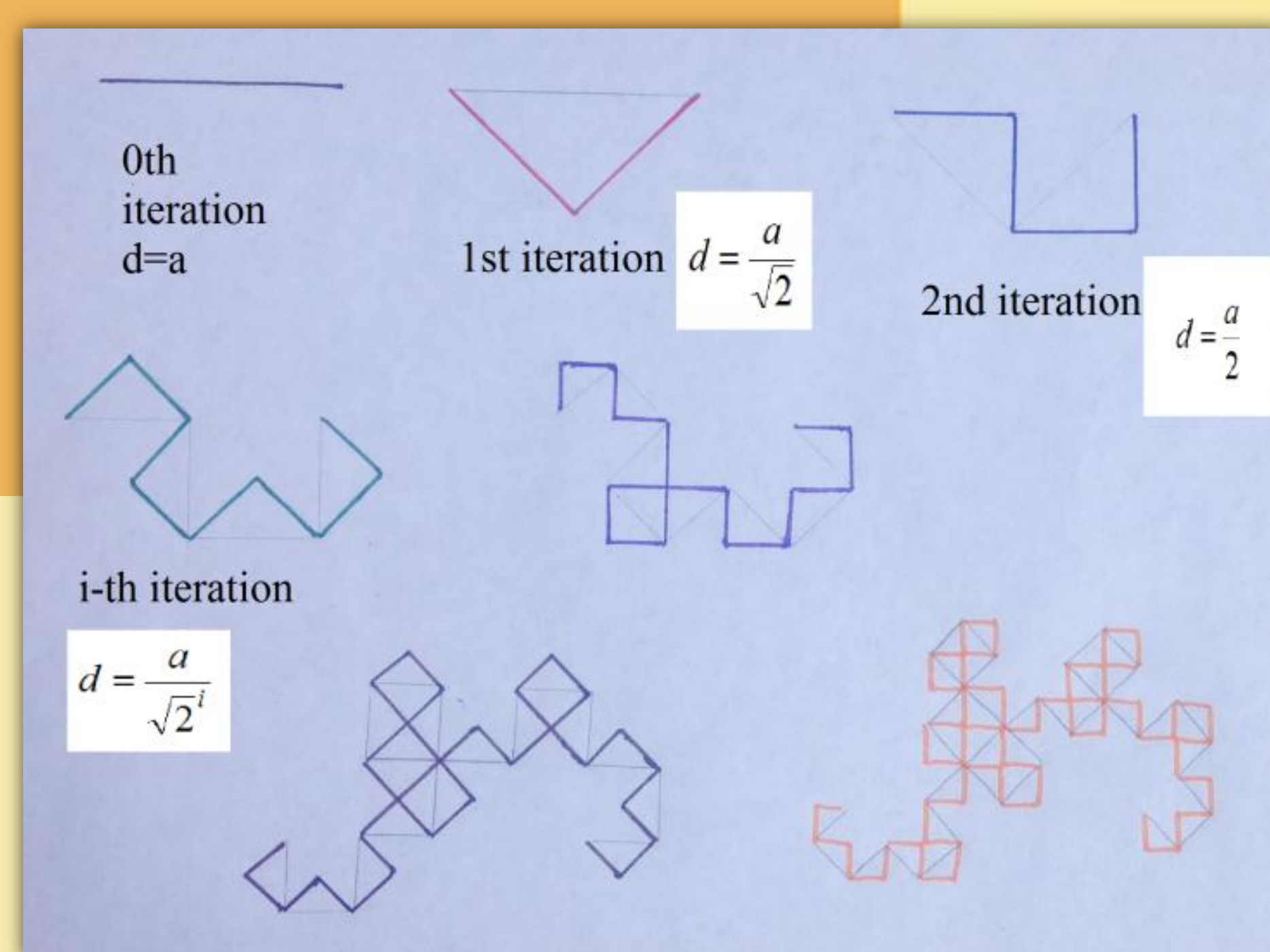
TOPIC: FRACTALS

Mathematical View

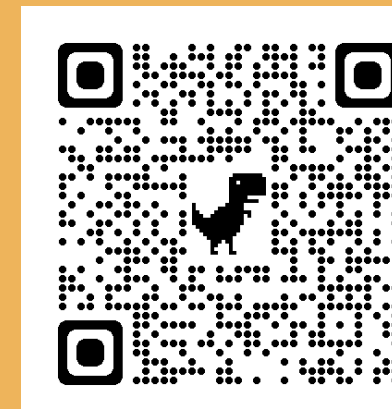


Fractals can be defined as geometrical curves consisted of identical shapes that are repeating infinitely on a decreasing scale. The most important fractal properties are: self-similarity and dimension that can be a non-integer number. *Self-similarity* is a property of fractals when a part of an object is exactly or approximately similar to the object. This is a common fractal property. Every fractal has many self-similarities. It is interesting that self-similarity distinguishes fractals from Euclidean figures.

Researcher
Miroslav Novta

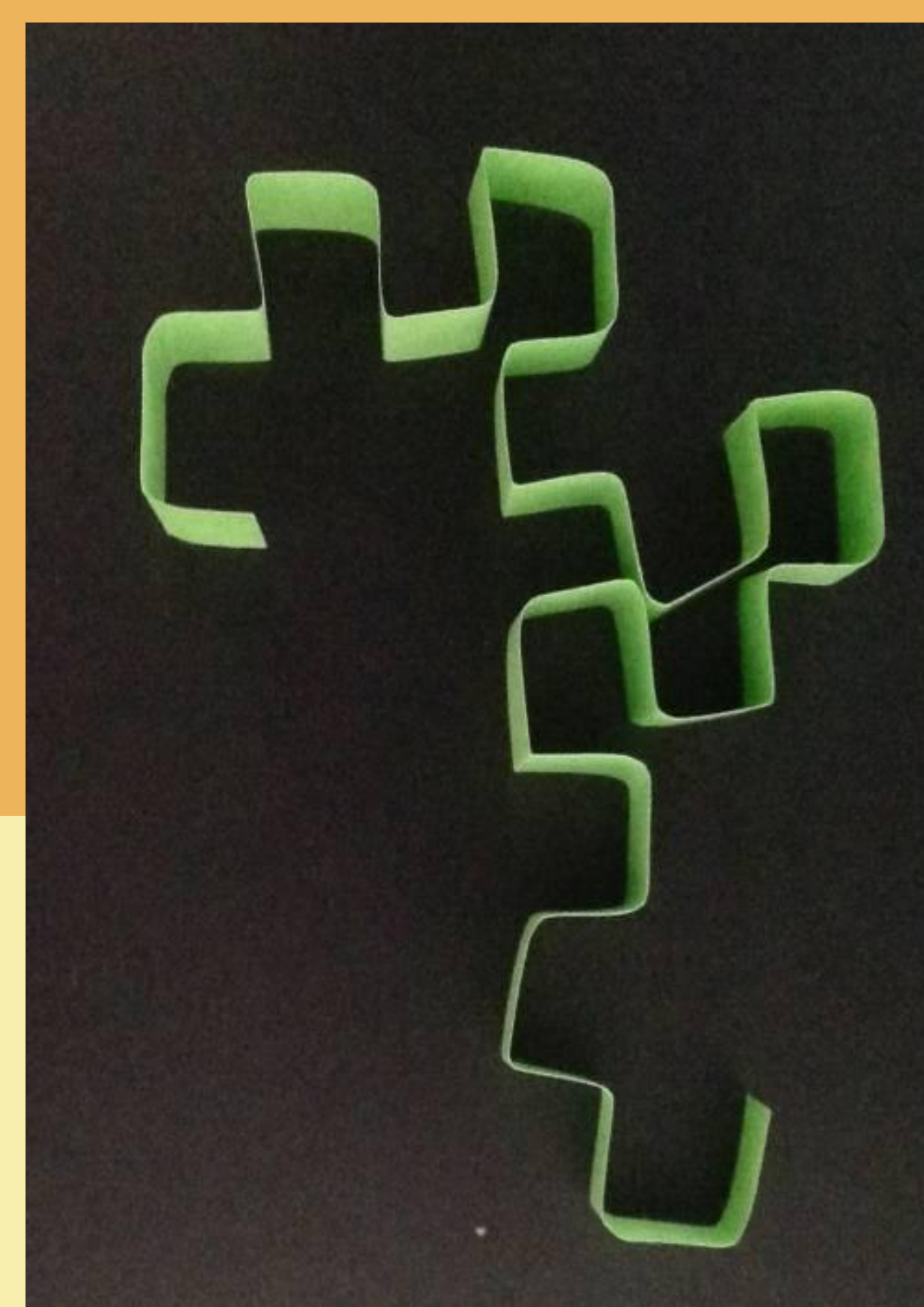


Artistic View

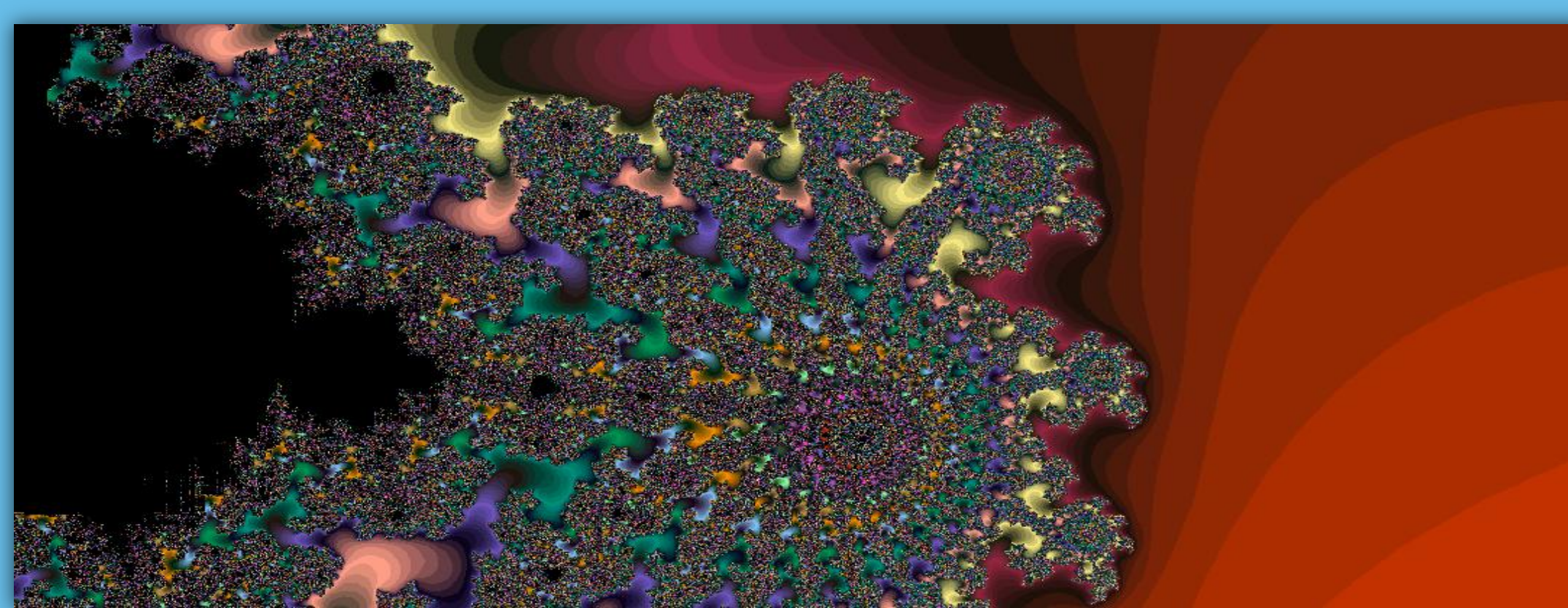


The father of fractals, Mandelbrot, described fractals as: "beautiful, damn hard, and increasingly useful". They can be found everywhere, not just in mathematics and science, but in nature, which is practically full of fractal patterns. Fractals have become an inspiration for mathematical art .

Artist
Renata Zorić

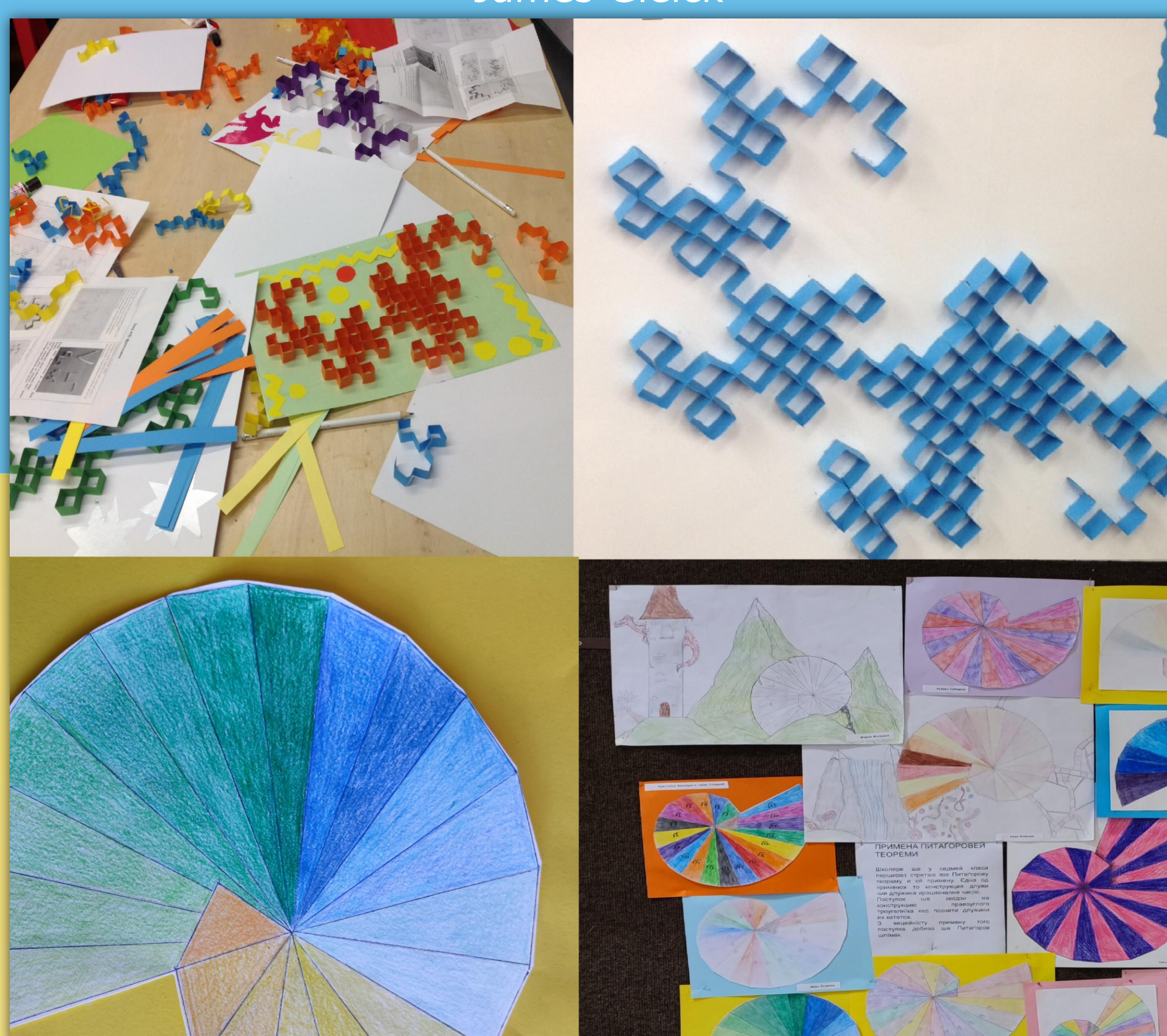


Common View



A fractal is a never ending pattern that repeats itself at different scales. In order to explore fractals by using technology, students could explore the app (software) called XaoS that is dedicated to fractals. XaoS (name is pronounced as chaos) provide unique experience in fractals. It has features that shows different fractals and coloring modes, autopilot, random palette generation, color cycling, and animated tutorials. This software is actually real-time interactive fractal zoomer, where fractals could be smoothly zoomed into any chosen place in the fractals without tedious calculations, in easy way. That why it is suitable for students, since they might not have significant experience in fractals.

"In the mind's eye, a fractal is a way of seeing infinity."
James Gleick



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