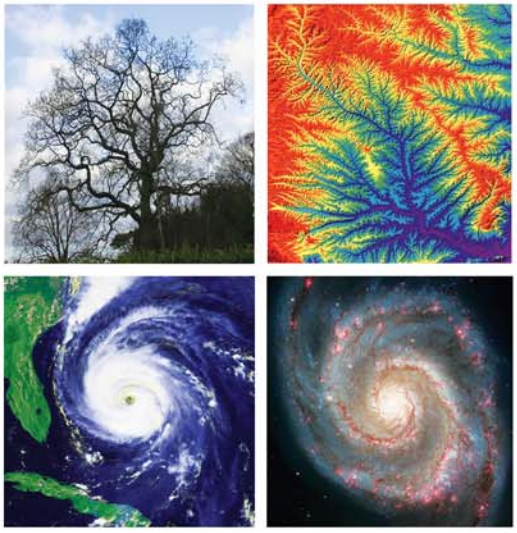
What Is A Fractal?

A fractal is a never ending pattern that repeats itself at different scales. This property is called "Self-Similarity."

Although fractals are very complex, they are made by repeating a simple process.

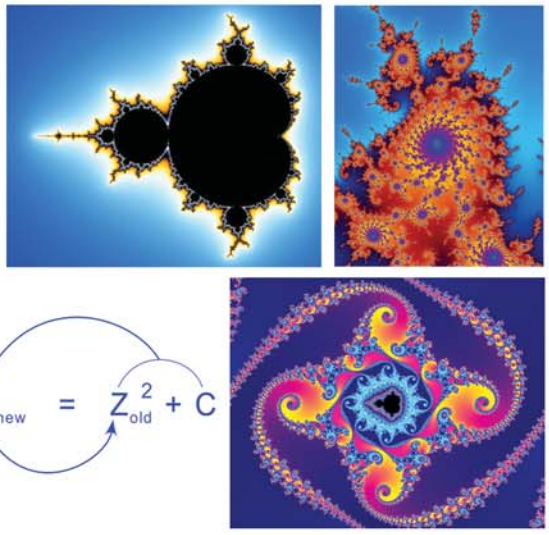
Where Do We Find Fractals?

In Nature



Natural fractals include branching patterns like trees, river networks, lightning bolts, blood vessels, etc, and spiral patterns like seashells, hurricanes, and galaxies.

In Math



Mathematical fractals, like the Mandelbrot Set, are formed by calculating a simple equation thousands of times, feeding the answer back in to the start. These fractals are infinitely complex, meaning we can zoom in forever.

A tree grows by repetitive branching. A fractal triangle is formed by a simple repetition. The infinite Mandelbrot Set is formed by repeating a tremendously simple calculation. Simplicity leads to complexity. A fractal tells a story of the processes that created it.

Fractals are SMART: Science, Math & Art!

www.FractalFoundation.org