# barnsley_fern.pngWHAT EXACTLY IS A FRACTAL?

Fractals are never-ending patterns and are complex. Sometimes infinitely complex allowing you to zoom in and find the same shape again and again. Despite their complexity, they are made by repeating a simple process in an ongoing loop. There are two very important features of fractals:

First: *Self Similarity* and Second: *Non-Integer Dimension*

Fractals are found in nature everywhere. A fern leaf is a good example of **Self-Similarity.** Take a close look at the leaf here. Notice that each little leaf that is part of the big one has the very same shape as the whole leaf itself. Fractals work in the same way. No matter how much you zoom in on a fractal, you will see the same shape. From the fern here to our blood vessels to lightning bolts to river networks, fractals are everywhere in nature.