

**Team Number:**

**School: Los Alamos High School**

**Area of Science: Mathematics, Natural Science**

**Project Title: Combining Fractals**

According to the Fractal foundation of Albuquerque, "Fractals are infinitely complex patterns that are self-similar across different scales." In nature, we see random fractals, i.e. watersheds, snowflakes, and even the surface of the human brain. It is may be that all things in the universe can be modeled using fractals. In nature, these fractals would interact and affect each other creating new patterns.

We have yet to entirely understand how all things in nature relate and modeling fractals could help us. This project will be exploring what happens when fractals with different properties are combined. The goal is to discern what fractals and properties of fractals are relevant to modeling the natural world.

Two or more fractal generating algorithms will be written and the fractals they produce will then be combined. We will examine and analyze the results to find desirable fractals, properties, and limits on the fractals. We will make modifications to code as necessary. This process will be repeated multiple times with the best results reported.

**Team Members:**

-Annika Davenport

**Teacher:**

-Adam Drew