



MORRIS CENTER

FOR LOWCOUNTRY HERITAGE

Grade Levels:

K-12

Duration:

10 minutes to introduce the activity

30-40 minutes for activity

Materials:

•Legos/Building Blocks

OR

•Pipe cleaners/Aluminum wire

SC State Standards:

Visual Arts

VA.R NH.5.1, VA.C NL.6

Key Terms:

fractal

self-similarity

3-dimensional

Fractal Foundations Lesson Plan

Overview

In this study, students will work in groups to build 3-dimensional fractal models.

This activity can be done anytime. It works well as a post-visit activity in connection with *Fractals: Science and Mathematics as Art* on view March 11 - October 14, 2023.

Learning Objectives

- Students will develop critical thinking skills by designing a 3-dimensional fractal model.
- Students will cultivate communication and coloration skills by completing a 3-dimensional model as a group.



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Activity

- Introduce the activity to your students by reviewing fractals.

What is a fractal?

A fractal is an image that has endless "self-similarity." Self-similarity is when an object repetitively displays similar shapes across different scales (how far in or out you zoom visually). We will now break into groups and use material such as (LEGO blocks or pipe cleaners) to create fractals in 3D.

- Students can sketch designs before they start. Have the group determine who is responsible for each stage of fractal buildings. Then, the group can work together to combine the stages to make a larger fractal. [Depending on the grade level you may want to give students some specific guidelines.]
- Please see this link: https://www.readwritethink.org/sites/default/files/resources/lesson_images/lesson95/coop_rubric.pdf for a Cooperative Learning Rubric to evaluate group participation.

