



Sedimentary Concentric Circles

Activity developed by Martha Baldwin, art teacher at Ellsworth Elementary and Middle School, 2022

Goal: To create a piece of art after sorting sedimentary rock with a sieve.

Objective: Students will learn about sedimentary rock and the various sizes including boulder, cobble, pebble, sand, silt, and clay. They will create a *temporary* piece of art, based on concentric circles, using their various sizes of sedimentary rock found in nature using a geo sieve.



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Background:

Students will have learned about the three types of rock (Igneous, Sedimentary, and Metamorphic). With the focus on sedimentary rock, students will learn how sedimentary rock forms from *the accumulation or deposition of mineral or organic particles at Earth's surface, followed by cementation*. Read more: <https://scienceviews.com/geology/sedimentary.html>

Prior to this project, students will have learned about contemporary artists Andy Goldsworthy and Alma Thomas who use/used concentric circles in their art (circles with a common center). Goldsworthy creates temporary, site specific art in nature, only using natural materials that eventually break down in nature. Thomas used paint and color to create her circle paintings.

See examples of their artwork:

Andy Goldsworthy:

Goldsworthy, A. (1987) [Picture of Artist with Pebbles Around a Hole] [photograph]

Arts4All <https://arts4all.org/about/news-blog/family-art-project-andy-goldsworthy-inspired-nature-collage>

Alma Thomas:

Thomas, A. (1969) [Picture of Artist with *Resurrection*, 1966] [photograph]

The Collector

<https://www.thecollector.com/alma-thomas-abstract-painting/>

Materials:

- 3+ stackable mesh geo sieves
- Access to sedimentary rock outside, preferably near a waters edge or gravel
- Large black paper cut in squares at least 12x12" - one per group/person
- Large pieces of paperboard can be used under black paper or oversized clipboards
- Tape for windy day
- Reusable paper cups or paper plates
- Camera for photographing



Safety:

Students will need comfortable shoes for their hike and other outdoor essentials.

Please remind students to shake the sieve with distance between other students and to close eyes when shaking.

Procedure:

Students will access their outdoor classroom trailhead along the Union River (or another beach near a body of water). Depending on how many sieves are available, split the class into equal groups per sieve. Students can fill their sieve with sedimentary rock near the water's edge/beach, best if dry. They will take turns shaking until they have separated their rock collection in the sieve. Please be sure to have the students shake with distance between. Students can work in small groups and share material or they can work individually and will have to wait their turn for the sieve. Collected material can be sorted into extra cups/plates.

Students will take a piece of black paper and place it somewhere flat (on the ground, on a picnic table, etc.), they can put paperboard underneath if there is no flat surface. Using their own sorted material, they will create a "concentric circle" using the various sizes of rock. They can think about repeating materials in a pattern, they can play off the "gradation" of material (small to large) or completely random - this is an opportunity to get creative! The only requirement is that they build off the center circle.

Remind them that their art is temporary just as nature is always evolving and changing. Photos can be taken of each piece to capture before the material is put back where it was found - Leave No Trace (leave what you find)!

Conclusion and Assessment:

Describe the different sizes of rock in your design (pebble, sand, silt, clay). Did you find silt or clay? What size rock was used for the center circle - or was it a negative space? How many circles (layers) did you make? Take a picture of your *temporary* art to make it *permanent* and hang on the wall!

Extension:

If time permits, make a paste out of the silt and paint on extra paper OR make your own clay and experiment with firing it in the kiln! Do this activity again with other materials found in nature when back at the school (pine needles, pinecones, rocks, leaves, twigs, etc.)



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