



# Geology Rocks!

**NGSS Standards:** 2-PS1-1, 2-PS1-2, 2-PS1-4, 2-ESS1-1, 3-LS4-1, 3-ESS3-1, 4-ESS1-1, 4-ESS2-1, 4-ESS2-2, 4-ESS3-1, 4-ESS3-2

**Level:** 1 & 2 grade/3 & 4 grade

**Time:** 45 minutes

**Objectives:**

1. Students will be able to identify characteristics of metamorphic, sedimentary, and igneous rocks.
2. Students will understand the rock cycle.
3. Students will learn how rock types are associated with soil types.

**Materials:**

- Metamorphic rock collection
- Sedimentary rock collection
- Igneous rock collection
- Rock Cycle visual
- Candle and lighter
- Sand silt clay jar

**Pre-Activities:**

<https://oregonaitc.org/lessonplan/oregons-ancient-natural-resources/>

**Procedure:**

1. Start by having students share their hypothesis' on how the rock cycle works.
2. **TEACHER ONLY:** Using the lighter to light the candle---demonstrate how the wax represents magma. The heating of the magma creates igneous rocks. Sedimentary rocks are rocks that were formed under heat and pressure. Rub your hands together vigorously now press them together. What did you feel? Show the sand, silt, clay jar...these are examples of sediments that under heat and pressure will form sedimentary rocks. Metamorphic rocks are rocks that have changed.
3. Using the rock collections demonstrate how slow cooling or quick cooling can change the characteristics of the rocks. (lava rock vs. obsidian)
4. The rock cycle is a never ending, constant process. Discuss the events that occurred in Oregon to create the landforms and soil types we see today.
  - a. Columbia River lava flood 17 million years ago until 6 million years ago.
  - b. Glacial Lake Missoula and Floods 18,000-12,000 years ago
  - c. Glaciers and Volcanoes 2 million to 10,000 years ago.

**Post-Activities & Resources:**

1. Bill Nye the Science Guy: [https://www.youtube.com/watch?v=BsIHV\\_voMk](https://www.youtube.com/watch?v=BsIHV_voMk)