

Earth's Materials & Processes Teacher Guide

Field Trip Description

This Naturalist Center Lab-based program uncovers Earth's materials, which are natural resources people use every day. Students will conduct mineral tests, examine rock samples, and model the rock cycle as they learn about how natural processes are constantly changing Earth. **SC State Standards:** 4-ESS1-1, 4-ESS2-1, 4-ESS2-2, 6-ESS2-1, 6-ESS2-2, 6-ESS2-3

Objectives

- Students will be able to explain the rock cycle.
- Students will be able to identify minerals through a series of tests (streak, hardness, luster, and magnetic).
- Students will be able to explain the differences between metamorphic, sedimentary, and igneous rocks.

Vocabulary

Rock Cycle: a natural process where rocks constantly change from one type to another.

Sedimentary Rock: forms from layers of sediment that get compacted and cemented together over time. This sediment can come from any type of rock, and it can also include the remains of living things. Sedimentary rock can erode back into sediment, or it can be buried and squeezed into metamorphic rock. It can also melt into magma, which then forms igneous rocks.

Metamorphic Rock: forms when existing igneous or sedimentary rocks are put under extreme heat and pressure. Metamorphic rock can also break down into sediment or melt into magma.

Igneous Rock: forms when magma or lava cools and hardens. This can happen deep inside the Earth or on the surface after a volcano erupts. Igneous rock can melt back into magma, break down into sediment, or be squeezed and heated to become metamorphic rock.

Pre-Visit

(suggestions to prepare students for the field trip)

- Familiarize students with the rock cycle and how the different processes work. Additional Resources: [The Rock Cycle](#) and [Rock Cycle Facts for Kids](#)
- Review the vocabulary list with the students.
- Watch "[Welcome to the Museum!](#)"

Post-Visit

(suggestions to reinforce concepts learned on the field trip)

- Quiz students on the vocabulary learned at the Museum.
- Do a matching activity with the students using pictures and descriptions of the rocks they studied at the Museum. Have students match the image and description to the labels of metamorphic, sedimentary, or igneous.
- Have students start their own rock collection with any rocks found around the playground or at home. Challenge students to research and identify their rocks.