

POWERHOUSE SCIENCE CENTER

3615 Auburn Blvd., Sacramento 95821 (916) 674-5000

Topics

Earth and Space Sciences

Grades

2-3

Duration

60 minutes

Vocabulary

rock, mineral, geology, crystal, pressure, sediments, lava, magma, sedimentary rock, metamorphic rock, igneous rock

Next Generation Science Standards

Practices

Asking Questions & Defining Problems
Obtaining, Evaluating, and Communicating Information

Core Ideas

ESS2A-Earth Materials and Systems

Crosscutting Concepts

Stability and Change- Things may change slowly or rapidly

Rocks

Overview

Students are presented with an exciting introduction to rocks. They use hand signals to understand how the rock types rocks are formed. They learn about their properties using Powerhouse's collection of rocks and crystals. We set up four stations for the students to explore.

Objectives

- Students describe the term rock.
- Students compare rock features in the same rock type.
- Students distinguish one rock type from the other.
- Students demonstrate rock formation using hand signals.

Teacher Preparation

- Programs are designed to be presented in the classroom.
- Educators are able to break down materials, move to the next classroom and set-up again for the next presentation.
- Set-up usually takes about 5-10 minutes.
- Educators greatly appreciate access to your room before the program, especially if the program starts immediately following a recess or lunch.
- Student seating can be at your discretion (chairs or floor), as you know your classroom's personality and preferences best.
- The teacher is required to remain in the class at all times.
- Educators will need 4-5 stations to set up. Student desks may be joined or large tables will work as stations.

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Vocabulary:

Rock: a naturally formed solid, usually made of minerals

Mineral: solid substances that occur naturally

Geology: the scientific study of rocks and minerals

Crystal: a special shape into which minerals grow naturally

Pressure: a force that squeezes

Sediments: small pieces of rock, sand, pebbles, mud, etc.

Lava: melted rock coming out of the ground

Magma: melted rock below the ground

Sedimentary rock: rock formed when bits of other rocks, shells, or the remains of plants or animals are cemented together

Metamorphic rock: rock formed when already existing rock is changed by great heat and pressure

Igneous rock: rock formed when magma or lava gets cool and hard

Rocks

Extended Learning Activities:

-Take a nature walk on school grounds. Name different things they see in nature (they could note them down in a field guide). Make sure they point out both living and non-living components. Focus on rocks and have students collect one rock and describe it. They may talk about the color, size, and shape, how it feels, weight and etc.

- Students make pet rocks using river rock and decorate with googly eyes, colored feathers, colored sequins, jewels and etc. They may write a story about their rock.



-Students make their own rock collection. Use the template provided and print on cardstock paper. Have students identify each rock type and then glue them on, using tacky glue.

Rocks may be purchased from a rock or landscape store

- sedimentary- sandstone paving stone broken into chips
- metamorphic- bag of marble chips
- igneous- bag of lava rock

OR

<https://www.nature-watch.com/rock-o-rama-activity-kit-p-3.html>

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Did you know?

Antacids taste like chalk because they are chalk, a.k.a. calcium carbonate

Quote:

"The earth does not belong to us. We belong to the earth."

- Chief Seattle

Rocks

Resources

-NASA

Our World: The Rock Cycle

<https://www.youtube.com/watch?v=SRaInMDNyE8>

- United States Geological Survey

"Are You a Scientist, Too?" A Primer of Simple Geoscience Activities for K-2 Classrooms

(Although written for geoscientists who are visiting classrooms, these very basic activities could easily be led by a teacher or parent.)

<https://pubs.usgs.gov/of/1994/0150/report.pdf>

Collecting Rocks:

<https://pubs.usgs.gov/gip/collect1/collectgip.html>

Name _____

Rock Collection

Sedimentary	Metamorphic	Igneous

Name _____

Rock Collection

Sedimentary	Metamorphic	Igneous