

Just Look All Around You

Summary

Students will recognize the different types of soil and understand that through erosion from rocks is where we get soil. Students will have an understanding of rocks by observation and exploration and list at least five things that we use rocks and soil for. (Second indicator has been explored before, and there are many great ideas on water in Chapter Seven the 2008 Core Academy, and Chapter Eight from 2006.)

Materials

- A collection of rocks
- Sandstone and sandpaper
- Four different kinds of soil samples (silt, sand, clay and humus)
- Seeds to plant in the soil samples
- Magnifying glasses
- [Rock and Soil Journal \(blackline\)](#) (pdf)

Books

- *If You Find A Rock*
, by Peggy Christian; ISBN 9780152063542
- *Let's Go Rock Collecting*
, by Roma Gans; ISBN 13: 9780064451703 *Dirt*, by Steve Tomecek; ISBN 0792282043 (Jump into Science with National Geographic)
- *The Life of the Oak Tree*
Big Books:
- *Rocks and Soil*
, by Natalie Lunis; ISBN 9781400764402
- *Looking at Soil*
, by Judith Rosenbaum; ISBN 9781400760794

eMedia Films

- Earth Science Collection. Rocks. The Solid Earth Materials I.
- Earth Science Collection. Uses of Rocks and Minerals.
- Earth Science Collection. Weathering and Erosion.

Organizations

- [APGO - Association of Professional Geoscientists of Ontario](#)
- [Ontario Stone, Sand & Gravel Association](#)
- [Prospectors & Developers Association of Canada](#)
- [Rocks for Kids](#)

When looking to purchase rocks for your collections, Google "rocks and minerals" instead of just "rocks".

Background for Teachers

Children need to be taught to use all five senses to enjoy and explore the world around them. By teaching a child to look, listen, smell, hear, and even sometimes taste, you teach him/her wonders all around. Along with having an awareness for the world around them, students can learn to record and graph, allowing them to compare different attributes of the world they live in.

Intended Learning Outcomes

1. Demonstrate a positive learning attitude.
2. Understand and use basic concepts and skills.
3. Communicate clearly in oral, artistic, written, and nonverbal form.

Instructional Procedures

Content Connections:

Literacy: Go to the level library and look for nonfiction books on rocks and soil. Then use these in your guided reading. Read *Sylvester and the Magic Pebble* and have the children write their own story about what they would do if they found a magic pebble.

Math: Sort and classify rocks; always graph and compare them.

Invitation to Learn:

Start off by asking the question "Do you have a collection?" Then discuss what collections are and how fun it is to collect things. Show and discuss your rock collection.

Instructional Procedures:

Show the rock movie in Emedia: *Earth Science Collection: Rocks The Solid Earth Materials I*.

Read *If You Find a Rock*, then go to the park or a nearby walking field trip to collect these type of rocks (the list of categories is on the second to last page of *If You Find a Rock*).

Show the Big Book *Rocks*.

Read the book *Let's Go Rock Collecting*.

Show different rocks and let the children look at them with a magnifying glass and list specific characteristics.

Crystal show faces of the crystals

Limestone show the shells

Pumice from volcanoes, and certain holes made by trapped air

Chalk -- can write with it

Coal -- shiny and dark and gives heat

Salt -- little squares and can taste

Mica -- has layers that can be peeled back

Talc -- can be rubbed into powder (it is the softest rock)

There are web sites at which you can buy rock collections for example see

<http://www.rocksandminerals.com/boxed/boxed.htm> (accessed 1910).

Show the film from Emedia about the use of rocks: *Earth Science Collection. Uses of Rocks and Minerals*.

Talk about mining and concrete, and make a list of things that we obtain from rocks.

Make a class book about the students' favorite rock and why and what it is used for.

Read the book *Dirt*. Take some sandstone and a piece of sandpaper, and rub to make red soil.

Discuss erosion and how water, wind and temperature are the main forces that erode rocks into soil.

Show the movie on erosion: *Earth Science Collection. Weathering and Erosion*.

Read the Big Book *Rocks and Soil*. Talk about the fact that different rocks make different soils.

The black sands of some islands are from volcanic rock.

http://en.wikipedia.org/wiki/Punaluu_Black_Sand_Beach

<http://geology.about.com/library/bl/images/blblacksand.htm>

Show samples of different soils and compare them. (When a child goes on a trip, ask him/her to bring back a sample of the soil.)

Read *The Life of the Oak Tree*. Talk about the roles of insects and worms. They have a very important job of decomposing life and enriching the soil.

On a chart, graph the kinds of soil and their characteristics. Read the Big Book *Looking at Soil*.

Take the four main soil types (silt, clay, sand, and humus) and plant a couple of seeds in each.

Record on a graph how the plants grow differently in different soils.

Discuss Utah soil, and how not all plants grow well here, others do. It is important to choose the right plants for the right soil. See

<http://www.brainpopjr.com/science/land/soil/grownups.weml>

Complete the *Rock and Soil Journal* (black line included); have the children fill this journal throughout the unit and then turn the journal in as the assessment.

Lesson and Activity Time Schedule:

60minute discussion and 30minute lab.

Activity Connected to Lesson:

Use the Soil and Rock Journal.

Page one: Graph to write rock and characteristic.

Page two: Use a magnifying glass to look at pumice and limestone and draw the shells and air pockets.

Page three: Rub off some red sand stone and glue on to show how it was eroded.

Page four: A soil graph with four squares; glue a bit of each soil on each square showing the different sizes, colors and particles.

Page five: A collection of rock books (checked out at the library) where they can look up their favorite rock and write about its attributes.

Page six: Show rock products and what rocks they come from.

Activity Materials:

For stations:

A collection of rocks to characterize and sort

Pumice, limestone and magnifying glasses

Sandstone, sandpaper

Four types of soil; have another cup with a plant growing in each to see how each reacts to the soil

A collection of rock books (get these from the library) to show some of the books they can get or buy

Rock products: talc, coal, sheetrock, jewelry, granite countertops, salt, etc.

Their book, run off and stapled.

Extensions

Sort the rocks for centers.

Examine pet rocks as both an art experience and as a writing experience.

Make Crystals: <http://chemistry.about.com/od/growingcrystal/ht/blsugarcystal.htm>

Visit <http://www.brainpopjr.com/science/land/soil/grownups.weml> (accessed 1 910) for fun facts and soil experiments.

Visit <http://urbanext.illinois.edu/gpe/case2/index.html> (accessed 1910) for fun soil facts and soil experiments.

Family Connections

Ask parents if they go on a trip to bring you some samples of the soil.

Ask parents to share any rock collections they might have.

Read Let's Go Rock Collecting. Give each child an egg carton and have them find and label rocks in their backyard.

Assessment Plan

The Rock and Soil Journal (Black line included) would be filled out as the unit is in progress. Once completed, turn in as a final assessment. While students are completing journal, observe and watch to see their understanding of the concepts. Also, observe students' understanding while comparing

and graphing the rocks.

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