

LESSON: Just Look All Around You

INSTRUCTOR: Candace Sorensen

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DISTRICT: Nebo School District

GRADE LEVEL: 1

CORE CURRICULUM

Science Standard 2: Earth and Space Science

Objective 1: Investigate the natural world including rocks, soil, and water.

Indicator 1. Observe, compare, describe, and sort components of soil by size, texture, and color.

Indicator 2. Identify and describe a variety of natural sources of water including streams, lakes, and oceans.

Indicator 3. Gather evidence about the uses of rocks, soil, and water.

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.

Lesson Objective: 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.)

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.

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INTRODUCTION

Background Information

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.

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

1. Show the rock movie in Emedia: *Earth Science Collection: Rocks-The Solid Earth Materials I*.
2. 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*).
3. Show the *Big Book Rocks*.
4. Read the book *Let's Go Rock Collecting*.
5. 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
 - Micah -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 1-9-10).
6. 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.

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7. Make a class book about the students' favorite rock and why and what it is used for.
8. 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.
9. Show the movie on erosion: *Earth Science Collection. Weathering and Erosion*.
10. 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> (accessed 1-9-10)
11. 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.)
12. 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.
13. On a chart, graph the kinds of soil and their characteristics. Read the Big Book *Looking at Soil*.
14. 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.
15. 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> (accessed 1-9-10).
16. 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 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)

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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.

POSSIBLE EXTENTIONS/ADAPTATIONS/INTEGRATION

1. Sort the rocks for centers.
2. Examine pet rocks as both an art experience and as a writing experience.
3. Make Crystals:
<http://chemistry.about.com/od/growingcrystals/ht/blsugarcystal.htm>
4. Visit <http://www.brainpopjr.com/science/land/soil/grownups.weml> (accessed 1-9-10) for fun facts and soil experiments.
5. Visit <http://urbanext.illinois.edu/gpe/case2/index.html> (accessed 1-9-10) for fun soil facts and soil experiments.

RESOURCES: BOOKS, MEDIA, ARTICLES, WEB SITES, AND ORGANIZATIONS**BOOKS**

If You Find A Rock, by Peggy Christian; ISBN 978-0-15-206354-2

Let's Go Rock Collecting, by Roma Gans; ISBN 13: 978-0-06-445170-3

Dirt, by Steve Tomecek; ISBN 0-7922-8204-3 (Jump into Science with National Geographic)

The Life of the Oak Tree

Big Books:

Rocks and Soil, by Natalie Lunis; ISBN 978-1-4007-6440-2

Looking at Soil, by Judith Rosenbaum; ISBN 978-1-4007-6079-4

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MEDIA

Emedia films:



Title: Earth Science Collection. Rocks. The Solid Earth Materials I.

Description: Students discover that the Earth is made up of rocks, and rocks are made of minerals.

You are permitted to: Download and retain a permanent personal copy in perpetuity

Media type: Video

Duration: 20min 49sec

Content flags:



Title: Earth Science Collection. Uses of Rocks and Minerals.

Description: Shows how rocks are mined, processed, and then transformed into glass, cement, bricks, houses, roads, and other objects used in our everyday lives.

You are permitted to: Download and retain a permanent personal copy in perpetuity

Media type: Video

Duration: 17min 07sec

Content flags:

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Title: Earth Science Collection. Weathering and Erosion.

Description: Students journey to discover how physical weathering, chemical weathering, and erosion occur.

You are permitted to: Download and retain a permanent personal copy in perpetuity

Media type: Video

Duration: 20min 17sec

Content flags:

ARTICLES

WEB SITES

<http://chemistry.about.com/od/growingcrystals/ht/blsugarcystal.htm> (1-9-10)

<http://chemistry.about.com/od/crystalsforbeginners/tp/quickcrystalprojects.htm> (1-9-10)

<http://geology.about.com/library/bl/images/blrockindex.htm> (1-9-10)

<http://geology.about.com/od/rockcollecting/bb/rockcollections.htm> (1-9-10)

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

ORGANIZATIONS

Professional Organizations involved with rocks & minerals:

- **APGO** [Association of Professional Geoscientists of Ontario](#)
- **OSSGA** [Ontario Stone, Sand & Gravel Association](#)
- **PDAC** [Prospectors & Developers Association of Canada](#)
- <http://www.rocksforkids.com/> (accessed 1-9-10)

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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.

LESSON AND ACTIVITY [TIME SCHEDULE]

60-minute discussion and 30-minute lab.

ACTIVITY CONNECTED TO LESSON

Use the Soil and Rock Journal.

1. Page one: Graph to write rock and characteristic.
2. Page two: Use a magnifying glass to look at pumice and limestone and draw the shells and air pockets.
3. Page three: Rub off some red sand stone and glue on to show how it was eroded.
4. Page four: A soil graph with four squares; glue a bit of each soil on each square showing the different sizes, colors and particles.
5. 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.
6. 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

My Book

Of

Rocks &

Soil

By

Sorting rocks can
be so much fun!

Different Kinds of Soils

Sandstone creates the
red dirt of Moab

Pumus

Limestone

**My favorite rock is _____,
because it has these
attributes**

**Rocks give us many
products that we use in
our lives. These prod-
ucts are:**
