



# Volcanoes



Thematic Unit for First Grade  
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## Activity 1

### **Introducing Layers**

Introducing the layers of the earth:

Brainstorm as a class common food items that have layers. (e.g. birthday cake, pizza etc.)

Ask students to name the layers of a peanut butter and jelly sandwich (bread, peanut butter, jelly, bread)

In small groups students will make their own peanut butter and jelly sandwich using materials provided.

### Materials:

- ~ Peanut butter
- ~ Jelly
- ~ Bread
- ~ Plastic knife

After completing the activity students will record what a layer is and including an example of something that has layers in their science journal.

## Activity 2

**Watch:** The Magic School Bus Inside the Earth



Discuss the earth's layers and compare them to the sandwich activity.

Provide each student with the Inside the Earth worksheet (Evan-Moor Geology pg. 12)

### Materials:

- ~ Pg. 12 worksheet for each student
- ~ Paper fastener

- ✎ Scissors
- ✎ Crayons and a pencil

Have students color the earth's layers and the school bus.

Then go over the vocabulary words at the bottom of the page. Have the students label the different layers of the earth.

### **Activity 3:**

Provide students with the Layers of the Earth mini-book. Have students assemble and color the mini-book. Read mini-book together as a whole group.

Extension activity:  
Clay models of the Earth

#### Materials:

- ✎ Small balls of clay- yellow, red, orange, blue and green
- ✎ Plastic knife
- ✎ Recording sheet

Have students roll a ball of red clay about 1" in diameter (the inner core). Cover red ball with a layer of yellow clay (the outer core). Cover the yellow ball with a layer of orange clay (the mantle). Cover orange clay with a thin layer of blue clay and green clay (the crust). These represent the surface of the Earth covered with the blue water and green land. Cut the model in  $\frac{1}{2}$ . Have students name the layers of the model (crust, mantle, outer core, inner core). Have students complete the recording sheet (The Earth's Layers).

### **Home Science Connection**

Students will take home the Layers of the Earth booklet to complete and share with their parents.

### **Activity 4:**

Start a bulletin board showing the Earth's layers.

**Read:** How to Dig A Hole to the Other Side of The World by Faith McNulty

#### Materials:

- ✎ White butcher paper with large layers of the earth drawn on it.
- ✎ Tempera paint (yellow, red, orange, blue)
- ✎ Black marking pen

- Yarn
- 4 – 4 x 6 pieces of paper

Have students paint the layers of the earth (inner core-red, outer core-yellow, orange-mantle, blue-crust). Have 4 students write the names of the layers on the 4 x 6 pieces of paper. Attach the yarn to the card and to the appropriate layer.

### Activity 5:

What is on the Earth's crust?

#### Materials:

- Small lunch bag per child
- Newspaper for sorting (enough for each student to make two sorting piles)
- Chart paper

Ask students to recall what the outside of the Earth is called. Explain that they are going to go outside to look at the "things" on the Earth's crust. Give each student a small lunch bag. Have the students observe and collect samples of things they find (soil, rocks, plant matter, dead insect parts, etc.).

Back in class, provide students time to share some of the items they collected. Explain that the Earth's crust is made of rocks and soil. Have students separate their items into two categories-things that are part of the Earth's crust and things that are on the Earth's crust. Go through the items in each category asking, "Is this part of the Earth's crust? Why? Why not? Make changes as needed.

Using chart paper students brainstorm facts about the Earth's crust. Record what the student's say, correcting any misconceptions.

Have students record what they found in their science journal (the Earth's crust activity).

### Extension Activity:

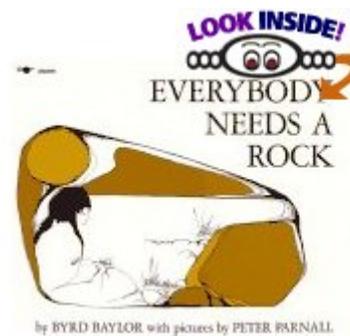
Have students complete Field Trip report (What I saw and What I Learned)

### Activity 6

Rocks have different properties

#### Materials:

- Everybody Needs a Rock
- Chart paper
- Pencils



- ~ Science journal
- ~ Small collection of rocks for each group

Have students break into small groups and observe a small collection of rocks.  
Students discuss physical characteristics of the rocks, and record in their science journal.  
Meet back as a group and record some of the students observations about rocks on chart paper.

## **Classroom Extension**

Rock Discovery Center

Materials:

- ~ Classroom rock collection
- ~ Balance scale
- ~ Large nail (for scratching rocks)
- ~ Measuring tape
- ~ Clear container and water
- ~ Paper towels
- ~ Science discoveries sheet

Set up an exploration center where students can measure, weigh, float etc. to discover more of their properties. Demonstrate beforehand how the different materials can and should be used. While students are at the exploration center they should complete a science discoveries sheet about the rocks they are observing to add to their science journal.

## **Math Extension**

Sorting and Graphing

Materials:

- ~ Rope
- ~ Index cards
- ~ Markers
- ~ Rocks
- ~ Graphs (see attached)

Students work together to sort the rocks into 2 different categories (e.g. small /medium / big, sparkly / dull, rough / smooth by color etc.) Discuss methods of classification and physical properties of the rocks.

## Activity 7

### Buoyancy and Rocks

#### Materials:

- ↪ Rocks (including lava and pumice)
- ↪ Clear container
- ↪ Water
- ↪ Paper towels
- ↪ Scale

Have students pass around the different rocks. Allow them to make observations about them. Then ask them to predict which ones will float and which ones will sink. Put the rocks in the container one at a time to verify their predictions. Did all the rocks sink? What did the rocks that floated look like? Can you think of other heavy things that float?

After demonstrating the buoyancy use the scale to illustrate how heavy and light the rocks are in comparison to one another.

## Activity 8

### Rock Properties

#### Materials:

- ↪ Science journal
- ↪ Rocks
- ↪ Pencils

Teach the students the term properties (distinctive characteristics or qualities belonging to something.) Give examples such as:

Properties of a pine tree are cones and needles

Properties of a bird are feathers and 2 legs

Properties of water are that it flows and takes shape of its container

Review the properties of rocks that have been previously explored:

Color and pattern

Hardness

Buoyancy

Divide the class into small groups. Each group will list 3 properties of that rock so everyone can understand. For example, if a group says the rock is "hard" they must define it in such a way that the other classmates can check it. (hard means it can't be scratched by a nail, it can't break with a hammer, it makes a scratch on other rocks.)

Students will draw their rock and write down its properties in their science journal. Provide time so each group can present their rock and explain its properties.

### **Home Science Connection**

Have students find their own rock at home. Send home "rock book" to be completed at home. They can bring in their completed book and their rock to share with the class.

### **Rocks Extension**

Rocks are formed in different ways

See attached pages for cooking and craft ideas.

### **Activity 9**

How are rocks made?

Materials:

-  Mini booklet
-  Crayons
-  Pencil
-  Science journal

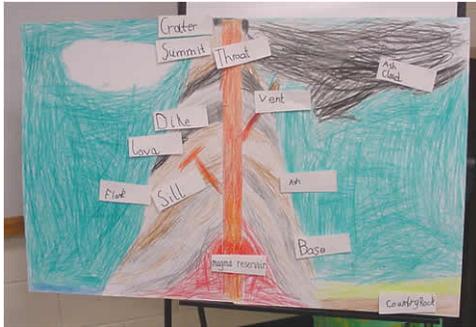
Reproduce the mini book (pgs. 42-44) Read pages together and review types of rocks (igneous, sedimentary, metamorphic) and how they are made. Have students record how rocks are made in their science journal.

### **Activity 10**

What is a volcano?

**Read:** What Is A Volcano?

Have students create their own volcano on drawing paper. Label the parts of the volcano. In their science journal have students define a few of the volcano terms used in labeling the volcano.

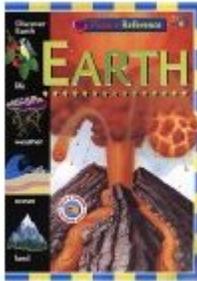


**Suggested Vocabulary terms:** volcano, magma, lava, lava flow, side vent, branch pipe, throat, crater, ash cloud, magma chamber, eruption.

## Activity 11

**Students make their own volcano** (Art project)

**Read:** Eye Wonder: Earth By DK  
(pages 8-9, 14-15)



Review parts of a volcano and what makes a volcano erupt.

Making mini volcanoes

Materials: (per group)

- ~ Small plastic cup
- ~ Modeling Clay
- ~ 1 Tbs. flour
- ~ 2 Tbs. baking soda
- ~ 1/3 cup vinegar
- ~ 4" square of tissue paper
- ~ (optional add red food coloring to the vinegar)
- ~ paper towels (for clean-up)
- ~ disposable tin pan (2 inches deep)



In small teacher assisted groups students will make a mini volcano, while students are in the small group others can be labeling and coloring the volcano found on pg. 57.

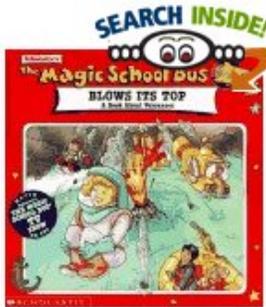
Different students will help with each step.

1. Build a volcano out of clay, make an opening big enough to hold the plastic cup, and place into the center of the tin pan.
2. Put the baking soda and flour in the center of the tissue paper. Wrap the paper around the mixture and twist both ends tightly.
3. Place the mixture in the cup.
4. Pour half of the vinegar into the hole and step back. When the foaming stops add the rest.

Follow Up: After each group has made a volcano erupt have students answer discovery questions in their science journals.

## Activity 12

Watch: The Magic School Bus Blows it's Top



## Activity 13

Earthquakes and Volcanoes

Materials:

- ↪ Mini booklet (Earthquakes and volcanoes)
- ↪ Make your own earthquakes worksheet

Students will assemble and color the earthquakes and volcanoes mini booklet. Read the booklet together as a class and discuss vocabulary words. When finished have students color the town (pg. 58) Cut a line through the middle and shake to illustrate what happens on the fault lines during an earthquake.

## Activity 14

**Locate volcanoes around the world** (volcanoes and sea vents)

Break into small group, students will be given a list of volcanoes around the world, and will need to locate them on the globe. They will put volcano stickers onto the globe to symbolize where these volcanoes are located. Teacher rotates to help different groups.

## **Activity 15**

### **Volcano Fact Finder**

In groups students will work together to find 3 – 4 interesting facts about volcanoes, and write them on chart paper. They can use different resources from around the room. (internet sites, library books etc.

## **Activity 16**

### **Power Point Presentation on Volcanoes**

Students will work together in their small groups on Power Point. They will type up their facts from their chart and the teacher will help them to put it all together to make a presentation.

## **Activity 17**

### **Presenting Power Point Presentations**

Explode mini volcanoes made previously.

## **Activity 18**

### **Under Sea Terrain**

Introduce the pictures of under sea terrain    Read: Ocean's in Motion  
Pages 40-41, pictures on 74, 76, 77

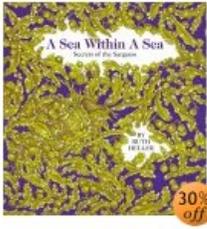
Review terminology and introduce new vocabulary words

Go over pictures and films of the ocean habitat and its sea vents

## **Activity 19**

## Life in the ocean

Read: A Sea Within a Sea By: Ruth Heller



Brainstorm sea creatures that the students already know on chart paper. Introduce the different ocean zones and name a few sea creatures that live in each zone.(sunlit zone, twilight zone, dark zone, abyss, trench)

## Activity 20

### Create Sea Creatures

Students can choose from a variety of different sea creatures to make for a classroom bulletin board. After students have completed making their sea animal they will need to find out 3 things about their animal using resources available in the classroom. (What it eats? How big does it get? What part of the ocean does it live in? etc.

## Activity 21

### Ocean Floor

Introduce pictures of animals that live on the ocean floor. Discuss characteristics of these creatures, compare and contrast to other ocean animals previously studied.

- ~ Have students create their own deep sea creature
- ~ Black paper
- ~ Chalk
- ~ Glow in the dark paint
- ~ Glue
- ~ Scissors

## Activity 22

Students help to make a classroom bulletin board illustrating the ocean zones, using the artwork made throughout the week.

This unit lends itself to a further study of  
the ocean.