



## BLOW YOUR TOP

*The movement of the earth's tectonic plates causes some of the world's most destructive disasters. In this lesson, we'll be taking a look at volcanoes. We'll explore how the movements of the plates cause lava to spew from the earth, throwing with it rocks, ash, and gases.*

### Reading

- ❁ *The Geology Book*, by John Morris, Chapter 4, p. 42-43
- ❁ *Vacation Under the Volcano*, by Mary Pope Osborne
- ❁ *Hill of Fire*, by Thomas P. Lewis
- ❁ *Volcanoes*, by Franklyn M. Branley
- ❁ *Volcanoes*, by Gail Gibbons
- ❁ *Volcanoes*, by Seymour Simon
- ❁ *Women in Science: 50 Fearless Pioneers Who Changed Science*, p. 107: Katia Krafft

# ACTIVITY Volcanic Eruptions!

Not all volcanoes are the same size or shape. And they don't stay the same either; they actually grow and change over time. This activity will allow you to build a model volcano and watch how they change as they erupt and new rock is built upon the existing volcanic structure.

## SUPPLIES

- 🌿 5 colors of playdough
- 🌿 Dental floss
- 🌿 Paper plate (optional)

## PRE-LAB QUESTIONS

1. What is magma called after it comes to the surface of the earth?  
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2. What type of rock does lava form when it cools?  
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## INSTRUCTIONS

1. Build a small model volcano using playdough on a paper plate. The volcano should be about 3-4 inches tall and 3-4 inches wide.
2. Pretend your volcano erupted and covered the entire mountain with lava. Create a layer of playdough in a different color to represent the lava and cover your volcano with it.
3. Pretend your volcano had three more eruptions, following the directions in step 2.
4. Using a piece of dental floss, cut your volcano in half. You should be able to see your original volcanic structure and each of the new layers created from the lava. Do you see how over time volcanoes can grow and change in structure?

## QUESTION:

What are volcanoes?

## ANSWER:

Openings in the earth's crust where gases, lava, rock, and ash flow through



LESSON 22

## QUESTION:

Where do volcanoes occur?

## ANSWER:

Volcanoes occur where two tectonic plates collide (convergent boundaries) or where two tectonic plates pull apart (divergent boundaries)



LESSON 22

**QUESTION:**

What is magma that reaches the earth's surface called?

**ANSWER:**

Lava



MICAH 1:4

And the mountains will melt under him,

and the waterys will split open, like wax before

the fire. like waters poured down a steep place.

Handwriting practice lines consisting of multiple sets of three horizontal lines (top, middle, bottom) for tracing and independent writing.

MICAH 1:4

And the mountains will melt under  
him, and the valleys will split open,  
like wax before the fire, like waters  
poured down a steep place.

Handwriting practice lines consisting of solid top and bottom lines with a dashed middle line for tracing.

MICAH 1:4

Handwriting practice lines consisting of 10 sets of three horizontal lines (top solid, middle dashed, bottom solid).

## BLOW YOUR TOP

# Lesson 22 Quiz

- 1. What is an opening in the earth's crust where gases, lava, rock, and ash flow through?**
  - A) Gully
  - B) Volcano
  - C) Cave
  - D) Tectonic plate
  
- 2. What types of boundaries do volcanoes occur at?**
  - A) Convergent and divergent
  - B) Just divergent
  - C) Transform and convergent
  - D) Divergent and transform
  
- 3. Volcanoes all have the same tall, cone shape.**
  - A) True
  - B) False
  
- 4. What is magma called when it reaches the crust?**
  - A) Molten
  - B) Igneous rock
  - C) Lava
  - D) Ash
  
- 5. Where are most volcanoes located?**
  - A) Underground
  - B) On top of the crust
  - C) In forests
  - D) Deep in the ocean



6. **When volcanoes erupt many times under water, they can eventually form:**

- A) trenches
- B) islands
- C) lava caves
- D) coral reefs

7. **What do we call the place where 75% of the earth's volcanoes are located?**

- A) The Ring of Fire
- B) Volcanic ring
- C) Smoke circle
- D) Ring of volcanoes

8. **When a volcano erupts, lava and smoke are the only things that come out.**

- A) True
- B) False

9. **What is one positive impact volcanoes can have after they erupt?**

- A) They will never erupt again
- B) They become safe for people to explore
- C) The land near the volcano becomes good for growing crops
- D) They clean the air around them