



# EVERLASTING VOLCANO

## NEXT LEVEL CHALLENGES!



NAME:

# 1 BUILD BIGGER

## You will need:

*Newspaper*

*Bowl*

*Flour*

*Water*

*Salt (optional)*

*Paintbrushes*

*Small paper cup*

*Stirring utensil*

*Pizza box or other cardboard base*

*Washable paint (optional)*

*Masking tape*

Everlasting volcano

## Here's how:

1. Make the base. Start with a pizza box or other large cardboard base. Crumple up newspaper and tape it to the center of the box, building up your mountain as you go.
2. Create a flat area at the top of your mountain that is large enough for the everlasting volcano to sit on top.
3. Use masking tape to connect the volcano to the top of the mountain. Wrap the entire mountain in masking tape to create a smooth surface.
4. Make the paper mâché paste:
  - a. Combine one part flour with two parts water. You can add a few spoonfuls of salt if you want.
  - b. Stir until smooth. You want the mixture to be runny, like white glue.
5. Form the exterior of the volcano:
  - a. Tear newspaper into 2 inch strips.
  - b. Dip a strip of newspaper into the paste or brush the paste onto the paper.
  - c. Place the strip onto the volcano and smooth it with your fingers.
  - d. Repeat until the entire volcano is covered in strips. (Make sure to overlap the strips; they should be placed in different directions.)
  - e. Let the volcano dry for at least 24 hours.
  - f. Optional: paint the volcano with washable paint.
6. Create eruptions out of your even bigger everlasting volcano as described on pages 5–7 of the Wow-To Guide.

## 2 X MARKS THE (HOT) SPOTS

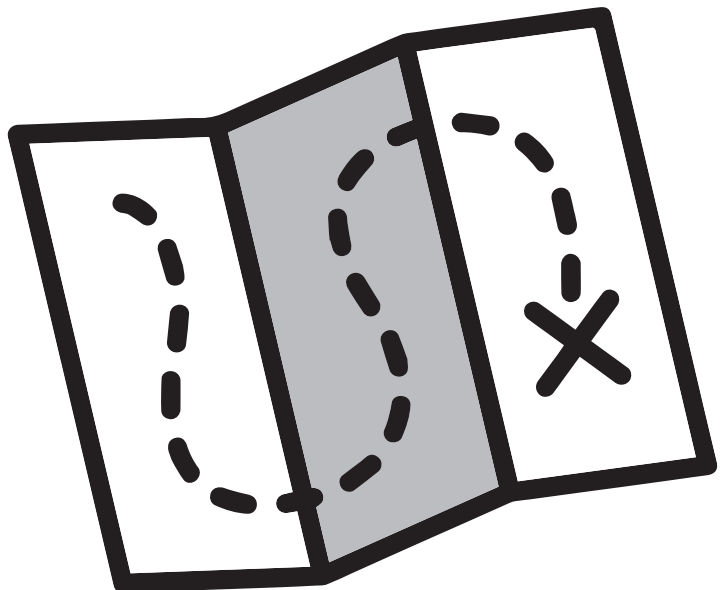
### You will need:

Map or globe

Small dot stickers

### Here's how:

1. Do some research in library books or on the Internet to find where the active volcanoes are located on Earth.
2. Place a sticker on top of the volcano's location. What do you notice?



### 3 WHAT'S INSIDE A VOLCANO

**You will need:**

*Markers or colored pencils*

*Paper*

**Here's how:**

1. Do some research in library books or on the Internet to find out more about what's happening inside a volcano. (You can find a basic diagram on page 8 of the Wow-To Guide).
2. Draw a diagram of a volcano on your paper, labeling the different parts:
  - Sill
  - Vent
  - Ash cloud
  - Ash
  - Lava
  - Parasitic cone
  - Crater
  - Conduit
  - Magma

## 4 TECTONIC CRACKERS

### You will need:

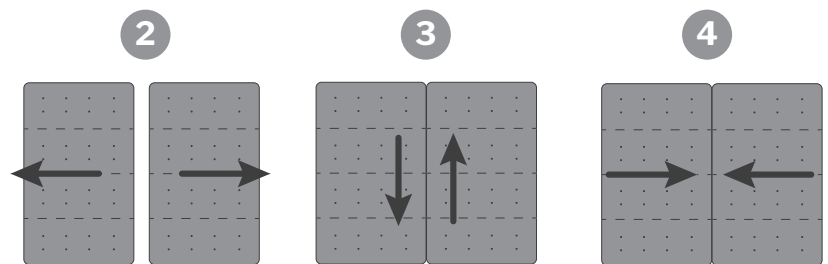
Graham crackers

Peanut butter (or similar)

Wax or parchment paper

Ruler

Water



### Here's how:

1. Cut a piece of wax paper that is around a foot long. Spread a half-inch layer of peanut butter on top of the wax paper, to model the magma under Earth's crust. Place two graham crackers right next to each other on top of your magma. These represent tectonic plates.
2. *Divergent Boundary:* Push the graham crackers away from each other, keeping your eye on the peanut butter. Divergent zones occur on the floor of the ocean where tectonic plates spread apart. As they separate, magma oozes upwards, then cools and hardens to make new crust.
3. *Transform Boundaries:* Put the two crackers side by side, and slide one forward (away from you), and one backward (toward you). When plates slide past one another in this way, they often get a little stuck. When they break free, an earthquake happens.
4. *Convergent Boundary:* Wet the edge of one graham crackers with some water. Put the wet edge next to a dry cracker. Slowly push them together. When the crackers edge crumbles together and raises up, you have made a mountain range!

## What do volcanoes have to do with crackers?

Volcanoes are found all over the world, but as you can see on the map, they are more common in some parts of the world. To understand why this is so, it is best to remember what a volcano is: a hole in Earth's crust through which the magma in Earth's interior can escape.

Earth's crust, however, is not like a continuous blanket that wraps itself entirely around the planet, but rather consists of seven major tectonic plates and about 50 minor plates. A tectonic plate usually consists of solid land and the surrounding sea bed.

These plates do not lie there static and unmoving: If you look at the big picture, humans are just tiny creatures that

are surfing around on gigantic tectonic plates over a very hot ball of molten rock. The tectonic plates are solid, but the layers of rock below them are many hundreds of degrees in temperature and thus they are fluid. The slabs of crust float around on this, and where their edges meet, earthquakes occur and mountains are pushed upward. But normally, this movement of the plates is so small that we cannot feel it.

Because Earth's crust is constantly moving, it has many cracks and crevices through which the magma can rise and form volcanoes. Some locations are known as hot spots. This means that there is a magma bubble under a plate. Over millions of years, the plate moves over this hot spot, creating one volcano after another — like a string of pearls.

