Activities

The Magic School Bus Blows Its Top

Grades: 3–5 Overview
This is one of the Magic School Bus Series. It is designed for small groups of up to 4 children. Kids make a model to learn about geology, chemistry, island formation and underwater volcanoes.

Field Trip Notes
Something’s missing from the classroom globe: an island so new it hasn’t been discovered yet! Where will the kids find the island? What will they name it? In their search, the kids spot a mountain underwater and dive down to the ocean floor. They squeeze between two plates of crust and discover that the mountain is an underwater volcano - and they’re inside it, about to explode! They figure out that when the magma explodes into the air, it will cool and harden on top of the volcano. Eventually, the volcanos top will stick out of the water and form the new island. Now, if only Dorothy Ann and Carlos can agree on a name for the island!
Eruption

**Time:** 30-40 minutes

**Group Size:** Four

Ms. Frizzle’s class finds a volcano underwater. Your students can make models of underwater volcanoes, and then create their own eruptions.

**What You Need**
- 1-pound box of baking soda
- 12-ounce jar of vinegar
- Small bottle of red food coloring
- Sheets of newspaper
- For each group:
  - 1 teaspoon
  - 1 shoe box
  - 2 fist-sized balls of modeling clay (Alternatively: aluminum foil)

**Talk About It**
Ask children: How are islands created? Why don’t they float away in the ocean currents?

**What To Do**
- Cover desks with newspaper. Direct groups to build models showing how an underwater volcano reaches from the ocean floor to above the water’s surface.
Ask:
Where would the crust be in your model? (below volcano) Where would magma come from? (pushes up between crust pieces)

- After groups have built models, ask: What do you think causes a volcano to erupt? (pressure of magma gases)
- Help groups create “eruptions.” Ask: What do you think caused the “lava” (what magma is called once it explodes into the air and loses gases) to flow? (Gas created by mixing baking soda with vinegar pushed up.) How are your eruptions and real eruptions alike? (gases giving a push) How are they different?

Next Stop
Encourage students to use crayons, markers, modeling clay, and construction paper to add details above and below the water’s surface.

Subjects:
Earthquakes, Tsunamis, Volcanoes, Earth Science, Landforms, Oceans, Lakes, Rivers, Geology, Chemistry, Observation