# Volcanologist: Maps and Symbols

### **Adventure Description:**

SOCIAL STUDIES CAREER

**ADVENTURES** 

In this adventure, you will think like volcanologists and create a map to show where volcanoes are located.

### Activity

Teacher Prep: You will be dividing the class into pairs or small groups. Each group will need a baggie with 1 Tablespoon of baking soda. In addition, half of the small groups will need a cup with vinegar (filled 1/4 of the way). The other half of groups will need a cup with water (filled 1/4 of the way).

### Step 1: Background on Maps and Volcanoes (5 minutes)

- Show Video: Maps and Symbols.
- Ask students why a volcanologist would want to create maps. Discuss how volcanologists create maps so they can learn about where volcanoes are located around the world. They also want to figure out where volcanoes are located that could erupt! If volcanoes are going to erupt, people might who live near the volcanoes might need to leave the area.

### Step 2: Erupting Volcanoes (15 minutes)

- Explain to students that they will imagine that their classroom is an island. They will be volcanologists who are making a map of where different volcanoes are located.
- Provide students with Handout: Making a Volcano. Discuss the steps.
- Divide students into pairs or small groups. Have groups sit on the floor around the classroom, making sure groups are spread out.
- Provide each group with the following materials:
  - 1 Dixie cup (filled with either water or vinegar)
  - Plastic plate
  - Baggie with baking soda
- Explain to students that they should wait to pour their baking soda into the cup until you tell them to do so.
- Once students pour their baking soda into the cup, they should see if their volcano erupted or not.
- Teacher note: Half of the volcanoes will erupt because of the baking soda and vinegar combination and half will not. Have groups circle if they had an erupting or not erupting volcano. When groups are finished, have them leave their sheet at the spot where their volcano was. Then, have all students should come to a carpet or meeting area, making sure to leave behind their sheets where the volcano was.

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### Step 3: Making a Map of Volcanoes (15+ minutes)

- Explain to students that they will work as a class to create a map to show where volcanoes erupted and did not erupt in their classroom.
  - Teacher note: You can have students work in their small groups to create their maps if you prefer.
- Provide students with Handout: Making a Map. As a class, review the steps that the class will take to make the map.
- Complete Step 1. Get out a large sheet of paper that will be the map. Have the class brainstorm an idea for a title that can go at the top of the map.
- Next, complete Step 2 as a class. Discuss how maps always show where important things are located, like land and water. Have students volunteer to come up to the paper and draw where important things are in the classroom (carpet, desks, books) so they can create their own class map.
- Next, complete Step 3. Remind students that a key explains what symbols are in a map. Draw a box in the bottom right corner. Ask students what symbol they should use for erupting and not erupting volcanoes (ex: red circle for an erupting volcano and a green square for a not erupting volcano). Fill in the key.
- Next, complete Step 4. Have students take turns looking around the classroom and seeing where there are erupting and non erupting volcanoes. Then, have students add symbols to their map to show where they are located in the classroom.

### Step 4: Class Discussion (5 minutes)

- Discuss how symbols are important because they tell us what the shapes mean on an map. For example, a triangle could mean anything on a map! It could be a symbol for a volcano, a car, a mountain, or anything else!
- If time permits, explain that some maps are digital, which means they are online. Go to: https://volcanoes.usgs.gov/index.html and discuss how this is a real map that volcanologists make of where volcanoes are located! Discuss what symbols are on the map.

### **Materials List**

#### **Provided online:**

- Video: Maps a Symbols
- Handout: Making a Volcano
- Handout: Making a Map

- Not Provided online (each student or group needs):
  - 1 Dixie cup
  - Water
  - Vinegar
  - Large sheet of paper
- Plastic plate
- Plastic baggie
- Baking soda
- Colored pencils, crayons, markers

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