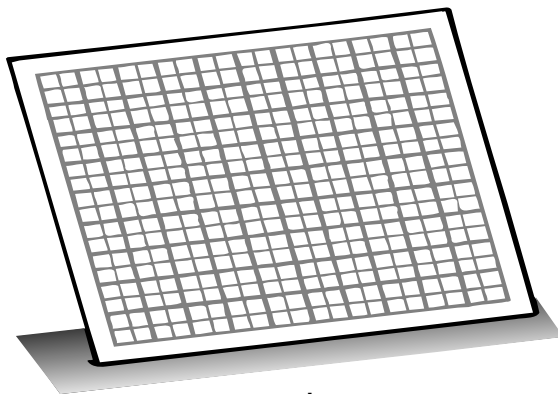


# Researching Earth's Moving Crust

## WHAT YOU NEED



newspapers,  
magazines, or  
the Internet



graph paper



a world map

### Find Out

Do this activity to see what evidence exists today of plate movement or volcanic eruptions.

### Process Skills

Communicating  
Interpreting Data  
Using Numbers

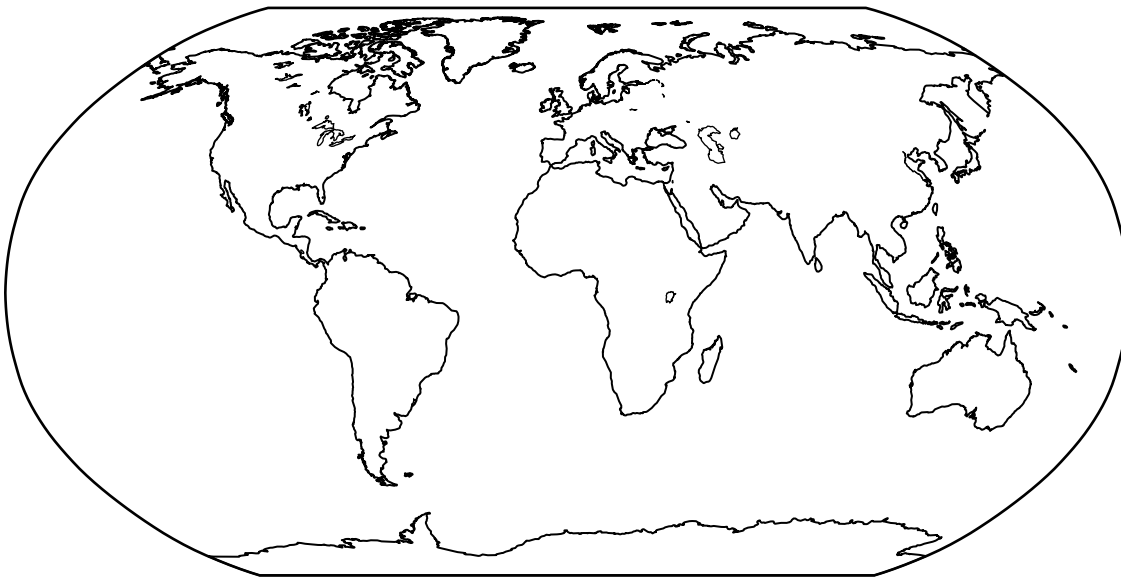
### Time

- 30 minutes the first day
- 15 minutes each day for three weeks



## WHAT TO DO

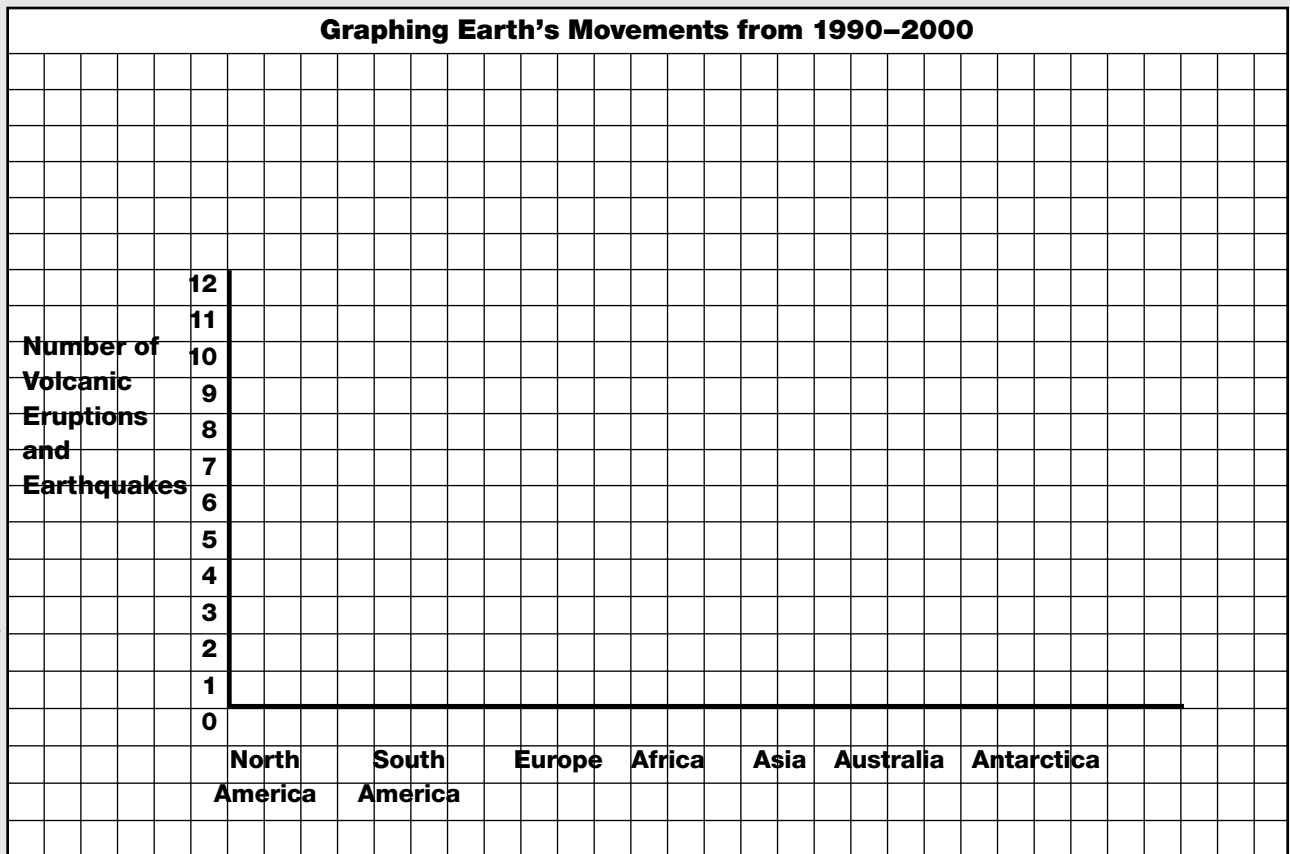
1. **Locate** articles from 1990–2000 about volcanic eruptions and earthquakes in newspapers or magazines from the library or on the Internet.
2. Collect and **record** information for three weeks.
3. At the end of three weeks, prepare a bar **graph** of your results. The left side of the graph should show the numbers of volcanic eruptions and earthquakes identified over the ten-year period. The bottom of the graph should identify the continents.
4. **Record** the city, country, and continent of Earth's movements on the world map with red dots.



### Recording Earth's Movements

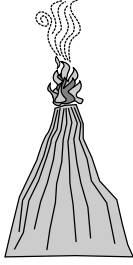
Time	City, Country, and Continent of Volcanic Eruptions and Earthquakes
Week 1 Day 1	
Day 2	
Day 3	
Day 4	
Day 5	
Week 2 Day 1	
Day 2	
Day 3	
Day 4	
Day 5	
Week 3 Day 1	
Day 2	
Day 3	
Day 4	
Day 5	

### Graphing Earth's Movements from 1990–2000





Name \_\_\_\_\_



# ACTIVITY

## Putting the Pieces Together

How many ways could you match the continents? **Record** the number of matches.

<b>Number of Matches</b>	<b>By Shape</b>	<b>By Surface Features</b>	<b>By Shape and Surface</b>

Make a **drawing** of the best fit you discover. Include a key that classifies where the geologic and surface features are on the map. Also make a map of the present-day positions of the continents.

**Write** a paragraph about your new map.

Name \_\_\_\_\_

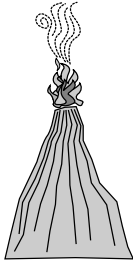
## **Conclusions**

- ① How many different ways did the continents fit together with shapes and features? With shapes alone? With features alone?
  
- ② Compare your map in Step 5 with the map in Step 6. How do they differ? Are any of the continents in the same place? Where would the north pole be on the map in Step 5? How do you know?
  
- ③ What do the fit of shapes and resources tell you about how likely your arrangement is?
  
- ④ Did your paragraph include all of the information about your map, including your results?

## **Asking New Questions**

- ① What does the evidence of fit, for shapes and features, tell you about the continents and their relative positions?
  
- ② If you lived 10 or 20 million years from now, how would you be able to figure out the relative positions of the continents of the twentieth century?
  
- ③ How could your paragraph be useful to others who want to find out if the continents could have once been joined?

Name \_\_\_\_\_



# ACTIVITY

## Making It Quake

**Draw** a diagram of your model village.

What do you predict will happen when you and your partner pull the cloth or plastic wrap?

**Record** what happened when you pulled on the cloth or plastic wrap.

## **Activity Journal**

### **Lesson 2 • Major Geologic Events**

Name \_\_\_\_\_

## **Conclusions**

**1** Why did you need cloth or plastic wrap at the bottom of the pan?

**2** What does the space between the two cloths represent?

**3** What happened when you pulled each strip in the opposite direction?

**4** If you had time, what happened when more force was used to pull the strips?

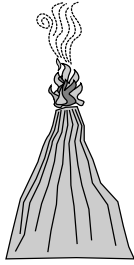
## **Asking New Questions**

**1** Can you imagine how real cities could be damaged during an earthquake?

**2** What steps could you take to minimize damage and injury if you lived in an area prone to earthquakes?



Name \_\_\_\_\_



# ACTIVITY

## Investigating Plate Tectonics

**Draw** some of the egg-piece puzzles you come up with. Circle the drawing that comes closest to fitting the pieces back together.

Name \_\_\_\_\_

## Conclusions

1 Did the pieces fit together perfectly?

Why or why not?

2 Explain what happened to your eggshell when you pushed two pieces toward one another. What type of boundary did it represent?

3 Explain what happens when you push the shells away from each other.

4 What part of Earth did the water represent?

## Asking New Questions

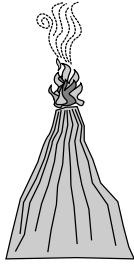
1 What other Earth processes did the egg and shell represent?

2 Imagine that your egg has been cut in half. Can you **infer** a comparison of the structure of Earth to the egg?

**Activity Journal**

**Lesson 4 • Continental Drift**

Name \_\_\_\_\_



# ACTIVITY

## Moving On

**Interpret** the data for the current continental positions and what you know about continental drift to **predict** where the continents will be in ten million years.

**Draw** some sketches of the different versions of your model of Earth in ten million years.

Name \_\_\_\_\_

## **Conclusions**

① What did you **predict** about the position of Earth's continents ten million years from now?

② Will they be in the same places or different ones?

How do you know?

## **Asking New Questions**

① How is predicting different from guesswork?

② What further evidence do you need to better predict the future positions of the continents?

③ How could you test your predictions?