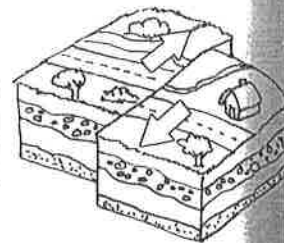
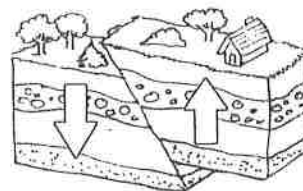
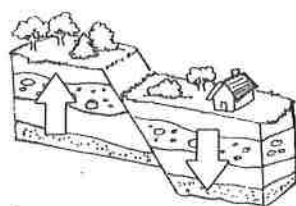


## Earthquakes



The surface of Earth is constantly changing. Some changes are slow over time and some are immediate. Earthquakes can change Earth in seconds. They can move mountains, soil, trees, water, and everything else!

One such earthquake happened at 5:12 A.M. in April 1906. Most people were still asleep when the city of San Francisco was hit by one of the worst earthquakes on record. In less than one minute, the ground moved more than twenty feet. Dozens of buildings were flattened. Thousands lost their lives. The city burned for days following the earthquake.

Earth has four major layers. The outer layer is the **crust**, and it includes the ground and the ocean floor. The crust is broken up into huge pieces called plates. These plates move all the time. They float on the mantle. The mantle's upper part is red-hot, melted rock.

The crust has many cracks in it. The cracks, or breaks, are called faults. When rocks get stuck along a fault, the plates keep moving. The plates push hard against the rocks. If the rocks break, the plates move suddenly. Then Earth's crust starts to shake. This is an earthquake. Scientists watch larger faults for future earthquake activity.

Earthquakes happen every day on Earth. The force of an earthquake can start landslides and mudslides. Mud, rocks, and trees tumble down slopes. The shape of the land changes. However, most earthquakes are small.

In 1811 and 1812, three very big earthquakes struck near New Madrid, Missouri. They changed Earth's surface more than any other earthquakes in North America. Large areas of land sank, new lakes formed, and forests were destroyed.

Name \_\_\_\_\_ Date \_\_\_\_\_

Use what you read in the passage to answer the questions.

**1.** According to the passage, when did the San Francisco earthquake happen?

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**2.** How many layers does Earth have?

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**3.** How often do earthquakes happen?

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**4.** Why do scientists watch large faults?

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**5.** Name one thing that happened in the Missouri earthquakes.

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**6.** Does the surface of Earth change during an earthquake?

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**7.** Explain the meaning of the boldfaced word **crust**.

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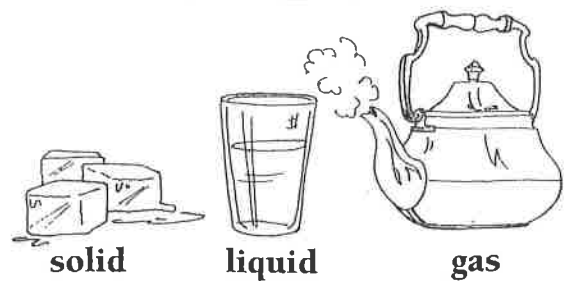
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**8.** Why do you think the author told about the San Francisco earthquake?

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## Liquids and Gases



Matter exists in three forms: **solid**, liquid, and gas. Think of water. When it's ice in your drink, it's solid. When it pours out of a hose, it's liquid. When it's steam coming from a teakettle, it's gas.

**Liquids:** Liquids are different from solids. A solid keeps its shape, but a liquid takes the shape of whatever it's in. Think about pouring a cup of milk. First the milk is in the shape of the carton. After it's poured, the milk takes the shape of the cup that's holding it. Liquids are different from solids in another way. Liquids flow. If you tip that cup of milk, the cup is a solid so it doesn't change shape. But the milk flows and drips until you wipe it up.

**Gases:** Like solids and liquids, gases are everywhere. And like solids and liquids, gases are matter. But gases are different from solids and liquids. Gases do not have a definite shape. That's why gases are hard to see, taste, or feel. But you can often tell when a gas is around. Hear that hissing sound when you open a can of soda? It is gas escaping from the can. A balloon is just an empty bag until it is filled with your breath, which is a gas. Gases give the balloon its round, full shape.

**Temperature Changes Things:** Most objects are solid matter at low temperatures. As the temperature rises, solids turn into liquids. The temperature at which a solid turns into a liquid is called its melting point. As temperatures keep rising, liquids turn into gases. But different kinds of matter need different temperatures to change their state.

As an example, at room temperature, a rock is a solid. Below Earth's surface, the temperature can rise to 2,200° Fahrenheit (1,205° Celsius). That is hot enough to melt solid rock into a liquid. Liquid rock is called **magma**. When magma cools, it forms into solid rock again.

Name \_\_\_\_\_ Date \_\_\_\_\_

Use what you read in the passage to answer the questions.

1. What is a **solid**?

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2. What is the main idea of the passage?

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3. When a cup of liquid tips, what happens to the solid and the liquid?

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4. When a solid is heated, what happens?

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5. What is **magma** and how is it made?

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6. What is the hissing sound you hear when you open a can of soda? Is that liquid or gas?

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7. Explain the illustrations in your own words.

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8. Is the gasoline that we put in cars a liquid or a gas? How do you know?

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