

Short Read 1

Remember to annotate as you read.

# Earthquakes

by Kathy Furgang

Notes

1 Every day an average of fifty earthquakes are detected on Earth's surface. Why do some earthquakes cause major destruction while others go by almost unnoticed? The answer is in the amount of energy they release.

## What Causes Earthquakes?

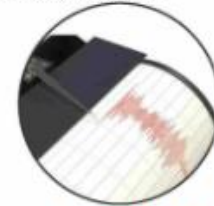
2 An earthquake is a sudden movement or shift of Earth's crust. This thin outer layer is made of many interlocking pieces called tectonic plates. These plates float on a layer of hot molten rock and move as slowly as fingernails grow. As they move, they rub against one another, building up stored energy and pressure. When these plates shift or collide at their boundaries, an earthquake happens. Earth's surface rumbles and shakes as the energy is released.



Most earthquakes occur along the boundaries of Earth's tectonic plates.

## Measuring Quakes

3 Scientists can measure the strength, or magnitude, of an earthquake with an instrument called a seismograph. In one type of seismograph, seismic waves cause a drum to vibrate as a weighted pen records the vibrations. The longer the lines, the greater the energy released by the quake.



seismograph with drum and pen

## Earth's Changing Surface

4 The movement of Earth's tectonic plates reshapes Earth's landscape, building landforms such as mountains and valleys and other land features. As plates move apart, valleys, rivers, and even oceans can form.

5 The Himalayan mountain range in Asia, for example, was formed when the Indo-Australian and Eurasian plates came together. The plates collided and pushed upward, slowly forming the mighty mountain range over the last ten million years.



the Himalayas