

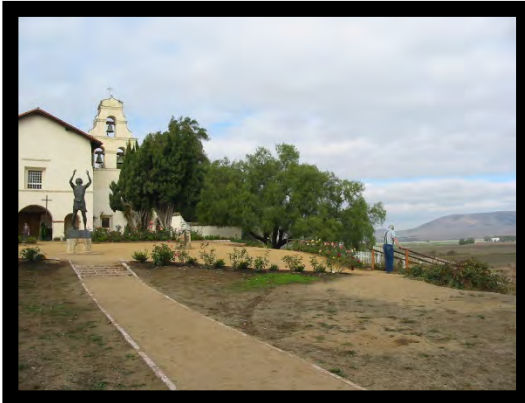
What Causes Earthquakes?

Chapter 1

Earthquakes are vibrations inside the Earth that follow the release of energy that has built up inside the rocks. Rocks fracturing, volcanoes erupting, and manmade explosions can release the energy stored in the rocks. The push and pull of tectonic plates causes rocks to bend as the pressure increases in rock segments. The strain in the rocks builds until they break and snap into a new position.

The breaking and realignment of the rocks generates seismic waves that can travel around the world. The most destructive earthquakes are created when there is sudden movement along large pieces of the Earth's crust.

Mission San Juan Bautista



The man in the distance is standing on the Pacific Plate and looking at the North American Plate.

The San Andreas Fault separates the two plates.

Movement along the San Andreas Fault has damaged the mission several times.

Three types of tectonic plate boundaries

There are three types of tectonic plate boundaries. Ninety percent of the earthquakes on Earth occur at these boundaries.

- Divergent boundaries are areas where two plates are separating. Spreading ridges form where shallow

Earthquake Pretest

Quiz 1

Fill in the blanks using words from the Word Bank

1. The Chinese have kept an earthquake _____ for several thousand years.
2. During the 1906 San Francisco earthquake rows of trees, roads and fences were offset several _____.
3. The _____ scale are used by city planners and insurance companies to set their codes and rates.
4. The travel time of earthquake waves differ from predicted travel times if the Earth was of _____ composition.
5. The _____ on Earth occur 90% at plate boundaries.
6. The San Andreas Fault is a _____ fault in the western part of California.
7. The total _____ released by an earthquake is determined by the moment magnitude earthquake scale.
8. The 1964 _____ earthquake was caused by the Pacific Plate moving northwestward.
9. _____ travel up to 950 km per hour in the open ocean.
10. The _____ where rocks fracture on a fault is the hypocenter or focus of the earthquake.

Word Bank

point	uniform	earthquakes	meters	Mercalli
energy	tsunamis	master	catalog	Alaska

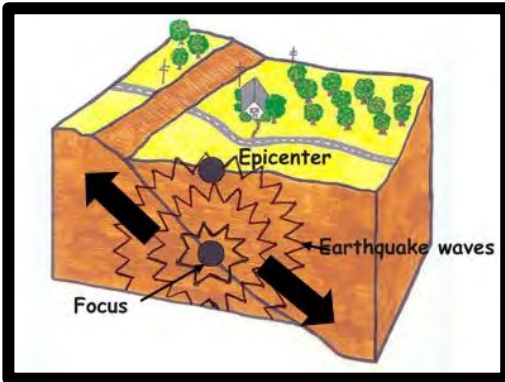
Picturing Earthquakes

Activity 1

Introduction

The crustal plates on the surface of the Earth are in constant motion. Today scientists use satellites to track tectonic plate movement. Each of the terms listed in the picture occur every time there is an earthquake. This activity will help you remember and understand the different terms that occur during an earthquake.

Fault Block



Picture showing earthquake terms

Materials

- White drawing paper
- Felt pens
- Colored pencils

Earthquake terms and their definition

- Focus of an earthquake is the point where the rocks break.
- Epicenter of an earthquake is the point on the surface of the Earth that is directly above the focus.
- Earthquake waves are seismic waves that radiate away from the focus of an earthquake in all directions. All earthquakes produce P waves and S waves.

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