

The tsunami -



An **earthquake** is -

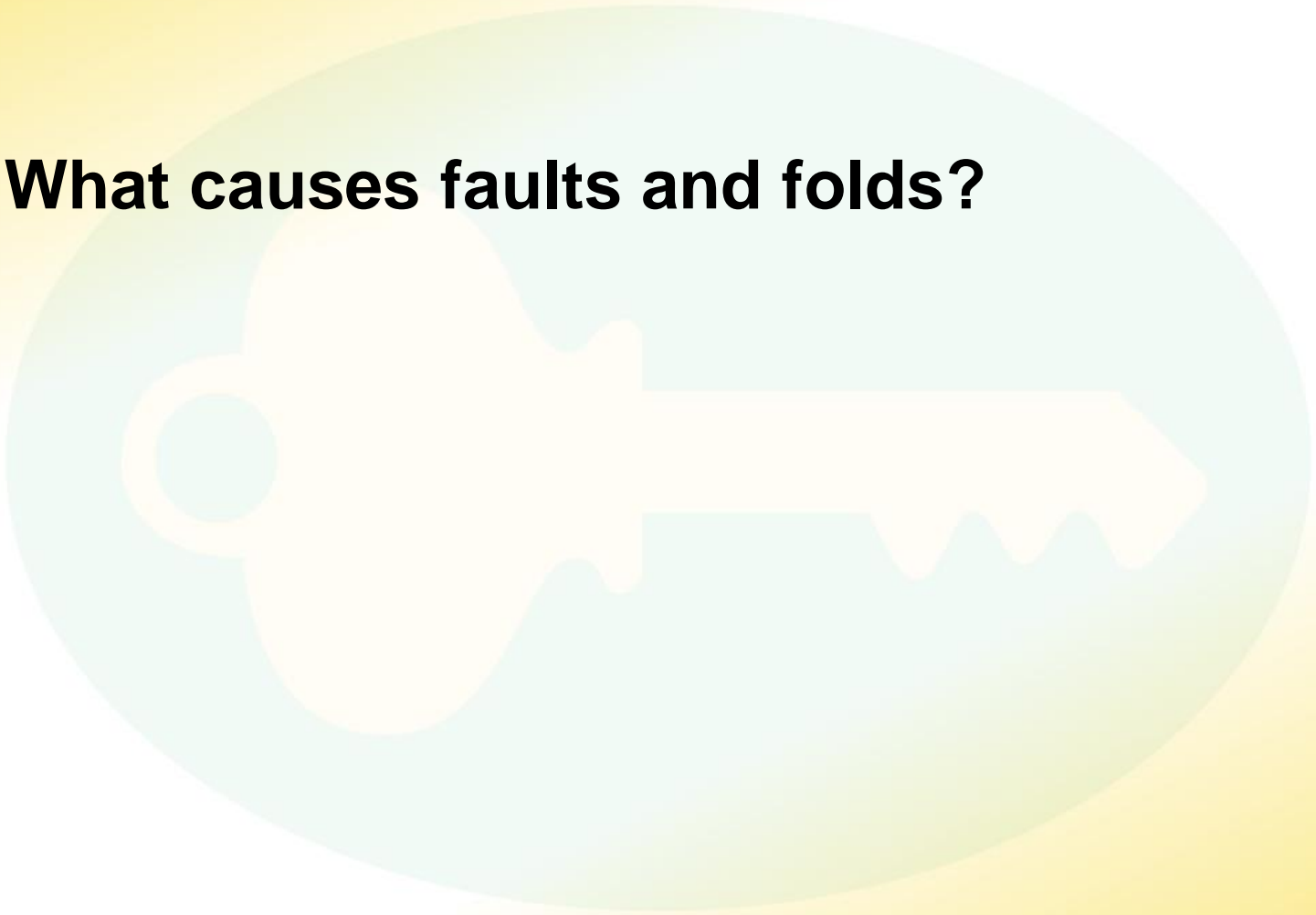
The energy released during an earthquake is

-

Stress in Earth's Crust



What causes faults and folds?



Stress in Earth's Crust

A **fault** is -

Stress in Earth's Crust

This portion of the San
Andreas -

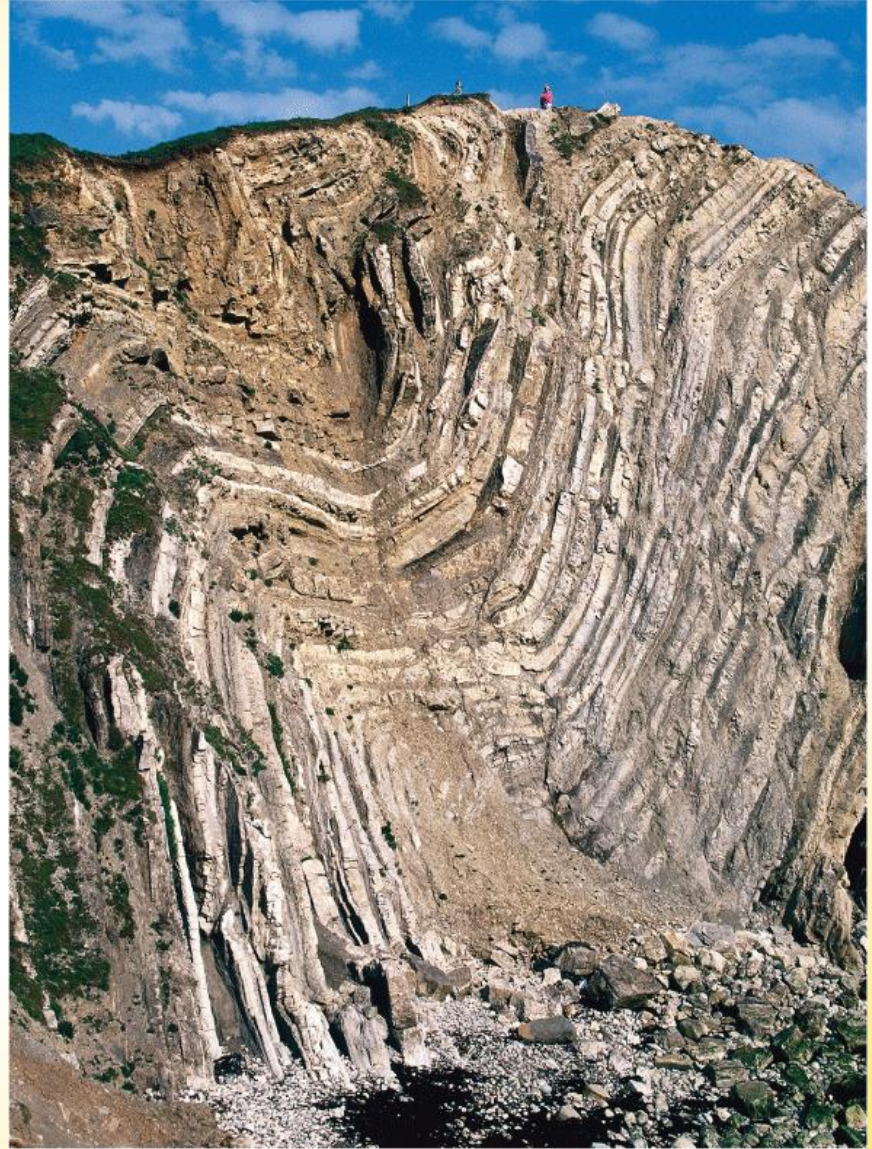


Stress in Earth's Crust

A **fold** is -

Stress in Earth's Crust

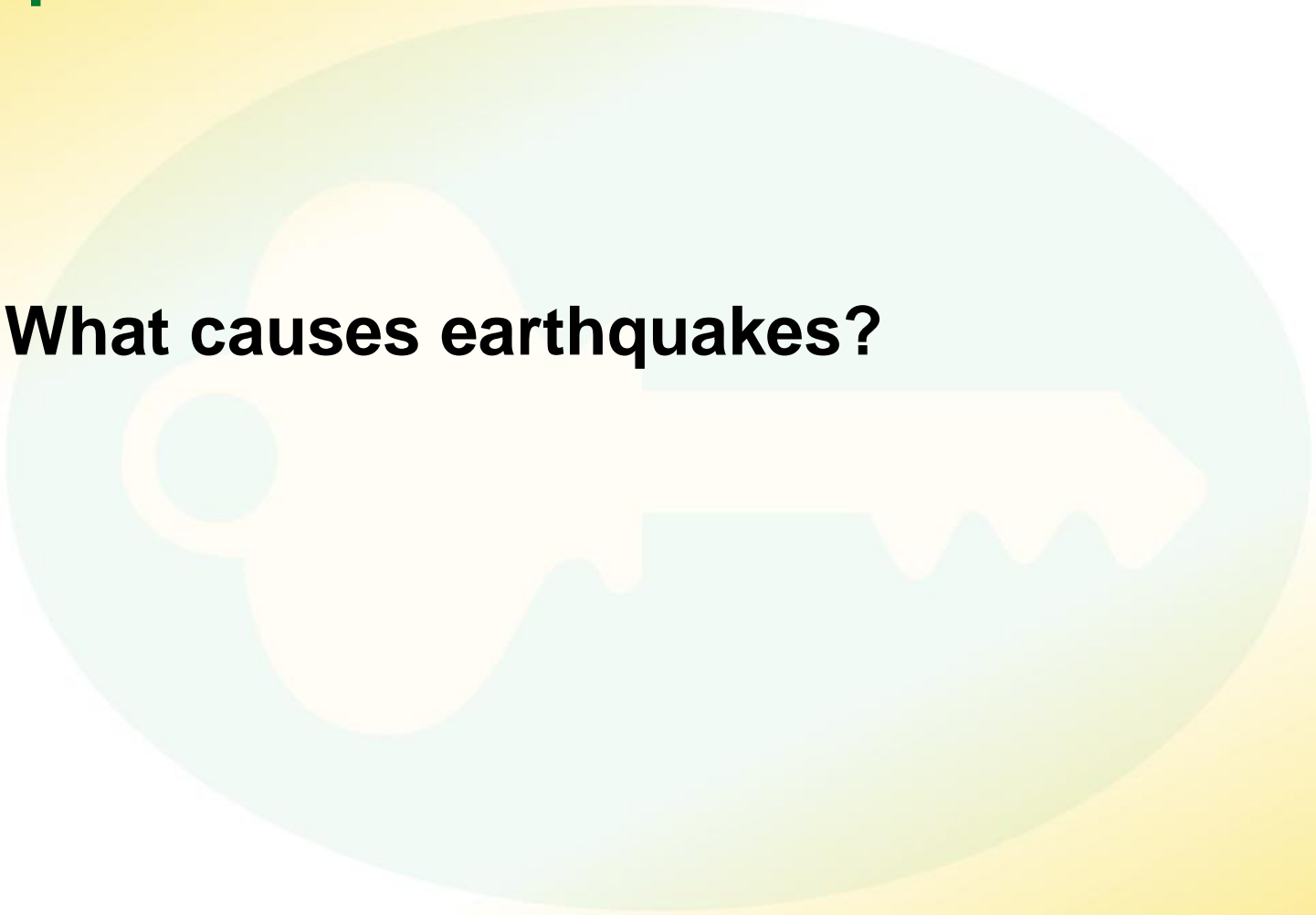
Stress -



Earthquakes and Seismic Waves



What causes earthquakes?



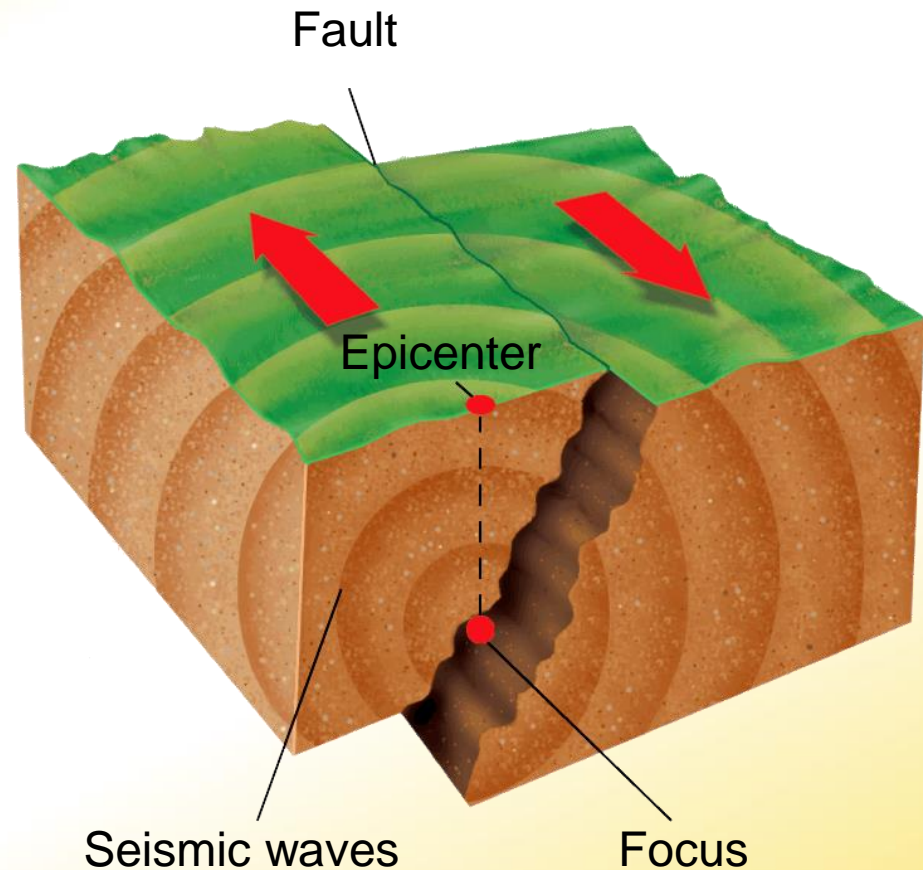
Earthquakes and Seismic Waves

The buildup of stress along a fault provides the energy that powers an earthquake.

- The location -
- The location on Earth's -
- Seismic waves -

Earthquakes and Seismic Waves

When an earthquake occurs on a fault-



Earthquakes and Seismic Waves

Types of Seismic Waves

Earthquakes produce three main types of seismic waves-

Earthquakes and Seismic Waves

P waves -

- As longitudinal waves -
- P waves -
- P waves -
- P waves -

Earthquakes and Seismic Waves

S waves are -

- S waves -
- Unlike P waves, S waves -

Earthquakes and Seismic Waves

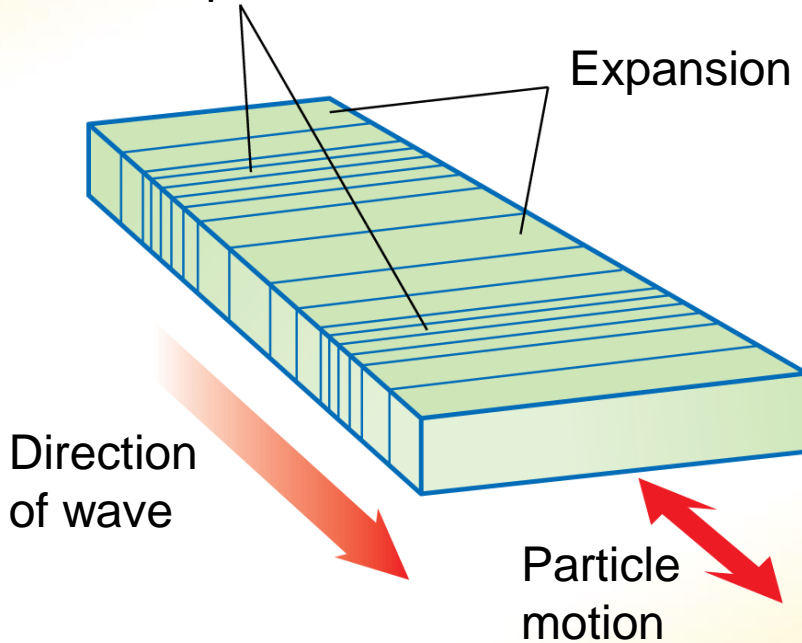
P waves are-

S waves are -

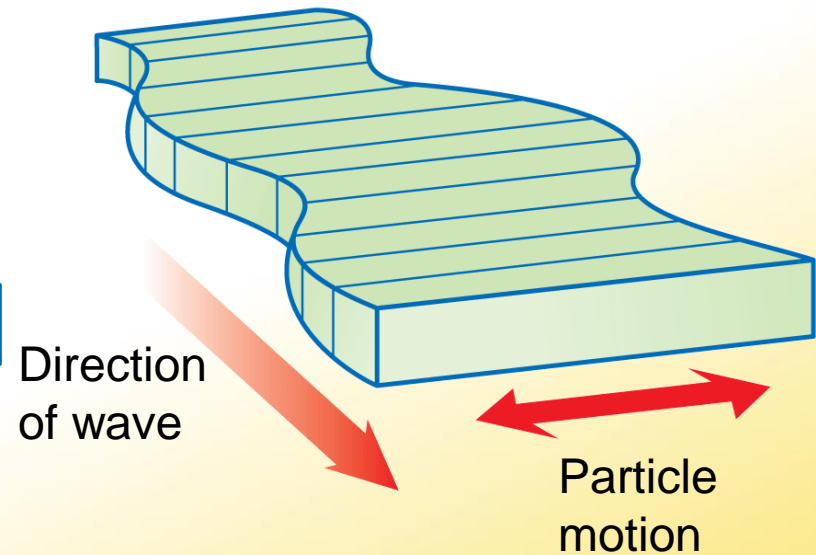
P wave

Compression

Expansion



S wave



Earthquakes and Seismic Waves

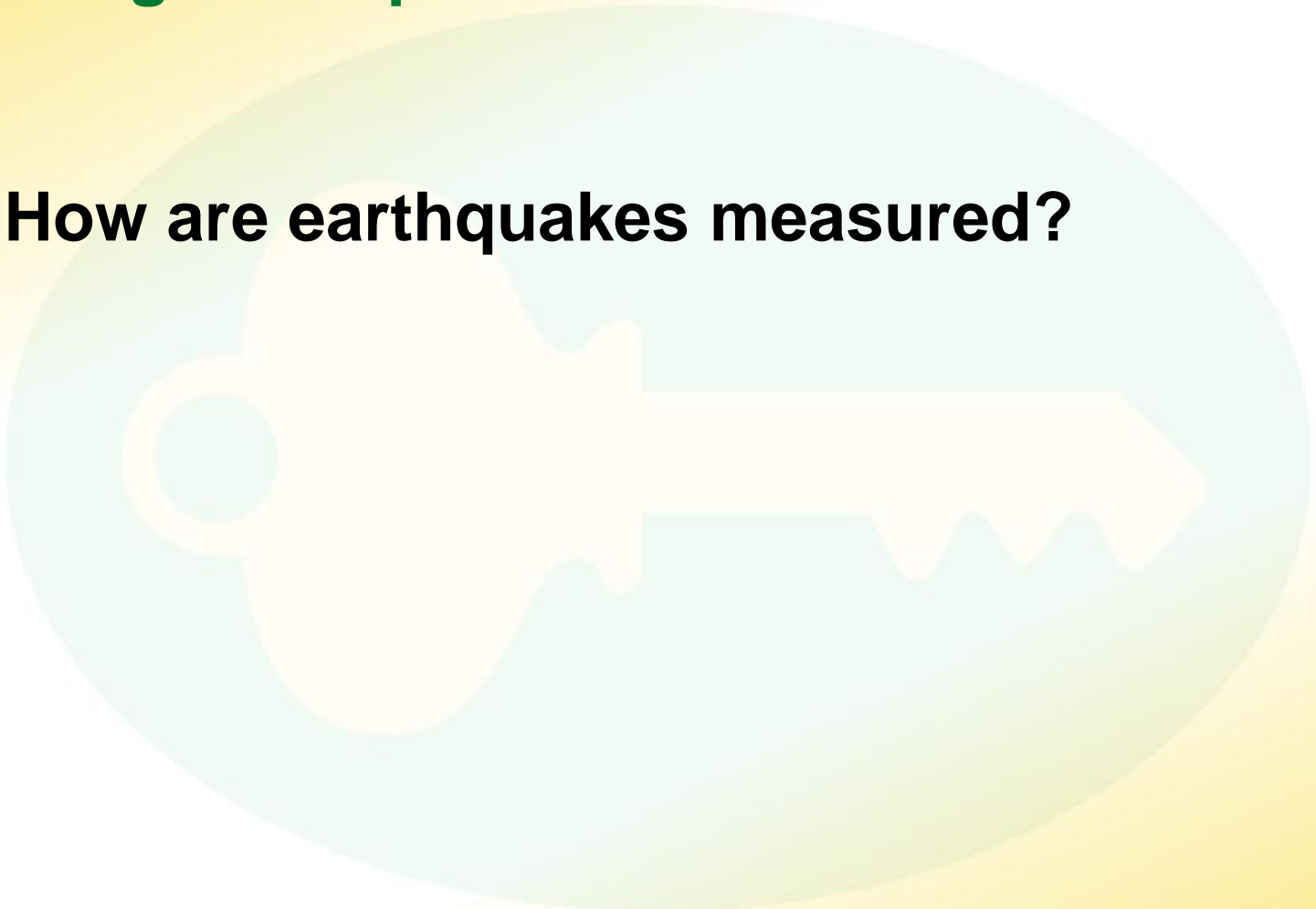
Surface waves are -

- Surface waves -
- They usually -
- Some surface waves are -

Measuring Earthquakes



How are earthquakes measured?



Measuring Earthquakes

Richter Scale

The most well-known scale is -

Measuring Earthquakes

Moment Magnitude Scale

The most useful scale -

Measuring Earthquakes

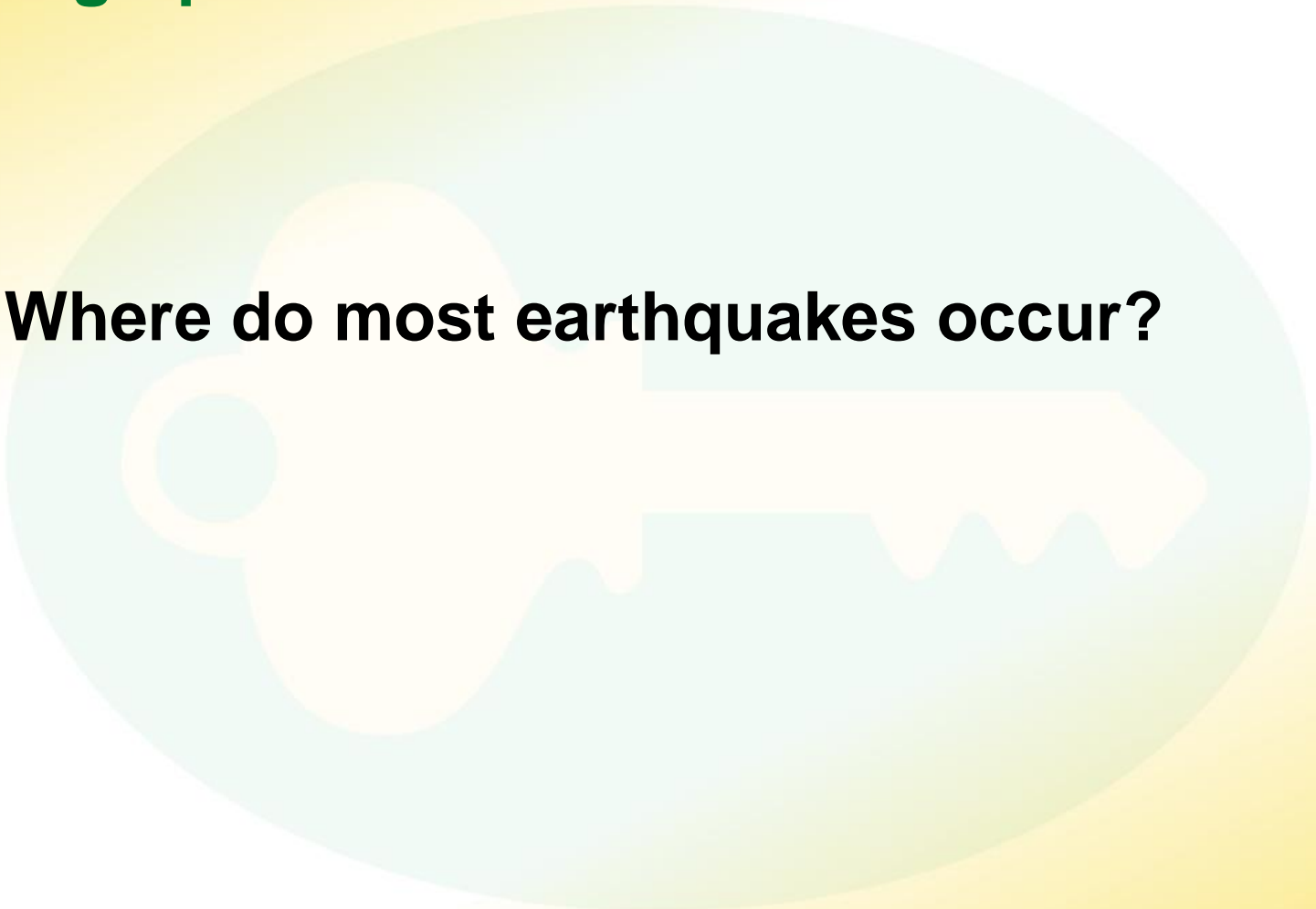
Modified Mercalli Scale

The effects of earthquakes can also be rated using -

Seismographic Data



Where do most earthquakes occur?

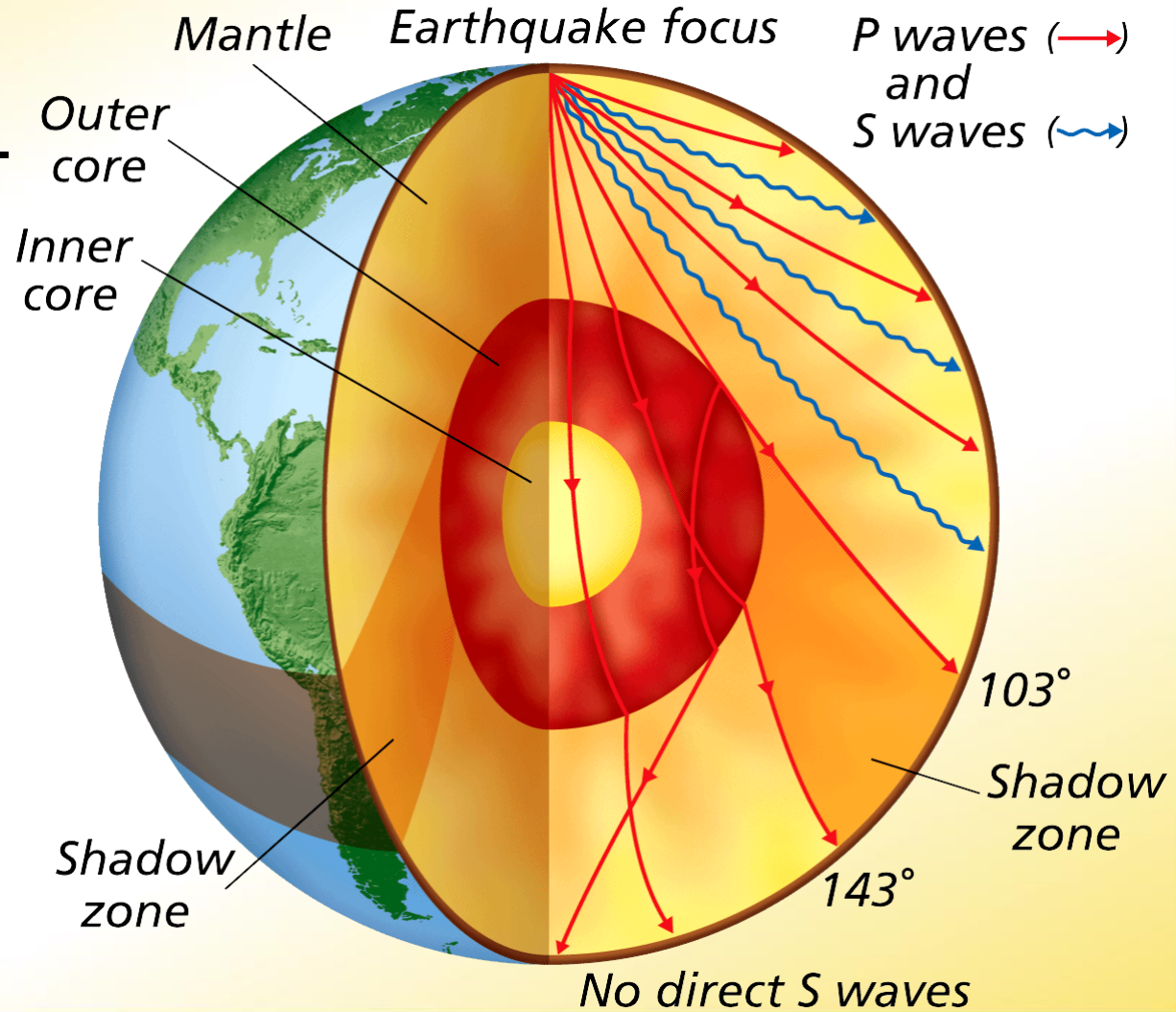


Seismographic Data

Geologists infer -

Seismographic Data

Earth's liquid
outer core blocks -



Assessment Questions

1. What causes an earthquake to occur?
 - a. Stress forces exceed the strength of rock.
 - b. Magma forces the crust apart.
 - c. Mountains become too tall and break the surface under them.
 - d. The crust releases built-up solar energy.

Assessment Questions

2. What information has been deduced from seismograms of earthquakes?
 - a. the size and shape of tectonic plates
 - b. the location of liquid and solid layers in Earth's interior
 - c. the location and strength of Earth's magnetic field
 - d. the causes of earthquakes and how to accurately predict them

Assessment Questions

1. The motion of tectonic plates causes stretching, which produces faults and folds in Earth's crust.

True

False