

Earthquakes

Check for Understanding

1. What are the three kinds of stress that occur in the crust? Describe each.
2. What kind of fault is the San Andreas fault?
3. What kind of stress occurs at the San Andreas fault?
4. What gets formed when the two sides of a normal or reverse fault move, and what is this process called?
5. What gets released when an earthquake happens?
6. Describe what happens in the Earth's crust to cause an earthquake.
7. What are the two types of seismic waves? Describe how they are different.
8. How does a seismograph work? (Hint: watch the video)
9. What system do geologists use today for rating the magnitude of an earthquake?

Answer Key

1. Shearing – stress that pushes a mass of rock in two opposite directions

Tension – pulls on the crust, making it thinner in the middle

Compression – squeezes until the rock breaks

2. The San Andreas fault is a strike-slip fault

3. Shearing because it is a strike-slip fault

4. When the two sides of these faults move, mountains get formed. This process is called uplift.

5. When an earthquake happens, energy gets released in the form of waves.

6. The movement of the Earth's tectonic plates causes them to get pushed into each other. This creates cracks in the crust called faults. At faults, the pieces of crust are moving into each other, getting pulled apart, or sliding past each other. The two sides of the fault can get caught on each other, building up lots of stress and storing lots of energy. When the two sides are able to break free of each other, the energy gets released as an earthquake.

7. There are primary and secondary waves. Primary waves are the first to arrive and travel forward and backwards. Primary waves can travel through solids and liquids. Secondary waves vibrate from side to side and up and down.

8. Seismographs record the ground movements made by the seismic waves

9. Geologists use the moment magnitude scale to measure the energy earthquakes of all sizes near and far away.