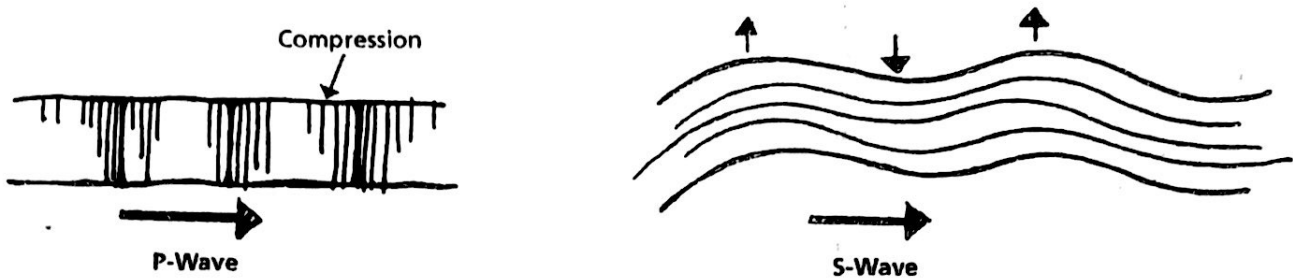


Earthquakes

GEOLOGY

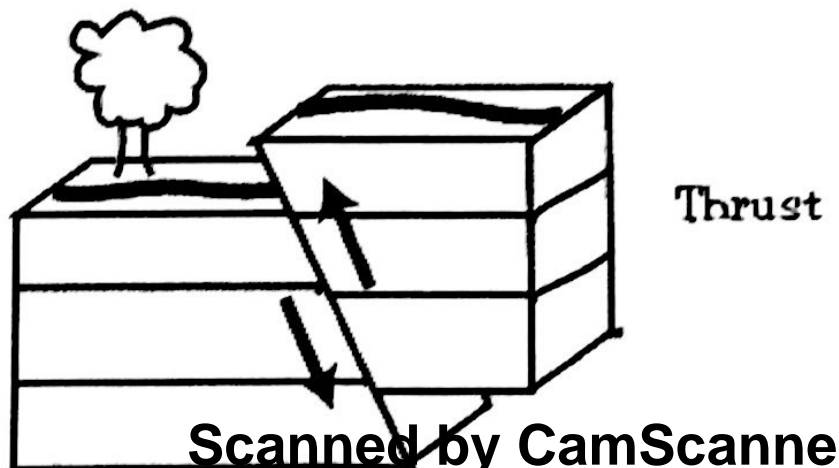
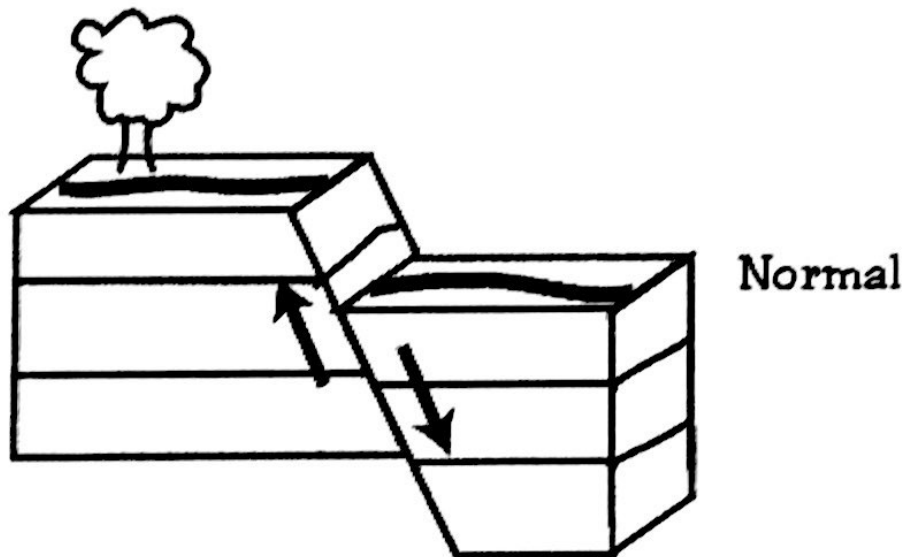
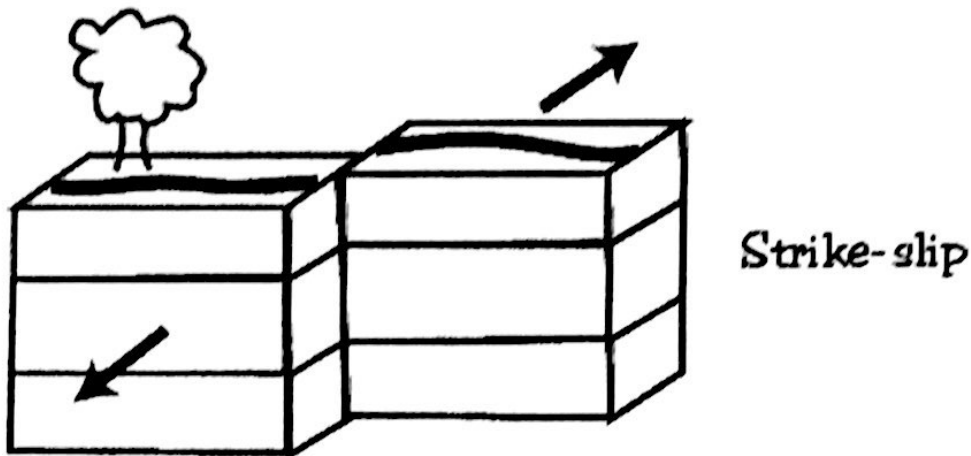
We feel sudden movements of the earth's crust as earthquakes. Most earthquakes occur along the edges of the crust's plates. This is where the major fault lines are located. The place where the plates break apart is called the focus. On the surface of the earth, directly above the focus, is the epicenter of the earthquake. The P-waves travel quickly out from the epicenter. They are followed by the slower S-waves.



Read each statement. Write T if the statement is true or F if it is false.

1. _____ P-waves are compression waves, which push the crust together and pull it apart as they travel.
2. _____ Seismographs record the P-waves and S-waves to give us the magnitude of the earthquake.
3. _____ S-waves move the earth's crust up and down.
4. _____ P-waves travel at a little more than half the speed of S-waves.
5. _____ Seismographs from three locations are studied to calculate the epicenter of an earthquake.
6. _____ After the P- and S-waves, you may feel a "ground roll," which can cause a lot of damage.
7. _____ Scientists are able to accurately predict when earthquakes might occur.
8. _____ The area around the epicenter of an earthquake usually experiences the most damage.
9. _____ An earthquake that occurs under the ocean can cause a tsunami, or tidal wave.
10. _____ Most earthquakes start very deep in the earth, at least 150 miles (241 km) down.

Types of Faults



Tree Map: Types of Stress

*stress—a force that acts on rock to change its shape or volume

Types of Stress

- Work over millions of years to change the shape and volume of rocks
- Most not observed directly
- Caused by slow shift of tectonic plates

Tension

- *pulls/stretches crust
- *crust/rock becomes thinner in middle
- *occurs where 2 tectonic plates move apart (divergent)

Compression

- *squeezes rock/crust
- *crust/rock folds or breaks
- *occurs where 2 plates are pushing together (convergent)

Shearing

- *rock/crust is pushed
- *rock/crust slips apart or breaks
- *occurs where 2 plates slip past each other (transform)