

## Seismic Waves

Name \_\_\_\_\_

Date \_\_\_\_\_ Hour \_\_\_\_\_

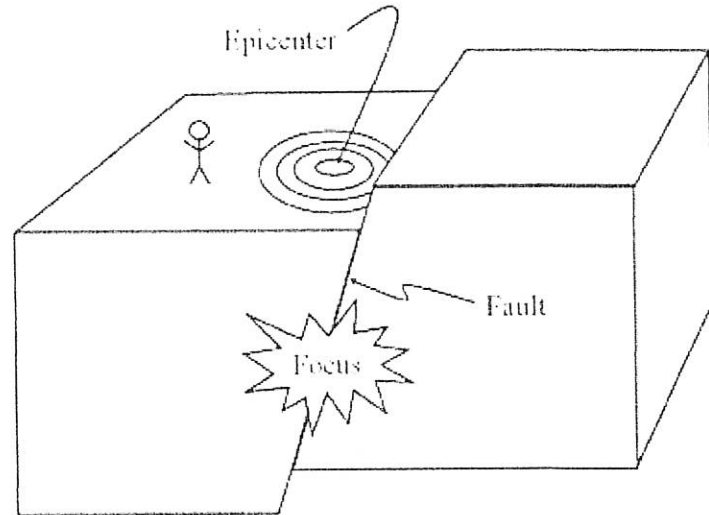
### Background Knowledge

**Seismic Waves** are caused by rock breaking within the Earth, due to stored up energy from tectonic plate movements or volcanoes. The wave energy travels outward in all directions from the point of rupture.

#### **Focus:**

The point within the Earth where the rupture in rock takes place.

**Epicenter:** The point on the surface directly above the Focus.



#### **How seismic waves travel:**

Seismic waves travel outward in all directions from the focus. There are different kinds of seismic waves.

#### **Body Waves**

1. **Primary Waves (p-waves)** are first and fastest. They travel as **compression (longitudinal) waves** through the Earth. They can travel through solid and liquid parts of the inner earth.
2. **Secondary Waves (s-waves)** come second and are slower. They travel as **transverse waves**. Their motion is side-to-side or up and down. They can only travel through solid earth.

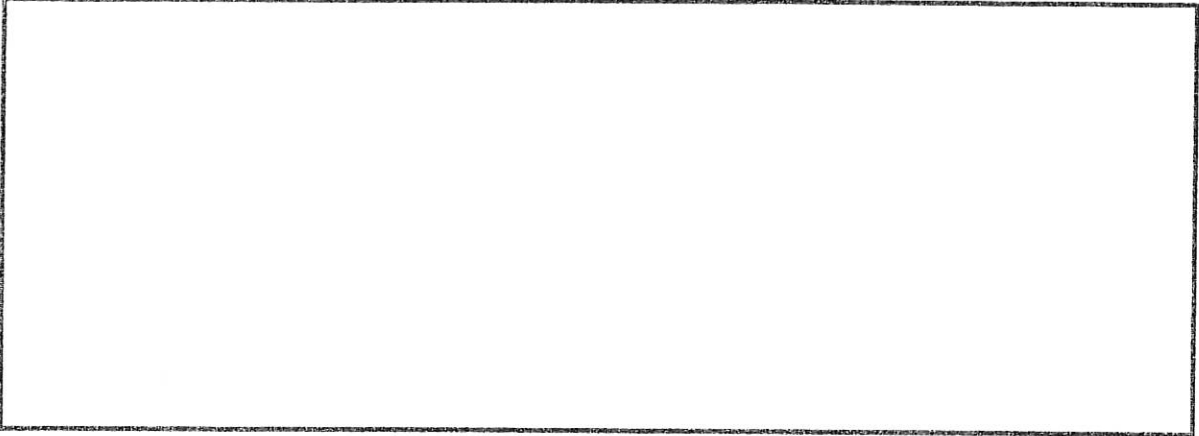
#### **Surface Waves**

**Surface Waves** travel across only the surface of the Earth. One kind of surface wave moves the ground from side to side. Another kind moves the ground in a rolling motion, like water waves. They cause the most damage to structures.

## Demonstrate Seismic Waves

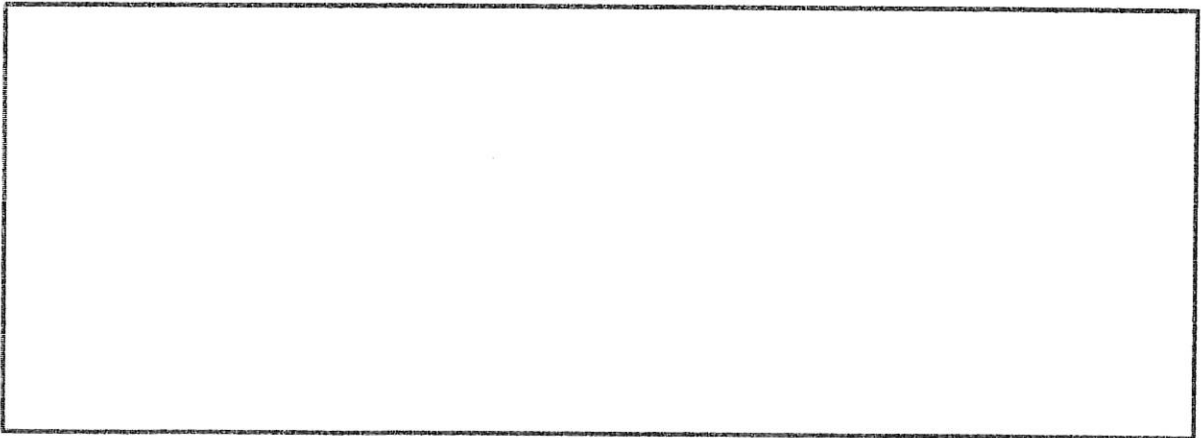
Using your slinky and a partner, follow your teacher's instructions to model each type of wave. Draw a picture of what each wave looks like below.

P-wave



This type of wave is a \_\_\_\_\_ wave. It travels through both \_\_\_\_\_ and \_\_\_\_\_ earth.

S-wave



This type of wave is a \_\_\_\_\_ wave. It can be \_\_\_\_\_ (up and down) or \_\_\_\_\_ (side to side). It travels only through \_\_\_\_\_ earth.