

## Formative Assessment #2

**Concept(s)  
Addressed**

Energy is transmitted through the earth in the form of seismic waves, which are classified as body waves and surface waves. Body waves (primary P and secondary S) have different movements. Primary and secondary waves travel through Earth's layers in different ways. The epicenter of earthquakes can be determined by triangulation using the difference in arrival times of "P" and "S" waves.

**Time**

20 minutes

**Materials**

Individual  
Prompt

**Advance  
Preparation**

1. Duplicate prompt for each student.

**Procedure:**

1. Tell students they will have an opportunity to share what they understand about differences between P and S waves.
2. Distribute the prompt to each student and ask him/her to do his/her best work.



**KEY**  
**Grade Six: Earthquakes & Volcanoes**  
*Juncture 2*

Directions: Answer the following questions using complete sentences. Include diagrams if needed.

1. Compare and contrast the movement of P and S waves. Use your notes and class activities as evidence to support your explanation.

*P waves moved through the slinky by snapping or compressing the first four rings. The wave traveled down the slinky.*

*P waves are body waves, which move by compression and dilation of rock.*

*P waves move faster through rock than S waves. P waves can go through liquid and solid cores. As they pass through the different mediums, they are defracted.*

*S waves moved through the slinky by moving side to side. S waves in rocks move sideways shearing the rock as it moves.*

S waves cannot travel through the light outer core, so are deflected.

2. How is the movement caused by surface waves different from both P-waves and S-waves?

*Surface waves can only move in the crust in a rolling motion.*

*P can move through the solid or liquid core. S waves can move only through the mantel.*