

WJEC Wales Physics GCSE

1.7 - Seismic Waves

Flashcards

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What natural event causes seismic waves to be produced? What types are produced?



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- Earthquakes
- They produce surface waves, P-waves and S-waves



State a difference between the mediums that P-waves and S-waves can travel through.



State a difference between the mediums that P-waves and S-waves can travel through.

- P-waves travel through both solids and liquids
- S-waves only travel through solids (**not** liquids)



Are P-waves transverse or longitudinal?



Are P-waves transverse or longitudinal?

Longitudinal.



Are S-waves transverse or longitudinal?



Are P-waves transverse or longitudinal?

Transverse.



Are surface waves transverse or longitudinal?



Are surface waves transverse or longitudinal?

Longitudinal.



Are S-waves faster or slower than
P-waves?



Are S-waves faster or slower than P-waves?

Slower.



Explain briefly how seismometer stations determine the location of earthquake epicentres.



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The station detects the seismic P and S waves and measures the time differential, which is used to calculate the distance they have travelled.



Why are multiple seismometer stations required to determine the epicentre's exact location?



Why are multiple seismometer stations required to determine the epicentre's exact location?

- The detectors can only give a distance from the station not a direction.
- Distances from at least 3 different stations are required to pinpoint the exact position.



What happens to the speed of seismic waves as they travel towards the Earth's mantle?



What happens to the speed of seismic waves as they travel towards the Earth's mantle?

Their speed increases.



What is the S wave shadow zone and what does it show?



What is the S wave shadow zone and what does it show?

- The area on the Earth's surface that S waves can't reach during an earthquake
- This led to the model of the Earth having a liquid part of its core



What are the 4 main layers composing the Earth?



What are the 4 main layers that compose the Earth?

1. Crust
2. Mantle
3. Outer Core (liquid)
4. Inner Core (solid)

