

Work Sheet- 02

Date: 06/04/2020

- 1 (a) Which row of the table is correct for both infrasound radiation and infrared radiation?

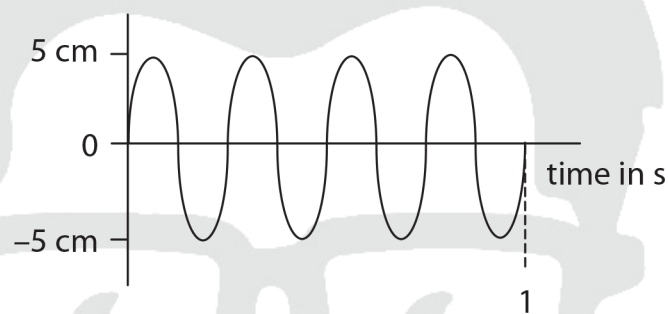
Put a cross (☒) in the box next to your answer.

(1)

	infrasound	infrared
<input checked="" type="checkbox"/> A	transverse	transverse
<input checked="" type="checkbox"/> B	transverse	longitudinal
<input checked="" type="checkbox"/> C	longitudinal	transverse
<input checked="" type="checkbox"/> D	longitudinal	longitudinal

- (b) State the amplitude of this sound wave.

(1)



amplitude =

- (c) Describe how infrasound differs from ultrasound.

(2)

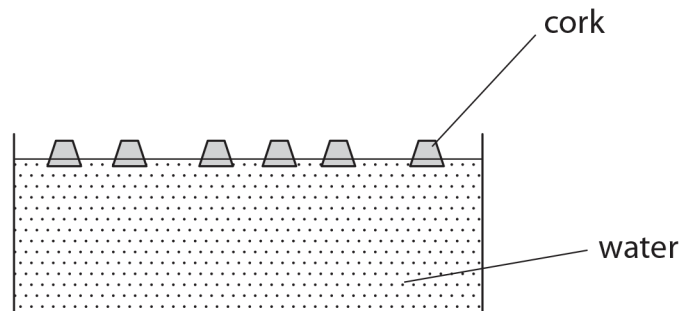
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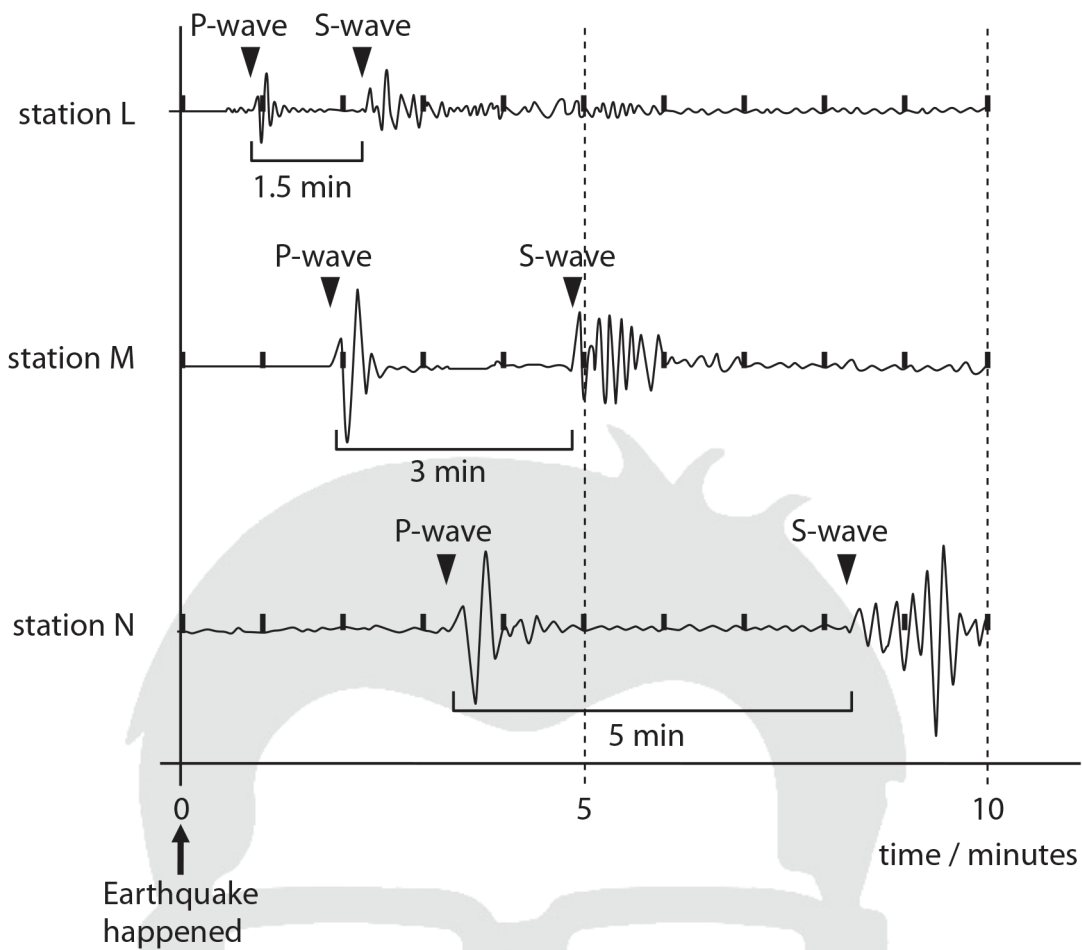
- (d) Earthquakes are sometimes caused when plates in the Earth's crust move.
The diagram shows some corks floating on water.



Explain how this model of corks on water could be used to demonstrate what causes the Earth's plates to move.
You may add to the diagram to help with your answer.

(3)

- (e) The movement of the Earth's plates can cause earthquakes.
The charts show the waves arriving at three research stations from the same earthquake.



A student suggested that the time between the arrival of the P-wave and the S-wave was proportional to the distance of the station from the earthquake.

Use the charts to evaluate whether this is correct or not.

(3)

2 The diagram shows the plates which make up the Earth's outermost layer.



(a) (i) Complete the sentence by putting a cross (☒) in the box next to your answer.

Earthquakes happen when plates

(1)

- ☐ A float on the mantle
- ☐ B rub against each other
- ☐ C move away from each other
- ☐ D erupt from volcanoes

(ii) Explain what causes the plates to move.

(2)

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(b) Complete the sentence by putting a cross (☒) in the box next to your answer.

The instrument used to detect earthquakes is a

(1)

- ☐ **A** hydrometer
- ☐ **B** manometer
- ☐ **C** seismometer
- ☐ **D** thermometer

(c) Earthquakes produce P-waves and S-waves.

- (i) Describe what can happen to these waves when they reach the boundary between the crust and the mantle.

(2)

- (ii) A P-wave takes 200 s to travel a distance of 1200 km.

Calculate its speed in km/s.

(2)

speed of P-wave = km/s

(d) Explain why scientists find it difficult to predict when a tsunami may happen.

(2)