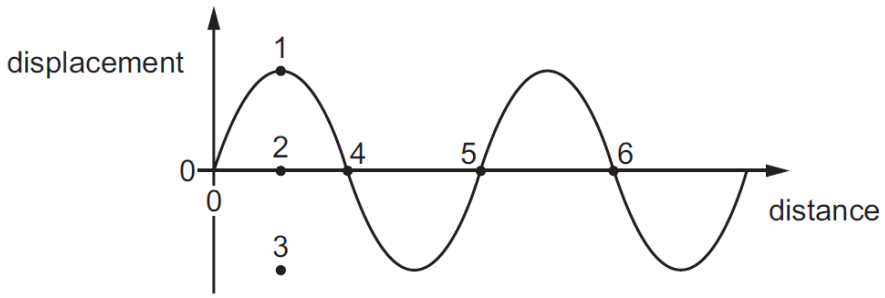
Waves – 2021 IGCSE 0625

1. Nov/2021/QPaper_11/No.18

The diagram shows a wave.

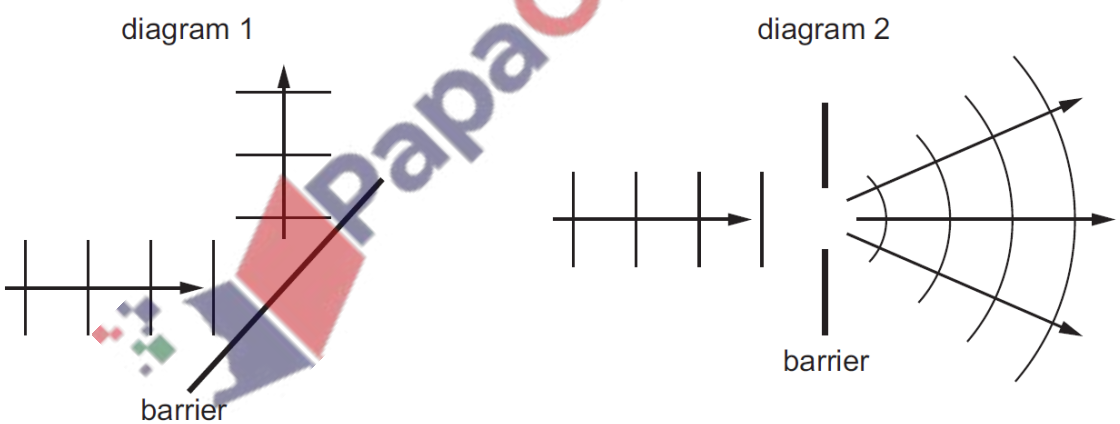


Which row correctly indicates the amplitude and the wavelength of the wave?

	amplitude	wavelength
A	the distance between 1 and 2	the distance between 4 and 5
B	the distance between 1 and 2	the distance between 4 and 6
C	the distance between 1 and 3	the distance between 4 and 5
D	the distance between 1 and 3	the distance between 4 and 6

2. Nov/2021/QPaper_12&13/No.17

The diagrams show two patterns produced by water waves.



Which two effects are shown in the diagrams?

	diagram 1	diagram 2
A	reflection	diffraction
B	reflection	refraction
C	refraction	diffraction
D	refraction	reflection

3. Nov/2021/QPaper_12&22/No.18

Which row is **not** correct for a wave on the surface of water?

	quantity	usual unit
A	amplitude	m
B	frequency	Hz
C	wavelength	λ
D	speed	m / s

4. Nov/2021/QPaper_13&23/No.18

Which row correctly defines the frequency and the speed of a wave?

	frequency	speed
A	number of waves	distance travelled per unit time
B	number of waves	time taken for one complete wave to pass a point
C	number of waves passing per unit time	distance travelled per unit time
D	number of waves passing per unit time	time taken for one complete wave to pass a point

5. Nov/2021/QPaper_13/No.23

What can transmit some types of transverse waves but **not** longitudinal waves?

A air

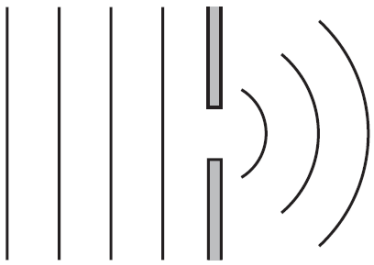
B a steel bar

C a vacuum

D sea water

6. Nov/2021/QPaper_21/No.17

The diagram shows waves in a ripple tank containing water.



The waves approach a barrier and pass through the gap in the barrier.

The size of the gap is about the same size as the wavelength of the ripples.

The gap size is increased.

What happens to the ripple pattern to the right of the barrier?

A The ripples are closer together.

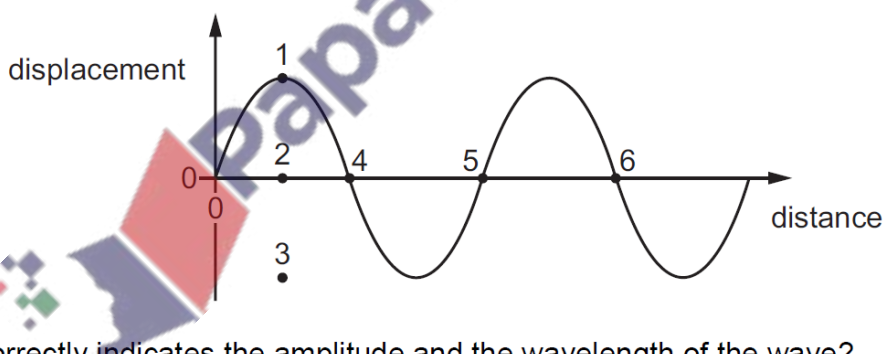
B The ripples are further apart.

C The ripples are more curved.

D The ripples are less curved.

7. Nov/2021/QPaper_21/No.18

The diagram shows a wave.

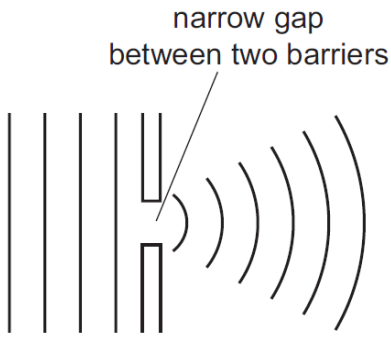


Which row correctly indicates the amplitude and the wavelength of the wave?

	amplitude	wavelength
A	the distance between 1 and 2	the distance between 4 and 5
B	the distance between 1 and 2	the distance between 4 and 6
C	the distance between 1 and 3	the distance between 4 and 5
D	the distance between 1 and 3	the distance between 4 and 6

8. Nov/2021/QPaper_22/No.17

The diagram shows the pattern of water waves as they pass through a narrow gap.

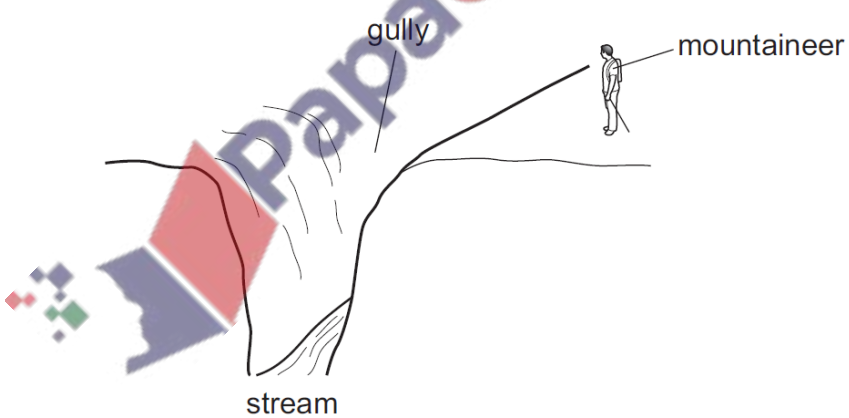


Which row names the process shown and describes the effect of using a wider gap?

	name of process	wider gap
A	refraction	waves spread out less
B	refraction	waves spread out more
C	diffraction	waves spread out less
D	diffraction	waves spread out more

9. Nov/2021/QPaper_23/No.17

In the diagram, the mountaineer can hear the stream although he cannot see it. When he is closer to the gully, he can both hear and see the stream. When he is further from the gully, he can neither hear nor see the stream.



Which statement is **not** correct?

A As he approaches the gully edge, he hears first the short wavelength, higher frequencies and then the long wavelength, lower frequencies.

B As he approaches the gully edge, the sound becomes louder.

C He hears the stream because some of the sound is diffracted.

D He hears the stream because some of the sound is reflected from the opposite wall of the gully.

10. Nov/2021/QPaper_31/No.6

(a) Fig. 6.1 shows part of a water wave.

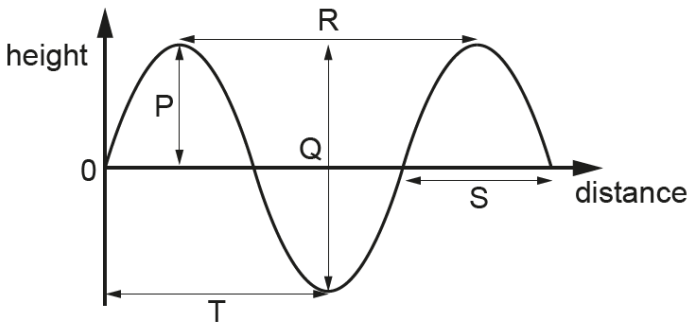


Fig. 6.1

(i) State the letter P, Q, R, S or T on Fig. 6.1 that represents the wavelength of the water wave.

..... [1]

(ii) State the letter P, Q, R, S or T on Fig. 6.1 that represents the amplitude of the water wave.

..... [1]

(iii) State what is meant by the term *frequency* of a wave.

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..... [1]

(b) Two students, A and B, use echoes to measure the speed of sound.
Student A has two blocks of wood that make a loud sound when banged together. Student B has a stop-watch. They stand 120 m from a school wall as shown in Fig. 6.2.

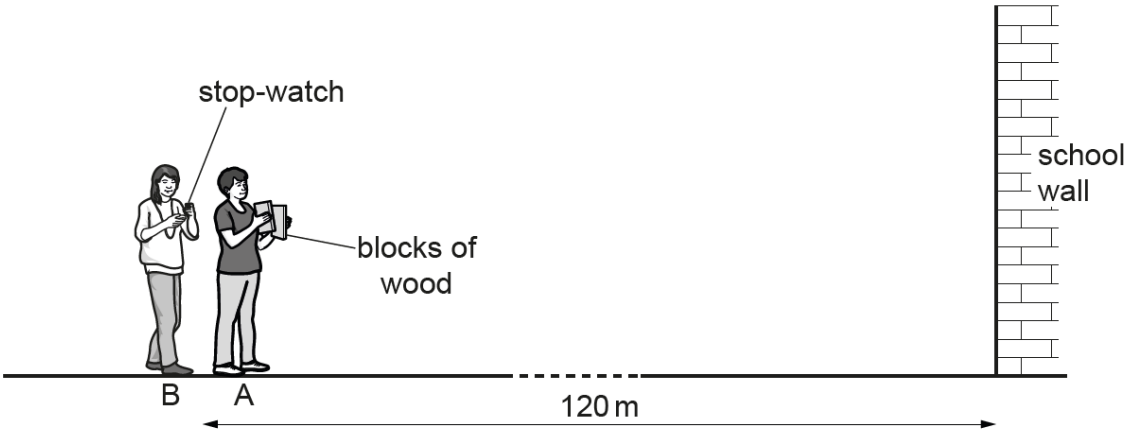

Fig. 6.2 (not to scale)

Describe how the students use the arrangement in Fig. 6.2 to determine the speed of sound in air.

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..... [4]

[Total: 7]