Wave properties

Waves 3.4.4 | Part 2, usually Year 8 | 20 quick questions

KS3 science quick questions

Answer online, marked instantly

Activate 3: Waves, sound and light | Exploring Science 7L

Name: _____ **Date:** _____ **Score:** _____ **/ 20**

1 In which type of wave do the vibrations go up and down, at right angles to the direction the wave travels?

2 In which type of wave do the vibrations go back and forth along the same direction the wave travels?

3 In a stadium, fans stand up and sit down as a Mexican wave moves sideways round the crowd. Is this like a transverse or a longitudinal wave?

4 What is the highest point of a transverse wave called?

5 What is the lowest point of a transverse wave called?

6 What is the distance from one crest to the next crest called?

7 What is the height from the middle (rest) line to the top of a crest called?

8 What is the number of waves passing a point each second called?

9 Wavelength is a distance. What is the standard unit of wavelength? Give the unit name.

10 A water wave hits a harbour wall and bounces back. What has happened to the wave? Answer in one word.

11 A wave passes right through a material and comes out the other side. What word describes this?

12 A wave hits a thick foam panel. It does not bounce back or come out the other side, because the foam takes in its energy. What has happened to the wave? Answer in one word.

13 Two crests of the same height meet exactly. Is the wave at that moment bigger or smaller than each one?

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14 A crest meets a trough of exactly the same size. What do the two waves do to each other? Answer in two words.

15 Are light waves transverse or longitudinal?

Year 9 stretch

16 A water wave has a frequency of 2 Hz and a wavelength of 3 m. Using wave speed = frequency × wavelength, find its speed. Give your answer in m/s.

17 A buoy at sea is passed by 10 waves in 5 seconds. What is the frequency of the waves? Give your answer in Hz.

18 The crests of some ripples are 40 cm apart. What is their wavelength in metres?

19 Noise-cancelling headphones play a sound whose crests line up with the troughs of the outside noise. What happens to the loudness of the noise you hear: increases or decreases?

20 A cork floats on a pond as ripples pass by. Explain how the cork shows that waves carry energy but not the water itself.

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