24 Which microorganisms have a length that is equal to the wavelength in free space of an electromagnetic wave that is visible to the human eye?

A algae of length 0.5 μm

B bacteria of length 5.0 μm

C fungi of length 50 μm

D protozoa of length 100 μm

25 Two progressive waves overlap.

What is an essential condition for the two waves to form a stationary wave?

A The waves are longitudinal.

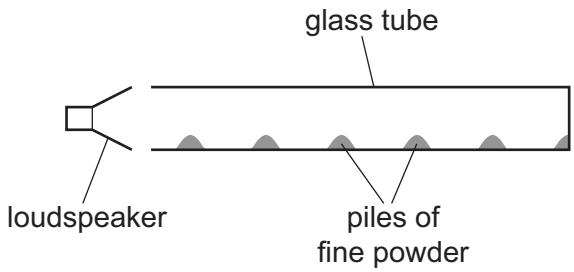
B The waves are polarised.

C The waves travel in opposite directions.

D The waves travel in the same direction.

26 In an experiment to produce a stationary sound wave in air, a fine powder is initially evenly distributed along the length of a horizontal glass tube which is closed at one end.

At the open end of the tube, a loudspeaker emits a sound wave of a constant wavelength. A stationary wave is formed and the powder accumulates in regularly spaced piles, as shown.



Which statement explains the positions of the piles of powder within the tube?

A The piles are where the air molecules vibrate with maximum amplitude.

B The piles are where the air molecules vibrate with minimum amplitude.

C The piles are where the air molecules vibrate with the highest frequency.

D The piles are where the air molecules vibrate vertically.