Model Answers: Medium

1

The correct answer is **B** because:

- Every wavefront that hits the boundary has to leave the boundary.
- Since frequency is defined as the number of waves (or wavefronts) that pass a point per second, this has to be the same on both sides of the boundary.
- Anything else can change.

A is incorrect as wavelength changes when a wave refracts.

C is incorrect as amplitude can change when a wave refracts, especially if the water's depth changes.

D is incorrect as by definition, speed changes when a wave refracts.

2

The correct answer is **C** because sound waves are always longitudinal.

All the other waves are transverse.

3

The correct answer is **C** because:

- Sound waves, just like all waves, transfer energy without transferring matter.
- The idea that sound waves push air away from the source is incorrect.

A is incorrect as sound waves *are* longitudinal.

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