

3.1 Sound waves and how they travel

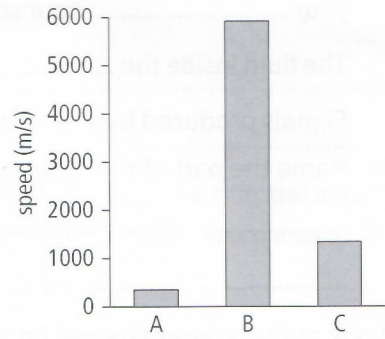
Use the words from the box to complete the sentences below.
 Use each word once, more than once, or not at all.

Word box: compressions waves solids vibrating rarefactions moving vacuum radio

All sound is produced by something that is vibrating. Sound can travel through solids, liquids, and gases but not through a vacuum.

Sound waves consist of solids (where the particles are close together) and air (where the particles are further apart).

Figure 1 is a bar chart showing the speed of sound in different materials, A, B, and C. One is a solid, one is a liquid, and one is a gas.



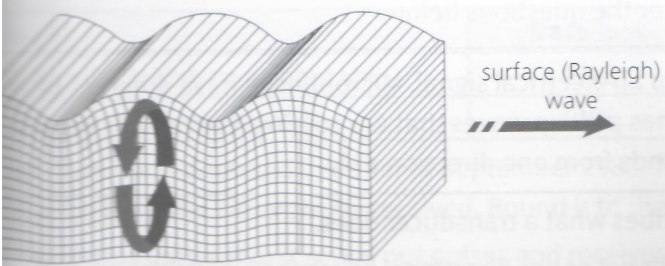
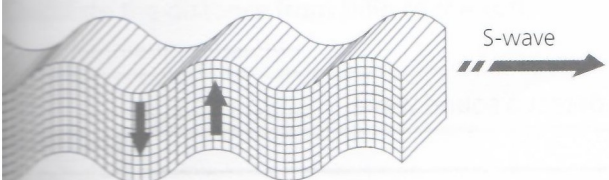
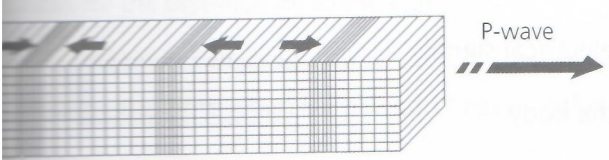
Give the letter of the material that is a solid. B
 What material is A a solid, a liquid, or a gas? gas
 How much faster, approximately, does sound travel in solids than in gases? Circle one of the answers below.

- 1000 times faster
- 100 times faster
- 10 times faster

Extension

When there is an earthquake, waves called seismic waves are produced.

→ particle motion



Identify which wave is a transverse wave and which is a longitudinal wave. Explain your answer.