Waves

4. Wave Properties

CONCEPT 1

TEST YOURSELF

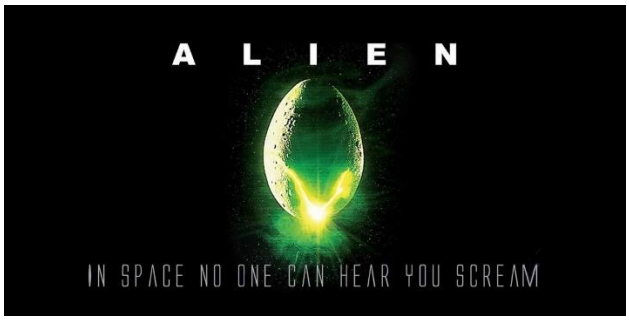
TRANSVERSE AND LONGITUDINAL WAVES

KNOW

Q1 For the following waves, state whether they are **transverse** or **longitudinal**.

(a) light (b) water (c) sound (d) ultraviolet

Q2 The movie *Alien* had the tagline *'In space no one can hear you scream'*.



Another way of saying this phrase is *'In space you can't hear any sound.'*

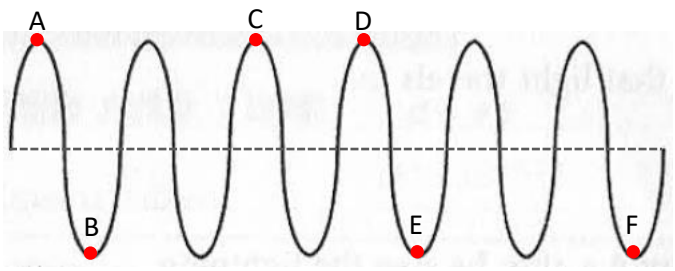
Why can you NOT hear sound in space?

APPLY

Q3 How are transverse and longitudinal waves different?

Q4 Why do you think a wooden table carries sound more quickly than air does?

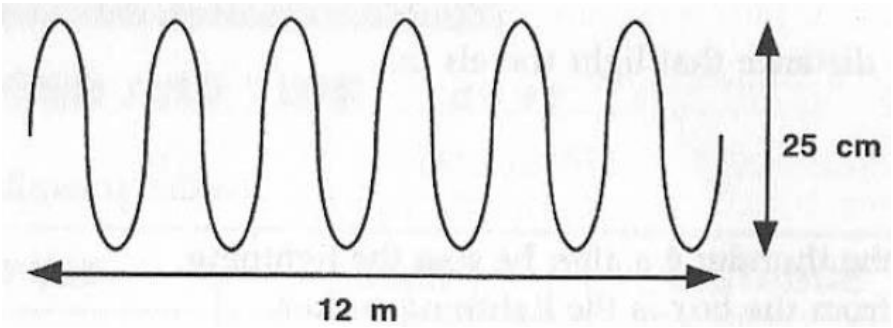
Q5 Look at the diagram showing transverse waves.
Write down the pair of letters that measure the following:



(a) one wavelength
(b) two wavelengths
(c) three wavelengths

EXTEND

Q6 Look at the diagram showing transverse waves.



(a) What is the wavelength of the waves?

(b) What is the amplitude of the waves?

Q7 (a) Draw a picture of a series of transverse waves that have a wavelength of 4cm and an amplitude of 2cm.
Square paper may help you do this task and draw at least three waves in a row.

(b) Now draw a series of transverse waves that have double the wavelength and half the amplitude.