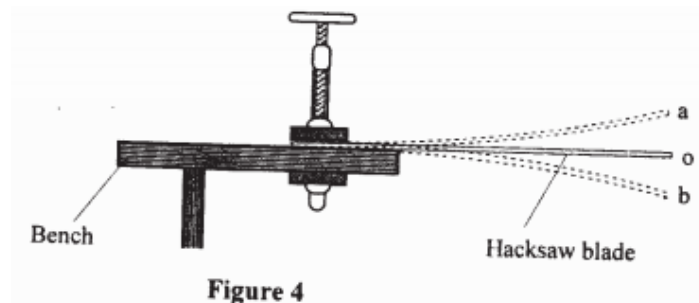
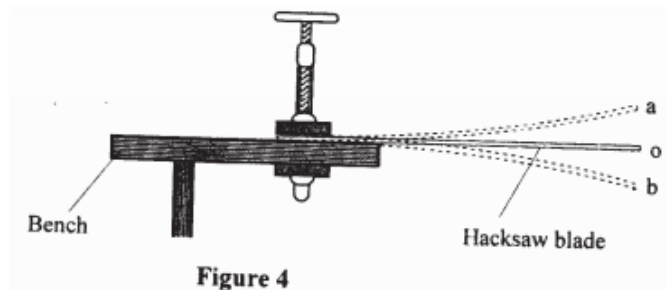


Vibration / Oscillation



- 1) Fix a blade on to a
- 2) The position of the blade is '.....'
- 3) Now raise the blade to position '.....' and release.
- 4) The blade will pass '.....' and come go to '.....' position and then move back passing '.....' to '.....' position.
- 5) This will continue for some time.
- 6) or is a rhythmic movement of an object which moves to sides from its position.
- 7) 1 vibration is $a \rightarrow \dots \rightarrow \dots \rightarrow \dots \rightarrow a$ or $b \rightarrow \dots \rightarrow \dots \rightarrow \dots \rightarrow b$
or $o \rightarrow \dots \rightarrow \dots \rightarrow \dots \rightarrow o$ or $o \rightarrow \dots \rightarrow \dots \rightarrow \dots \rightarrow o$

Amplitude – (A)

- 1) Amplitude is the between the position and the most position.
- 2) The between '.....' to '.....' or the distance between '.....' to '.....'
- 3) Amplitude is measured in (.....)
- 4) During a or an, the amplitude will gradually and finally the or the will

Frequency – (f)

- 1) Frequency is the number of or which occur per
- 2) Frequency is measured by (.....).

Question 1

An object vibrated 7200 times in 4 minutes. Find its frequency.

Number of vibrations in ... minutes =

Number of vibrations in ... minute =

Therefore number of vibrations in seconds =

Number of vibrations in second =

Therefore the frequency =

Question 2

An object vibrated with a frequency of 4Hz. Find the number of vibrations that will occur in 5 minutes

Frequency =

Therefore number of vibrations in second =

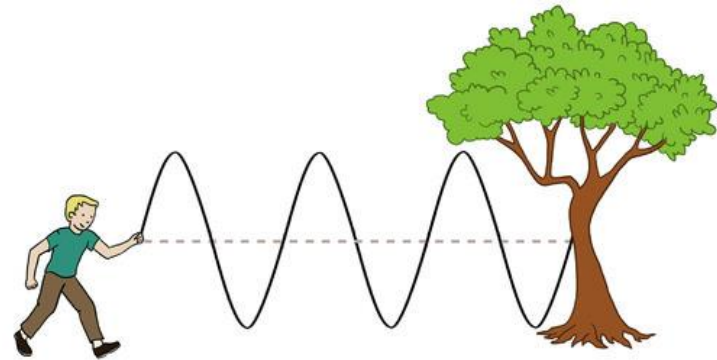
Number of vibrations in seconds =

Therefore number of vibrations in minute =

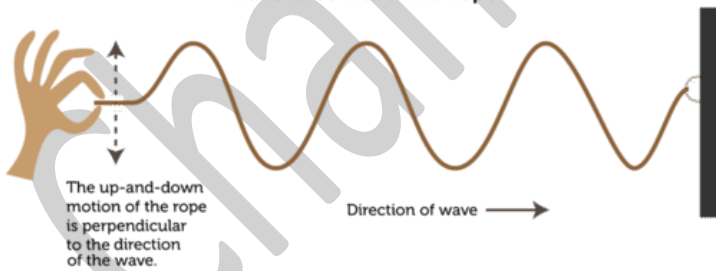
Therefore number of vibrations in minutes =

Waves

- 1) Waves occur due to
- 2) Waves carry from one point to another point.
- 3) In waves the do not from one point to another point.
- 4) Throw a to a water.
- 5) in forms of will form and move away from the point where the was landed on
- 6) During a wave, the particles will vibrate and and the particles will not move away from the place where the was landed on
- 7) Tie up a on a post.
- 8) Pull the end of the away from the post till the become
- 9) Now move the end of the rope and
- 10) The wave will move from the end of the towards the post.
- 11) But the of the moved and
- 12) The of the rope did not move from the end of the rope towards the post.



Transverse Wave in a Rope



Mechanical waves

- 1) There are vibrating in mechanical waves.
- 2) Since there are vibrating, the mechanical waves need to travel.
- 3) Therefore mechanical waves cannot travel in a

4) There are two types of mechanical waves according to the of the of the vibrating

1) Mechanical waves

2) Mechanical waves.

Mechanical transverse waves

1) Take a and tie one end of the to a post.

2) Pull the end of the and make it straight

3) Move the end of the rope, and

4) A wave will move from the end of the towards the post.

5) The wave moved from the end of the towards the post.

6) The of the moved, and

7) Therefore the move to the direction of the of the wave.

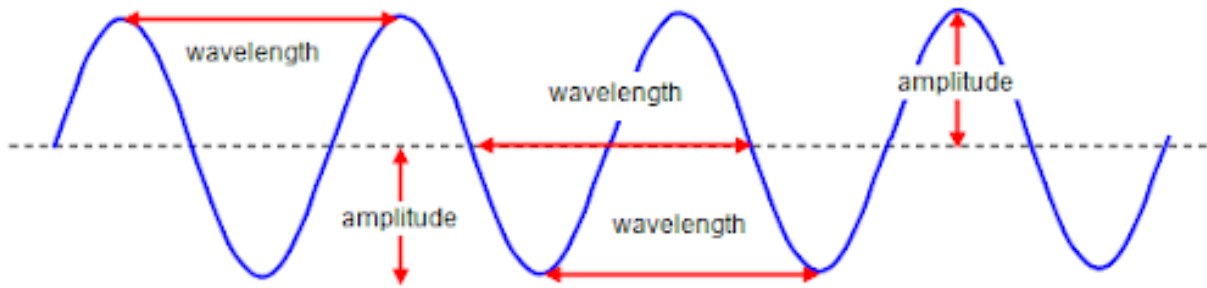
8) Put a onto a water.

9) Waves in forms of ripples will move away from the place where the was landed on the water.

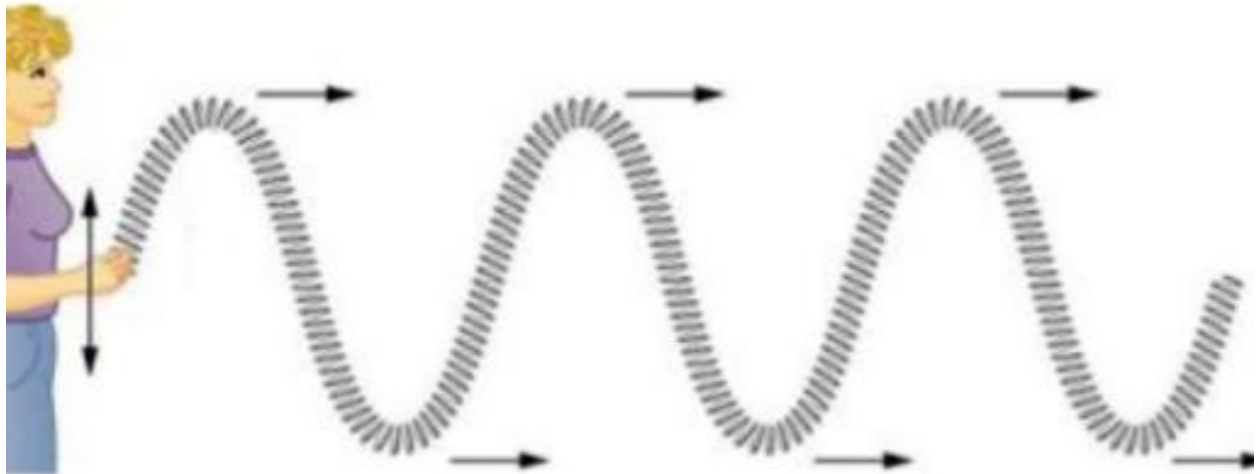
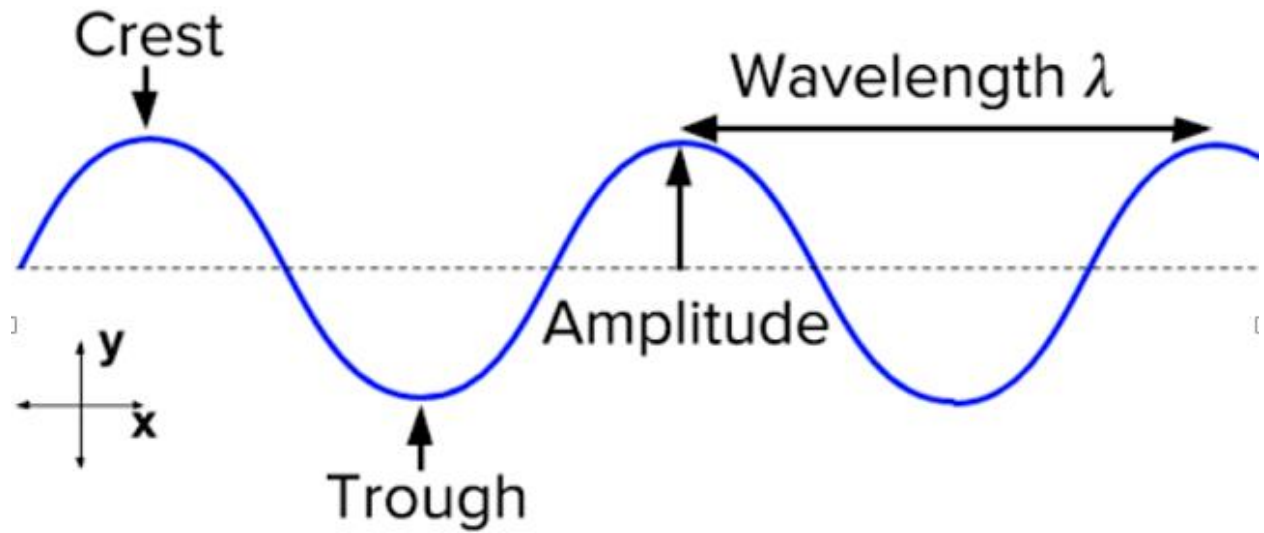
10) But the water move and

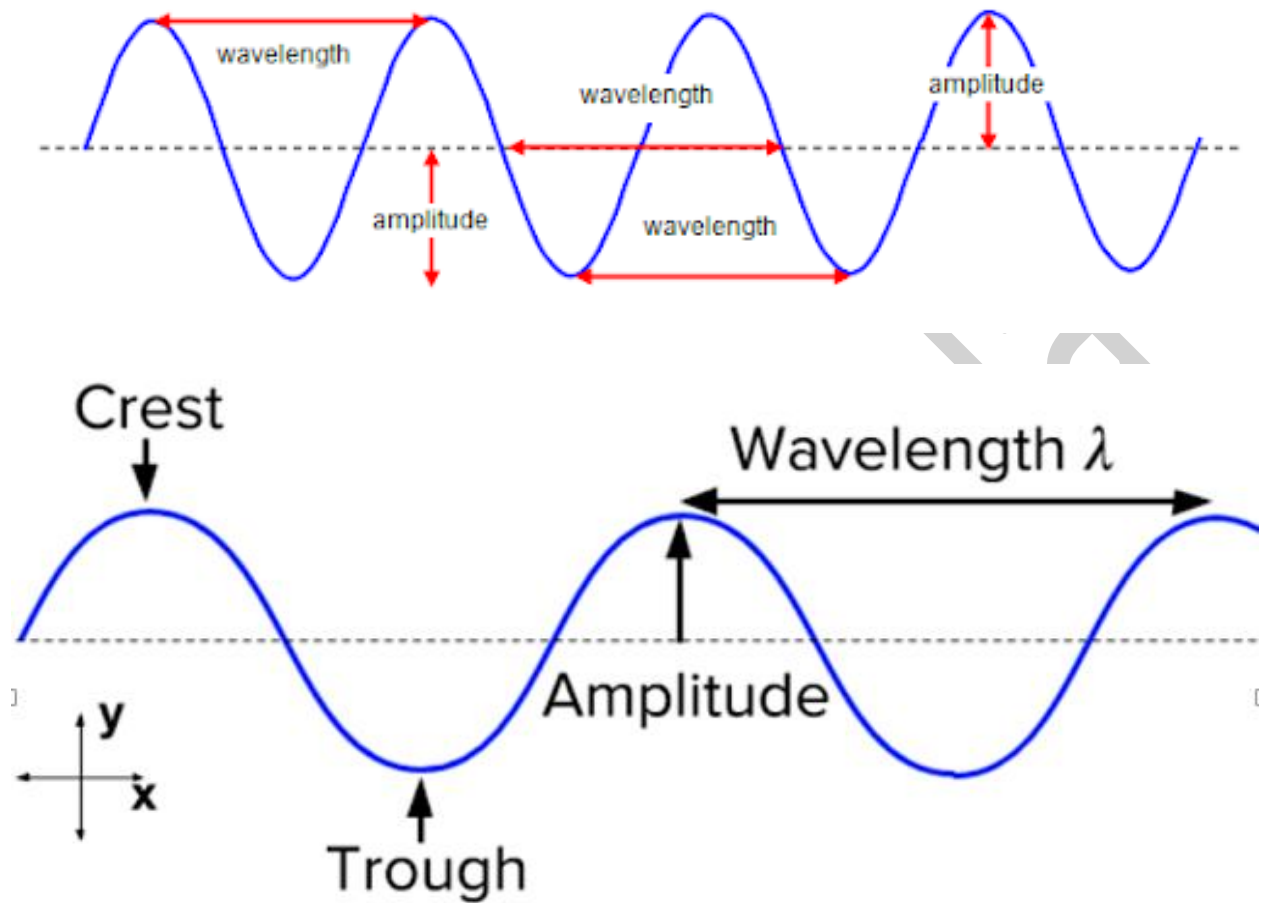
11) Therefore the water moved to the direction of the of the water

12) Type of waves having vibrating to the direction of the of the wave are called mechanical waves.



Channa Asela

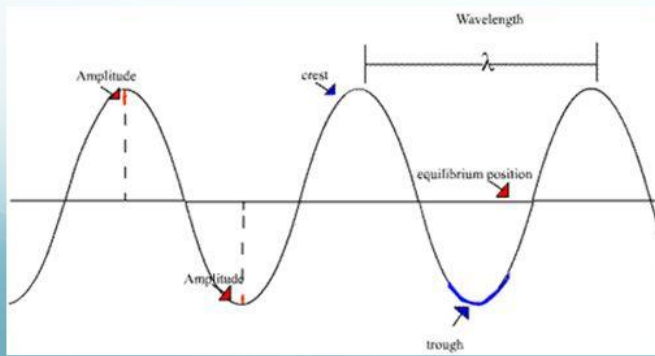
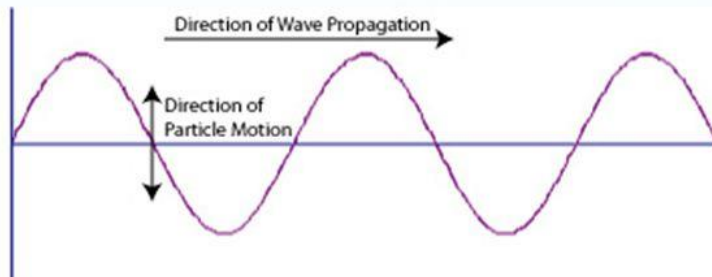




Types of Waves

The first type of wave is called a transverse wave

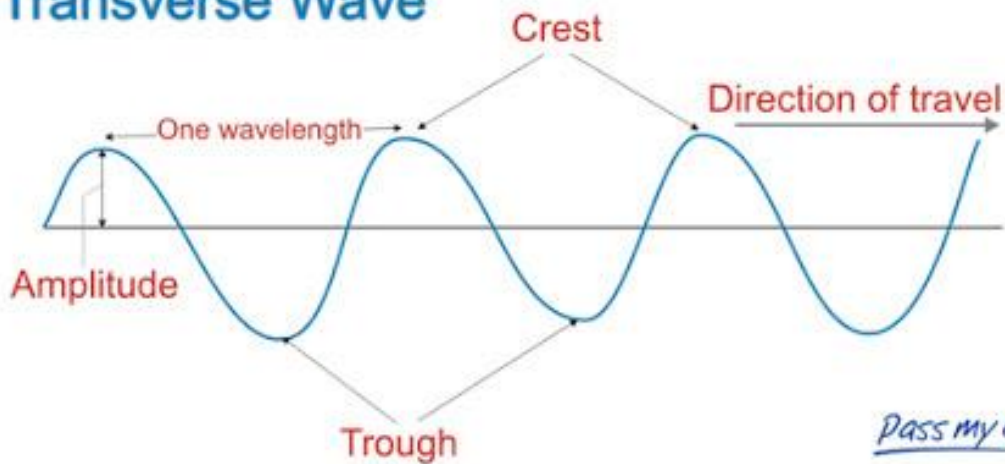
The direction of the motion of a particle is **perpendicular** to the motion of the wave



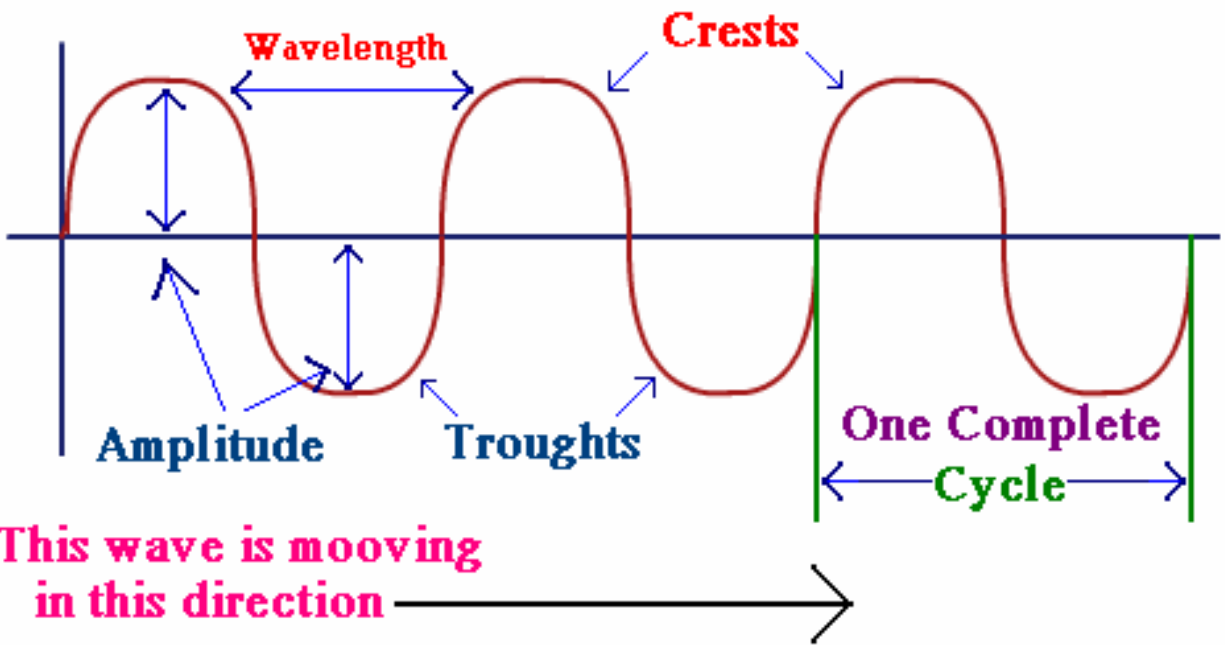
Parts of a Wave

- Amplitude
- Crest
- Trough
- Wavelength
- Equilibrium Position

Transverse Wave



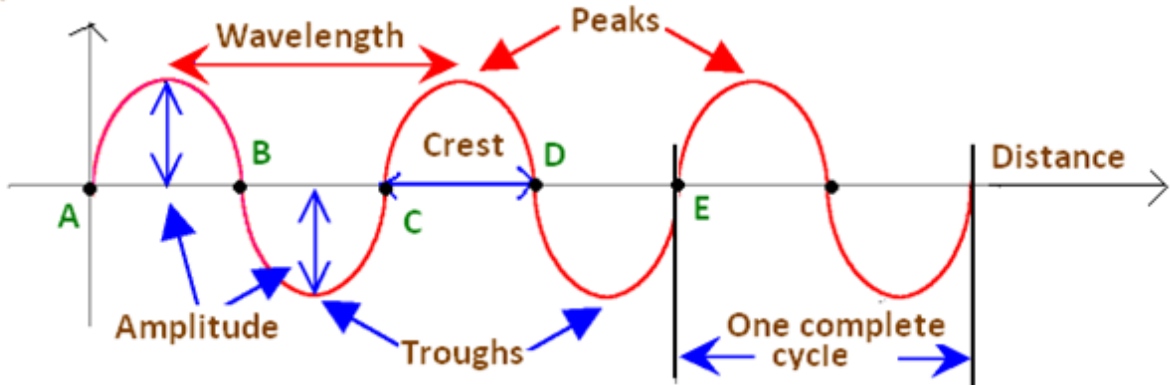
Pass my exAMS



Transverse Waves

Direction of wave

Displacement



- 1) The most positions of a wave are called
- 2) The most positions of a wave are called
- 3) The between a or a and the point of a wave is called the (.....).

- 4) The is measured in (.....).
- 5) The between two or two is called the (.....).
- 6) (.....) is measured in (.....)
- 7) Number of or the number of occur at a particular in one is called the (...)
- 8) is measured in (.....).
- 9) The taken to complete one or an is called the (.....).
- 10) The taken by a wave to a equal to its is called the (.....).
- 11) is measured in (.....).
- 12) =/.....
- 13) The travelled by a wave in one is called the (.....).
- 14) is measured by (.....)
- 15)=.....
- $V = \dots\dots\dots$ measured in (.....)
- $f = \dots\dots\dots$ measured in (.....)
- $\lambda = \dots\dots\dots$ measured in (.....)

Question

In a water wave 720 crest occurred in 5 minutes. The distance between two adjacent crests was 25cm.

- (i) Find its frequency
- (ii) Find its wave length
- (iii) Find the velocity of the wave
- (iv) Find the distance travelled by that wave in 10 minutes

- (i) Number of crests occur in minutes =
- Number of crests occur in minute =
- Number of crests occur in seconds =
- Number occur in second =
- Therefore the frequency of the wave =

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