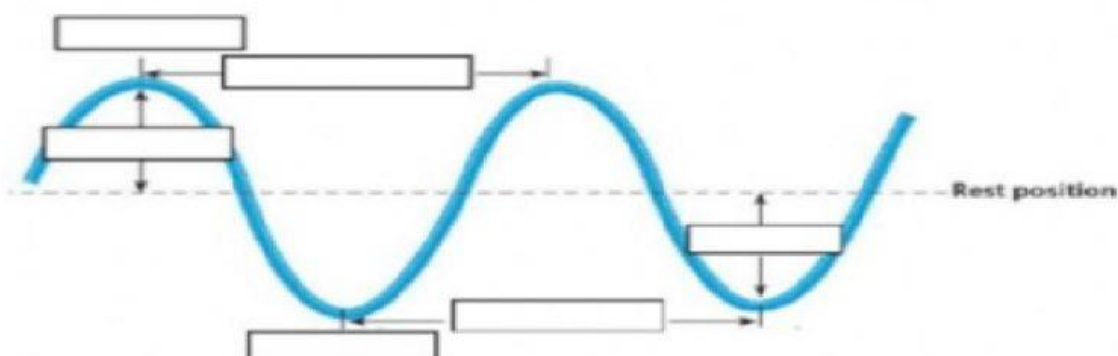


## Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- ☐ 1. A disturbance that transfers energy from place to place is called a  
a. wave. c. vibration.  
b. medium. d. compression.
- ☐ 2. The material through which a wave travels is called a  
a. vibration. c. crest.  
b. medium. d. trough.
- ☐ 3. Waves are created when a source of energy causes a medium to  
a. move. c. expand.  
b. compress. d. vibrate.
- ☐ 4. Waves are classified according to  
a. their size. c. how they move.  
b. their shape. d. their source.
- ☐ 5. Waves that move the particles of the medium parallel to the direction in which the waves are traveling are called  
a. longitudinal waves. c. surface waves.  
b. transverse waves. d. combination waves.
- ☐ 6. The maximum distance that the particles of a medium move from the rest position is the  
a. amplitude of the wave. c. frequency of the wave.  
b. wavelength of the wave. d. speed of the wave.
- ☐ 7. Frequency is measured in units called  
a. amps. c. nodes.  
b. hertz. d. antinodes.
- ☐ 8. When a wave hits a surface through which it CANNOT pass and bounces back, it undergoes  
a. reflection. c. constructive interference.  
b. refraction. d. destructive interference.
- ☐ 9. The bending of waves due to a change in speed is called  
a. reflection. c. diffraction.  
b. refraction. d. interference.
- ☐ 10. The bending of waves around the edge of a barrier is known as  
a. reflection. c. diffraction.  
b. refraction. d. interference.

1. Fill in the blanks with the correct terms to describe parts of a wave.



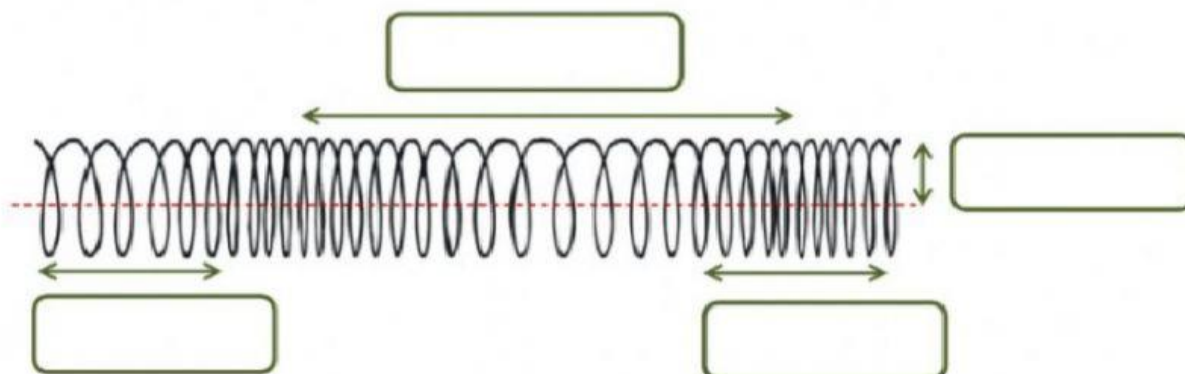
- are the **highest points** of a wave.
- are the **lowest points** of a wave.
- is the **maximum displacement** from the **rest position**. Its SI unit is the **metre**.
- ( $\lambda$ ) is the **distance** between two successive crests or two successive troughs.

**How fast the waves are moving?**

The number of complete waves / vibrations per second is known as  ( $f$ ).

The SI unit is  (Hz).

Use the words below the diagram to fill in the label boxes.



## Wave Properties Exercise

1. Short-wavelength waves have \_\_\_\_\_ energy than long-wavelength waves.  
(more/less/same)
2. High-frequency waves have \_\_\_\_\_ energy than low-frequency waves.  
(more/less/same)
3. Wave speed is equal to wavelength multiplied by \_\_\_\_\_.
4. The highest parts of a transverse wave are called \_\_\_\_\_.
5. The parts of a longitudinal wave where particles of the medium are closest together are called \_\_\_\_\_.
6. A disturbance in matter that transfers energy from place to place is called \_\_\_\_\_.
7. The part of a longitudinal wave where particles of the medium are spread farthest apart is the \_\_\_\_\_.
8. A wave in which particles of the medium vibrate at right angles to the direction that the wave travels is called \_\_\_\_\_.
9. The part of a transverse wave where particles of the medium are lowest is the \_\_\_\_\_.
10. A wave in which particles of the medium vibrate in the same direction that the wave travels is called \_\_\_\_\_.
11. The term for matter through which a mechanical wave travels: \_\_\_\_\_.
12. What is the speed of a wave that has a wavelength of 0.5 meters and a frequency of 2 waves per second? \_\_\_\_\_.
13. Assume that a wave has a fixed speed. If the frequency of the wave increases, its wavelength \_\_\_\_\_ (increases/decreases/stays the same).
14. When one wave passes a point every second, the frequency of the waves is \_\_\_\_\_ Hz.
15. The \_\_\_\_\_ of a transverse wave is the distance between a crest and the resting position.