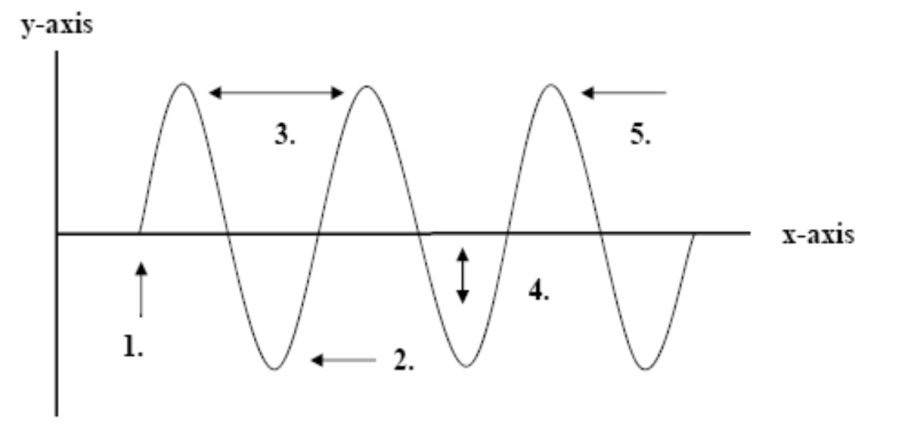
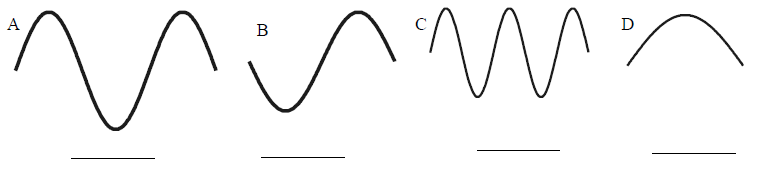
# Mechanical waves – worksheet 2

1. The illustration below shows a series of transverse waves. Label each part in the space provided.
   1. ……………………………..
   2. ……………………………..
   3. ……………………………..
   4. ……………………………..
   5. ……………………………..
2. Fill in the blanks:
   1. Waves carry ……………………… from one place to another.
   2. The highest point on a transverse wave is the …………………….. while the lowest part is the …………………………
   3. The …………………………. is the height of the wave.
   4. The distance from one crest to the next is the ……………………………..
3. Below are a number of series of waves. Underneath each diagram write the numbers of waves in the series.
   1. Which of the above has the biggest amplitude? ……………
   2. Which of the above has the shortest wavelength? ….……
   3. Which of the above has the longest wavelength? …………
4. Match each definition with the correct term. Terms: *longitudinal wave, trough, mechanical wave, medium, surface wave, rarefaction, transverse wave*.
   1. ……………………………… = disturbance in matter that transfers energy from place to place
   2. ……………………………... = part of a longitudinal wave where particles of the medium are spread farthest apart
   3. ……………………………... = wave in which particles of the medium vibrate at right angles to the direction that the wave travels
   4. ……………………………… = combined transverse and longitudinal wave
   5. …………………………….. = part of a transverse wave where the particles of the medium are lowest.
   6. ……………………………. = wave in which particles of the medium vibrate in the same direction that the wave travels
   7. ……………………… …… = matter through which a mechanical wave travels.
5. Express the relationship between
   1. Period and frequency ……………………………
   2. Wavelength and frequency……………………
   3. Wavelength and period ………………………..

Consider a wave generator that produces 10 pulses per second. The speed of the wave is 300 cm.s-1.

* 1. What is the wavelength of the waves?
  2. What happens to the wavelength if the frequency of pulse is increased?

1. The wavelength of a sound wave in the room is 1.13 m and the frequency is 301 Hz.
   1. What is the speed of the wave?
   2. If you double the frequency of the sound wave, determine its speed.
   3. What happens to the wavelength if you cut the frequency in half?
2. State the units of the following quantities
   1. frequency
   2. intensity of the wave
   3. intensity level