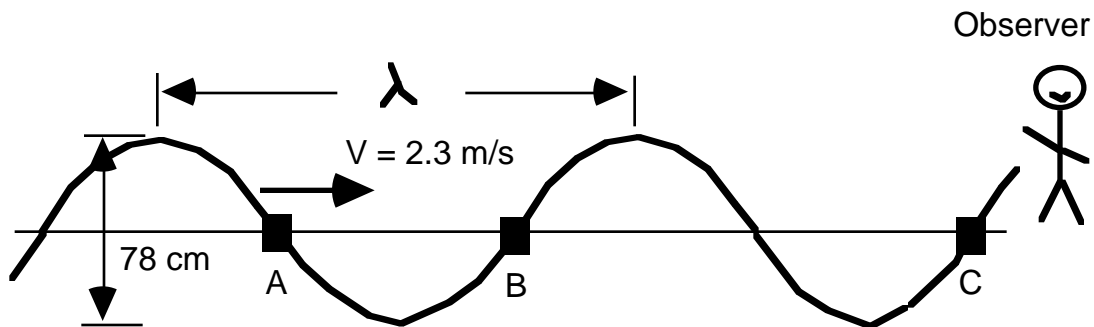


## Waves : Worksheet - 50

- 1) What is a wave?
- 2) What causes a wave?
- 3) Name three phenomena that are waves.
- 4) Explain the difference between:
  - a) longitudinal waves
  - b) transverse waves
- 5) A bees wings vibrate 1500 times in 1.0 minutes.
  - a) The frequency of the wings is \_\_\_\_\_ .
  - b) The period is \_\_\_\_\_ .
  - c) The frequency of the sound emitted is \_\_\_\_\_ .
- 6) A water wave is shown below. Three corks; A, B, and C, are shown.



- a) In which direction is cork A about to move?
- b) Which two corks are in phase?
- c) What is the amplitude of the water wave?
- d) If 18 waves pass the observer in 30. seconds, the frequency is \_\_\_\_\_ , and the period is \_\_\_\_\_ .

- e) Find the wavelength. (use  $v = f \times \lambda$ )
- f) What happens to the wavelength as the waves enter shallow water?
- g) What happens to the frequency as the waves enter shallow water?
- h) Find the new wavelength, if the velocity decreases to 1.5 m/s as the waves enter shallow water. Use the formula:

$$\frac{V_1}{\lambda_1} = \frac{V_2}{\lambda_2}$$

Answers: 1) It is a transfer of energy., 2) A wave is caused by a vibrating object., 3) water waves, sound waves, light. 4)a) The particles of the medium move parallel to the direction of wave motion., b) The particles of the medium move perpendicular to the direction of wave motion., 5)a) 25 Hz, b) 0.040 s, c) 25 Hz, 6)a) up, b) B and C, c) 39 cm, d) 0.60 Hz, 1.7 s, e) 3.8 m, f) The wavelength decreases., g) nothing, h) 2.5 m.