

Concept Review

Section: Types of Waves

1. Give three examples of mechanical waves, and identify the medium through which they travel.

2. a. Name the one type of wave that does not require a medium.

b. State what oscillates in this type of wave.

3. Describe the motion of the particles in the medium for each type of wave. How does this motion compare to the direction the wave travels?

a. transverse wave

b. longitudinal wave

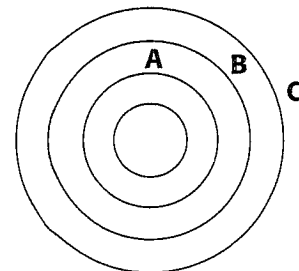
4. Explain what happens to the motion of a particle as a wave passes through a medium. How is the motion of the particle like the motion of a mass on a spring?

5. Use the figure below to answer the following questions. The figure shows a pattern of wave fronts that are formed when a pebble is dropped into a pool of water.

a. Compare the height of the wave fronts in circles A, B, and C.

b. Indicate the wave front in which the energy of the wave is most spread out.

c. Compare the amount of total energy in each of the wave fronts.



Skills Worksheet

Concept Review

Section: Characteristics of Waves

1. State the wave property or characteristic described in each of the following:

- _____ a. measures the amount of particle vibration
- _____ b. is the lowest point of a wave
- _____ c. measures how long it takes for a complete wave oscillation to occur
- _____ d. measures the rate of particle vibration
- _____ e. is the highest point of a wave

2. Determine which part of the electromagnetic spectrum is described in each of the following. Refer to **Table 1** in your textbook.

- _____ a. have the greatest frequency
- _____ b. have the greatest wavelength
- _____ c. have the greatest period

3. Complete the following table. Indicate the changes that occur in the properties of a sound wave (frequency, pitch, wavelength, and wave speed) as a person experiences the Doppler effect.

	Increases	Decreases	Stays the same
As a source of sound moves toward a person			
As a source of sound moves away from a person			

4. Calculate the following for waves produced when you tap your finger in a pool of water twice each second.

a. What is the frequency of the waves you are generating? What is the period of the waves?

b. If the waves travel away from your finger with a speed of 1 m/s, what is their wavelength?
