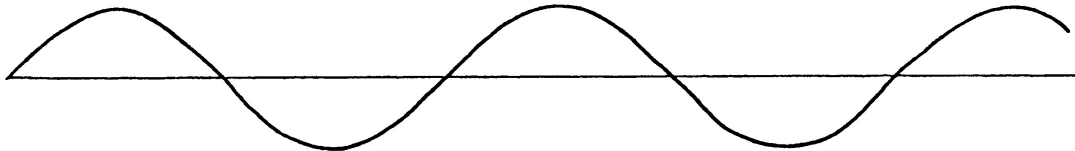CONCEPTUAL PHYSICAL SCIENCE **EXPLORATIONS**

Chapter 13 Waves and Sound
Vibrations and Waves

1. A sine curve that represents a transverse wave is drawn below. With a ruler, measure the wavelength and amplitude of the wave.

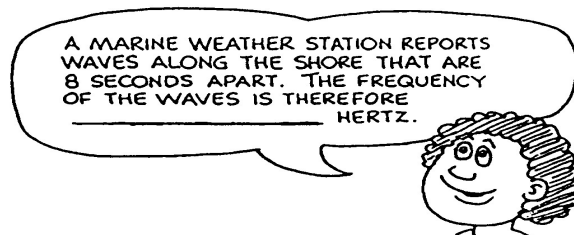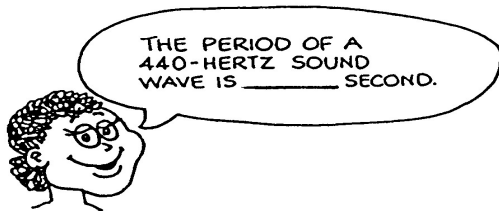a. Wavelength = _____   b. Amplitude = _____

2. A kid on a playground swing makes a complete to-and-fro swing each 2 seconds. The frequency of swing is

    (0.5 hertz)   (1 hertz)   (2 hertz)

    and the period is

    (0.5 second)   (1 second)   (2 seconds)

3. *Complete the statements.*

    THE PERIOD OF A 440-HERTZ SOUND WAVE IS _____ SECOND.

    A MARINE WEATHER STATION REPORTS WAVES ALONG THE SHORE THAT ARE 8 SECONDS APART. THE FREQUENCY OF THE WAVES IS THEREFORE _____ HERTZ.

4. The annoying sound from a mosquito is produced when it beats its wings at the average rate of 600 wingbeats per second.

    a. What is the frequency of the sound waves?

    _____

    b. What is the wavelength? (Assume the speed of sound is 340 m/s.)

    _____