

**SECTION**  
**2****Reinforcement****Properties of Sound****CHAPTER 10.2 REVIEW**

**Directions:** Answer the following questions on the lines provided.

1. What indicates the amplitude of a compressional wave?

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2. Compare and contrast loudness and intensity.

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3. How are loudness and intensity related to the amplitude and energy of a sound wave? What is the unit of intensity?

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4. What happens to the sound of a train whistle as the train approaches and then passes you? Why?

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5. What does a hertz measure? \_\_\_\_\_

6. What is the abbreviation for hertz? \_\_\_\_\_

7. What do decibels measure? \_\_\_\_\_

8. What is the abbreviation for decibels? \_\_\_\_\_

9. What is the frequency of a wave? \_\_\_\_\_

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## 2. PITCH AND LOUDNESS: THE UPS AND DOWNS OF SOUND

### Review and Test Questions

TRUE OR FALSE: Determine whether each of the following is true or false. For each false statement, change the underlined word(s) to the correct word(s).

1. Amplitude is the number of waves or vibrations that pass a point in one second.
2. Wavelength is the highness or lowness of a sound.
3. The deep sound of a bass fiddle has a high frequency.
4. As you vibrate a rope faster and faster, the wavelength decreases.
5. If the frequency of a guitar string remains the same, the pitch remains the same.
6. As a moving locomotive approaches you with its whistle blowing, the frequency of the sound waves from the whistle becomes lower.
7. Humans can hear higher frequencies than dogs.
8. If a musical instrument is playing softly, the amplitude is small.
9. Humans cannot hear ultrasonic sounds.
10. The pitch of a sound depends on the frequency of the sound wave.

COMPLETION: Write in the word(s) which best complete(s) each statement.

1. The distance from one point on a wave to the identical point on the next wave is called the \_\_\_\_\_.
2. If a tuning fork vibrates 5 times in one second, its frequency is \_\_\_\_\_.
3. The abbreviation, vps, stands for \_\_\_\_\_.
4. A guitar string has a higher frequency than a bass string. This means that its \_\_\_\_\_ is higher.
5. As the frequency of a wave increases, the wavelength \_\_\_\_\_.
6. As a moving locomotive passes you with its whistle blowing, the change in pitch that you hear is known as the \_\_\_\_\_ Effect.
7. \_\_\_\_\_ is the term used to describe sounds that have frequencies above the human range of hearing.
8. The height of a wave is called its \_\_\_\_\_.
9. If a musical instrument is playing softly, the amount of vibration is \_\_\_\_\_ than if it were playing loudly.
10. The loudness of sound is measured in units called \_\_\_\_\_.

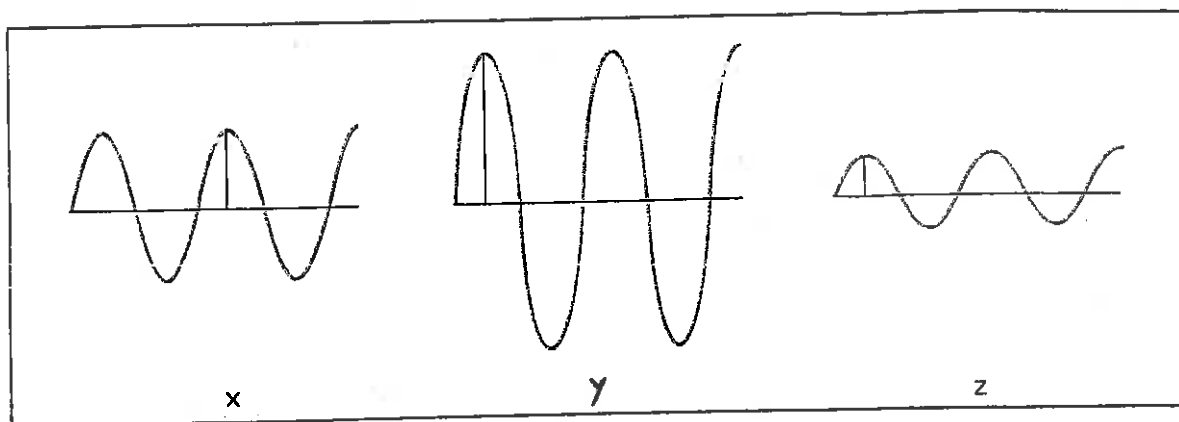


Figure A.

Look at the three sets of waves in Figure A. ~~Use your metric ruler to measure the heights of the waves.~~ Now answer these questions with X, Y, or Z.

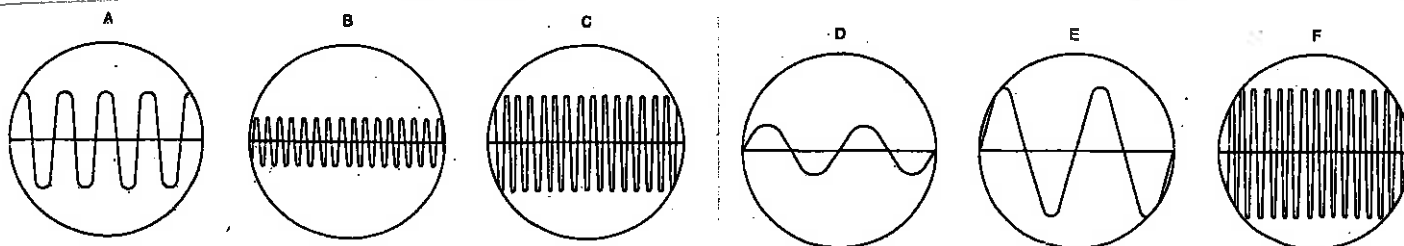
4. Which wave has the greatest wave height? \_\_\_\_\_
5. Which sound would be the loudest? \_\_\_\_\_
6. Which sound would have the highest decibels? \_\_\_\_\_
7. Which wave has the smallest wave height? \_\_\_\_\_
8. Which sound would be the softest? \_\_\_\_\_
9. Which sound would have the lowest decibels? \_\_\_\_\_

## Name That Sound

Sounds can often be described by their loudness and their pitch. The pitch of a sound depends upon its frequency. The loudness depends upon its amplitude. Match the description of each sound given in the list below with the diagram of that sound by placing the letter of the diagram in the space provided next to the description.

1. loud and low-pitched \_\_\_\_\_
2. soft and high-pitched \_\_\_\_\_
3. medium-loud and high-pitched \_\_\_\_\_

4. loud and high-pitched \_\_\_\_\_
5. soft and low-pitched \_\_\_\_\_
6. medium-loud and medium-pitched \_\_\_\_\_



## Sound Waves

Use this worksheet to study Lesson 12.1

1. A sound wave is a \_\_\_\_\_ wave produced by a vibrating source.
  - a. longitudinal
  - b. transverse
2. Sound usually travels faster in solids than in gases because the particles of a solid \_\_\_\_\_.
  - a. are closer together than in a gas
  - b. bump into each other less often than in a gas
3. Sound travels faster when the temperature of the medium is higher. This is because the particles of the medium \_\_\_\_\_.
  - a. make more sound
  - b. move more quickly
4. The perception of the rate at which you hear sound energy is \_\_\_\_\_.
  - a. loudness
  - b. pitch
  - c. intensity
  - d. frequency
5. The measurement of this rate is \_\_\_\_\_.
  - a. loudness
  - b. pitch
  - c. intensity
  - d. frequency
6. As you get farther away from the source of a sound, loudness decreases, and intensity \_\_\_\_\_.
  - a. increases
  - b. decreases
7. A sound's intensity level is found by comparing it to the quietest sound the human ear can hear, and is measured in \_\_\_\_\_.
  - a. decibels
  - b. hertz
8. The perception of frequency that your ear hears is called the \_\_\_\_\_.
  - a. loudness
  - b. pitch
  - c. intensity
  - d. frequency