

➤ Main Ideas, Key Points, Questions:

After watching the video segment, write down key points, main ideas, and big questions.

➤ Objective(s):

- *Understand why sound waves are classified as mechanical and longitudinal waves.*
- *Recognize how the speed of sound waves changes based on the medium through which they travel, and the temperature when they travel through air.*
- *Learn how humans interpret the frequency and amplitude of sound waves.*

➤ Notes:

During the video segment, use words, phrases, or drawings to take notes.

➤ Summary:

After watching the video segment, write at least three sentences explaining what you learned. You may ask yourself: "If I was going to explain this to someone else, what would I say?"

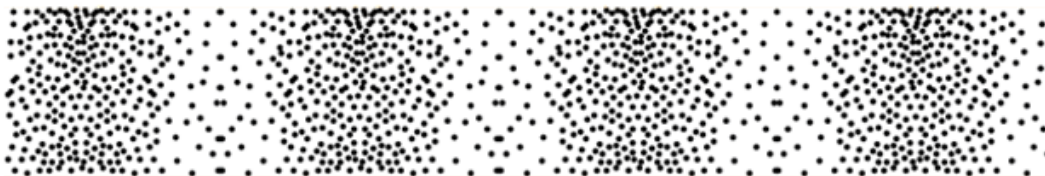
Answer the following.

1. Is sound a mechanical or electromagnetic wave?

2. Is sound a transverse or longitudinal wave?

3. What part of your ear receives the sound waves and turns them into electrical energy that travels to your brain?

4. Label a compression region and a rarefaction region on the diagram below:



5. If the speed of sound is constant, what happens to the wavelength when the frequency increases?

6. Rank the following materials from fastest to slowest speed of sound traveling through it: liquids, gases, solids.

7. Why does sound travel the fastest in the material chosen in the previous question?

Answer the following.

8. What is the equation that relates the speed of sound in air to the air temperature?

9. When is a sonic boom created?

10. The frequency of a sound wave is interpreted as the _____ of the sound.

11. What is the normal range of human hearing?

12. What property of a sound wave does the loudness of the sound relate to?
