

## Study Questions Chapter 5, Lesson 9: Sound

1. A sound will be softer when

- A. it has a higher pitch.
- B. it is made with more force.
- C. the source is farther away.
- D. it has stronger vibrations.

2. Kenny watched a film in which a spaceship exploded in space with a loud noise. Why was this explosion in space not realistic?

- A. The real explosion would have been quieter.
- B. The real explosion would not have made a sound since there is no air in space.
- C. The real explosion would have been louder.
- D. The real explosion would have had a higher pitch.

3. Jenny plucked a tight string softly, then harder. What happened when Jenny plucked the string harder?

- A. The pitch got lower.
- B. The sound was quieter.
- C. The sound was louder.
- D. The pitch got higher.

4. Ben did an experiment to learn about how force changes sound. In his experiment, he used different amounts of force to clap his hands together.

What happened when Ben used more force to make the clapping sound?

- A. The sound changed pitch.
- B. The sound got softer.
- C. The sound got faster.
- D. The sound got louder.

5. James plucked a tight string, then plucked a shorter string that was equally tight.

What happened when James plucked the shorter string?

- A. The vibrations were faster and therefore the pitch was lower.
- B. The vibrations were slower and therefore the pitch was higher.
- C. The vibrations were faster and therefore the pitch was higher.
- D. The vibrations were slower and therefore the pitch was lower.

6. Jenny plucked a tight string. If Jenny made the tight string shorter and then plucked it, what would happen to the sound?

- A. The sound would be louder.
- B. The pitch would be lower.
- C. The pitch would be higher.
- D. The sound would be quieter.

7. The pitch of a sound is how high or low the sound is. Which sound would most likely have the highest pitch?

- A. rumble of a heavy truck
- B. man's voice
- C. a whistle
- D. thunder

9. The picture shows a guitar. The knobs on the guitar can be used to tighten or loosen the guitar strings.

What does tightening the strings do?

- A. It makes the pitch higher.
- B. It makes the vibration slower.
- C. It makes the volume louder.
- D. It makes the pitch lower.

10. Vanessa plays drums in the school band. Sometimes she hits her drum gently, and it makes a soft sound. But sometimes she hits the drum hard, and it makes a loud sound.

What is the difference between the two kinds of sounds she makes?

- A. the direction
- B. the thickness
- C. the pitch
- D. the volume

**12.** Jenny plucked a tight string. If Jenny made the tight string shorter and then plucked it, what would happen to the sound?

- A.** The sound would be louder.
- B.** The sound would be quieter.
- C.** The pitch would be higher.
- D.** The pitch would be lower.

**13.** Garrett has four strings that are the same thickness and are made of the same material. Garrett cuts the strings to different lengths and pulls them to the same tightness.

When he plucks the strings with his finger, which string will have the highest pitch?

- A.** The longest string will have the highest pitch.
- B.** The shortest string will have the highest pitch.
- C.** They will all have the same pitch.
- D.** It is impossible to say.

**14.** Bill banged two cymbals together. Which of the following best describes the way sound travels to Bill's ears from the cymbals?

- A.** The vibrations of the cymbals make Bill's ears vibrate.
- B.** The vibrations of the cymbals make the air vibrate which makes Bill's ear drum vibrate.
- C.** Air waves carry the sound to Bill's ears.
- D.** The air blows the sound to Bill's ears.

**15.** Which of the following can change the pitch of a sound by changing the vibration?

- A.** length of the vibrating string
- B.** thickness of the vibrating string
- C.** tightness of the vibrating string
- D.** all of these

**16.** The picture shows a musical instrument that is played by blowing across the openings of the tubes.

A shorter tube will make a sound that is

- A.** higher-pitched.
- B.** louder.
- C.** softer.
- D.** lower-pitched.

**17.** James plucked a tight string with a large amount of force, then with less force. What happened when James plucked the string with less force?

- A.** The vibrations were weaker and therefore the sound was louder.
- B.** The vibrations were stronger and therefore the sound was louder.
- C.** The vibrations were stronger and therefore the sound was quieter.
- D.** The vibrations were weaker and therefore the sound was quieter.

**18.** The vibrations that cause sound can travel through

- A.** solids.
- B.** gases.
- C.** liquids.
- D.** all of these

**19.** Jenny plucked a tight string. Which of the following best describes the way sound travels to Jenny's ears from the plucked string?

- A.** The vibrations of the string make the air vibrate which makes Jenny's ear drum vibrate.
- B.** The air blows the sound to Jenny's ears.
- C.** The vibrations of the string make Jenny's ears vibrate.
- D.** Air waves carry the sound to Jenny's ears.