

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

### Study Guide Sound Quiz –What Does It Sound Like?

1. Describe the factors that affect pitch and loudness of sound produced by vibrating objects.
  - a. \_\_\_\_\_ is the highness or lowness of a sound.
  - b. \_\_\_\_\_ is the speed of the vibration in a sound wave.
  - c. Changing the \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ of an object affects the pitch of the sound when it vibrates.
  - d. The smaller items usually have a \_\_\_\_\_ pitch than a larger item.
  - e. \_\_\_\_\_ is the loudness of a sound.
  - f. Changing the \_\_\_\_\_ in the vibration affects the loudness of the sound.
  - g. The more \_\_\_\_\_ in the vibration, the \_\_\_\_\_ the sound.
2. Describe how you can produce different pitches with a rubber band.
3. Describe how you can produce different volumes with a xylophone.
4. Describe how you could produce a loud, low-pitched sound with a recorder.

5. Describe how sound is transmitted, reflected and absorbed.

Sound travels differently through solids, liquids and gases.

- a. Sound travels fastest through \_\_\_\_\_ and slowest in \_\_\_\_\_.
- b. Smaller, softer, more irregular materials \_\_\_\_\_ sound better.
- c. Harder, more regular, and larger objects \_\_\_\_\_ sound better.
- d. Sound that is reflected can be heard as an \_\_\_\_\_.
- e. A sound is \_\_\_\_\_ when it hits a wall.
- f. \_\_\_\_\_ is used by boats to locate objects below the surface of the water.
- g. \_\_\_\_\_ is used by bats to “see”.
- h. \_\_\_\_\_ is used to see organs inside the body.
- i. Explain why you will hear echoes when you bounce a basketball in an empty gymnasium, but not in a crowded gymnasium.

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6. Name the three types of musical instruments and how they produce sound.

a. \_\_\_\_\_ instruments produce sound when

\_\_\_\_\_

b. \_\_\_\_\_ instruments produce sound when

\_\_\_\_\_

c. \_\_\_\_\_ instruments produce sound when

\_\_\_\_\_.

7. a. Loudness is measured using \_\_\_\_\_.

b. Frequency is measured using

\_\_\_\_\_.

c. \_\_\_\_\_ are frequencies that are too high for the human ear.

d. The apparent change in pitch of a sound caused by the relative motion between the source of the sound and the observer is the

\_\_\_\_\_. (Think of fire truck siren as it moves towards you and moves away.)