Name _____ Class_____Date_____

Assessment

Chapter Test A

The Nature of Sound

MULTIPLE CHOICE

Write the letter of the correct answer in the space provided.

_____ 1. The blending of pitches through interference produces an instrument's
a. sound quality.
b. amplitude.
c. echoes.
d. resonance.

_____ 2. The amplitude of a sound's waves determines the sound's
a. pitch.
b. loudness.
c. resonance.
d. sound quality.

_____ 3. Sounds with frequencies higher than 20,000 Hz
a. result from standing waves.
b. create destructive interference.
c. are considered to be noise.
d. are ultrasonic sounds.

_____ 4. The motion of either the listener or the source of a sound causes
a. resonance.
b. shock waves.
c. the Doppler effect.
d. echolocation.

_____ 5. The frequency of a sound wave determines
a. the pitch of the sound.
b. the loudness of the sound.
c. the sound quality.
d. the type of interference.

_____ 6. Which statement about sound is NOT true?
a. Air particles travel with sound waves.
b. Sound waves cannot travel through a vacuum.
c. Sound waves exist even if no one hears them.
d. Air particles vibrate along the path of a sound wave.

_____ 7. An echo is most likely to result when sound hits a surface that is
a. bumpy and soft.
b. smooth and soft.
c. smooth and hard.
d. bumpy and hard.

_____ 8. The medium through which sound waves travel affects the
a. speed of the sound.
b. the amplitude of the waves.
c. the number of waves per second.
d. the sound quality.

_____ 9. A person experiences a sonic boom when
a. a shock wave reaches the ears.
b. an airplane breaks the sound barrier.
c. overtones are created.
d. sound waves overlap by constructive interference.

MATCHING

Match the description with the correct term. Write the letter in the space provided.

_____ 10. vibrates when struck

_____ 11. vibration that causes standing waves inside its air column

_____ 12. the use of reflected sound waves to find food or other objects

_____ 13. occurs when two instruments play the same note

_____ 14. when the sound produced by one object causes another object to vibrate

_____ 15. longitudinal wave caused by vibrations and carried through a medium

_____ 16. a pattern of vibration that looks like a wave is at rest

_____ 17. unit for measuring loudness

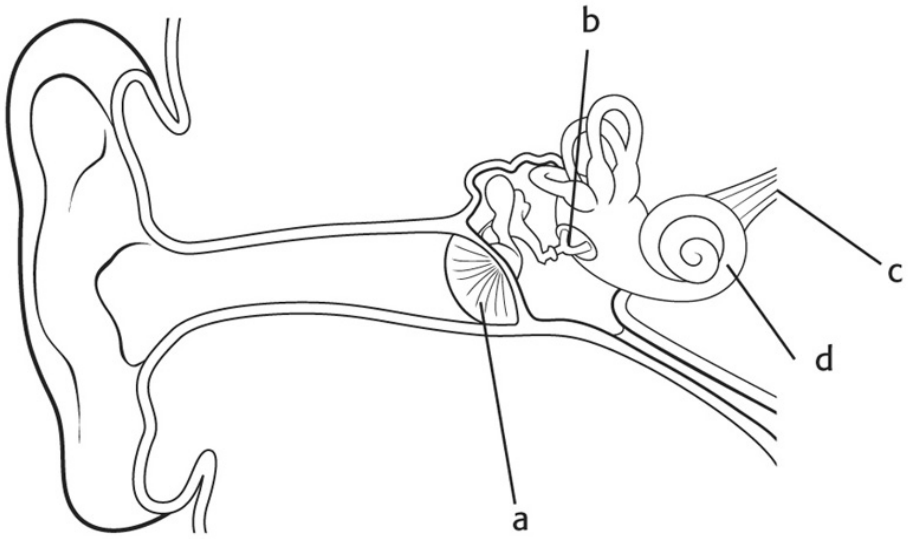
_____ 18. results from long-term exposure to loud sounds

_____ 19. frequencies two or more times the fundamental frequency

a. sound wave
b. echolocation
c. resonance
d. standing wave
e. decibel
f. overtones
g. interference
h. woodwind instrument
i. percussion instrument
j. tinnitus

MATCHING

Match the labels to the drawing. Write the letters in the spaces provided.



_____ 20. The vibrating stirrup causes the oval window to vibrate.

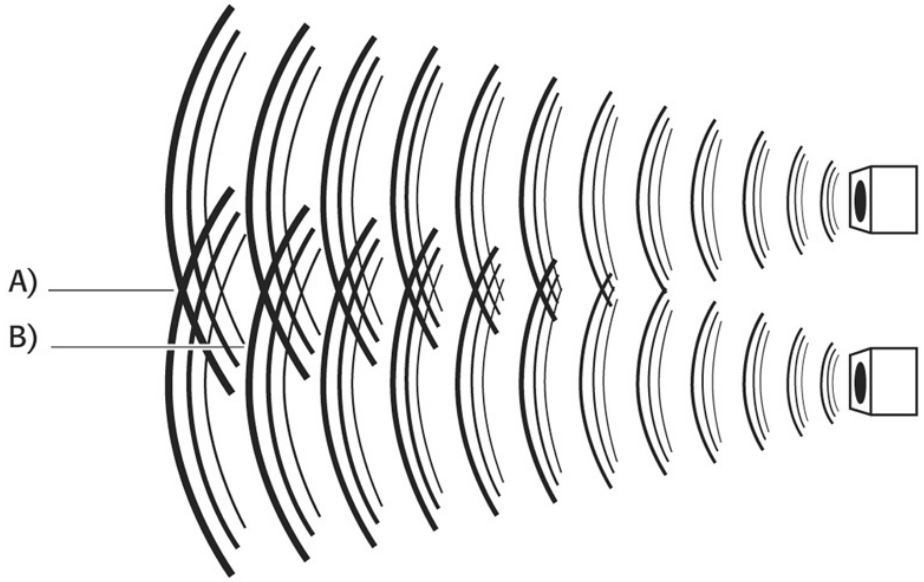
_____ 21. Electrical signals are sent to the brain due to stimulation of nerves by bending hair cells.

_____ 22. Sound waves cause the eardrum to vibrate.

_____ 23. Movement of liquid inside cochlea causes hair cells to bend.

MULTIPLE CHOICE

Use the figure below to answer questions 24 and 25. Write the letter of the correct answer in the space provided.



_____ 24. Look at the diagram. What happens at point A?

a. Compressions of one wave overlap rarefactions of another to create a softer sound.
b. Compressions of one wave overlap rarefactions of another to create a louder sound.
c. Compressions of one wave overlap compressions of another to create a softer sound.
d. Compressions of one wave overlap compressions of another to create a louder sound.

_____ 25. Look at the diagram. What happens at point B?

a. The amplitude is decreased.
b. The amplitude is increased.
c. The frequency is increased.
d. The frequency is decreased.