Sound Review Sheet

Answers

Assessment is on _____

Match the term to its meaning.

1. C pitch
2. B waves
3. D volume
4. A frequency

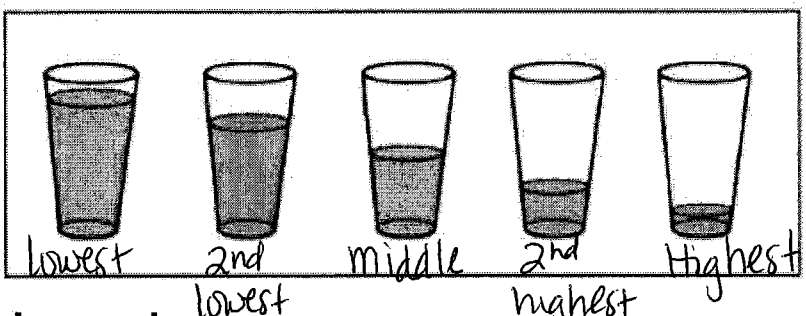
A. rate of vibration (speed)
B. the way sound is transmitted
C. highness or lowness of sound
D. loudness or quietness of sound

5. Read each characteristic. Write E if it relates to echo and A if it relates to absorb.

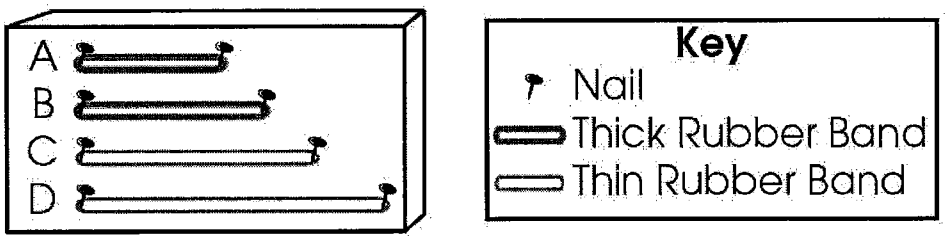
a. A soaking in sound
b. E light bouncing off a mirror
c. A pillow
d. E reflecting sound
e. A soft, fluffy materials
f. E hard, smooth materials
g. E bouncing sound
h. A auditorium full of people
i. E empty auditorium

6. A teacher fills five glasses with different amounts of water. The teacher lightly taps each glass, and Sound is made by the Vibrations. The rate of vibration of each glass varies depending on the amount of Water in the glass. Which property of the sound varies from glass to glass? pitch

7. Label the pitch of each glass.



8. Students pluck the rubber bands on the instrument. Label the highest and lowest pitched rubber bands.

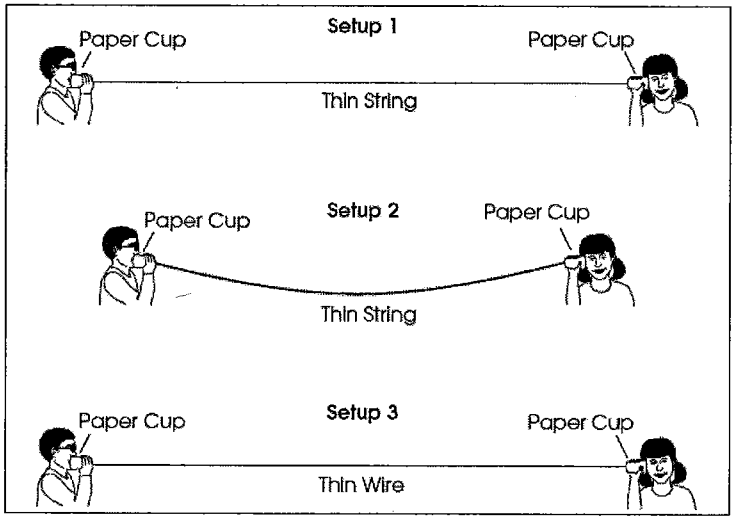


9. Match the relationship between pitch and frequency. Then match the ways to change the pitch of a sound

A	Higher pitch	A. increase frequency (faster)
B	Lower pitch	B. decrease frequency (slower)
C	High pitch	C. short
E	High pitch	D. thick
H	High pitch	E. tight
I	High pitch	F. long
D	Low pitch	G. loose
F	Low pitch	H. thin
G	Low pitch	I. vibrate quickly
J	Low pitch	J. vibrate slowly

10. A student plays his trumpet on the stage of an empty auditorium. He hears the sound echo back to the stage. When the auditorium is full of people, he does not hear an echo. The sound echoes in the empty auditorium because vibrations reflect off the empty seats and floor. In the full auditorium, sound gets absorbed by the people and their clothes.

11. Two students want to find out what affects the sounds heard through model telephones. They investigate the tightness of the material connecting the cups. The first three setups are shown. They use the same length of string or wire in each setup. The boys repeat the same sounds at the same volume each time.



They record results of the three setups in the table below.

Model Telephone Investigation

Setup	Description of Sound Heard
1	Sound is Muffled
2	No Sound is Heard
3	Sound is Clear

The sound was heard in setup 1 because tight string vibrates.

12. The variable that changed between setup 1 and setup 2 is
tightness of string.

13. The variable that changed between setup 1 and setup 3 is
medium (string or wire).

14. Explain what happened to the sound energy in setup 2.
loose string cannot vibrate.

15. The sound was clearer in setup 3 than in setup 1 because
wire is a better transmitter of sound.

Match the word to its description.

E	16. vibrations	A. best/fastest transmitter of sound
D	17. 300,000,000 m/s	B. worst/slowest transmitter of sound
C	18. 343 meters per second	C. speed of sound in air
B	19. gas	D. speed of light through air
A	20. solid	E. cause of sound

21. A teacher shows a student the following data about the speed of sound in air and water.

Speed of Sound in Air

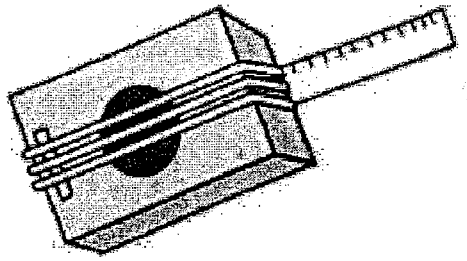
Temperature	Speed (meters/second)
40°C	356
20°C	343
0°C	331

Speed of Sound in Water

Temperature	Speed (meters/second)
40°C	1,526
20°C	1,481
0°C	1,403

Based on the tables, the student can conclude that sound travels faster in water than air. Also Sound travels faster when the temperature increases.

22. A teacher makes a model guitar by using an open box for the guitar body and rubber bands for the strings. Students observe that the pitch of the sound produced by each rubber band depends on how tight the rubber band is. The tightness can change the



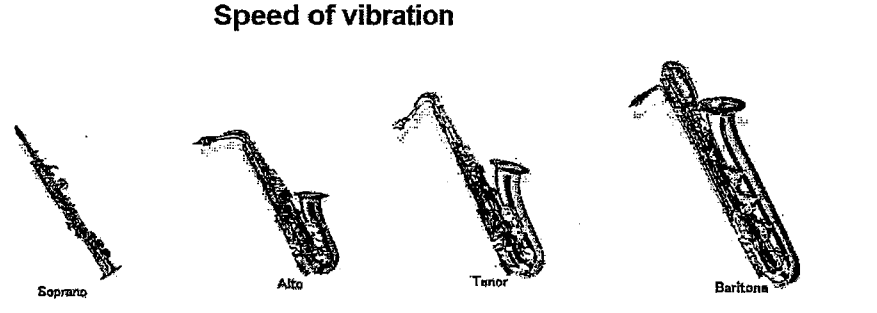
frequency because it makes the rubber band vibrate faster or slower.

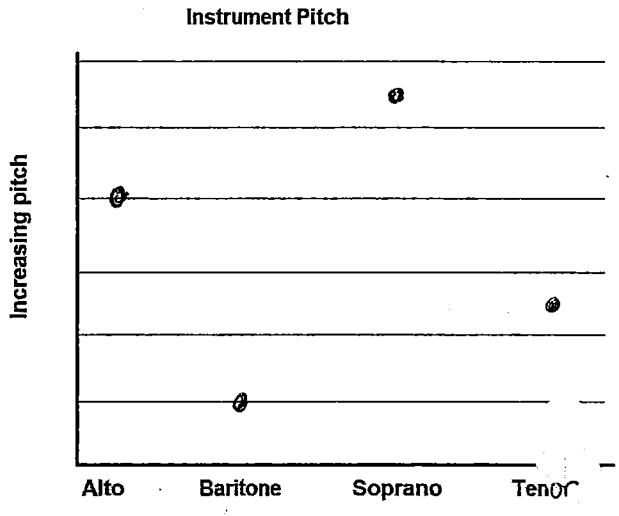
Sample	Amount of Water	Vibrations per Second
Glass A	240 mL, 180 mL, 120 mL, 60 mL	500 low
Glass B	240 mL, 180 mL, 120 mL, 60 mL	600 medium
Glass C	240 mL, 180 mL, 120 mL, 60 mL	700 high

23. A student investigates the pitch of sound with identical water glasses containing different amounts of water. The table shows the vibration rate of each sound. Add water lines to fill each glass to play the correct pitch.

24. A student taps each glass with a spoon and observes that each produces a sound with a different pitch. This happens because the amount of water in the glass affects the frequency. Label the pitch of each glass.

25. Students are observing the highest pitches that instruments can reach. Students arrange the instruments in a line to show the fastest to slowest vibration rate. Create a graph to match the students' observations. The higher the instrument's pitch, the higher the mark on the graph.





Tenor