

Name: _____

Period: _____

Sound WebQuest

Go to this website: <http://www.philtulga.com/MSSActivities.html>

1. What is the unit for volume or loudness: _____ How is it abbreviated: _____
2. According to this website, how fast can sound travel? _____
3. Will sound travel faster at 58°C or 88°C? _____
Explain why this happens? _____

4. Based on what you learned from question #3, answer the following questions about the speed of sound by circling the medium in which you think sound would travel faster through:
 - a. Water *or* air
 - b. solid *or* air
 - c. water *or* solid
 - d. Explain why you think these are going to move faster? _____

5. Go to number 5 on the website titled Waves: read it and click on the hyperlink **Thunderstorm Stopwatch** activity.
 - a. If it takes 10 seconds for it to thunder after it lightning strikes how far is the storm? _____
 - b. If it takes 20 seconds how far is the storm? _____
6. Objects which vibrate faster produce a higher _____, and objects which vibrate more slowly produce a lower _____.
7. If you make a musical instrument shorter, will it have a **higher** *or* **lower** frequency?
8. Draw a tuning fork in the space below. Then draw a diagram similar to the one on the website that's shows how many waves will pass in 1 second if it has a frequency of 10 Hz

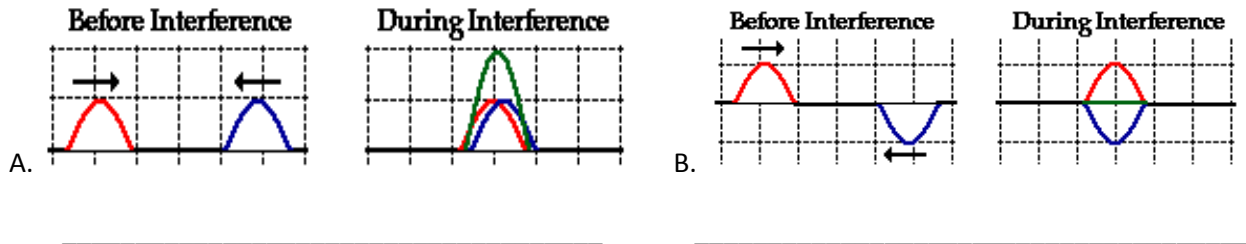
Go to this website: <http://library.thinkquest.org/10796/ch8/ch8.htm>

9. Scroll down to section 4, "Collision of Waves": When two waves traveling in opposite directions through the same medium collide, the amplitude of the resulting wave will be the sum of the two initial waves, this is called _____.

10. _____ is when the amplitudes of the initial waves are in the same direction. The resulting wave will be larger than the original waves. The highest point of a constructive interference is called an _____.

11. _____ is when the amplitudes of the initial waves are opposite. The point in the middle of a destructive interference is called a _____ and it never moves.

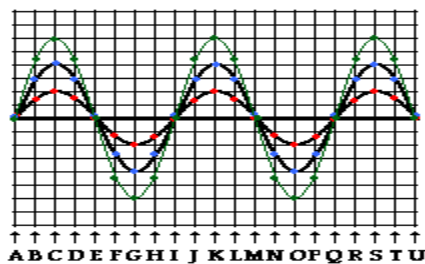
12. Label the following diagrams as either **constructive interference** or **destructive interference**:



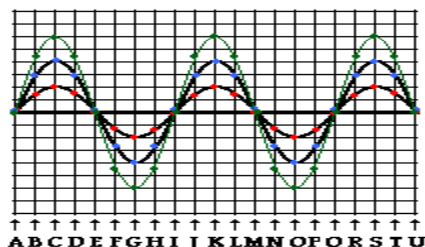
Go to this website: <http://www.glenbrook.k12.il.us/gbssci/Phys/Class/waves/u10l1a.html>

13. A transverse wave is a wave in which particles of the medium move in a direction _____ to the direction which the wave moves.

a. Label the crests and troughs:



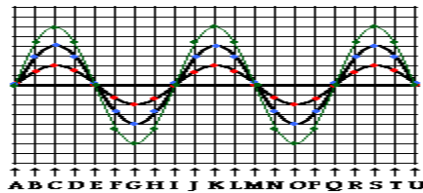
b. Label 2 wavelengths on this wave



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c. Label 2 amplitudes on this wave



14. A longitudinal wave is a wave in which particles of the medium move in a direction _____ to the direction which the wave moves.

a. When particles or waves are clustered together in a longitudinal wave they are called _____

b. When particles or waves are spread apart in a longitudinal wave they are called _____

c. Label all of the compressions (C) and Rarefactions (R) on the diagram below.



15. Take the quiz at the bottom of the page: Fill in the correct answers in the spaces below:

1. _____ 2. _____ 3. _____ 4. _____

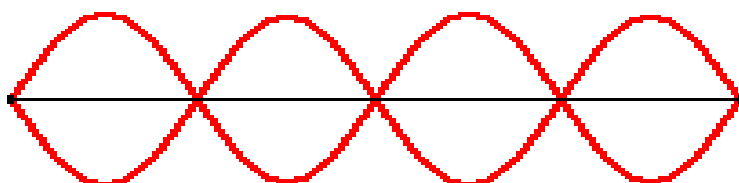
5. _____ 6. _____ 7. _____ 8. _____

16. On the tab on the left-hand side of the page, there is a section called [Lesson 2: Properties of a Wave](#). Click on the tab labeled "Anatomy of a Wave." Take the quiz and fill in the correct answers down below:

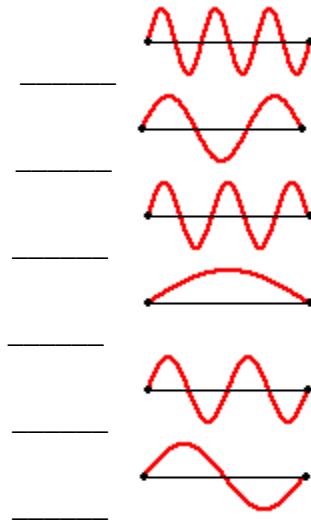
1. _____ 2. _____ 3. _____

17. On the tab on the left-hand side of the page, there is a section called [Lesson 4: Standing Waves](#). Click on the tab labeled "Nodes and Anti-nodes." Label all of the **nodes (N)** and **antinodes (A)** on the diagram below:

Typical Diagram of a Standing Wave



18. Assume that the diagrams below are the number of waves produced in 1 second. Rank them in order 1-6, one being the highest frequency and 6 being the lowest frequency.



Go to this website: <http://www.school-for-champions.com/science/sound.htm>

19. Does sound travel in a vacuum? _____ Why? _____

20. Under the heading "Characteristics of Sound," copy the equation for the velocity of sound.

21. Take the mini-quiz at the bottom of the page. Put the correct answers here.

1) _____

2) _____

3) _____