



Intervention 8.2.4-

WAVES WEBQUEST

Directions- Go to dixiemiddlescience.weebly.com and follow the links under today's date.

Task 1-

https://utah.pbslearningmedia.org/asset/lsp07_int_waves/?utm_source=teachersdomain_redirect/asset/lsp07_int_waves/utm_medium=teachersdomain/asset/lsp07_int_waves/utm_campaign=td_redirects

1. Describe the motion of the wave of the people and the string. What type of wave is being demonstrated in these examples?
2. Under the "Demonstration" tab, experiment with different medium densities and wave controls. Describe the changes you observe as you adjust the different variables.
3. Under the "Water Waves" tab, watch the water waves animation and then explain the motion of a water wave.

Task 2- <https://www.acs.psu.edu/drussell/Demos/waves/wavemotion.html>

4. What are mechanical waves?
5. How do transverse waves differ from longitudinal waves?
6. Draw and give an example of a transverse and longitudinal wave.

Task 3- <http://zonalandeducation.com/mstm/physics/waves/partsOfAWave/waveParts.htm>

7. Sketch a diagram of a transverse wave. Be sure to label the crest, trough, positive amplitude, negative amplitude, and wavelength.
8. What does the straight line in a transverse wave represent?
9. What is frequency and what unit is it measured in?
10. On the website, try adjusting the frequency on the animation. Then explain how frequency and wavelength are related.

Task 4- http://www.classzone.com/books/ml_science_share/vis_sim/wslm05_pg18_graph/wslm05_pg18_graph.html

11. Experiment with the wave's frequency and amplitude. Observe what happens to the wavelength with each change you make. Write 2-3 complete sentences about your observations.

Task 5- https://phet.colorado.edu/sims/html/wave-on-a-string/latest/wave-on-a-string_en.html

12. Set the wave to "oscillate" and draw the wave that you have created.

13. Increase the amplitude of the wave to 80 cm and press "restart", what changed about the wave?

14. Decrease the amplitude of the wave to 20 cm and press "restart", what changed about the wave?

15. Does the 80 cm wave or the 20 cm wave appear to have more energy?

NOT FOUND ON A WEBSITE

16. Draw a transverse wave.

17. Now draw a transverse wave with higher amplitude but the same wavelength as #16.

18. Which has more energy? #16 or #17?

19. Draw another transverse wave.

20. Now draw a transverse wave with a longer wavelength but the same amplitude as #19.

21. Draw an arrow above the picture below showing the direction of INCREASING energy.

