

Waves Webquest

Name: _____

Period: _____

For the purpose of this webquest waves are defined as a repeating disturbance that travels through a medium. Electromagnetic waves do not require a medium. Answer the following questions to learn more about waves in general.

Be sure to use scientific websites. Ask.com, Answers.com, and any other public website (where anyone anywhere can provide an answer are not reliable sources and are not to be used. Cite your website source at the end of each answer in parenthesis.

Example of citing website after an answer: (NASA, www.nasa.gov)

Wave Basics

Name three mediums that waves can travel through.

Name the three parts of a wave.

What are periodic waves?

What is amplitude?

What is equilibrium?

What determines wavelength?

Define Transverse, longitudinal and surface waves.

Light Waves

Now that you have a basic understanding of terms related to waves let's look at light waves specifically.

In what order to colors appear in the light spectrum? Draw a sample of the color spectrum.

How does frequency affect the color of light?

What is the frequency of infrared light?

What is the frequency of ultraviolet light?

What is the speed of light?

How does water affect light waves?

Sound Waves

Sound waves share some characteristics with light waves. They have a frequency, and amplitude. Research the following questions to learn more about sound waves.

How is sound made?

What is the speed of sound?

What organ do we use to hear sounds and how does it work?

What instrument can be used to show the shape of a sound wave?

How does water affect sound waves?

Liquid Waves

Waves in a body of water can be demonstrated by dropping a marble into a bowl of water. The rock causes waves. Answer the following questions to learn more about waves in water.

How are ocean waves created?

How are lake waves created?

Where are the tallest waves on earth found? What makes them?

How does an underwater structure affect a wave?

Where is the best surfing and why?

How do waves affect coastlines?

Extra Credit Questions

Draw a representation of a mechanical wave.

What is faster, the speed of light or the speed of sound?

What happens if an airplane flies faster than the speed of sound?

Is there sound in space? Why or why not?

Is there light in space? Why or why not?

Name two other kinds of waves.

If a tree falls in a forest and no one is there to hear it, does it make a sound?

Can we travel faster than light?

What are electromagnetic waves?