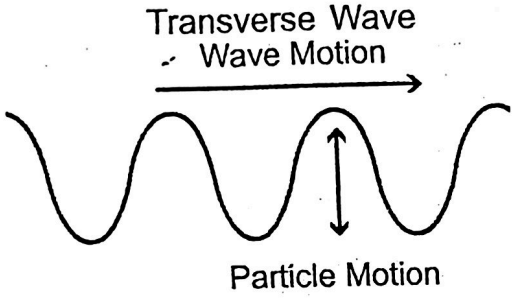
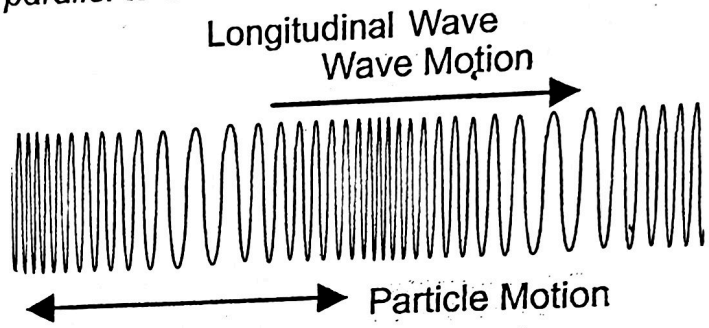
Waves: Introduction and Types

Name _____

Instructions: Read through the information below. Then complete the statements at the bottom of the page using the BOLD words from the page.

A wave is a transfer of energy through a medium from one point to another. Some examples of waves include; water waves, sound waves, and radio waves. Waves come in two different forms; a **Transverse** Wave which moves the medium *perpendicular* to the wave motion, and a **Longitudinal** Wave, which moves the medium *parallel* to the wave motion.

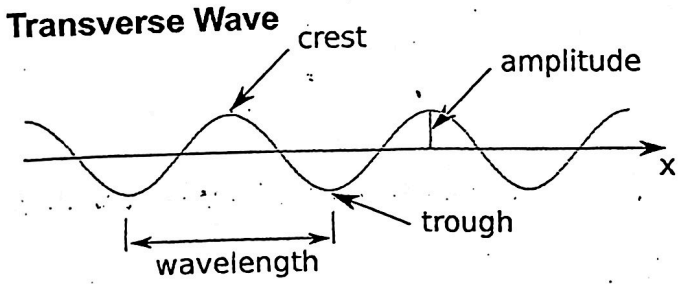


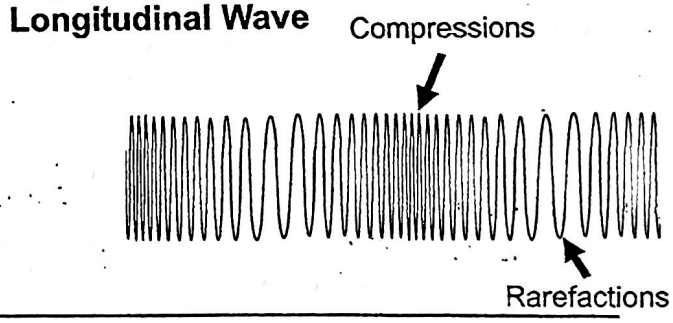


Examples of Transverse waves would be a vibrating guitar string or electromagnetic waves, while an example of a Longitudinal wave would be a "Slinky" wave that you push and pull.

Waves have several properties which are represented in the diagrams below. In a Transverse wave the **Crest** and Troughs are the locations of maximum displacement up or down. The **Amplitude** is the measurement of maximum displacement. The **Wavelength** is the distance of one complete wave cycle. For example; the distance from crest to crest or trough to trough would be 1 wavelength.

In a Longitudinal wave, areas of maximum displacement are known as **Compressions** and **Rarefactions**. The stronger the wave, the more compressed and spread out the wave medium becomes.





Fill in the statements using the BOLD words from the above information.

1- Wave motion that is Parallel to wave direction describes a _____ wave.

2- A _____ is the maximum upwards displacement in a Transverse wave.

3- One complete wave cycle is referred to as a _____.

4- Wave motion that is Perpendicular to wave direction describes a _____ wave.

5- A _____ or _____ is the maximum displacement in a Longitudinal wave.

6- An Ocean wave would be an example of a _____ wave.

7- The distance from one trough to another trough is called a _____.

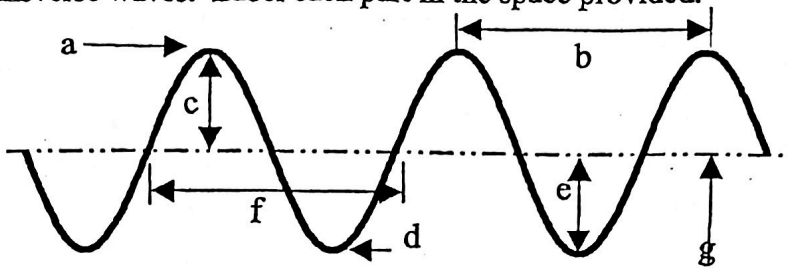
8- The measurement of displacement is called a wave's _____.

Name_____ Date_____ Period___

Waves Unit 2, Worksheet 5

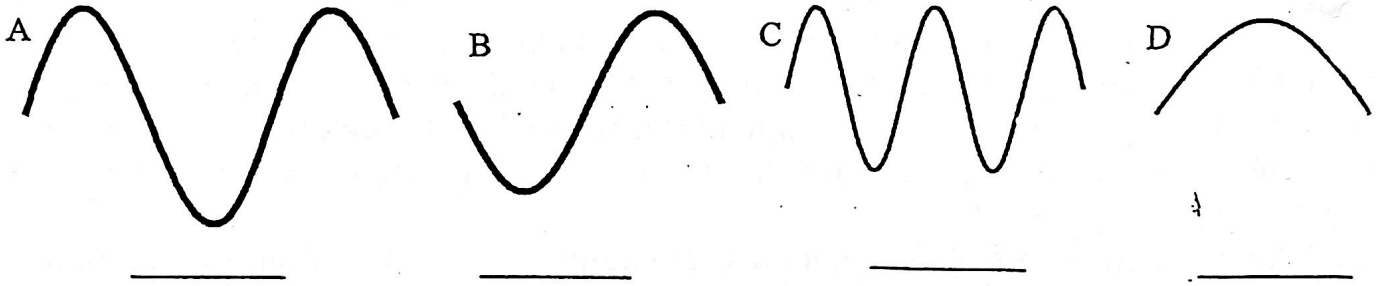
1. The illustration below shows a series of transverse waves. Label each part in the space provided.

a. _____
b. _____
c. _____
d. _____
e. _____
f. _____
g. _____



Fill in the blanks:

2. Waves carry _____ from one place to another.
3. The highest point on a transverse wave is the _____ while the lowest part is the _____.
4. The _____ is the height of the wave.
5. The distance from one crest to the next is the _____.
6. Below are a number of series of waves. Underneath each diagram write the numbers of waves in the series.



_____ _____ _____ _____

a. Which of the above has the biggest amplitude? _____
b. Which of the above has the shortest wavelength? _____
c. Which of the above has the longest wavelength? _____

7. Draw and label a transverse wave below.