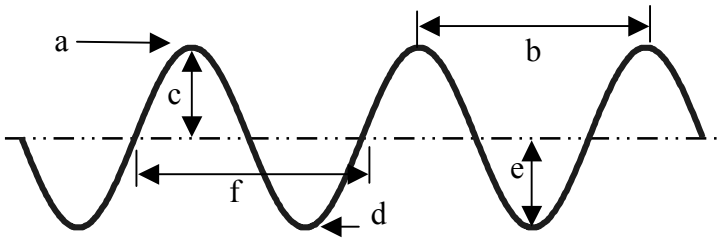
Waves Worksheet

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

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



Fill in the blanks:

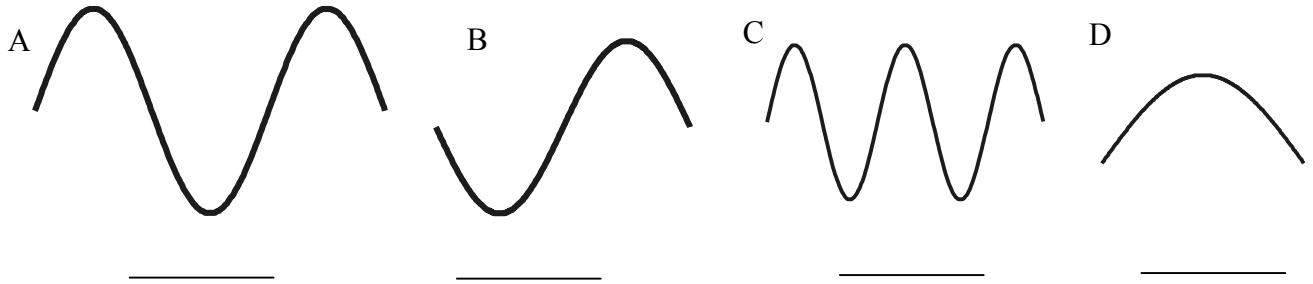
2. Waves carry _____ from one place to another.

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.**



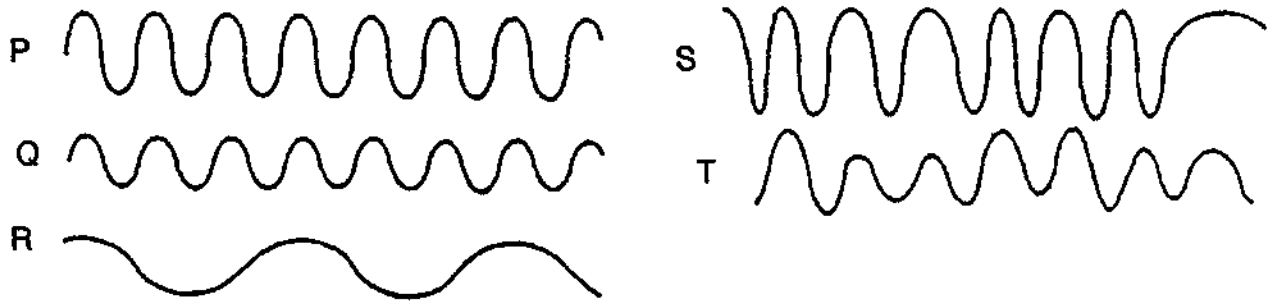
_____ _____ _____ _____

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. Use the five illustrations of waves drawn below to answer the following questions:



(a) Waves P and Q have the same _____, but wave P has twice the _____ of wave Q.

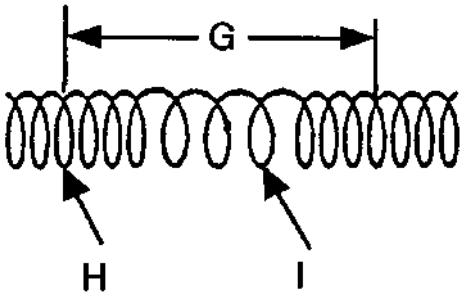
(b) Waves Q and R have the same _____, but wave R has twice the _____ of wave Q.

(c) Wave _____ shows a steady frequency but changing amplitude.

(d) Wave _____ shows steady amplitude but a changing frequency.

(e) Waves _____ and _____ have a low amplitude and a steady frequency.

7. The following questions refer to the diagram to the right:



(a) Is this wave transverse or longitudinal?

(b) Letter H represents a _____ and letter I represents a _____.

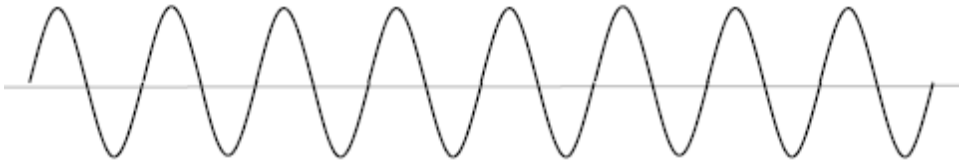
(c) Letter G represents a _____.

Frequency (*f*) is the number of waves that pass through a point in a given amount of time. The units for frequency are Hertz (Hz) which tells us how many waves go by per second. To find the frequency just divide the number of waves by the number of seconds:

$$f = \frac{\text{\# of waves}}{\text{seconds}}$$

*****The time from the beginning to the end of the wave in each situation is 1 second.***

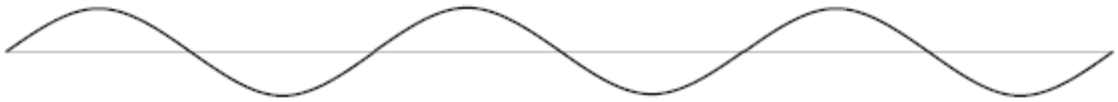
Wave 1



a) How many wave cycles are completed in this diagram? _____

b) Wavelength _____ cm c) Amplitude _____ cm d) frequency _____ Hz e) speed _____ cm/s

Wave 2



a) How many wave cycles are completed in this diagram? _____

b) Wavelength _____ cm c) Amplitude _____ cm d) frequency _____ Hz e) speed _____ cm/s

Wave 3

a) How many wave cycles are completed in this diagram? _____

b) Wavelength _____ cm c) Amplitude _____ cm d) frequency _____ Hz e) speed _____ cm/s