Name _____Answer Key_____

**Part 1) Investigate waves**

**Create a data table identifying a clear relationship between wavelength and frequency. Must include at least four data sets.**

| Wavelength (cm) | Frequency (Hz) |
|---|---|
| 1378.9 | 0.067 |
| 337.9 | 0.296 |
| 198.5 | 0.504 |
| 106.9 | 0.936 |

Waves Investigation

When the frequency increases then the wavelength decreases.

**Part 2) Answer the following questions and submit.**

1) What happens to the speed of the **sound wave** when the wavelengths get shorter? Nothing-no change

2) What happens to the frequency of the wave when the wavelengths get shorter?

It gets higher

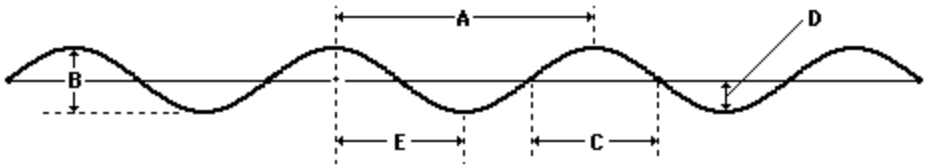
3) What is a wavelength? The distance from crest to crest.--one complete wave cycle or oscillation

4) What is frequency? The number of waves that past a given point in one second

5) What speed does sound travel at? 343m/s What speed does light travel at?$3.8*10^{8}$m/s

6) What happens to the energy when the wavelengths get shorter? The energy gets higher

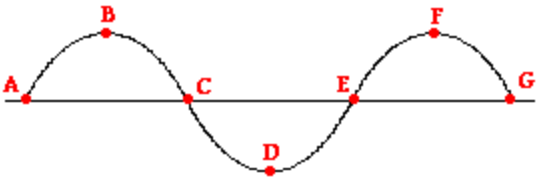
**Part 3) Consider the diagram below in order to answer questions #1-2 below.**




1. The wavelength of the wave in the diagram above is given by letter ___A___.

2. The amplitude of the wave in the diagram above is given by letter __D___.

3. Indicate the interval that represents one full wavelength.




a. A to C

b. B to D

c. A to G

d. C to G