

WAVES AND SOUND – WORKSHEET #1

Name: _____

Read chapter 7.1 and 7.2 up to page 340. **THEN** answer the following questions.

Figure 7.2 on page 329 shows two types of vibration. Fig A) shows a transverse vibration while B) shows a longitudinal vibration. Explain the difference between the two types. Where does the name come from?

In the space below, draw a diagram of a transverse and longitudinal vibration. Label the Amplitude (A), the rest position, the **axis of vibration**, and indicate the motion of the mass.

Transverse (eg, pendulum)	Longitudinal (eg, vertical spring)

Period and Frequency

Define Period. Use words, give the formula and the units.

Define Frequency. Again, use words as well as give the formula and units. What is 1 hertz?

Practice: Answer questions one through four from page 331 on an *attached* sheet of paper.

Now, using the formulas for period and frequency, or the answers to the questions from the text, **derive** a relationship between period and frequency. That is, find a formula for period with frequency in it or vice versa. Make sure you show how you got the formula.

