

Name _____ Date _____ Period _____

Wave Unit Review

CONCEPTUAL PHYSICS: WAVES

Directions: Answer the following questions using your notes and textbook

EQUATIONS: $v = \frac{d}{t}$ $v = \lambda f$

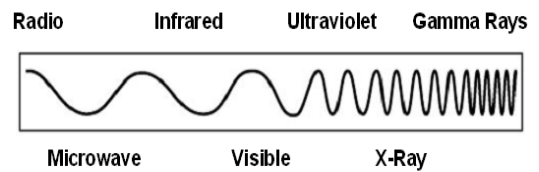
1. What is the source of all waves?
2. What are the two types of waves? (give examples of each)
3. Draw a transverse wave and label the following: **crest, trough, wavelength, node, amplitude.**
4. What term is synonymous with **loudness** when we talk about sound waves?
5. What term is synonymous with **pitch** when we talk about sound waves?
6. Define the following terms:
 - a. **period** of a wave-
 - b. **period** of a pendulum-
 - c. **resonance**-
 - d. **standing wave**-
 - e. **beats**-

7. What are the units for:

- a. **frequency-**
- b. **wave speed-**
- c. **wavelength-**

8. What is the **doppler effect**?

9. What does the diagram to the right called? What does it tell us?



10. What is **wave interference**?

11. What are the two types of wave interference? Describe each.

12. What is the speed of **sound** in dry air at 20°C?

13. What is the speed of **light** in a vacuum?

14. What caused the Tacoma Narrows Bridge to collapse?

15. What is the relationship between **wavelength** and **frequency**?

16. What is the **speed** of a wave with a frequency of **2.0 Hz** and a wavelength of **3.0 meters**?

17. What is the **speed** of a wave with a frequency of **110 Hz** and a wavelength of **1.0 meters**?

18. A wave travels an average speed of **340 m/s**. If the wavelength this wave is **5 meters**, what is its **frequency**?

19. A wave travels an average speed of **345 m/s**. If the wavelength this wave is **2.5 meters**, what is its **frequency**?

20. A wave travels an average distance of **20 meters** in **3 seconds**. What is the wave's **velocity**?

21. A wave travels an average distance of **45 meters** in **5 seconds**. What is the wave's **velocity**?

22. A **350-Hz** sound wave travels at **340 m/s** in air, with a wavelength of?

23. A **200-Hz** sound wave travels at **1200 m/s** in a railroad track, with a wavelength of?

24. Why can't you hear an explosion in the vacuum of space?

25. What affects the speed of a sound wave or light wave?