Waves Flip Book

Name _____ Period _____

S8P4. Students will explore the wave nature of sound and electromagnetic radiation.

- a. Identify the characteristics of electromagnetic and mechanical waves.
- b. Describe how the behavior of light waves is manipulated causing reflection, refraction diffraction, and absorption.
- c. Explain how the human eye sees objects and colors in terms of wavelengths.
- d. Describe how the behavior of waves is affected by medium (such as air, water, solids).
- e. Relate the properties of sound to everyday experiences.
- f. Diagram the parts of the wave and explain how the parts are affected by changes in amplitude and pitch.

Assignment: Create a three tiered flip book defining vocabulary and answering questions for each section. Use **pages 510-527** in your textbook. Each tier should be titled as the outline sections (I, II, III). Define the terms in your flip book. Answer the questions on this handout.

I. TYPES OF MECHANICAL WAVES

1. Illustrate and label a transverse wave.
2. Illustrate and label a longitudinal, or compressional, wave.
3. Identify which one carries sound energy.

II. PROPERTIES OF WAVES

4. Define **amplitude.**
5. Amplitude of a wave depends on the amount of _____.
6. Define **wavelength**.
7. How do you find the wavelength of a transverse wave?
8. Define **frequency**.
9. Frequency is measured in _____, which is equal to _____waves per _____.
10. As frequency increases, wavelength _____.
11. Define **wave speed**.
12. Write the formula for **wave speed** on your flip book.
13. The speed of the wave depends on the _____in which the wave is traveling.

III. INTERACTIONS OF WAVES

14. Define **reflection**. List an example and illustrate.
15. Reflected sound waves are called _____.
16. Define **refraction.** List an example and illustrate.
17. Refraction is due to a change in _____.
18. Define **diffraction.** List an example and illustrate.
19. Why can you hear a sound from around a corner but can't see who is playing it?
20. Define **interference.**
21. When 2 troughs meet they form to make _____.
22. This is called _____ interference.
23. When a crest and trough meet they _____ each other out.
24. This event is called _____ interference.
25. What is a **standing wave**? (Define on your flip book.)
26. Standing waves can produce _____ frequencies.
27. Define **resonance**.
28. Illustrate in your flipbook **Figure 10 on page 525.** Label the two types of interference.
29. Is your name on your flip book? YES? Great, you are done!!!

GRADING RUBRIC

Description	Possible Points	Points Attained
Types of Mechanical Waves: Each type is drawn and labeled accurately. (minus 3 points for each error or missing item)	25	
Properties of Waves: Each property is listed, defined, and labeled as specified. (minus 4 points for each error or missing item)	20	
Interactions of Waves: Each interaction is listed, defined, and drawn, or an example is given. (minus 4 points for each error or missing item)	28	
Answers to questions and blanks are completed. (minus 1.3 for each incorrect answer)	20	
Neatness and Creativity	7	
TOTAL	100	