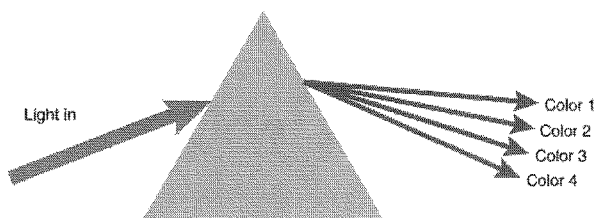


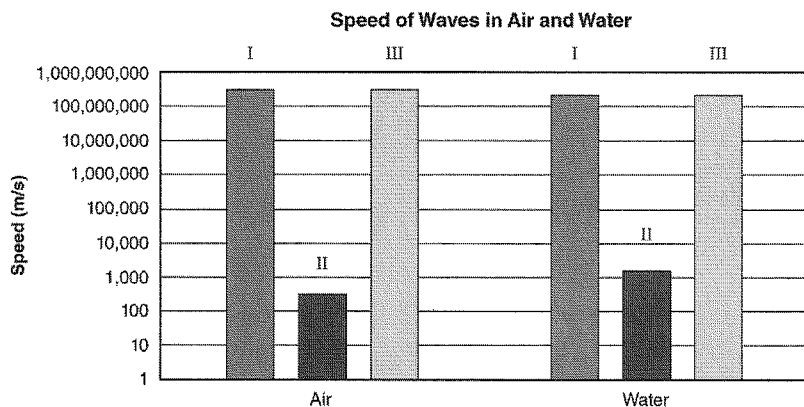
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 Period: \_\_\_\_\_  
 Date: \_\_\_\_\_

### Key questions for Unit 3, Lesson 4 & 5

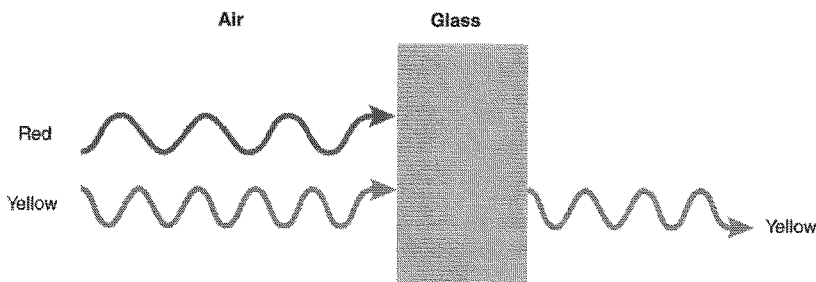
1. Which statement BEST shows that waves carry energy?
  - a. Light shining through some trees makes shadows.
  - b. A rainbow shows a spectrum of colors.
  - c. You feel vibrations if loud sounds are played.
  - d. Sounds can be recorded.
  
2. The speed of a mechanical wave depends on the type of medium through which it travels. Which statement is TRUE?
  - a. Mechanical waves require a medium, but electromagnetic waves do not.
  - b. All waves travel at the same speed through any medium.
  - c. Electromagnetic waves require a medium, but mechanical waves do not.
  - d. All waves travel at the same speed if no medium is present.
  
3. What is a \_\_\_\_\_ wave?
  
4. Feng shines a thin beam of light onto a prism. The light contains wavelengths of red, blue, green, and yellow light. The diagram below shows how the four colors of light exit the prism at different angles. Which of the wavelengths is color 1?



5. The graph below shows the speeds of three waves in air and water. Which wave(s) are electromagnetic waves?



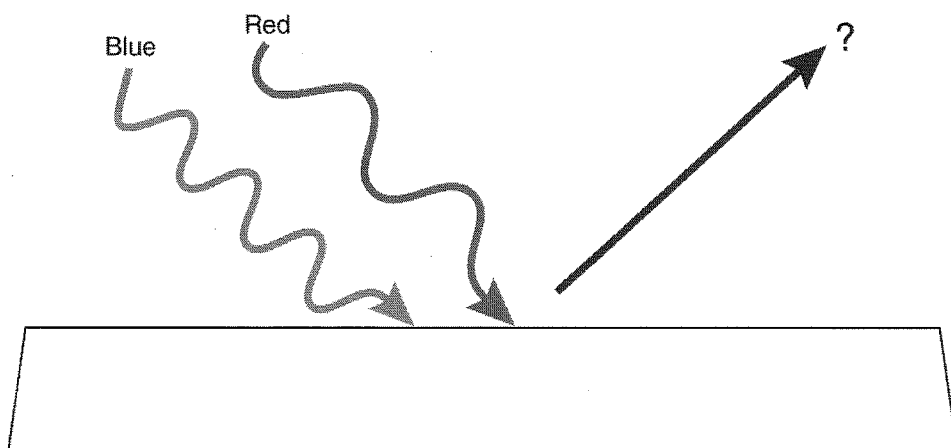
6. A room contains many objects. Give some examples of objects that would MOST absorb sound waves in a room? Which would MOST reflect sound?
7. A double-pane window consists of two pieces of glass with air in between. How many times does the light refract as it passes through the window?
8. Visible light and infrared light are two types of electromagnetic waves that radiate from the sun. Which is the SAME about these two types of radiation as they travel through space?
- a. speed
  - b. frequency
  - c. energy
  - d. wavelength
9. An overhead light shines onto a sheet of white paper. Which best describes what happens to the light?
- a. It is refracted.
  - b. It is absorbed.
  - c. It is reflected.
  - d. It is transmitted.
10. Red light waves and yellow light waves travel through air and strike the surface of glass. Only the yellow light waves travel through the glass, as shown in the figure below.



Which of these phrases best describes the glass?

- a. opaque for yellow light
- b. transparent for yellow light
- c. translucent for red light
- d. reflective for red light

11. Kana shines a light onto paper as shown in the figure below. The light contains both blue and red wavelengths of light, as shown in the figure below.



If the paper is green, what color (or colors) of light bounces off the paper?

12. What is true of ALL transverse waves and longitudinal waves? (What do they do?)

13. What are two types of media (medium) that sound travels **MOST slowly**? Why?

14. What are two types of media (medium) that sound travels **MOST quickly**? Why?

