

I highly recommend that you review the vocabulary terms, you look over the guided reading assignments for Ch. 26 & 27. Review your video logs and watch any sound and light videos you might not have watched yet.

Sound

1. What produces sound waves? What type of wave is a sound wave?
2. What happens when waves interfere?
3. What is the speed of sound? Does sound travel the fastest in solids, liquids, or gases? What factors affect the speed of sound in materials?
4. Where can sound waves NOT travel at all? Or not be heard?
5. What is resonance? When does resonance occur?
6. Using your voice to shatter a glass is an example of what?
7. What causes beats?
8. What is constructive and destructive interference?
9. What factors affect the speed of a sound wave in a medium?
10. How do you determine the beat frequency?

Light

11. Does light behave like a wave or a particle?
12. What type of wave is an electromagnetic wave? Do EM waves need a medium?
13. What is the speed of light?
14. List the EM waves on order of increasing wavelength & frequencies.
15. What is the main difference between a radio wave and an infrared wave?
16. How does polarization work?
17. What is refraction? What causes refraction?
18. What determines the color we see?
19. State the law of reflection.
20. What are the colors of the visible spectrum? In the visible light spectrum, what causes different colors?
21. What determines the color that something appears to be?

Problems: Provided formula: $V = f \cdot \lambda$

22. Be able to calculate the velocity of a wave, the frequency of a wave, or the wavelength using: $V = \lambda \times f$
23. You hear a firecracker 500 m away. The speed of sound is 340 m/s. How long did it take the sound to reach you after the firecracker exploded?
24. How much louder is a 40 dB sound over a 20 dB sound?
25. What is the wavelength of a 256 Hz sound wave that travels 340 m/s?
26. What is the ocean depth if sonar is used and the signal take 11 seconds for a round trip and the speed of sound in saltwater is 1500 m/s. (Hint: remember this a round trip so you have to take an extra step.)
27. A 200 Hz and a 203 Hz tuning fork are struck, what is the beat frequency.