# Conceptual Physics Review (Chapters 25, 26 & 27)

**Chapter 25**

- Describe the period of a pendulum.
- Describe the characteristics and properties of waves.
- Describe wave motion.
- Describe factors that affect the speed of a wave.
- Distinguish between transverse and longitudinal waves, and be able to give an example of each.
- Distinguish between constructive and destructive interference.
- Describe how a standing wave occurs.
- Describe the Doppler effect for sound.
- Describe bow waves.
- Describe sonic booms.
- Be able to define all vocabulary words in bold from the chapter.

**Chapter 26**

- Describe the relationship between a sound wave's frequency and pitch.
- Describe the movement of sound through air.
- Compare the transmission of sound through air with that through solids, liquids, and a vacuum.
- Describe factors that affect the speed of sound.
- Describe loudness and sound intensity.
- Determine the relative intensities of two sounds from their respective decibel levels.
- Describe natural frequency.
- Describe resonance.
- Describe beats.
- Be able to define all vocabulary words in bold from the chapter.

**Chapter 27**

- Describe the dual nature of light.
- What produces light (electromagnetic waves)?
- Define photons and identify which theory of light they provide evidence for.
- Explain why it is difficult to measure the speed of light.
- Explain Roemer's method of measuring the speed of light.
- Explain Michelson's method of measuring the speed of light.
- Know the different portions of the electromagnetic spectrum and how they each relate to each other in terms of wavelength and frequency.
- Describe opaque materials.
- Describe solar and lunar eclipses.
- Distinguish between umbra and penumbra.
- Describe polarization and how Polaroid filters work.
- Know the speed of light in meters per second and kilometers per second.
- Explain why sound waves move faster through steel than through air, while light waves travel more slowly in any medium than through a vacuum.

**Labs**

- Review the Pendulum Lab.
- Review the Mechanical Waves Lab.
- Review the Speed of Sound Lab.

**Homework Assignments**

- Review all written assignments out of your textbook.
- Review all reading quizzes.
- Review all worksheets.
- Review all class notes and challenge problems worked during class.