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## Chapter 9: Photoelectric Effect

### Overview

### Suggested Reading Assignment

The section on “The Photoelectric Effect” in your modern physics text.

E.g., Section 3-3 of Tipler and Llewellyn, 4<sup>th</sup> edition.

### Pre-lab Questions

1. Explain the photoelectric effect and Einstein’s theory of the photoelectric effect.
2. Why does the existence of a cutoff frequency in the photoelectric effect favor a particle theory for light rather than a wave theory?
3. What effect, if any, would you expect the temperature of a material to have on the ease with which electrons can be ejected from it in photoelectric effect?
4. What frequency of light is needed to just barely liberate electrons from an aluminum surface?
5. What wavelength of light is needed to liberate electrons from a nickel surface so that they have kinetic energy 2.0 eV?