Key Terms

blackbody object that absorbs all radiated energy that strikes it and also emits energy across all wavelengths of the electromagnetic spectrum

Compton effect phenomenon whereby X-rays scattered from materials have decreased energy

electric eye group of devices that use the photoelectric effect for detection

particle-wave duality property of behaving like either a particle or a wave; the term for the phenomenon that all particles have wave-like characteristics and waves have particle-like characteristics

photoelectric effect phenomenon whereby some materials eject electrons when exposed to light

photoelectron electron that has been ejected from a material by a photon of light

photon a quantum, or particle, of electromagnetic radiation

photon momentum amount of momentum of a photon, calculated by $\mathbf{p} = \frac{h}{\lambda}$

quantized the fact that certain physical entities exist only with particular discrete values and not every conceivable value

quantum discrete packet or bundle of a physical entity such as energy

ultraviolet catastrophe misconception that blackbodies would radiate high frequency energy at a much higher rate than energy radiated at lower frequencies