

27.1 Lesson Plans

KEY

SE = Student Edition, TWE = Teacher Wraparound Edition, TCR = Teacher Classroom Resources, STVS = Science and Technology Videodisc Series, PCA = Physics for the Computer Age

Waves Behave Like Particles

Section Objectives


- _____ Describe the spectrum emitted by a hot body and **explain** the basic theory that underlies the emission of hot-body radiation.
- _____ **Explain** the photoelectric effect and **recognize** that quantum theory can explain it, whereas the wave theory cannot.
- _____ **Explain** the Compton effect and **describe** it in terms of the momentum and energy of the photon.
- _____ Describe experiments that demonstrate the particle-like properties of electromagnetic radiation.

National Science Content Standards UCP.1, UCP.2, UCP.3, A.1, A.2, B.4, E.1, E.2, G.3
Georgia QCC 1, 1.1, 1.2, 1.3, 1.4, 14.2, 21, 21.1, 21.2, 21.3, 24, 24.1, 24.2, 24.3, 24.4, 24.5, 24.6, 24.7, 24.9, 24.10








Schedule

Block schedule: optional lesson
 Single-period schedule: 2 sessions





Focus

 Activity, TWE p. 626

Teach

-  Pocket Labs, SE pp. 627, 630
-  Physics Lab, SE p. 634
- _____ Sociology Connection, SE p. 628
- _____ Help Wanted, SE p. 629
- _____ Connections to Chemistry, TWE p. 627
- _____ Applying Physics, TWE p. 628
-  Demonstration 27-1, TWE pp. 628–629
-  Quick Demos, TWE pp. 625, 628
- _____ Physics Journal, TWE pp. 629, 635
- _____ Tech Prep, TWE p. 632
-  Transparency 49 Master and Worksheet, pp. 107–108, TCR
-  Physics Lab and Pocket Lab Worksheets, pp. 147–150, TCR
-  Laboratory Manual, Labs 27.1, 27.2, TCR
- _____ Spanish Resources, TCR

Assess/Reteach

-  Section Review, SE p. 636
- _____ Checking for Understanding, TWE p. 635
-  Reteaching, TWE p. 636
-  Study Guide, pp. 157–161, TCR
-  Reteaching, pp. 34–35, TCR
- _____ Critical Thinking, p. 34, TCR
- _____ Supplemental Problems, TCR

Enrichment/Application

- _____ Cultural Diversity, TWE p. 631
- _____ Enrichment, TWE p. 631
-  Extension, TWE p. 636

Close

 Closing Strategy, TWE p. 636

Chapter Assessment

- _____ Assessment, TWE p. 629, 630, 631
- _____ Performance Assessment in the Science Classroom

Multimedia Options

-  CD-ROM: Quantum Theory, PCA
-  Videotape: MindJogger Videoquizzes
-  Videodisc: STVS Chemistry, Disc 2, Side 1,
- _____ Ch. 4; Disc 2, Side 2, Ch. 7; Physics, Disc 1, Side 1, Ch. 11
- _____ TestCheck Software