Lesson	Concepts / Key Terms	Tools / Materials	Lesson Strategy	Assessment
Lesson 1: Viewing Light Energy	• Assessment of prior knowledge • Incident rays, reflected rays • First Law of Reflection • Light travels in straight lines • Drawing angles accurately	• Flat plane mirrors • An object to hide	Assessment of prior knowledge, asking questions about real-world phenomenon related to light: Why does sunlight (and other light) behave the way it does? How does color work? Is it a property of light? What happens when light hits a mirror?	Students will work in groups to answer these questions Also, students will have an opportunity to pose their own questions on light and optics Try This Activity: Hide an object behind a box or desk, set up mirrors around the room to find it. Draw a diagram of the classroom, show mirror locations. In what locations is the object still hidden? Where to position a mirror to find it (draw in diagram)
Lesson 2: Light Energy and Its Sources	Sources of light energy: • Incandescence • Phosphorescence • Electric Discharge • Fluorescence • Chemiluminescence • Bioluminescence • Luminous vs. nonluminous	• Light bulb • Wrist-watch with luminous dials • Glow in the dark stars • Neon light • Fluorescent light tube	Review different forms of energy (light, chemical, thermal, electrical) Use a strobe light to show that a nonluminous object is only visible when it reflects light (doesn't generate its own light) Comparing fluorescent tube and an incandescent bulb, to illustrate difference in energy emitted as heat (good tie-in to energy efficient bulbs) Test clothing to determine what parts are fluorescent	Understanding Concepts Questions Students will examine the classroom for as many different types of light sources as possible, and group them into the appropriate categories Homework: Identify bulb types, locations, and quantities in your home. Organize this into a chart. Assume these lights are turned on all the time, how much money would this cost per month?
Lesson 3: Watching Light Travel	• Properties of visible light (identify through experimentation) • Rectilinear propogation • Wave/particle dual nature of light	• Ray boxes • Rubber stopper • Pencil and paper • Ruler	Students will carry out an investigation involving ray boxes to answer the question "What property of light allows shadows to form?" Hypothesis/Procedure/Analysis.	Monitor student activity during the investigation. Who takes charge of the group, and who stands back? Note this when picking groups in the future. Making Connections questions: