

## Heat—Lesson Four

### Investigating Heat Radiation

**Standard VI: Heat, light, and sound are all forms of energy. Heat can be transferred by radiation, conduction, and convection. Visible light can be produced, reflected, refracted, and separated into light of various colors. Sound is created by vibration and cannot travel through a vacuum. Pitch is determined by the vibration rate of the sound source.**

**Objective 1: Investigate the movement of heat between objects by conduction, convection, and radiation.**

**Indicator c: Describe the movement of heat across space from the sun to Earth by radiation**

**Indicator e: Design and conduct an investigation on the movement of heat energy.**

#### **A. Literary Reading**

Materials:

1. Literacy Reading—Heat Transfer (From the Elementary CORE Academy 2006, page 6-16.)
2. Heat Transfer Examples (From the Elementary CORE Academy 2006, page 6-18.)

Directions

1. Read just about ***Radiation*** from the Heat Transfer reading on page 6-16.
2. Discuss what radiation means by giving some examples.
3. Show some examples of radiation from page 6-18.

#### **B. Boom**

Materials:

1. Boom, Make it Fly With Radiation Activity (From Elementary CORE Academy, 2004, pages 7-4, 7-7, and 7-8.)
2. Solar Bag
3. String

Directions:

1. Review about Radiation from the reading.
2. Do the activity 'Boom'—Make It Fly With Radiation
3. Have students log what happened.

### **C. The Tale of Three Colors—Radiation**

Materials:

1. The Tale of Three Colors Activity (From Elementary CORE Academy 2006, pages 6-3, 6-4, 6-7, 6-8, and 6-9.)
2. Heat lamps
3. Aluminum foil
4. White construction paper
5. Black construction paper
6. Tape or glue
7. Thermometers
8. "The Tale of Three Colors" Worksheet papers 1 or 2

Directions:

1. Review about Heat Energy and Radiation from the Reading
2. Do the Activity, The Tale of Three Color--Radiation
3. Fill out the worksheet sheet for the Tale of Three Colors
  - a. Either worksheet 1 or worksheet 2
    - i. Activity 2 is a little more complicated but can find more information.