



## Interaction Stations Teacher Notes

### *Identification of Energy Sources and Receivers*

**Note:** Remember the focus of the second part of this lesson is to have students practice identifying the energy source and the energy receiver as objects interact. It is likely that student responses will vary somewhat from those given here. As students become familiar with different forms of energy in Lesson 3, they will include intermediately sources and receivers.

#### **Station 1: Hands**

Energy source (ES): hand → Energy receiver (ER): hand

Students should feel their hands warm due to friction.

#### **Station 2: Plastic Shopping Bag**

Energy source (ES): plastic bag → Energy receiver (ER): paper

Students should observe small bits of paper cling to an electrically charged plastic bag.

#### **Station 3: Paddle Ball**

Energy source (ES): hand/paddle → Energy receiver (ER)/Energy source (ES): ball on elastic tether and elastic tether stretched → Energy receiver (ER): ball, paddle, elastic tether

Students should notice the rubber ball (repeatedly) returns to the paddle ball as it is hit.

#### **Station 4: Electric Circuit**

Energy source (ES): battery → Energy receiver (ER): light bulb

When the circuit is complete, the light bulb will light. If students have difficulty getting the bulb to light, check to make sure that the connections between components are properly made and that connections are tight.

#### **Station 5: Solar Powered Propeller**

Energy source (ES): sun → Energy receiver (ER)/Energy source: panel → Energy receiver (ER): motor/propeller

When exposed to bright light, the propeller will turn.

### **Station 6: Noise Maker**

Energy source (ES): air → Energy receiver (ER): noise maker

Sound will be emitted as students blow into the horn due to vibration of air molecules.

### **Station 7: In Hot Water**

Energy source (ES): hot water → Energy receiver (ER): spoon

Students will feel the spoon's handle warm up.

### **Station 8: Beads**

Energy source (ES): sunlight → Energy receiver (ER): beads

Students should notice that the beads change color as they are exposed to light. The beads contain pigments which react with ultra-violet light.

### **Station 9: Spinning Top**

Energy source (ES): hand → Energy receiver (ER): top

When released, the top will spin and depending on the style of top sound and/or light may be emitted.

### **Station 10: Yo-Yo**

Energy source (ES): position of yo-yo → Energy receiver (ER): yo-yo

Students should observe that the yo-yo returns to their hand repeatedly. Students may need to be shown how to use a yo-yo.

### **Station 11: Pop Up Toy**

Energy source (ES): hand → Energy receiver (ER)/ Energy source (ES): compressed spring → Energy receiver (ER): toy

After being compressed, the pop up toy should “spring” up into the air.

### **Station 12: Waves**

Energy source (ES): finger → Energy receiver (ER): water and float toy

Students should notice that as they dip their finger in the water, waves occur that ripple out along the surface of the water, eventually causing the toy to bob.