Heat Transfer Demos

Air Spirals - Convection

Procedure:
- Cut out a circle in the paper using the template
- Make a small hole in the middle
- Cut the circle into a spiral (like the model)
- Tie a paper clip onto the end of the string and thread it through the hole in the spiral
- Hold the spiral over the hot plate (once you turn it on)
- Observe what happens
- Hold the spiral over the air conditioner vent
- Observe what happens

Melting Wax - Conduction

Procedure:
- Cut the candle into two smaller pieces
- Place the pieces of wax on the metal rod
- Rest the metal rod on the hot plate
- Make sure the wax is not touching the hot plate
- Observe what happens to the wax
Air Spirals

Data:
1. What direction did the spiral turn over the lamp (clockwise or counter-clockwise)?

2. What direction did the spiral turn under the air conditioner vent (clockwise or counter-clockwise)?

3. Explain your observations in terms of convection (try your best).

Melted Candles

Data:
1. What happened to the wax on the metal rod?

2. Explain your observations in terms of conduction (try your best).

3. Explain how a pot of boiling water demonstrates all three energy transfers (radiation, conduction, and convection)