

Name _____

Date _____



Save the Penguins



Lesson 2

Background: Metals (including silver or steel) have special properties that make them thermal conductors. Thermal conductors work just the opposite of insulators and speed up the rate of heat transfer from a warmer place to a colder place. When you touch a metal object that is colder than your body temperature, heat transfers away from your hand; therefore, the metal feels cold.

Experiment: Each partner should get either a plastic or metal spoon.

1. Which spoon that feels colder? (circle one) Metal or Plastic
2. Which spoon will work the best at keeping the penguin ice cube cold? (circle one) Metal or Plastic

Place your penguin ice cube on your spoon at the same time as your partner. Hold the spoon in your hand for 3 minutes. Use paper towels for any drips.

3. Which spoon made the ice melt faster? _____
4. What is causing the ice to melt? _____
5. Where did the spoons get their heat from? _____
6. In the box below, draw and label the direction of heat flow in this experiment. Include all parts.

7. Circle the material that is a conductor of heat energy. (circle one) Metal or Plastic
8. Circle the material that is an insulator of heat energy. (circle one) Metal or Plastic
9. Before the ice cubes were placed on the spoon did the metal spoon have a higher, lower or the same temperature as the plastic spoon? (circle one)

HIGHER

LOWER

SAME