Name: _____ **Date:** _____

Answer Key: Heat Hero Challenge: Can You Master Temperature Magic for Kindergarten?

How does an oven bake cookies or an ice cube vanish? Identify thermal energy sources and predict heat flow during this interactive station review activity.

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1. Imagine you are wearing a fluffy winter coat. Why does your body feel warm inside it?

Answer: B) The coat traps your body's heat

Coat materials act as insulators, keeping the warm thermal energy your body produces from escaping into the cold air.

2. A metal slide on a sunny playground feels hotter than the plastic swings.

Answer: A) True

Different materials react to heat differently; metal is a conductor that gets hot quickly when the sun shines on it.

3. When you put a warm chocolate bar in the freezer, it will become ___.

Answer: C) Hard

Removing heat from a liquid or soft solid (like warm chocolate) causes it to lose energy and turn into a hard solid.

4. Which of these needs heat to work correctly?

Answer: B) A toaster

A toaster uses electrical energy to create thermal energy (heat) to brown the bread.

5. Rubbing your hands together very fast makes them feel colder.

Answer: B) False

Friction, caused by rubbing two surfaces together, creates heat energy that makes your hands feel warmer.

6. If you put an ice cube into a cup of hot cocoa, the ice cube will ___.

Answer: C) Melt

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Heat moves from the hot cocoa to the cold ice cube, causing the ice to change from a solid to a liquid.

7. Which animal uses the sun's heat to warm up its body in the morning?

Answer: A) A lizard on a rock

Lizards are cold-blooded and rely on radiation from the sun to increase their body temperature.

8. Heat always moves from something cold to something hot.

Answer: B) False

The second law of thermodynamics states that heat naturally flows from a warmer object to a cooler object.

9. A ___ is a tool we use to see if our body has a fever or if it is cold outside.

Answer: C) Thermometer

A thermometer is the scientific instrument used to measure the average kinetic energy, or temperature, of a system.

10. What happens to water in a pot when it gets very, very hot on the stove?

Answer: A) It turns into bubbles and steam

When enough thermal energy is added to water, it reaches a boiling point and changes state from a liquid to a gas (steam).