

Name: _____ Date: _____

A Blanket for the Earth: First Grade Heat Energy Masterclass

Young scientists synthesize how heat moves through their world by predicting energy changes and designing solutions to keep things warm or cool.

1. Imagine you are designing a winter coat for a penguin. Which material would be the best 'heat trapper' to stop the penguin's body heat from escaping into the cold snow?

- A. A thin sheet of flat paper
- B. Thick, fluffy wool with trapped air
- C. A cold piece of flat metal
- D. Clear plastic wrap

2. If you put a warm rock into a bowl of cold water, the heat energy will travel from the cold water into the warm rock.

- A. True
- B. False

3. Rubbing your hands together very fast creates _____, which makes your skin feel warm because friction turns movement into heat.

- A. Ice
- B. Wind
- C. Energy
- D. Water

4. If you left a chocolate bar on a dark sidewalk and a chocolate bar on a white sidewalk on a sunny day, which one would melt first and why?

- A. The one on the white sidewalk because white reflects light
- B. Neither, because sidewalks don't get hot
- C. The one on the dark sidewalk because dark colors absorb more heat
- D. The one on the dark sidewalk because it is thirstier

5. A lizard sits on a hot desert rock to gather heat. This is an example of heat moving from the rock to the lizard's body.

- A. True
- B. False

6. A thermos is a special bottle that is built to _____ the flow of heat, keeping your soup hot for a long time.

- A. Speed up
- B. Stop
- C. Slowing

Name: _____ Date: _____

D. Change

7. Look at a steaming bowl of oatmeal. The steam rising up into the air shows that warm air and water vapor ____.

- A. Always sink to the floor
- B. Rise because they are less dense
- C. Turn into ice immediately
- D. Stay still inside the bowl

8. Heat can travel through empty space where there is no air, which is how the sun warms our planet.

- A. True
- B. False

9. When you add heat to a solid ice cube, the little particles inside start moving ____ until the ice turns into liquid water.

- A. Slower
- B. Faster
- C. Backward
- D. Nowhere

10. Why does a metal slide feel 'hotter' than a wooden bench even if they have been in the sun for the same amount of time?

- A. The wood is actually colder than the air
- B. Metal is a conductor that shares heat very quickly
- C. The metal slide is closer to the sun
- D. Metal creates its own heat energy