Name _____ Date _____

Energy Transfer: Why a Spoon Gets Hot in Soup

Directions: Read about Ben's bowl of soup. Then answer each question.

Two Spoons in the Soup

Ben's dad poured hot soup into a bowl and set it on the kitchen table. Ben put a metal spoon and a wooden spoon in the soup. After a few minutes, he touched the two handles. The metal handle felt warm. The wooden handle still felt cool.

Heat is energy that moves from a warmer thing to a cooler thing. **Temperature** tells how hot or cold something is. The soup had a higher temperature than the spoons, so heat moved from the soup into them. The metal spoon is a good **conductor** of heat, like most metals. Heat moves through it easily, so it traveled all the way to the handle. Wood is an **insulator**. Heat moves through it slowly, so the wooden handle stayed cool.

The soup lost heat to the spoons, the bowl, and the air, so it slowly cooled down.

1. According to the passage, what gave heat to the metal spoon?

A. The hot soup
B. The wooden spoon
C. The cool air in the kitchen
D. Ben's fingers

2. Match each word from the soup passage with its meaning.

Write the letter of the matching answer on each line.

1. _____ heat
2. _____ temperature
3. _____ conductor
4. _____ insulator

Choices for question 2

A. Cold that flows into warmer things
B. Energy that moves from a warmer thing to a cooler thing
C. A material that heat moves through slowly
D. A material that heat moves through easily
E. How hot or cold something is

3. How did heat get from the soup all the way up to the metal spoon's handle?

A. Heat always rises, so it floated up through the air to the handle.

B. It jumped from the wooden spoon to the metal spoon.

C. It moved through the metal, from the part in the soup to the handle.

D. Cold left the handle and moved down into the soup.

4. Why did the wooden spoon's handle stay cool?

A. Wood makes cold that pushes the heat away.

B. Wood is an insulator, so heat moves through it slowly.

C. The wooden spoon was not touching the soup.

D. Heat cannot move through wood at all.

5. Use the word bank to finish the sentence about holding an ice cube.

Word bank
soup • cold • ice • hand

When Ben holds an ice cube, heat moves from his _____ into the _____.

6. What happened to the soup's temperature as it sat on the table?

A. It went down, because cold from the spoons flowed into it.

B. It stayed the same, because the bowl kept all the heat in.

C. It went up, because the spoons gave heat to the soup.

D. It went down, because the soup gave heat to cooler things around it.

7. A metal spoon and a wooden spoon have been on the counter all night, so they are the same temperature. When Ben picks them up, the metal one feels colder. Why?

A. Wood makes its own heat, so it feels warmer.

B. Cold flows out of the metal and into his hand.

C. The metal spoon is really colder than the wooden spoon.

D. Metal carries heat away from his warm hand faster than wood does.

8. What would happen if Ben put a metal spoon from the drawer into a bowl of soup that had cooled all the way to room temperature?

A. The handle would get cold, because cold would move out of the soup.

B. The spoon would warm up the soup until it was hot again.

C. The handle would not get warm, because the soup and the spoon are the same temperature.

D. The handle would get warm, because soup always heats up a metal spoon.