Name ___________________________ Date ________________

Directions: Read each question and choose the best answer.

1. Which of the following is caused by heat energy?
   - A ice melting
   - B wet socks getting dry in a clothes dryer
   - C noodles cooking in a pot
   - D all of the above

2. Which statement about heat energy is true?
   - A Heat moves from cool things to warm things.
   - B Heat moves from warm things to cool things.
   - C As things lose heat energy, they get warmer.
   - D As things gain heat energy, they get cooler.

3. What is temperature?
   - A a measurement of hot and cold
   - B a measurement of speed
   - C location
   - D heat

4. When you fry an egg in a pan on a stove, the egg is heated by:
   - A evaporation
   - B convection
   - C conduction
   - D friction

5. When a heater warms your home, the air is heated by:
   - A evaporation
   - B convection
   - C conduction
   - D friction

Book Quiz continued on following page
6. How does the Sun provide heat to Earth?
   A The Sun’s heat reaches Earth by conduction.
   B There is friction between the Sun’s radiant energy and Earth’s atmosphere.
   C The Sun’s radiant energy reaches Earth and changes into heat.
   D Earth gets closer to the Sun during the daytime.

7. Which of these is not an example of a natural heat source?
   A a geyser
   B a volcano
   C the Sun
   D an oven

8. **Conduction** is related to **solids** in the same way that **convection** is related to __________.
   A heat energy
   B solids and gases
   C gases and liquids
   D liquids and solids

9. If C means a material is a good **conductor** of heat, and I means a material is a good **insulator** against heat, which list is correct?
   A wood–I metal–I plastic–I
   B wood–C metal–I plastic–C
   C wood–I metal–C plastic–I
   D wood–C metal–C plastic–C
10. Which activity for staying warm in a cold forest uses insulation?
   A covering yourself with a pile of dry leaves
   B getting out of the wind by climbing to a higher spot
   C sitting near a river or lake
   D drinking a warm liquid

11. Which diagram correctly shows the usual movement of warm and cool air?
   A
   B
   C
   D
12. Which type of heat transfer is shown in the diagrams in question 11?
   A convection
   B conduction
   C evaporation
   D friction

13. Which thermometer shows the hottest temperature?

14. Extended Response: Answer one of the following questions.
   • Why does ice melt in your hand and make your hand feel cold?
   • How can some cups keep hot drinks hot and also keep cold drinks cold?
HEAT ENERGY

Book Quiz Answer Sheet

<table>
<thead>
<tr>
<th>Question Type</th>
<th>Nonfiction Book Page Reference</th>
<th>ELA Comprehension Skill</th>
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<td>1. D</td>
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<td>Make Inferences &amp; Draw Conclusions</td>
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<td>2. B</td>
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<td>3. A</td>
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<td>Vocabulary</td>
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<td>11. D</td>
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<td>12. A</td>
<td>data analysis p. 19</td>
<td>Interpret Visual Devices</td>
</tr>
<tr>
<td>13. B</td>
<td>data analysis N/A</td>
<td>Interpret Visual Devices</td>
</tr>
</tbody>
</table>

14. Extended Response: Students should respond to one of the questions. Explanations are provided.

- Why does ice melt in your hand and make your hand feel cold?
  
  *Ice melts in your hand because your hand is warmer than the ice cube. Heat moves from hot to cold, so it moves from your hand to the ice cube. The heat changes the ice from a solid to a liquid. Since heat is removed from your hand, it leaves your skin feeling cold.*

- How can some cups keep hot drinks hot and also keep cold drinks cold?
  
  *Some cups are insulated. This means they do not allow heat to transfer very well through them. The insulation keeps cold drinks cold because heat can’t get in. It keeps hot drinks hot because heat can’t get out.*