

Bill Nye the Science Guy – Exploring Heat

Name _____

Period _____

Directions: Pay close attention to the movie. Answer the following questions during the movie.

1. Heat is _____. Heat can do _____.
2. What are the 3 ways that heat moves around the universe?
3. Even _____ things have heat. The molecules in _____ things are moving more _____ than the molecules in _____ things.
4. The _____ molecules means the _____ heat energy.
5. The _____ warms the land. The _____ heats the air. The cool _____ pushes the warm air _____.
6. Clothing dryers work by _____.
7. A freezer is cold but it still has _____.
8. The floors, walls, and ceilings of your room are _____ heat.

Unit 3 Lesson 3 Reading Guide

Directions: Complete the following reading guide using pages 190-199 in your textbook.

1. Particles move at different speeds, each has a _____ amount of kinetic energy.
2. _____ is a measure of the average kinetic energy of the particles.
3. _____ is the total kinetic energy of the particles.
4. The _____ particles there are in an object, the _____ the object's thermal energy.

5. The increase in volume that results from an increase in temperature is called _____.
6. _____ in densities that are caused by _____ can cause movement of matter.
7. _____ is the energy that is transferred between objects that are at different temperatures.
8. When objects that have different temperatures come into contact, energy will be transferred between them until both objects reach the _____ temperature.
9. The direction of this energy transfer is always from the object with the _____ temperature to the object with the _____ temperature.
10. The different rates at which materials become warmer or cooler are due to a property called _____.
11. A substance that has a _____ specific heat requires a lot of energy to show an increase in temperature.
12. A substance with a _____ specific heat requires _____ energy to show the same increase in temperature.
13. The sun transfers energy to Earth by _____.
14. Radiation is the transfer of _____ as electromagnetic waves.
15. Radiation can transfer energy between objects that are not in _____ with each other.
16. Almost all of the energy on Earth is transmitted from the sun by _____.
17. Much of the energy we get from the sun is transferred through Earth's systems by the other two ways- _____ and _____.
18. _____ is the transfer of energy due to the movement of matter.
19. Convection involves the movement of water due to differences in _____.
20. _____ most often occurs in _____, such as water and air.
21. _____ is the transfer of energy from one object to another object through _____.
22. Conduction involves the _____ moving particles of the warmer object transferring _____ to the _____ moving particles in the cooler object.