**Heat Transfer Study Guide (6.P.3.1) – Answer Key**

**Part 1- Name the type of heat transfer**

1. Conduction- heat moving between 2 objects where molecules are touching.

2. Convection- method of moving heat where warm things rise and cool things sink.

3. Radiation- heat energy that travels in waves through the air.

**Part 2- Fill in the blanks with true or false**

4. \_\_\_\_F\_\_\_\_ warm air sinks

5. \_\_\_\_F\_\_\_\_ cool air rises

6. \_\_\_\_F\_\_\_\_ when air warms up, the air molecules move slower

7. \_\_\_\_F\_\_\_\_ when air cools down, the air molecules move faster

8. \_\_\_\_T\_\_\_\_ higher temperature means faster moving molecules

9. \_\_\_\_T\_\_\_\_ lower temperature means slower moving molecules

10. \_\_\_\_T\_\_\_\_ plate tectonics can be explained by convection currents

11. \_\_\_\_F\_\_\_\_ ocean currents are caused by conduction

12. \_\_\_\_T\_\_\_\_ heat equilibrium is when a colder object gains heat as a warmer object transfer its heat to the colder object. The two objects will meet at a temperature somewhere in between the two temperatures

**Part 3- Use the acronym to name the different types of energy**

M – mechanical, R – radiant (light), S – sound, C – chemical, H – heat (thermal), E – electrical, N - nuclear

**Part 4 - Read the following examples. Decide if the heat transfers are conduction, convection, or radiation. Write “Co” for conduction, a “Cv” for convection and “R” for radiation.**

13. \_\_\_\_Co\_\_ burning hand on a hot stove

14. \_\_Cv\_\_\_hot air balloon rising

15. \_\_R\_\_\_\_ feeling the warmth of a fire

16. \_\_R\_\_\_hot car in summer time

17. \_\_Co\_\_\_\_ spoon heating up in soup

18. \_\_Cv\_\_\_lava lamp

19. \_\_R\_\_\_\_ sun warming Earth’s surface

20. \_\_Co\_\_\_ grabbing a cold can of soda

21. \_\_Cv\_\_\_\_ pasta traveling in circle in hot water

22. \_\_Cv\_\_\_ low pressure forming