Heat Transfer Quiz Study Guide

Directions: Please complete the following activities. THIS WILL BE THE ONLY PAPER YOU NEED TO STUDY FOR YOUR QUIZ.

Part 1- Write the definitions for the following words.

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.
4. Differential heating- different materials heat up at different rates.

Part 2- Fill in the blanks with true or false

5. _____ F _____ warm air sinks
6. _____ F _____ the sun DIRECTLY heats the air in our atmosphere
7. _____ F _____ cool air rises
8. _____ T _____ dark objects absorb more solar radiation than light objects
9. _____ F _____ when air warms up the air molecules move slower
10. _____ F _____ when air cools down the air molecules move faster
11. _____ T _____ higher temperature means faster moving molecules
12. _____ T _____ lower temperature mean slower moving molecules
13. _____ T _____ low pressure is under rising air
14. _____ T _____ high pressure is under sinking air
15. _____ F _____ wind always blows from low pressure to high pressure
Part 3 - fill in the blanks below the following diagram

1. The sun heats the surface of the Earth by radiation which travels in waves.
2. As the cool air touches the warm surface, it begins to heat from conduction.
3. This warm air begins to rise and it will eventually cool and begin to sink. This is called convection.
4. All surfaces on the Earth absorb radiation. These surfaces will reradiate their heat to warm the atmosphere.

Place a large "L" on the diagram where there is low pressure.
Place a large "H" on the map where there is high pressure.
Draw and arrow showing which way the wind would be blowing.

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.

1. ____Co____ burning hand on a hot stove
2. ____Cv____ hot air balloon rising
3. ____R____ feeling the warmth of a fire
4. ____R____ hot car in summer time
5. ____Co____ spoon heating up in soup
6. ____Cv____ lava lamp
7. ____R____ sun warming Earth's surface
8. ____Co____ grabbing a cold can of soda
9. ____Cv____ pasta traveling in circle in hot water
10. ____Cv____ low pressure forming