Name: _____ Date: _____ Block: _____

Heat Transfer Web Quest

Part 1: Go to the following link:
www.pbslearningmedia.org/resource/lsps07.sci.phys.energy.heattransfer/heat-transfer/

Click the "Launch" Button that is found within the picture of the house.

Read the Introduction on heat transfer and then name and illustrate the three types of heat transfer below.

Type of Heat Transfer	**Type of Heat Transfer**	**Type of Heat Transfer**
Name:	Name:	Name:
Illustration:	**Illustration:**	**Illustration:**

Click each tab and read the information for each of the three types of heat transfer. After you read the information, click on the animation tab and the examples tab for each.

In your own words, summarize what you read for each of the three types of heat transfer in the boxes below. You must be specific as well as give examples for each.

Type of Heat Transfer	**Type of Heat Transfer**	**Type of Heat Transfer**
Name:	Name:	Name:
Definition and examples:	**Definition and examples:**	**Definition and examples:**

Answer the following questions in complete sentences:

1. Explain why you feel warm when you are standing away from a campfire.

2. Why does a carpeted floor feel warmer to bare feet than tile or wood even though all surfaces are the same temperature?

3. What information would you need in order to predict whether heat transfer would occur when two objects or materials interact?

4. What would happen if a person who is wearing a heavy winter jacket were to place a thermometer inside the jacket next to his or her skin?

5. What would happen if we took the same jacket after it had been hanging in a closet, and placed a thermometer inside?

Part 2: **Heat Transfer Videos**- Go to the following link and watch the video: http://www.bbc.co.uk/schools/gcsebitesize/science/aqa/heatingandcooling/heatingact.shtml

Part 3: After you watch the video, go to the following link to take the quiz. If you do not get a 100%, read through the answers you got wrong, and take the quiz again **until you get them all correct**. Document your score each time you take the quiz: http://www.bbc.co.uk/bitesize/quiz/q56843075.

First Score: _____ Second Score: _____ Third Score: _____

Part 4: Now go to the following link: http://www.animatedscience.co.uk/flv/.

Type in the following numbers and view each video:

The Conduction of Heat

#22. *Atoms*- This program explains that _____ are made up of _____. In pure _____, all the atoms are arranged _____ in a latticework pattern, but in most nonmetals, liquids, and gases the atoms are bunched together into _____.

#23. *Electrons*- Using an animated model of an atom, Eureka! illustrates how _____ whiz so quickly round the _____ that they appear to form _____.

#24. *Conduction*- Eureka! looks at the process of _____, explaining that the application of _____ to an object makes the _____ or _____ vibrate faster and cause a short of "domino effect."

The Convection of Heat

#25. *Volume and Density*- This program explains that _____ refers to the amount of _____ an object envelops and that _____ refers to the amount of _____ that is compacted in a given volume.

#26. *Buoyancy*- Showing viewers that objects immersed in a liquid are _____ up by a force equal to the weight of the liquid displaced; this program explains the principle of _____.

#27. *Convection*- This program explains how the principle of buoyancy is responsible for the process of heat transfer called _____.

#28. *Heat as Energy*- _____ is produced whenever there is movement and friction between two objects. Since movement is a form of _____, it follows that heat must also be a form of energy.

The Radiation of Heat

#29. *Radiation Waves*- Viewers learn that one of the chief ways in which _____ energy moves is in the form of _____. This kind of heat transfer is called _____.

#30. *The Radiation Spectrum*- Viewers learn that the waves of heat energy radiated by the _____ come in many forms which together make a band, or spectrum of _____waves.

When you have completed your web-quest, click on the links below to further explore heat transfer and energy conservation.

http://www.webquest.hawaii.edu/kahihi/puzzles/energytransfer/energy2.php
http://www.sciencekids.co.nz/gamesactivities/keepingwarm.html
http://www.harcourtschool.com/activity/science_up_close/615/deploy/interface.html
http://sciencereviewgames.com/srg/games/hs.php?id=27