

## Heat Transfer Web-Quest 2014

Go to the following link:<http://www.pbslearningmedia.org/resource/lsp07.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:
Description and examples:	Description and examples:	Description and examples:

**Answer the following question in complete sentences:**

1. Can you 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?

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

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:** \_\_\_\_\_  
**Final Score:** \_\_\_\_\_

**Now go to the following link:** <http://www.animatedscience.co.uk/flv/>. Type in the following numbers in the "Video number from menu" ... BOX and click <Enter> 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 \_\_\_\_\_. (answers are reviewed at the beginning of video #23)

**# 23. Electrons** - Using an animated model of an atom, Eureka! illustrates how \_\_\_\_\_ whiz so quickly round the \_\_\_\_\_ that they appear to form \_\_\_\_\_.(answers are reviewed at the beginning of video #24)

**# 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". (answers are reviewed at the beginning of video #23)

**The Convection of Heat:**

**# 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 unit of measure of Energy (and heat) is called a \_\_\_\_\_. (answers are reviewed at the beginning of video #29)

**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 \_\_\_\_\_. (answers are reviewed at the beginning of video #30)

**# 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. What lies at the end of a rainbow?\_\_\_\_\_.

**When you have completed your web-quest, click on the links below to further explore heat transfer and energy conservation.** <http://teams.lacoe.edu/documentation/classrooms/gary/heat/activities/mystery/Mystery.html>

<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://www.harcourtschool.com/activity/science_up_close/615/deploy/interface.html)

<http://sciencereviewgames.com/srg/games/hs.php?id=27>