

Name: \_\_\_\_\_

## Heat Transfer Webquest

This webquest is about heat transfer. By now you have had plenty of experience with heat. When you sit near a campfire, get ready for a bath or when your bare feet feel the road on a summer day, you are experiencing heat. But, what is heat? You can't hold it or keep it locked up. It is energy. The sun is the major source of energy that heats the atmosphere. This heat must transfer from the sun to other objects. Heat transfers from hot objects to cooler objects in 3 major ways. They are radiation, conduction and convection. In this webquest, you will investigate radiation, conduction and convection, you will gain an understanding of how they happen and see examples of each. From this you will relate these processes to your daily life. Where do you find heat transfer in your home environment? How can you improve or reduce the amount of heat transfer that is around you? Use the following website to learn about the 3 types of heat transfer. Then answer the questions in complete sentences below the website on your worksheet.

**Task #1:** [http://www.pbslearningmedia.org/asset/lsp07\\_int\\_heattransfer/](http://www.pbslearningmedia.org/asset/lsp07_int_heattransfer/)

### Radiation

1. What is radiation?
2. Describe what happens when you add sunlight.
3. Describe other examples of radiation.
4. Draw a picture of one of the examples that demonstrates radiation.

### Conduction

5. What is conduction?
6. Describe how the heat transfers when the burner is lit.
7. Pick 2 examples of good conductors and 2 bad conductors; explain why they are good or bad.

Good #1

Bad #1

Good #2

Bad #2

### Convection

8. What is convection? When you light the stove, what happens to the hot air? What happens to the cold air?
9. Describe other examples of convection.
10. Which picture is showing conduction? Radiation? Convection?



**Task 2:** Look at the following websites for ideas on how heat transfer is seen in our everyday lives.

[http://www.lowes.com/cd\\_Understand+Heat+Transfer+and+Insulation\\_974680410](http://www.lowes.com/cd_Understand+Heat+Transfer+and+Insulation_974680410)

**After you read this article, list 5 ways in which you can protect your home from heat escaping or too much coming in.**

- 1-5-

**Task 3:** Use this website to visit this interactive home. Explain one way to save energy in each of the places below.

<http://www.energystar.gov/index.cfm?Fuseaction=popuptool.atHome>

- 1- Attic**
  - 2- Bedroom**
  - 3- Bathroom**
  - 4- Office**
  - 5- Living Room**
  - 6- Kitchen**
  - 7- Dining Room**
  - 8- Basement**
  - 9- A/C Unit (under**
  - 10- Car**

**Task 4:** Using the following website, complete the table below.

[http://www.glencoe.com/sites/common\\_assets/science/virtual\\_labs/PS06/PS06.html](http://www.glencoe.com/sites/common_assets/science/virtual_labs/PS06/PS06.html)