

Name: _____
Mr. Willis
Conceptual Physics: _____
Date: _____

Unit VI
Thermal Energy and Heat
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VI

Heat Transfer Activity

Objective: Be able to describe the three ways heat is transferred.

Conduction Heat is transferred by touch (direct contact).

Convection Heat is transferred by movement of air (or other fluid).

Radiation Heat is transferred by electromagnetic radiation. (infrared)

A. Activity

Examine the classroom. Observe any evidence of a heating system.

In what way is heat transferred into the room? _____

Types of heating systems: Identify the method of heat transfer. Choose from: conduction, convection, radiation from sun.

<u>name</u>	<u>location</u>	<u>method of heat transfer</u>
radiators	floor or wall	_____
passive solar	windows	_____
forced air	ducts with vents	_____

B. Reading Assignment: page 162-165 Answer the following questions as you read.

1. Why do radiators have such a large surface area? _____
2. There are two types of radiators. One uses electricity, the other uses _____.
3. When a radiator system uses a furnace how is the heat transferred away from the furnace to the rooms? _____ (Or, what substance is used in the pipes.)
4. How is the heat transferred in a forced air system? _____
5. How is the air made to move through the ducts in a forced air system? _____
6. What is a disadvantage of electrical heating systems? _____
7. What is the source of heat for passive solar heating system? _____
(This is also the source of all energy on Earth.)
8. In a passive solar heating system how does the heat from the sun enter the house?

9. What device does an active solar heating system use to collect the heat from the sun?

10. How does an active solar heating system store the heat that it collects from the sun?

C. Diagram Choose one diagram from page 162-165 and draw it below. Be sure to label it and title it.