

Transfer of Thermal Energy worksheet. Name \_\_\_\_\_

Answer the questions using pages 473-488 in your book and/or to <http://www.vtaide.com/png/heat2.htm> or [http://www.wisc-online.com/objects/index\\_tj.asp?objID=SCE304](http://www.wisc-online.com/objects/index_tj.asp?objID=SCE304).

1. Radiation is the only type of energy that can travel through space.

The Earth gets its heat from what source? \_\_\_\_\_

2. Radiation is energy that travels in waves. The intensity of the energy depends on the size or amplitude and frequency of the waves. Look at page 521 in your book or online at <http://escience.anu.edu.au/lecture/cg/Color/visibleSpectrum.en.html>.

a. What is the range of wavelengths for visible light? \_\_\_\_\_

b. What is the range of frequencies of visible light? \_\_\_\_\_

3. What two features of Earth protect us from some of the sun's harmful radiation?

4. How is energy transferred during convection?

5. What type of substances does conduction work best in? In other words what substances are good conductors?

6. Does convection occur in solids? Explain why or why not.

7. Give 3 examples each of conduction, radiation and convection.

Conduction:

Convection:

Radiation:

8. An insulator is something that prevents or slows the transfer of heat. List three insulators.