

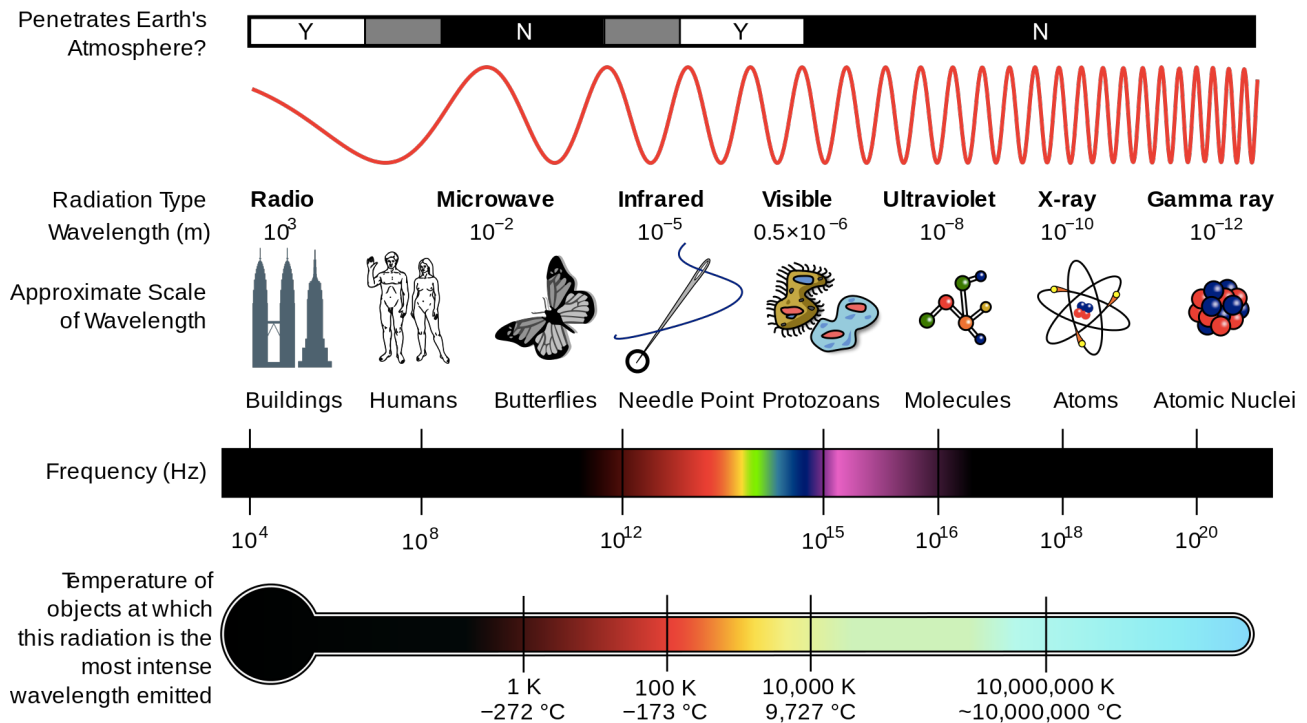
Name: \_\_\_\_\_

Period: \_\_\_\_\_

## Energy in the Atmosphere

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 “the Electromagnetic Spectrum” diagram below and answer the questions that follow:



- a. Visible light? Wavelength: \_\_\_\_\_ Penetrates Earth's atmosphere: \_\_\_\_\_
- b. Infrared? Wavelength: \_\_\_\_\_ Penetrates Earth's atmosphere: \_\_\_\_\_
- c. Ultraviolet? Wavelength: \_\_\_\_\_ Penetrates Earth's atmosphere: \_\_\_\_\_
- d. X-rays? Wavelength: \_\_\_\_\_ Penetrates Earth's atmosphere: \_\_\_\_\_
- e. Radio? Wavelength: \_\_\_\_\_ Penetrates Earth's atmosphere: \_\_\_\_\_

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

4. Convection is the transfer of heat from one place to another by the movement of fluids. Any substance that flows is considered a fluid. This includes such things as water, shampoo, sunscreen, and even honey. Although not necessarily obvious, even gases, such as air, can be classified as fluids. How is energy transferred during convection?

5. What happens to the air as the stove heats it?
6. What happens to the air as it gets farther from the heat source?
7. Does convection occur in solids? Explain why or why not.
8. The direct transfer of heat from one substance to another substance that it is touching is called \_\_\_\_\_.
9. Why does the hand need an oven mitt in order to pick up the pot from the stove?
10. A conductor is something that lets heat and electricity pass through it. What type of substances does conduction work best in? In other words, what substances are good conductors (list at least three)?
11. Give 3 examples each of conduction, radiation and convection.
- Conduction:                      Convection:                      Radiation:

