NAME _____ PERIOD_____ DATE_____

Tour of the Electromagnetic Spectrum

http://www.pbs.org/wgbh/nova/gamma/spectrum.html

1. What are electromagnetic waves?

   Click on "Launch Interactive" and Answer the following

2. What is the range of wavelengths of radio waves?
3. How are radio waves produced?
4. What is the range of wavelengths of microwaves?
5. What are microwaves used for?
6. What else is infrared radiation called?
7. What does infrared radiation come from?
8. We cannot see ultraviolet radiation. What can see ultraviolet radiation?
9. What are some uses for ultraviolet radiation?
10. Who discovered X-Rays?
11. What are X-Rays used for?
12. Where do gamma rays originate on earth?

    http://imagine.gsfc.nasa.gov/docs/science/know_l1/emspectrum.html

13. What is the only wavelength of Electromagnetic wave that humans can see?
14. List the kinds of Electromagnetic Radiation from the lowest energy level to the highest energy level?

http://www.physicsclassroom.com/class/light/u12l2a.cfm

15. List the colors of light in the visible light spectrum in order from the longest wavelengths of light to the shortest .
16. What does each wavelength of light in the visible spectrum represent?

Behavior of Light (http://camillasenior.homestead.com/optics3.html)

17. Click on the link above and answer the following questions:

    a. FULLY define reflection?

    b. Draw a picture of an angle of incident equaling an angle of reflection.

    c. Explain the difference in how light will act on a smooth versus rough surface.

    d. FULLY Define refraction.

    e. Using proper terms, explain what is happening to the spoon in the cup as well as the water in the pot.

    f. Click the page forward to see the different lenses as well as how the eye perceives images. Explain the difference between concave and convex lenses. Draw a picture of each and how the light hits it.

If you get done with all of this, go through the following sites and their animations/videos to enrich your learning of light and how it behaves.

http://www.teachersdomain.org/asset/lsps07_int_lightpigment/

http://imagine.gsfc.nasa.gov/docs/science/know_l1/emspectrum.html