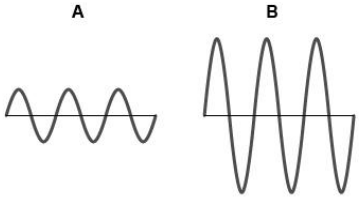
Name:_____ Period:_____ Date:_____

Light Waves Homework

1. Label the parts of a wave using the words provided below:

Word Bank:	Amplitude	Wavelength	Crest	Trough

2. Which wave carries more energy?



3. Three things can happen when **light** encounters an object. The light will be:

_____ or _____ or _____

(or a combination of those things!)

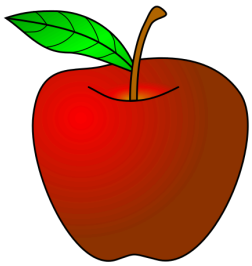
4. Pick 3 everyday objects. For each object, fill out the information in the chart below.

Object	I see: (describe it!)	Reflects (what colors)	Absorbs (what colors)	Transmits (what colors)	Produces (what colors)

5. Which materials can **reflect** light? Put an X next to objects that **reflect** light.

___water	___gray rock	___leaf	___mirror
___wax paper	___tomato soup	___sand	___potato skin
___crumpled paper	___shiny metal	___dull metal	___glass
___red apple	___the Moon	___bedsheet	___rough cardboard
___rusty nail	___clouds	___soil	___wood
___milk	___new penny	___old penny	___smooth sheet
___aluminum foil			

6. Imagine you are sitting at a table with a red apple in front of you. Your friend closes the door and **turns off all the lights**. It is **totally dark** in the room. There are **no windows** in the room or cracks around the door. **<u>No light</u> can enter the room**.



Which statement describes how you would see the apple in the dark:

A. You will not see the red apple, regardless of how long you are in the room.

B. You will see the red apple after your eyes have had time to adjust to the darkness.

C. You will see the apple after your eyes have had time to adjust to the darkness, but you will not see the red color.

D. You will see only the shadow of the apple after your eyes have had time to adjust to the darkness.

E. You will see only a faint outline of the apple after your eyes have had time to adjust to the darkness.

7. Create a diagram to show how we see a **green grape** sitting on a plate in front of you:

- What is the **source** of the light? (draw and label it as "source")
- What does the light from the source do when it encounters the object? (label it *reflect, absorb*, *transmit*)
- **Where** does the light go so that we **sense** it? (label the <u>part of your body</u> that detects light)
- Why does it appear green? (describe what **ALL** the colors are doing, ROYGBIV)