LIGHTS CAMERA REFRACTION

DUE DATE: Monday May 20th

Step 1 **Pictures Due**	**May 13th Daily Grade**	
Step 2 **Rough Draft Due**	**May 18th Daily Grade**	
Final Evaluation **_Follow Lights Camera Refraction, Instructions, and Rubric.**	**May 20th Major Grade**	

You are a free-lance photographer for Scientific American. The editors are looking for 3 original and unedited photos that illustrate the following scientific concepts of wave properties: Real Image Reflection, Virtual Image Reflection, and an Image of Refraction. **The pictures can contain more than 1 concept in it!!** You must use 3 different pictures. These pictures must be school appropriate. Also with in each picture you must have the same unique object.

Create a portfolio (digital or print) of the three images. **5 pts** for each photo.

You must have a cover page with the following info on it: Name – Teacher Name – Period. **10 pts**

With each photo, you must have a Ray Diagram of the photo, a sample calculation and a short summary answering the following questions

1. What scientific concept(s) does this show? **1 pt**
2. Define the concept(s). **1 pt**
3. Explain how the picture demonstrates the concept(s)? **1 pt**
4. How did you create this image? **1 pt**
5. Where was it taken? **1 pt**

- You will also need to **write an Article** for the magazine. You can choose 1 of the following Topics. **It must be typed!!** Double spaced, 12 font. (minimum of 1 page) Diagrams may be used, however may **NOT** be included in page count.

40 pts. (see rubric for point breakdown) Choose one of the following

1. How have lenses been used to change the world?
2. How do you use the electromagnetic spectrum on a daily basis?
3. Explain the physics principles involving lenses and the eye.

Rubric for Project

Title Page		10 pts.
Real Photo with Unique Item		5 pts.
Ray Diagram Sample Calculation 5 questions		5 pts. 5 pts. 5 pts.
Virtual Photo with Unique Item		5 pts.
Ray Diagram Sample Calculation 5 questions		5 pts. 5 pts. 5 pts.
Refraction Photo with Unique Item		5 pts.
5 questions		5 pts.
Grammar/Composure/1 page		10 pts.
How have lenses been used to change the world? Ex. 1		10 pts.
Ex. 2		10 pts.
Ex. 3		10 pts.
How is the electromagnetic spectrum used on a daily basis? Ex. 1		10pts.
Ex. 2		10 pts.
Ex. 3		10 pts.
Explain the physics principles involving lenses and the eye. Vision Problems/Correction		10 pts.
Type of Lens in the eye		10 pts.
How images are formed on the retina		10 pts.
Total Points		100pts.