# Detailed Lesson Plan - Photography 101 - The Science and Art of Light and Cameras

**Lesson 1: Light**

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1. **Objectives:**

### At the end of this lesson the student will be able to express an understanding of:

* + Light
  + Colors
  + Intensity
  + Perception of the world
  + Spectrum of Colors

#### Subject Matter:

1. **Materials:** Visual aids (Hand drawn image diagrams), concave and convex lens formed using glasses or mason jars with water, and , Pictures.
2. **References:** 
   * Light – Wikipedia - <https://en.wikipedia.org/wiki/Light>
   * Linear Visible Spectrum – Wikipedia - <https://en.wikipedia.org/wiki/Visible_spectrum#/media/File:Linear_visible_spectrum.svg>
   * Visible Spectrum – Wikipedia - <https://en.wikipedia.org/wiki/Visible_spectrum>
3. **Values:** Develop a genuine understanding and respect for light sciences, and its capture in photography.

#### Procedure

1. **Learning Activities:**
   1. **Light**
      1. Explanation of light’s presence all around us.
      2. Explanation of light as a source of sight.
      3. A discussion of the Properties of light.

#### Colors

* + 1. Understanding Colors.
    2. Understanding our perception of the colors.
    3. Understanding of how objects gain a certain color.

#### Intensity

* + 1. Understanding of intensity as a property of light.
    2. Understanding the effects of intensity of light on photographs.
  1. **Perception of the World**
     1. Understand how light impacts and controls our perception of the work and our surroundings.
  2. **Spectrum of Colors**
     1. Understanding of how colors are formed.
     2. Understanding of how white light is formed.
     3. Understanding of the constituent colors of light.
     4. Understanding how to observe split light, naturally and at home using a prism.

#### Evaluation and Assignment:

1. Being online this class is relatively reliant on the student’s zeal. However the following assignment pieces are recommended.
   1. Use a glass jar filled with water and create DIY lenses.
   2. Try light bending with the lenses you created.
   3. Use a thick bottomed glass as a prism and observe light splitting / dispersal.
   4. Observe / pay attention to the different light colors we see day to day.