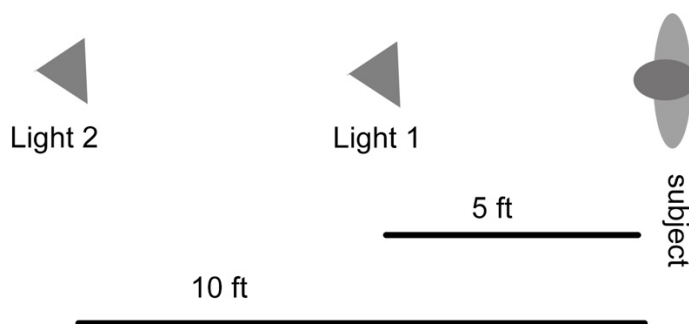


Week three activities:

A. Expanding Lighting options: UNDERSTANDING “LIGHTING RATIOS”

How light responds over distances – the INVERSE SQUARE LAW

Inverse Square Law



As light travels over distances it spreads or diffuses and in the process it loses intensity (brightness). How much intensity it loses is actually very easy to calculate. We do this by applying a simple formula known as the **Inverse Square Law**. Here is the formula:

$$\text{Intensity} = 1/d^2$$

You can see from this simple formula that as the distance the light travels increases the intensity of the light becomes exponentially weaker.

A simplified version of this formula can be very useful for photographers. It simply relies on calculating the proportional differences in the distances of a light source to tell us how much intensity change there is. Here is how to calculate using the proportional distance:

$$\text{Intensity} = \left( \frac{\text{Distance 1}}{\text{Distance 2}} \right)^2$$

So if distance 1 = 5ft and distance 2 = 10ft then the intensity=  $(1/2)^2$  which =  $1/4$   
So the intensity of light on the subject for **light 2** is  $1/4$  as bright as **light 1**

More on the inverse square law:

There are numerous sources on this subject. For photographic purposes the following links may be helpful:

<https://www.youtube.com/watch?v=xO-J42VM448>

<https://www.youtube.com/watch?v=F41CRMpFNYk>

## B. Expanding Lighting options: UNDERSTANDING “LIGHTING RATIOS”

We will be referring to Chapter 11 of the PHOTOGRAPHY text by Upton and Upton. I plan to leave a copy of this text in the classroom for your use and review. Please do not remove it from the classroom.

The following videos expand on the concept of the **lighting ratios**. There are a vast number of tutorials available covering this very important photographic subject. Please note that some of the scripts for these videos are weak but the technical information is well presented:

<https://www.adorama.com/alc/understanding-and-using-lighting-ratios-in-studio-portraiture-1>

<https://www.youtube.com/watch?v=i-3FZJLsNgw>

## C. LIGHTING TERMS: Week Three

CONTRAST

INVERSE SQUARE LAW

BRIGHTNESS RATIO/CONTRAST RATIO

LIGHTING RATIO

ASPECT RATIO

RECIPROCITY LAW

## D. Assignment Imaging sessions:

Complete work on Part A and Part B. of Assignment 2.

Submit final images in Digital Form – please use the following file naming formats:

Part A (image matrix)

MATRIX\_FNAME\_S19.psd

Part B (Skull Sampler)

SKULL1\_FNAME\_S19.psd

SKULL2\_FNAME\_S19.psd

Continue for files 3 - 5

E. Non-imaging assignment elements

Complete **Lighting Observation 4 and 5** in Lighting Journal

Critique