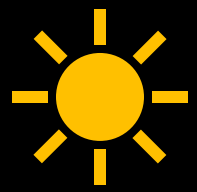

LIGHT



NATURAL vs. ARTIFICIAL

Natural Light …

Light existing from natural sources such as the sun or moon.

- This type of light is generally best for photography because it is the way our eyes see.

Artificial Light…

Generated from studio lights, built-in or external flash units, etc.

- Artificial lighting provides flexibility and creative opportunities, especially in situations where there is no natural light.

Ambient Light

Light that already exists in a scene, either natural (sunlight) or manmade (artificial).

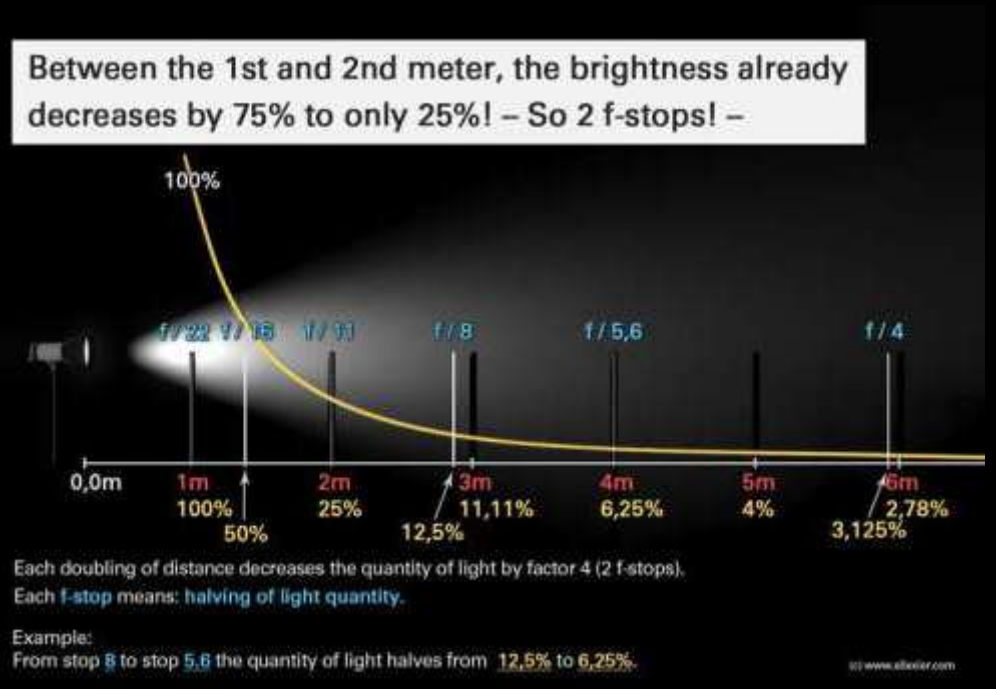
FOUR basic characteristics:

1. Quantity/intensity
2. Quality
3. Color
4. Direction

THE **INTENSITY** OF LIGHT

- The **intensity of light** is a measure of its harshness or brightness and determines how much light is present in a scene. Intensity is sometimes referred to as "quantity of light."

- You can estimate how intense light is based on the balance between shadows (the darker areas of your image) and highlights (the lighter areas of your image).
  - This distinction between highlights and shadows is known as contrast.



- Light intensity decreases the further the subject gets from the source (called the Inverse Square Law)

THE **QUALITY** OF LIGHT

- Quality of light can either be classified as **hard/direct** or **soft/diffused**.

- The smaller the light source is compared to a subject, the harder the quality, and as the light spreads and becomes bigger, the quality also becomes softer.

Hard or direct light

Light that is *emitted from a small, single spot or source*.

- An example is the light on a bright sunny day at noon.
- Hard light is usually *very directional*, creating very *hard-edged shadows*.
- With hard light, you get very few midtone values separating the highlights from the shadows.
- It is tricky to work with; often considered the least desirable lighting but can be very dramatic.

Diffused or Soft Light

- Light that is from a large light source (not a single point); scattered, spread out.
- For example, light on a cloudy day is diffused.
- This type of lighting reduces contrast and minimizes shadows.
- It can be very flattering light.


X

Hard Light

Dark Shadows

Bright Highlights

Sharp Edges to Shadows

Soft Light

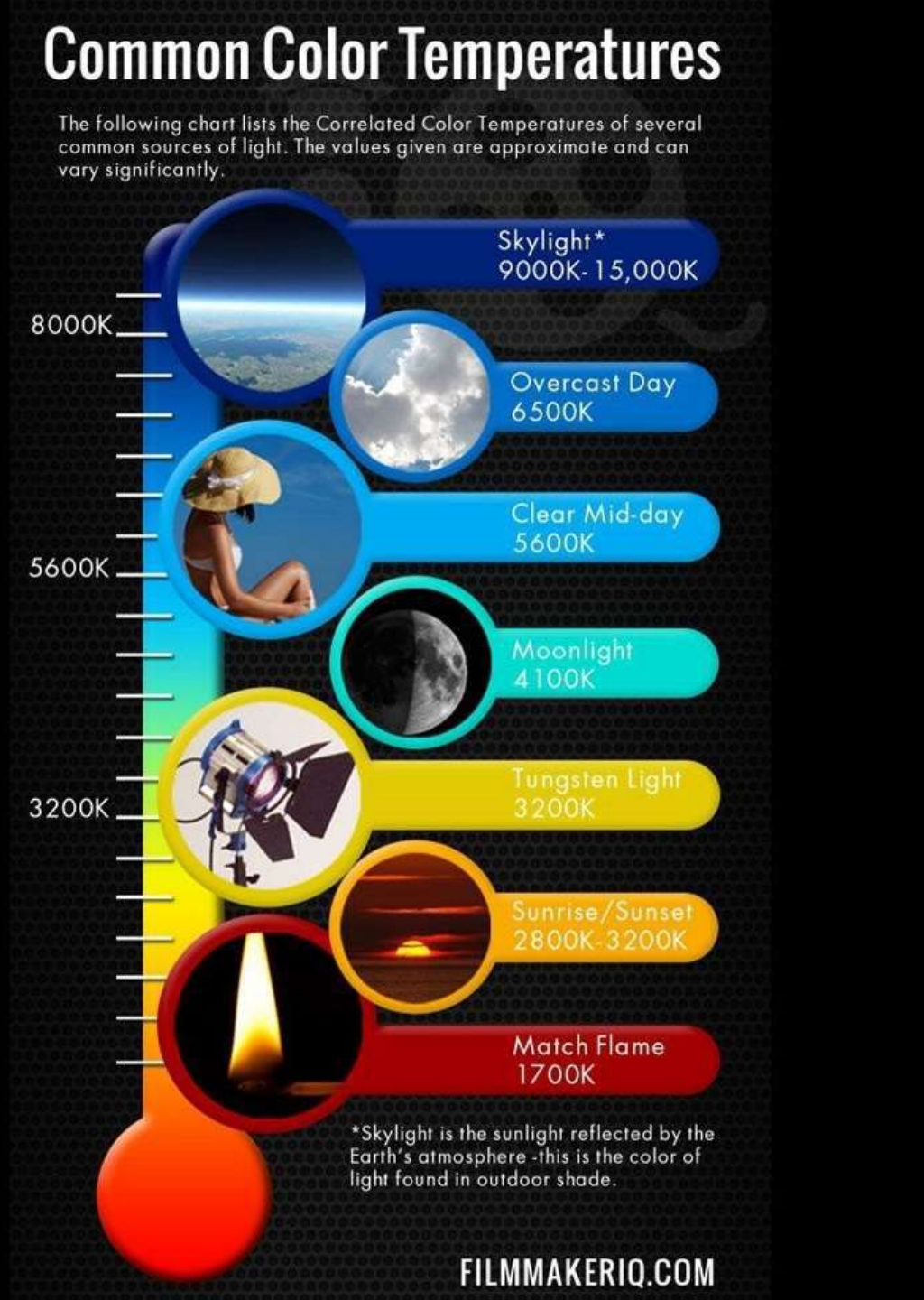
Lighter Shadows

Softer Highlights

Soft Edges to Shadows

THE ***COLOR*** OF LIGHT

- Different light sources emit light with different colors. We call this **color temperature**, which is given in **Kelvins**.
- Higher Kelvins have a cooler/blue cast and lower have warmer/orange cast.
- The color of the light in a scene influences the colors of the whole scene, because its tint contaminates the colors of individual objects.



- The human brain is good at correcting colors under different light so that we usually see "correct" colors. Cameras need some help.
- This help is called **white balance.**
- Auto White Balance is pretty good, but most photographers argue that setting the white balance for the type of light is your best bet.

WHITE BALANCE PRESETS

Your guide to what they do and when to use them

AUTO

A simple failsafe mode for snapshots, but the White Balance may vary from one shot to the next, and you may not get the colours you expect.

Incandescent

This is the closest match for regular domestic lighting, and will correct the colour much more effectively than auto White Balance.

Fluorescent

This comes in many different types and current D-SLRs offer no fewer than seven alternatives, so some trial and error may be needed.

Direct Sunlight

Calibrated to give neutral colours under midday sun – and you can use it as a fixed standard for recording colours as in other lighting conditions exactly as they are.

Flash

Flashguns have a cooler tone than direct sunlight, and using this preset can prevent skin tones turning 'cold'.

Cloudy

Light has a cooler tone under a cloudy sky, and this preset will warm up the colours. It's good for portraits but can be too much for landscapes.

Shade

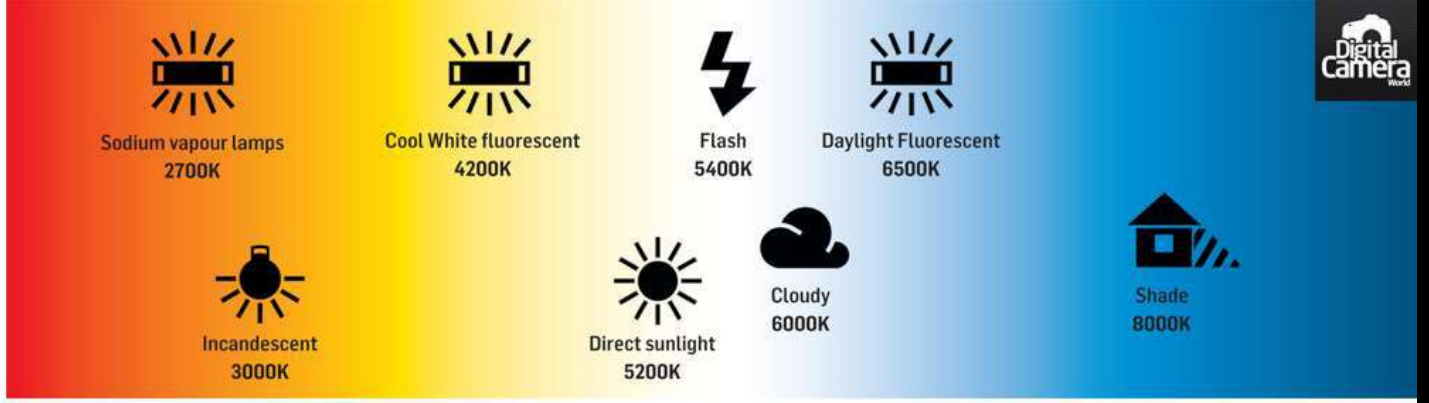
This is designed for open shade under a blue sky. This preset will give you more natural-looking skin tones.

K

More advanced D-SLRs let you set the White Balance colour temperature manually – useful with some studio lighting.

PRE

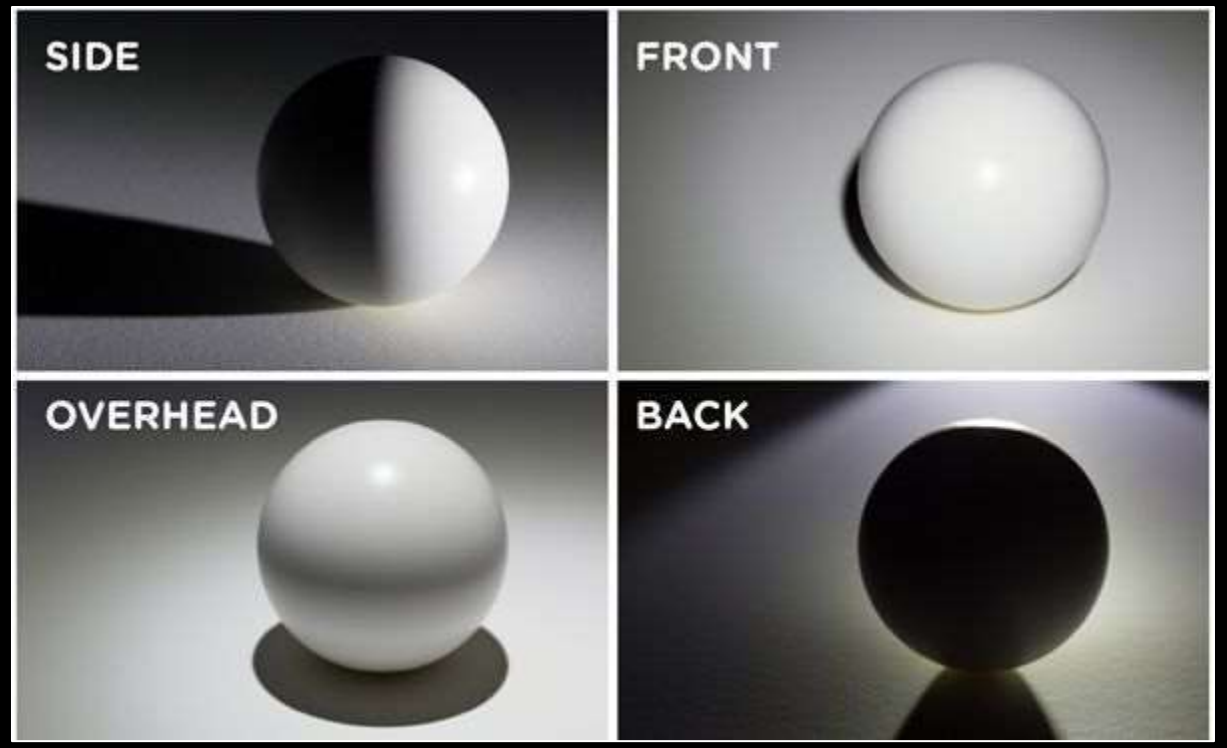
Sometimes it's impossible to predict the colour of the lighting and the effect of surrounding walls and their colours, but all digital SLRs let you take a manual measurement from a neutral surface and create a custom preset of your own.

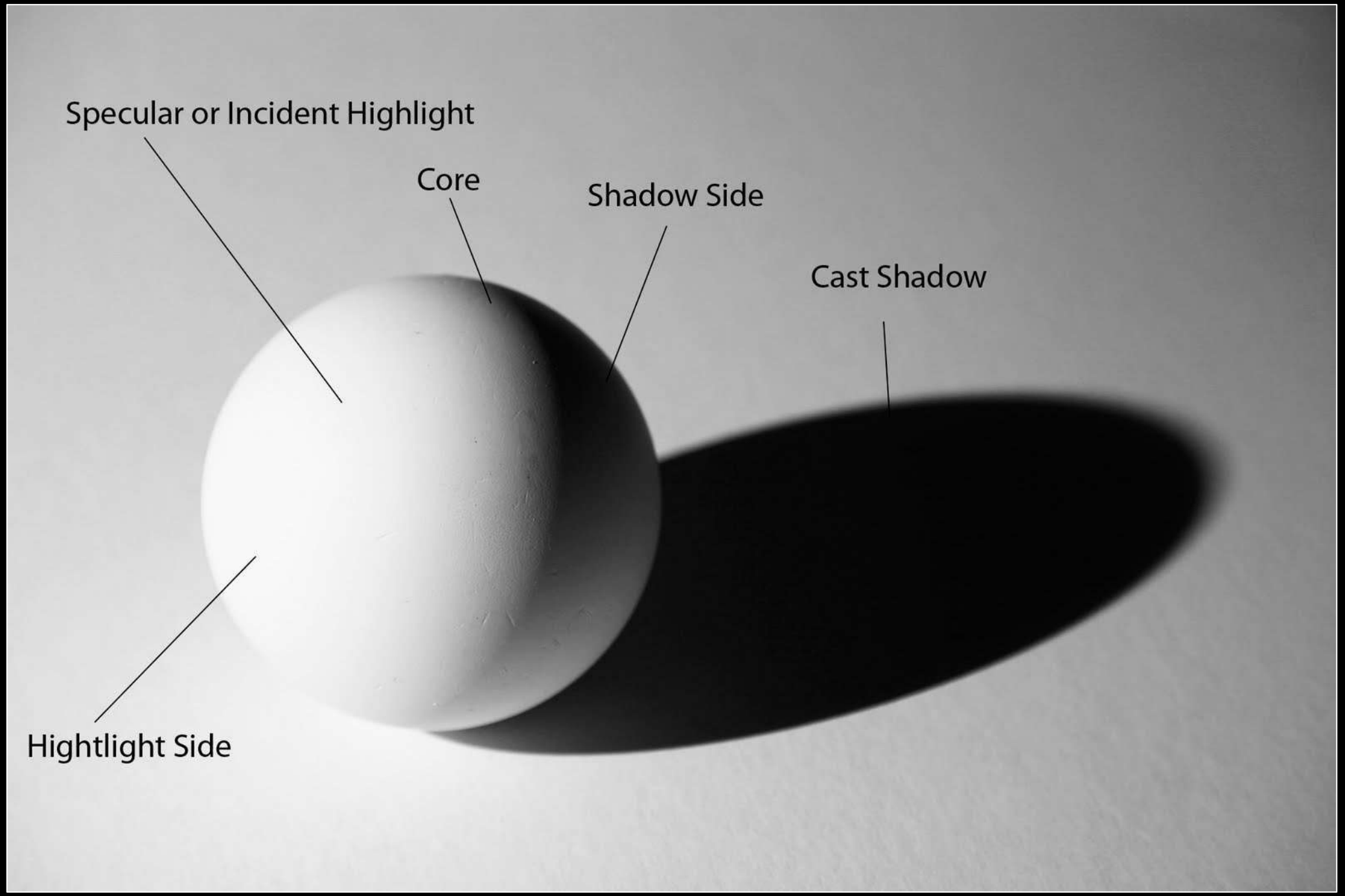


THE *DIRECTION* OF LIGHT

The direction of light…

- Influences how light falls on the subject and where shadows are cast in a scene



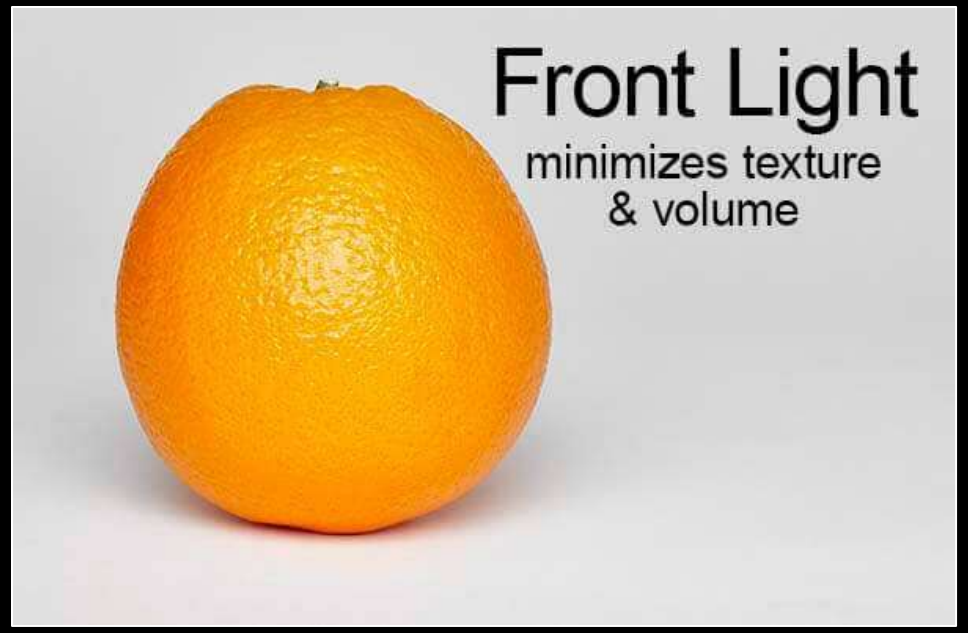

Specular or Incident Highlight
Core
Shadow Side
Cast Shadow
Hightlight Side

Front Lighting

Light that typically comes from a source that is behind the photographer and shining directly onto the subject.

- Little shadow on subject, lit evenly Sources: Window or light place in front of subject, etc

- **Pros:**
  - Frontal lighting will usually illuminate your subject's face evenly, without any shadows.
  - It eliminates flaws or wrinkles, which is why this setup is very popular in fashion and beauty shoots.



- **Cons:**
  - The lack of shadows can create a lack of depth and drama.

Back Lighting

Light from behind the subject, heading toward the camera.

- Often throws subject into silhouette
- Sources: Sun low in sky (hour before sunset/after sunrise), window or light behind subject, etc

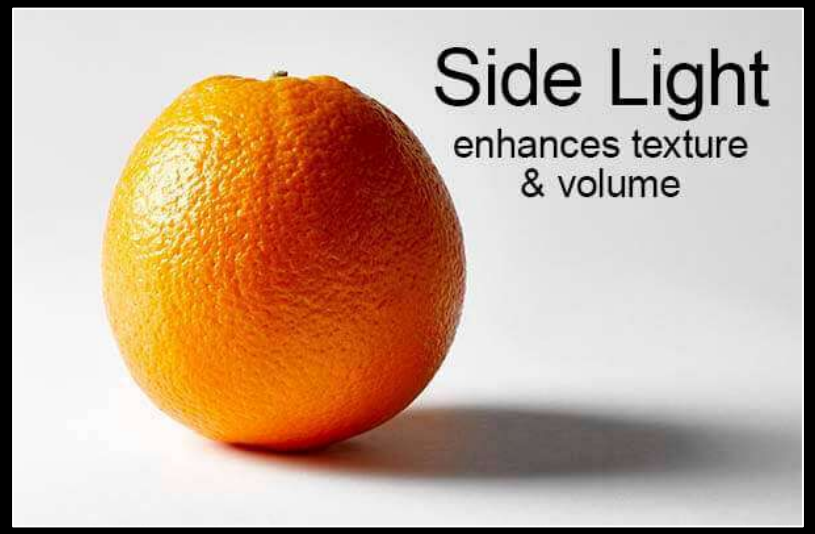
- **Pros:**
  - Creative effects: silhouettes, rim lights, in interesting atmospheric conditions (fog, dust, etc) can get dramatic effects, lens flares
- **Cons:**
  - Can be tricky to get your exposure right
  - Unwanted lens flares

Side Lighting

Light coming hitting your subject from the side.

- Subject illuminated on one side, falls into shadow on and casts a shadow on the other.
- Sources: Sun low in the sky in hour before sunset and after sunrise. Window light,,placed artificial light, etc.

- **Pros:**
  - This provides a great deal of contrast, can create long shadows, emphasizes texture, and adds depth to the image.
  - This type of lighting can add a dramatic flare.
- **Cons:**
  - This can emphasize flaws and wrinkles (portrait, etc)

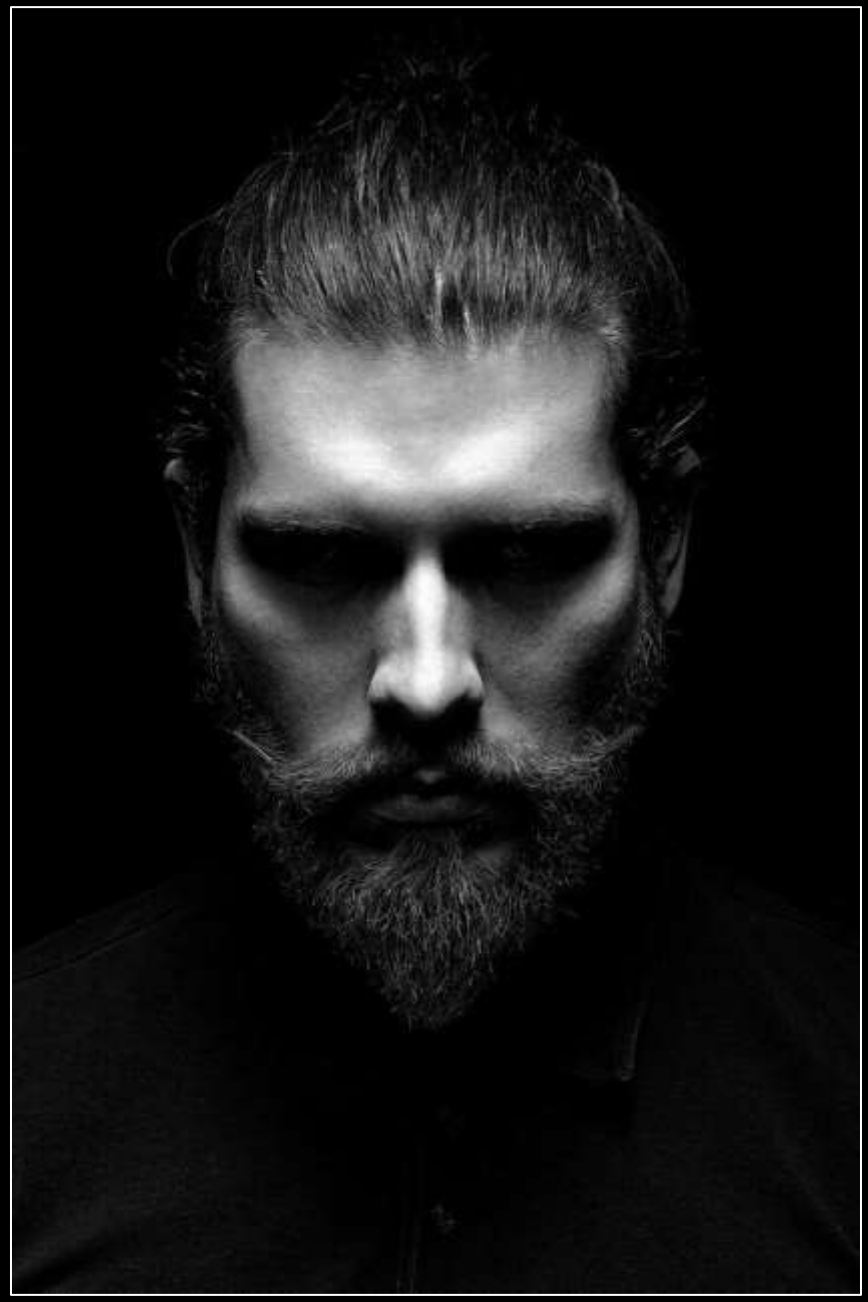


Top lighting

Light coming hitting your subject from above.

- Sources: Typical at midday or under indoor ceiling lights
- Long, deep downward shadows.

- **Pros:**
  - This provides a great deal of contrast.
  - Can add a very dramatic look.
- **Cons:**
  - This can emphasize flaws and wrinkles (portrait, etc)
  - Deep shadows in eye sockets, and bright spots on nose and top of head (esp. shiny surface)



Under lighting

Light shining up from below subject.

- Sources: A typical direction, mostly artificially created
- Shadows reverse of top light
- **Pros:**
  - Dramatic
- **Cons:**
  - Unnatural and unsettling (could be a pro if that's the feeling you want)

Using light to create Shadows/Contrast

- Enhances the mood, meaning and appearance of the subject.
- Without shadows the object may appear plain or flat.
- Light and shadows creates contrast (range of difference between different tones) which adds depth and interest to an image.

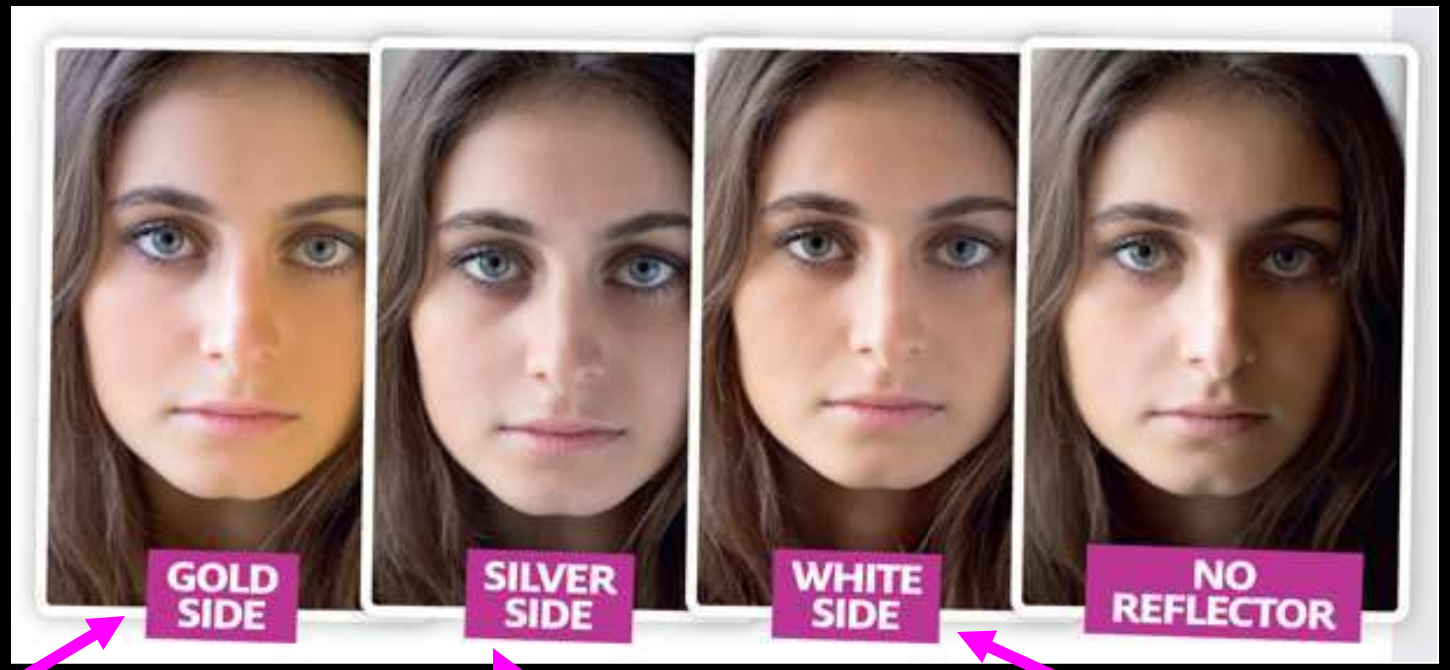
ADDING / MANIPULATING LIGHT

Using a reflector

- A reflector is simply a tool that reflects light. A reflector doesn't create light like a flash does, it simply redirects the existing light, or sometimes redirects the light from a flash.
- Reflectors are inexpensive tools that can make a big impact on your images.

Using a reflector

- Reflectors come in different types and colors. The color of the reflective surface may change the light that's bounced back.



Gold reflectors change the color of the light by warming it up a bit with an orange tone.

A ***silver reflector*** doesn't change the color of the light much, but it is a bit brighter than light off a white one.

A traditional ***white reflector*** simply bounces the light, and the light is nice and soft.

Using a reflector

- You don't have to go buy a fancy reflector, a white piece of poster board works nicely.
- You can also make a silver reflector with tinfoil and a piece of cardboard.


NO REFLECTOR


REFLECTOR


Without Reflector.
With Reflector.


WITH REFLECTOR
YOU ARE LOVED.
WITHOUT REFLECTOR
YOU ARE LOVED.

Using a Diffuser

- A diffuser is a semi-transparent material that has the effect of 'softening' the light, which results in shadows with lower contrast and softer edges
- Often sets of reflectors come with a diffusion panel as well, but you can improvise with a variety of thin, white, translucent materials: white thin curtain, sheet, baking paper….

Direct, hard light

Diffused, soft light

Reflector and diffuser

WORKS CITED

- http://digital-photography-school.com/9-lighting-types-to-harness-improve-your-photography/
- http://www.photographyvox.com/a/quality-light-hard-soft-light-photography/
- http://www.shawacademy.com/blog/a-beginners-guide-to-lighting-a-photo-with-a-reflector/