



# Light and Shadow Part 1

In this module, we'll begin our look at light and shadow and its importance when creating a drawing. The principles that we'll discuss are not just relevant to graphite drawing, but are core fundamentals to any form of drawing or painting.

Drawing, in any form and with any media, is about seeing. As artists, we communicate visually. Therefore, we must be skilled in understanding how we see and what we are seeing in order to create masterful illusions in our drawings.

We see because of light. Without light, we cannot see. It is the light that we capture in our drawings. We record how it interacts with forms, how it bounces off of surfaces, and how it reflects.

In art, light is measured by value - one of the seven elements of art.

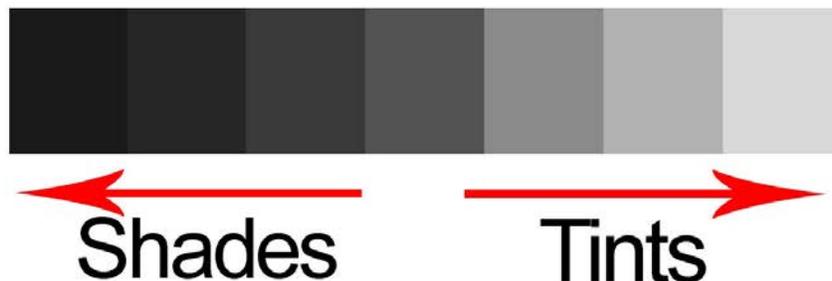
Contrast is considered a principle of art. Contrast is concerned with difference. It can be associated with difference in texture, color, and value - among many other things.

Contrast in value plays a role in how a specific tone is perceived by the viewer. A value will be perceived as being lighter if placed next to darker tones - simply because of contrast. A value will be perceived as being darker if placed next to lighter values - again because of contrast.

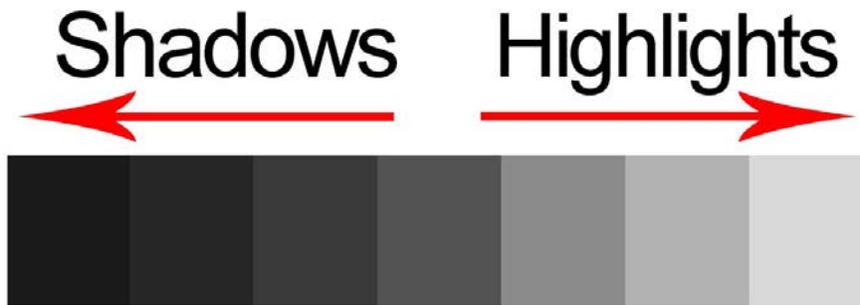
## Value

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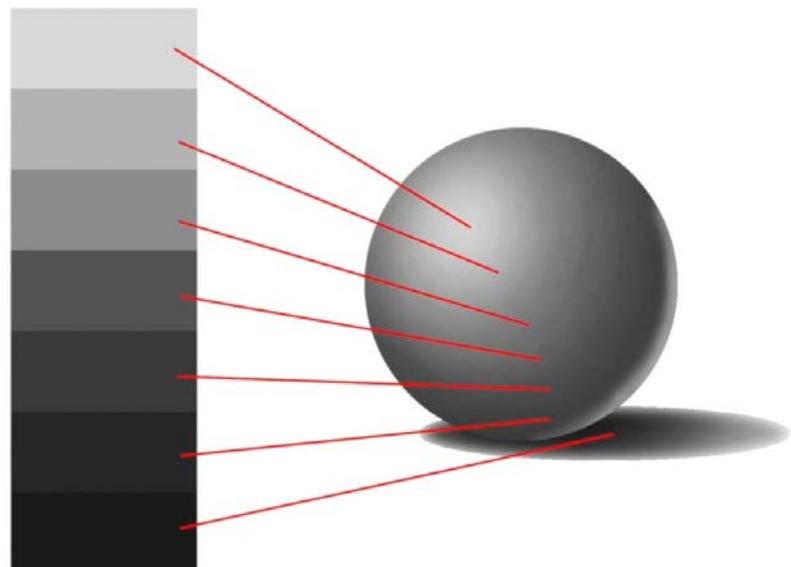
Value is the darkness or lightness of a color. It is measured using a value scale. Lighter values are referred to as tints while darker values are called shades.



In a drawing, lighter values (tints) usually represent the highlights while darker values (shades) represent the shadows.



In most circumstances, we'll be able to locate a full range of value on most subjects that we draw.

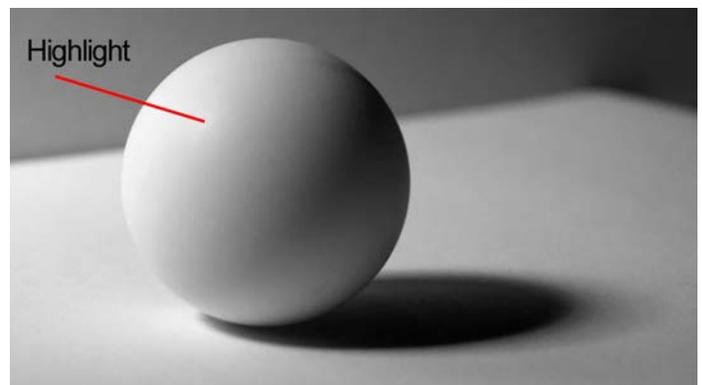


## Locations of Values

The locations of value on a subject inform the viewer of the strength or intensity of the light, the direction of the light source, the form of the subject and the surface texture. These locations of value have specific names and can easily be identified on a sphere.

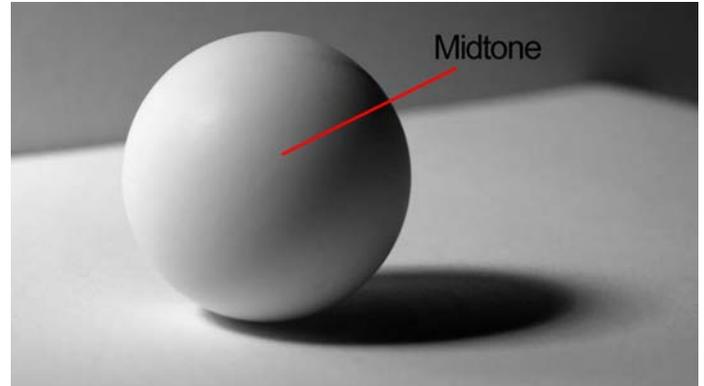
### Highlight

The highlight is the area on the subject where light is hitting or reflecting with the most intensity. There may be multiple highlights on a subject. Highlights are typically indicated by a very light value or in some cases - white.



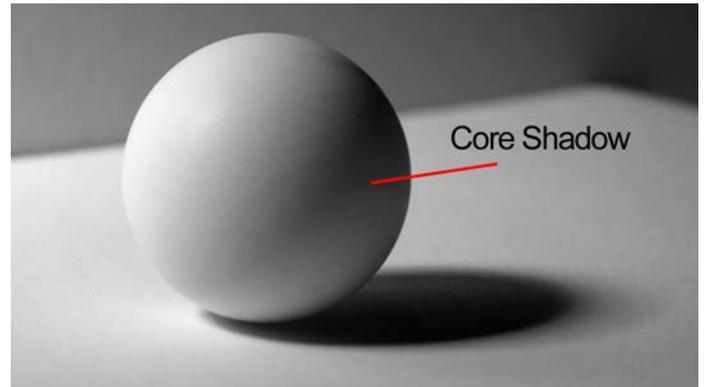
## Midtone

The midtone is the location on the subject where some light is hitting or reflecting but not in great intensity. In many cases, the midtone is the actual color or local color of the subject. It is usually depicted using a middle value.



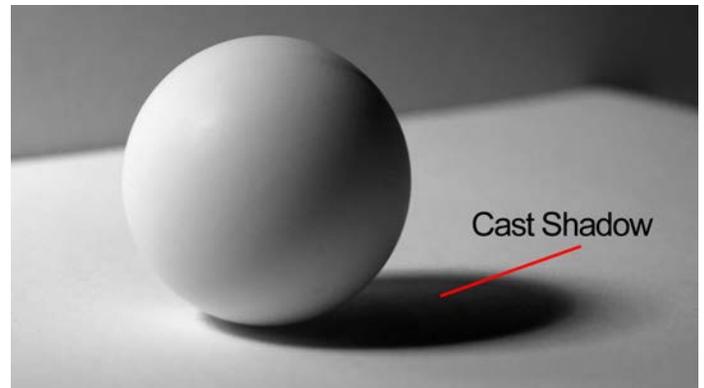
## Core Shadow

The core shadow is the area on the subject where light is prevented from being reflected. This area is usually found on the subject opposite from the light source and is depicted with a dark value.



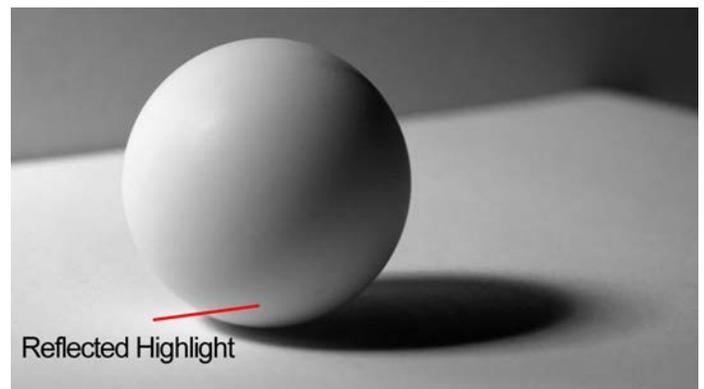
## Cast Shadow

Cast shadows are locations of darker value that are found on surrounding objects or surfaces. Light is prevented from reflecting on these surfaces because an object is in the way of the light.

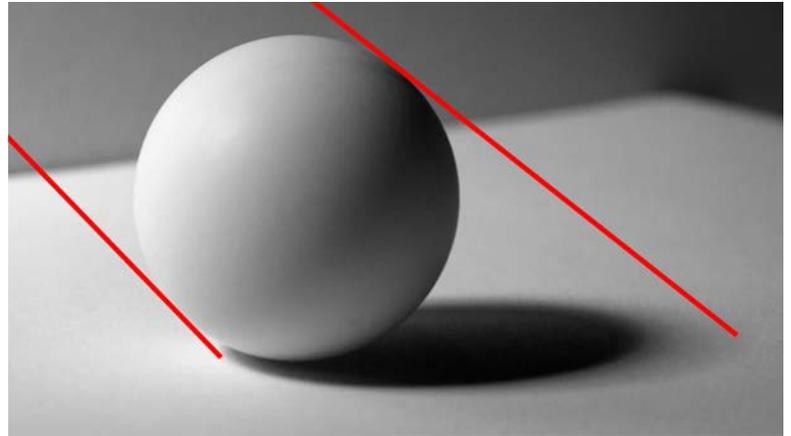


## Reflected Highlight

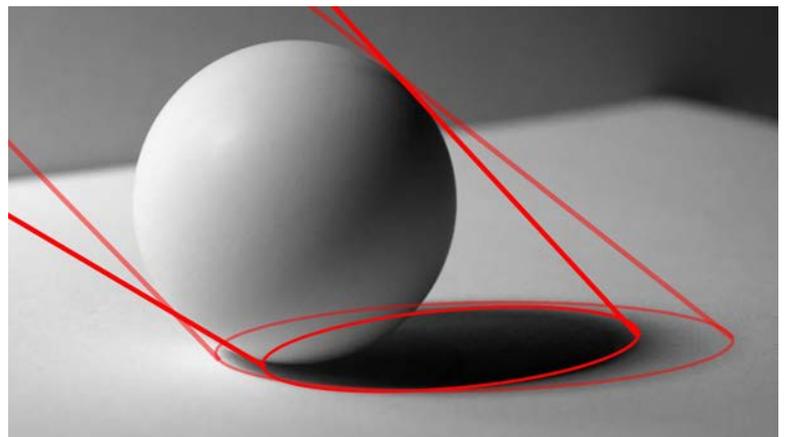
Light is often reflected from surrounding objects and surfaces back onto the subject. This can create an area of lighter value within an area of shadow. This area is called a reflected highlight. Although reflected highlights appear light in value, they are actually closer to a middle value.



The shape and size of the cast shadow is determined by the location and intensity of the light source. We can see how the light clips the edges of the sphere producing an area of cast shadow.

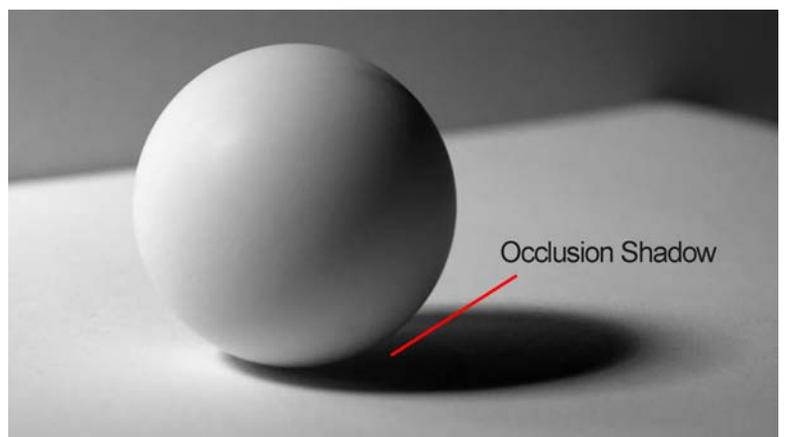


But light is often not confined and makes its way around the edges. This produces an area of darker value within the cast shadow.

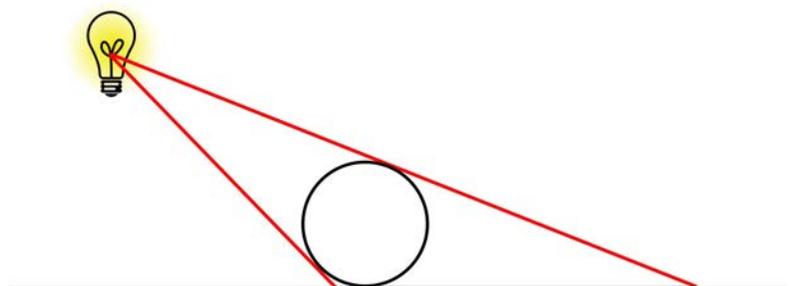


## Occlusion Shadow

This location of darker value within the cast shadow is called the occlusion shadow. This produces an affect in which the edges of the cast shadow fade or gradate in value. Depending on the strength of the light source, this transition may occur gradually or very quickly.



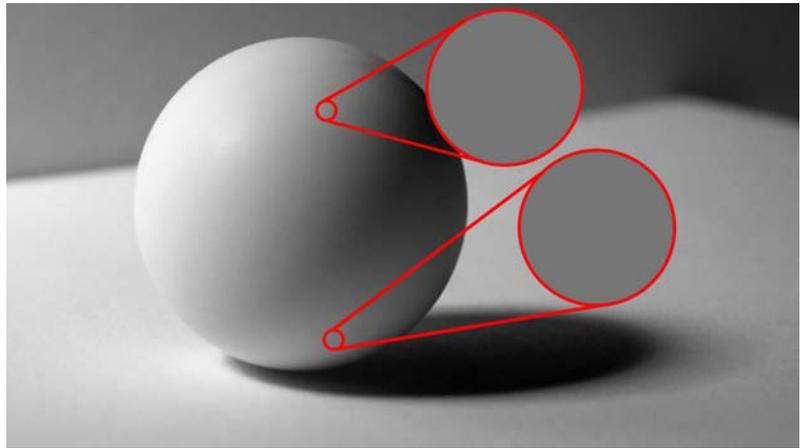
We can calculate the relative size and shape of the cast shadow based on the location of the light source. Light sources that are lower in space produce longer shadows, while those that are directly above produce shorter cast shadows.



## Contrast

Contrast, a principle of art that deals with difference, affects how we perceive the values in a drawing or on a subject. Our perception of specific values is affected by the values around them. Values appear lighter when placed next to darker values. Values appear darker when placed next to lighter values.

When we inspect two different locations of value on a sphere that initially appear different, we can see that they are actually the same tone. They only appear different because of the contrast of the values around them.



Contrast in value also plays a role in how we perceive depth or space in a drawing. Objects that are closer to the viewer typically have a broader range of value, are darker in value, and the contrast is more intense.

As we move farther away, the range of value lessens. Also, the values become lighter and the contrast is lessened. Therefore, we can make objects appear farther away in a drawing by simply narrowing the range of value and decreasing the contrast.

