

Introduction to Lighting - DIG workshop 14 June 2019

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Lighting is in many respects the most important aspect of photography, period. It's essentially what our camera captures when we take a photograph, and it's the manipulation of that light that ultimately determines what type of image is produced.

There are infinite ways to use light in photography, each one creating a completely different result.

Learning to understand and control how the light affects your images is arguably the single most important thing to improving your photography.

Photography can be thought of as "painting with light." The word photography is derived from Greek roots: "photos" meaning "light" and "graphie" meaning "drawing." Without light, there would be no photography.

Natural Light Photography, what does that even mean?

Natural light photography is simply to record an image using the light that exists all around us. This can be direct sunlight, reflected sunlight or ambient sunlight

Lighting is a key factor in creating a successful image.

Lighting determines not only brightness and darkness, but also tone, mood and the atmosphere. Therefore it is necessary to control and manipulate light correctly in order to get the best texture, vibrancy of colour and luminosity on your subjects.

Using Natural Light in Photography

As a photographer, you get used to working with different kinds of lighting, including natural light, to produce high quality photos.

Natural light can blend lightly within its environment to create a soft subtle light.

Now, we aren't always going to be so lucky and have ample light, the chance to pose a subject, or even have an option to be outdoors. In this situation, a subject's environment can lend extra details about who they are. So having a vision for your composition is important.

Your best friend as a photographer using natural light is any source that allows it in. Sometimes moments are set up for you and being conscious of how to expose the image is key.

Why Is Light So Important?

Light is one of the most important elements to consider when taking photos.

Taking pictures in different kinds of light is all about training your eye to recognise how the available light will affect the scene.

There are many different types of light, and this makes a huge difference to how your photos will turn out. Taking a photo of the same scene or subject at different times of the day will produce dramatically different results, some better than others.

Today, you'll discover 10 different kinds of light that are available throughout the day and evening, and how best to use that light in your indoor and outdoor photography.

What kind of light is best for certain kinds of photos?

Knowing what kind of light is best for portraits, sunsets, silhouettes and landscapes is very important because your eyes don't see the same thing as your camera

What looks good to your eye may not look so great through your camera's viewfinder

Recognise the qualities of different types of natural light during various times of the day, and in different weather conditions.

Learn how to use different types of indoor lighting such as window light and artificial light sources.

Learn how to deal with a wide variety of lighting conditions so that you can always take incredible photos, no matter what kind of light you're shooting in.

1. Capture The Magic Of Golden Hour

Golden hour is considered a magical time of day due to the amazing color and quality of the light. The golden hours occur approximately an hour after the sun rises and an hour before the sun sets.

When the sun is low in the sky, the light rays are filtered through the atmospheric particles producing a warm and dimensional light that makes anyone and anything look beautiful. This time of day really is a perfect light. Almost anything you choose to photograph will look wonderful in this kind of light.

Golden hour is a perfect time of day for taking portrait photos as the light is very flattering on your subject. Skin tones appear warm and soft without any harsh shadows.

Golden hour is a much better option for portrait photography.

During golden hour you'll be able to use the low sun to create a soft lens flare or long shadows in your photos. Landscapes are particularly stunning during golden hour.

2. Use The Cool Light Of Blue Hour

Blue hour is the time of day that occurs approximately 20 – 30 minutes before sunrise and the same amount of time after sunset. It's a very short window of time and is a bit trickier to shoot in than golden hour due to the reduced amount of light.

The colour of the light at blue hour is very different to golden hour because the sun is no longer visible above the horizon. At blue hour the colour of the light can be anywhere from a beautiful ethereal lavender to luminescent blue.

Because of the low light at this time of day, your photos may end up a bit grainy.

In low light the camera has to use a slower shutter speed which may result in blurry photos. If you're getting camera shake, use a tripod to steady your camera.

The best photos for this kind of light are often cityscapes because the lights glow a soft yellow which creates a beautiful contrast to the lovely soft blue.

3. Use Bright Direct Sunlight To Your Advantage

Bright direct sunlight isn't usually the best light for photography. The bright sun can cause problems with over-exposure and can cast harsh, unflattering shadows on your subject. However, that doesn't mean you shouldn't take photos at this time of day as you can actually get great results when shooting in full sun.

A technique when shooting in bright light is to change your perspective. Rather than shooting from above, get low to the ground and shot upwards so that the subject is backlit by the sun. This is also a great technique to use if you're having problems with casting your own shadow over your subject when shooting from above.

If you take the time to experiment with different shooting angles and manually adjusting the exposure, you can actually use bright light to emphasis shapes, lines, textures and patterns in your subjects.

It's also worth looking out for a shady or partially shady spot when you're shooting in bright sunlight. This is especially useful when taking portraits as it will avoid your subject getting squinty eyes and having harsh shadows on their face which often happens in direct sunlight.

4. Make The Most Of Overcast Cloudy Skies

Don't shy away from inclement weather. A cloudy or rainy day is often the perfect weather for taking photos. Depending on the cloud cover, the light can be bright and diffused, low and subdued, or dark and dramatic.

An overcast sky is usually perfect for any kind of photography, from portraits, to landscapes, to close up macro shots of flowers.

Using photography terminology, overcast skies are considered nature's "softbox." The clouds act as a diffuser, softening the light from the sun above the clouds. This eliminates all of the problems that can occur in bright sunlight, such as harsh shadows, exposure problems and squinting subjects.

In low light your camera has to use a slower shutter speed to allow enough light in to expose the image correctly, therefore you may end up with blurry photos if you move your camera during the exposure. Try to keep as still as possible or use a tripod to steady the camera.

5. Capture Beautiful Diffused Light In Mist & Fog

Mist and fog is my favourite kind of light and atmosphere for taking pictures. Fog and mist usually occur in the morning and late evening hours near bodies of water.

Light that's diffused through fog and mist is incredibly beautiful and surreal. Although the colour is unsaturated and often grey, it can make any photo have a moody and evocative feel.

When shooting in fog, be sure to set the focus carefully. It's usually best to set focus on a subject in the foreground. Fog and mist can trick your camera's exposure settings, so once you've set the focus, manually adjust the exposure until the brightness looks just right.

Another amazing photo to capture in this type of weather is where the sun is shining through the fog. In this type of light, the sun creates stunning beams of light in your image which create a truly magical feel.

Landscapes, silhouettes and other nature shots are wonderfully enhanced when fog is present. Shooting in mist and fog can take some practice to get right, but once you've mastered it, the light in this type of weather will enable you to capture spectacular shots.

6. Use Window Light For Indoor Shots

You may not always be taking photos outdoors, so knowing how to make use of available light when taking photos in your home, or other indoor locations is an important skill to master.

During the daytime, the most obvious light source for indoor photography is window light. Window light makes a wonderful kind of light for portrait and still life photography, allowing for many photographic options.

The directional window light can illuminate part of the subject while creating deep shadows on the other part of the scene.

Silhouettes or partial silhouettes can be easily achieved by placing your subject in front of a window and exposing for a bright part of the scene. Clothing and hair can be illuminated with window light from behind, creating wonderful colours with a soft, dreamy feel.

Windows that have eastern or western exposure will offer the best softly diffused light throughout the day, but you could also use bright light through a North facing window for casting interesting shadows on your subject.

7. Use Artificial Light At Night

There will be times when there's little or no natural light in your scene, such as when you shoot at night or indoors on a dark overcast day. In these situations we need to illuminate our subjects with artificial light sources.

There are so many creative ways to use artificial light, such as table lamps, flashlights, candles, car headlights, street lights, or even iPads and iPhones.

Keep in mind that artificial light, whether it's incandescent, fluorescent or LED, usually comes in a variety of color temperatures. Some light sources emit a warm orange color, whereas others give off a cooler blue or even a greenish color.

Sometimes these color casts can add to the ambience of the photo, but other times you may want to remove them or tone them down using editing software to adjust the color temperature or white balance.

While artificial light can be more difficult to work with than natural light, there are endless creative possibilities that can help you create incredible photos, even when it's dark. You may need to experiment with this kind of light, but it's worth it to see what great effects you can achieve.

8. Illuminate Your Subject From The Front

Front light is when the light source is illuminating the subject from the front. Therefore the light will be behind you as the photographer.

With front lighting, your subject will usually be evenly lit, with no shadows. Front lighting is good for portrait photography where you want the person's face to be fully illuminated.

If you're taking a portrait photo, remember that bright sunlight will cause your subject to squint, so if possible, move into an area of partial shade where the ambient light can still reach your subject.

9. Back Light Your Subject

Back light is where the light source is illuminating your subject from behind. In this case the light will be in front of you as the photographer. Shooting directly towards the light creates a completely different effect from shooting with the light behind you.

One of the main reasons you would want to use back lighting is to create a silhouette photo where your subject appears as a dark outline against a bright background.

To create a silhouette, ensure there is a strong light source, such as the sun, behind your subject. Then set the exposure so that the brightest part of the scene, such as the sky, is correctly exposed. This will ensure that the main subject appears as a dark silhouette against the brighter background.

Back lighting is also the light direction that produces lens flare. To create lens flare, shoot into the sun and experiment with holding the camera at slightly different angles to the sun until the flare appears where you want it.

If you use backlighting with semi-transparent subjects such as flowers or leaves, revealing texture and detail that might otherwise not be captured by your camera

10. Use Side Lighting

Side light is where the light source illuminates one side of your subject, while the other side appears in shadow. This light direction is lovely for portraits because it brings out facial features, as well as creating depth and dimension within the image.

An easy way to side light your subject is to place them next to a window so that one side is illuminated by the light shining through the window, while the other side has no light source and therefore appears in shadow.

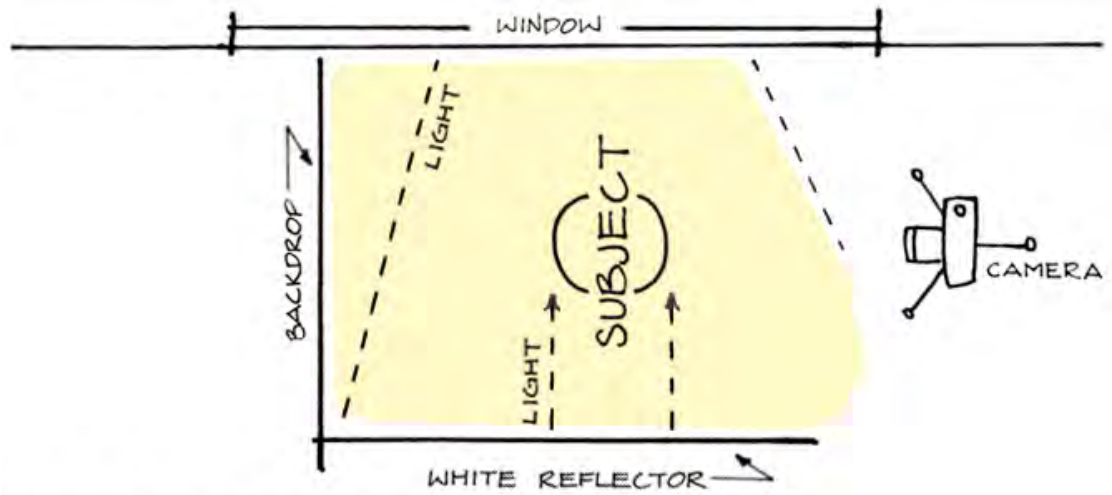
Side lighting is one of the most interesting light directions to use. It's great for bringing out contours, textures, shadows and depth in your subject. It also adds a wonderful air of mystery to the image, making the viewer wonder what's hiding in the shadows.

The use of reflectors:

To get a natural looking, evenly lit image, you'll want the white reflector to be positioned directly parallel to your window, as close to your subject as you can get, without the reflector intruding in your image. This will bounce the light from the window so that you get light on both sides of the subject, with the light from the window being a bit stronger than the light bounced from the reflector. This will give you soft shadows on the reflector side of the image.



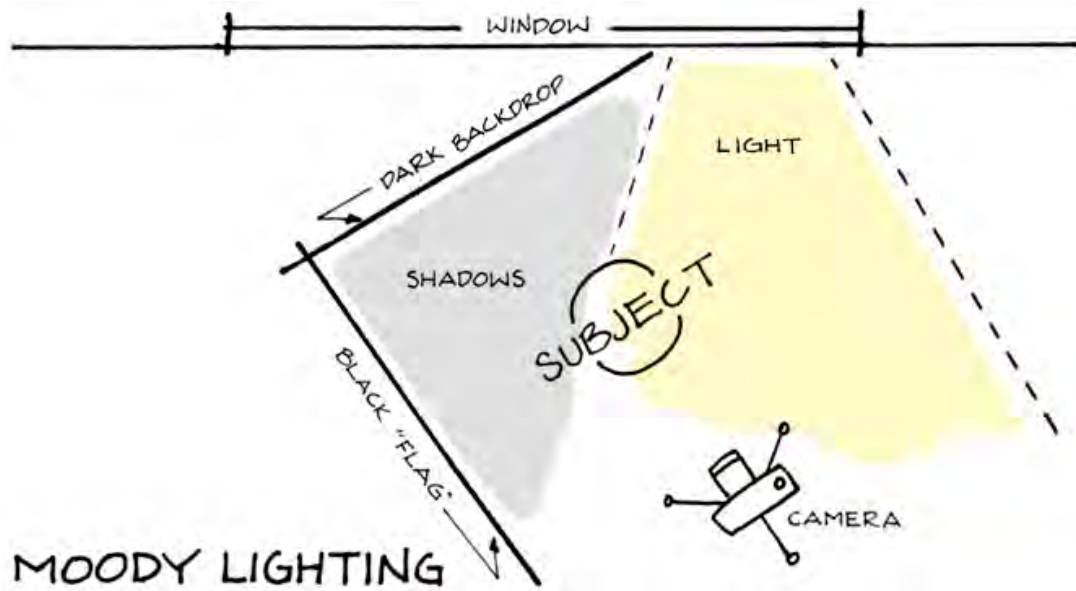
EVEN LIGHTING: Even lighting is a good place to start when trying to achieve consistent, quality images. It's about as middle-of-the-road as you can get, giving you flexibility with backdrops, colors, and styling accessories.



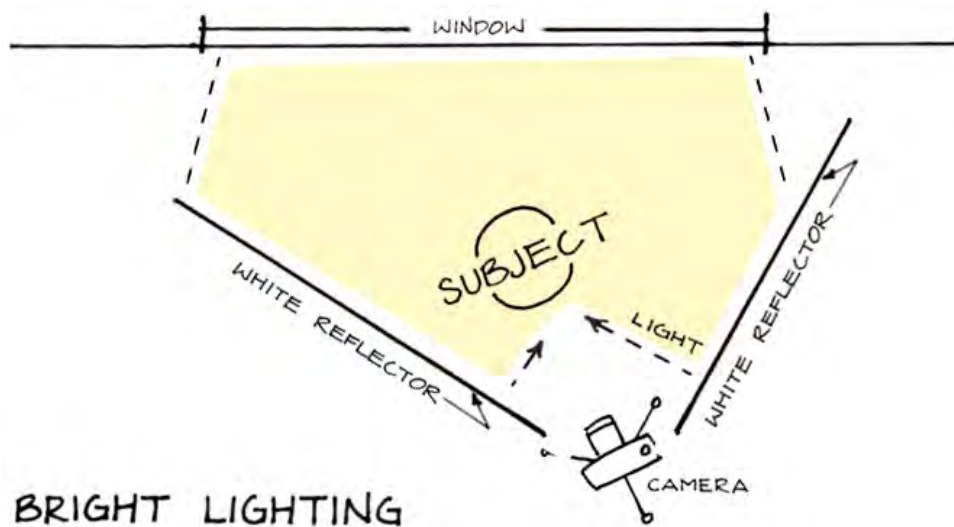
EVEN LIGHTING



DARK & MOODY LIGHTING: Chiaroscuro in photography. Chiaroscuro, traditionally a painting technique famously employed by Renaissance artists such as Rembrandt, is the dramatic contrast of light and dark in an image. Whatever is lit in the image becomes the focal point, highlighted by the surrounding darkness. This lighting technique creates rich, moody vignettes.



BRIGHT & ETHEREAL LIGHTING: The use of white, lots of light, and sparse accessories lends a crisp and refreshing feel to an image. This style of photography works particularly well with summery recipes.



Practical exercise 1 – Window Light techniques

1. Work in pairs
2. Choose a window light technique
3. Choose a reflector
4. Set up a subject – a still life or a portrait
5. Set up and take your photos
6. Show and tell

DIY Photography Lighting hacks:

- Build your own light tent
- Use table lamps –with daylight LED bulbs
- LED Torchlights
- Candles (use with care)
- Use a well lit window and use reflectors/backgrounds/diffusers
- Search in Google or Pinterest for a huge range of DIY lighting hacks

<https://digital-photography-school.com/diy-flash-and-lighting-hacks-for-digital-photographers/>

[https://www.pinterest.nz/search/pins/diy-lighting for photography](https://www.pinterest.nz/search/pins/diy-lighting-for-photography)

How to make a Lightbox using nothing more than a window and some greaseproof paper.

- 1. Set up the light box. Tape a sheet of greaseproof paper to a window. You can either shoot the flowers on their stems, or cut them off as we have and tape them to the paper. If you do this make sure you use clear tape, and spread the petals over the paper so you can see through them.
- 2. Switch to Av mode. Set your camera to Aperture Priority mode so you can control the aperture. Set the aperture to f/8 to keep your images sharp from front to back, and set the ISO to 100 for detailed, noise-free shots.
- 3. Brighten the exposure. Your camera will underexpose shots in an attempt to render bright backlight as a midtone, so go to the Exposure Compensation setting and dial in +1 stop of exposure compensation. Check your shots, and increase this as high as +2, if necessary.
- 4. Set the focus. Set the focus to the centre AF point, and make sure the centre of the flower is precisely in focus. If you're photographing two or more flowers, set the focal point for the largest flower in the shot
- .5. Use a tripod. To ensure that your images are perfectly sharp, mount your camera on a tripod. You should start by composing your shot from a low angle, pointing upwards.
- 6. Start shooting. Now you can get shooting. Experiment by taking photos of one flower by itself or a bunch together. You can overlay different flowers on top of each other or just stick to one type as we have. It's entirely up to you which composition you prefer!

PUTTING A SPOTLIGHT ON UNDERSTANDING ISO

What is ISO?

ISO relates to how much light your camera's sensor picks up.

The smaller the ISO number the less sensitive your camera is to the light that your shutter speed and aperture let in.

Adjusting your ISO allows you to use the same shutter speed and aperture settings with more or less light.

Why would you change ISO?

For instance, say you want to take a photo of your child jumping, and you want to use a faster shutter speed so that they appear to be hanging in mid-air, but it's late afternoon and shady where you want to take the picture. Remembering that a fast shutter speed lets less light in to your camera, you'll notice that your picture may be too dark when you take it.

To fix this, you need to change your aperture and ISO settings. You can choose to use a larger aperture to allow more light in to your camera and help to offset the smaller amount of light the shutter is letting in, or you could slow down your shutter speed. If you slow your shutter speed down you are more likely to get movement in your picture. In this case, using a slower shutter speed or wider aperture might not be desirable for what you're trying to achieve. So what do you do?

You adjust your ISO setting. By selecting a higher ISO number you're making the sensor in your camera more sensitive to light, allowing you to use that faster shutter speed, leave the aperture at the setting you want, and your higher ISO makes the light that is getting in to your camera brighter.

What's the downside of using a higher ISO setting?

The downside to using a higher ISO setting is that by making the sensor, and therefore the pixels of your image more sensitive to light, you're also making them more susceptible to noise, or grain.

These days, digital cameras are getting better and better at dealing with the noise created by using a higher ISO. In particular, some of the high-level professional DSLRs on the market are exceptionally good at this and you can shoot at much higher ISO before noise/grain becomes a problem.

What should my ISO be and when should I change it?

As a rule of thumb, always start out with your ISO on the lowest setting, 100 (some cameras will go down to 50 but that can have other unexpected results so 100 is generally the accepted starting point). If you're shooting photos outside on a nice sunny or even overcast day, then an ISO setting of 100 should be fine, you just change your shutter speed or aperture to get the correct exposure.

However if it's getting dark, or you're shooting at night or indoors with limited light and you don't have, or don't wish to use a flash, then you may want to think about using a higher ISO to compensate for the lack of light. If a wider aperture or slower shutter speed are not desirable, then upping the ISO can often do the trick, with very good results.

When you think about changing your ISO, remember that for every step up you make, you double the sensitivity of your camera's sensor. So when you go from ISO 100 to 200, you're getting twice as much sensitivity (light). When you go up to 400, you're getting twice as much sensitivity (light) as you were at 200. At ISO 800 you're getting double the amount of sensitivity (light) that you were at 400.

Things to be aware of.

The higher the ISO the more amount of noise/grain you'll introduce to your photo. So a photo that might be crystal clear at ISO 100 won't be the same at ISO 800, particularly if you want to crop and zoom in to a section of the image. There are lots of software programs available at the moment, as well as things you can do in Photoshop, to reduce some of this noise, but none of them are perfect and they won't remove it all together.

Just remember, that changing your ISO setting is the LAST thing you do when trying to get the correct exposure for your image if you really need to keep the shutter speed and aperture you've chosen but still need more light.



Practical exercise 2 - ISO

1. Practice changing the ISO on your camera
2. Take some photos of the same thing at the different ISOs.
3. Go really crazy and crank the ISO up as high as it will go and have a good look at what effect it has on your image.
4. And most of all, have fun experimenting, it's the best way to learn!