Dapto Camera Club Magazine.

Viewfinder.

May 2021

How to Capture Really Sharp Photos

One of the most frustrating experiences for a photographer is to get home from a photo trip with some great images only to find that some of the images are not sharp. To help solve this problem, this article covers seven things that a photographer can do to create really sharp images.

Photo by Matus Kalisky

Tripod

When it comes to getting sharp images, the first place to start is with a tripod. A tripod provides a stable platform that holds the camera rigid — dramatically increasing the sharpness of the image.

Weighting the tripod

A tripod is a good start. However, a tripod can be made even more stable by using some object to weigh down the tripod. This produces even sharper images. This is so important that many tripods have some type of mechanism at the bottom of the center post that was designed for hanging objects

Links of Interest:

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Viewfinder cover photo taken by.

David Milnes

to add weight to the tripod.
A simple way to take advantage of this feature is to carry a small net bag with your photo equipment. The bag can be filled with rocks, or other materials, and attached to the tripod. Even if a tripod doesn't have such a mechanism, other methods can be used such as hanging a camera bag from the center column of the tripod.

Shutter release

Just because a camera is on a tripod doesn't mean that the camera will be steady. The simple act of pressing the shutter can cause vibrations that will cause a loss of sharpness. The solution is simple. A remote switch can be used to release the shutter. A remote switch is a device that attaches to the camera through a cable, or wirelessly, and allows the photographer to release the shutter without touching the camera.

Mirror lock up

Even if the camera is set up on a tripod, the tripod is weighted down, and a remote switch is used, image quality can still be degraded due to vibration from the movement of the camera's mirror when the shutter is released. This vibration is primarily a problem with shutter speeds between about 1/30s and 1s.

Photo by sandeepachetan.com travel; ISO 100, f/7.1, 1/1250-second exposure.

This is easily solved by enabling the mirror lockup function on the camera. Once enabled, pressing the shutter button once swings the mirror out of the way. Pressing the shutter button a second time releases the shutter. This way, the mirror vibration dies out before the shutter is released.

Aperture

The middle apertures (around f/8 for most lenses) produce the sharpest images. The larger apertures produce softer images due to various aberrations while the smaller apertures produce softer images due to diffraction.

Shutter Speed

While a tripod eliminates camera movement, the subject that is being photographed may be moving. Thus, a shutter speed that is high enough to freeze the subject movement should be used. This may

require that a larger aperture be used in order to get the proper exposure

ISO

Increasing the ISO will allow a higher shutter speed to be used in order to stop the movement of the subject.

Photo by Don Harder; ISO 3200, f/5.0, 1/1250-second exposure.

Following these techniques will put you on your way to creating some really sharp photos.

What Is HDR?

HDR is an acronym for High-Dynamic-Range imaging. Dynamic range refers to the range of light between shadows to highlights. Images with a high dynamic range have detailed highlights and shadows.

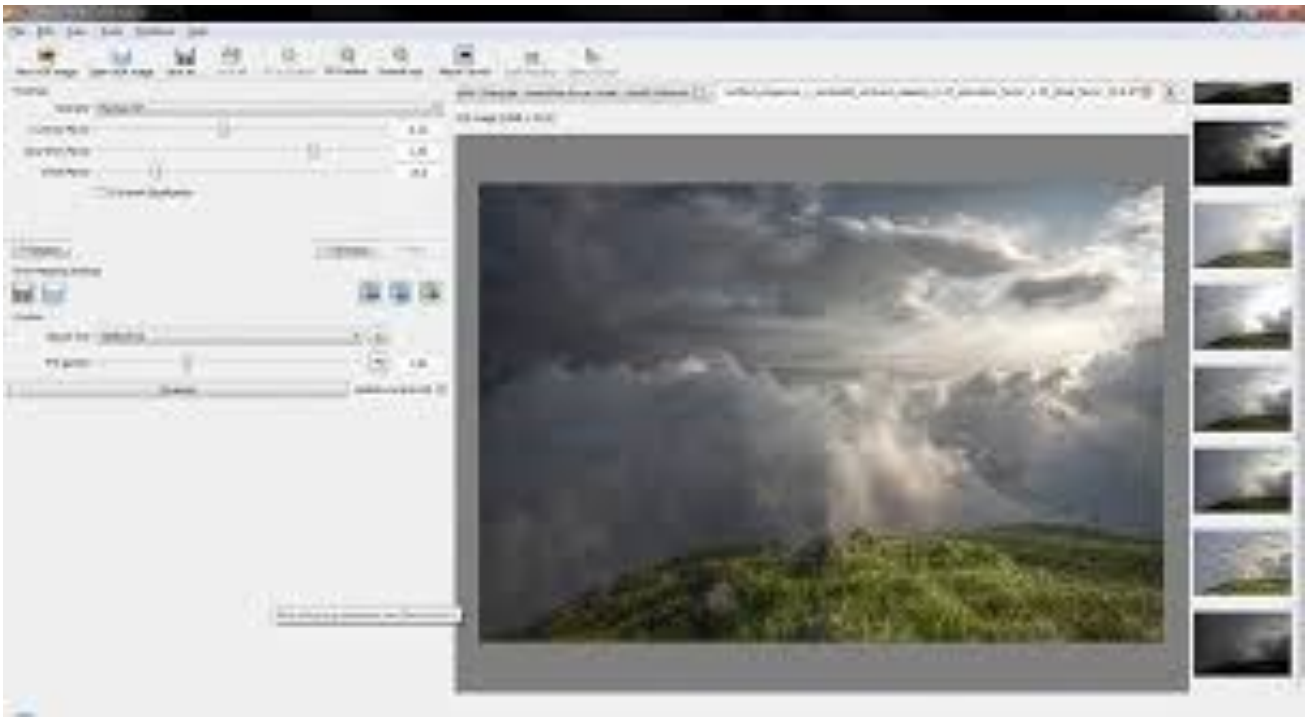
We tend to see HDR images more appealing, and it's because of the greater range of luminosity. Our eyes have a stunning dynamic range which no camera can ever mimic.

Cameras are limited in their dynamic range. This means that you cannot expose for the highlights and shadows at the same time. One of them will suffer.

Exposing for highlights will make your shadows too dark. And exposing for the shadows will make your highlights too bright. It's not possible to get the settings just right in one image.

HDR photography uses technology to overcome this problem. Instead of taking one photo, with high-dynamic range, you take many pictures of the same scene at different exposures. The images are then combined in post-processing to create a HDR photo. The final image highlights the best parts of each picture.
You need to take at least three photos: One to expose for the shadows, one to expose for the highlights, and one neutral shot right in the middle. This is called “bracketing”. Each exposure should differ by one or two stops (-1 or -2 stops for the darker images and +1 or +2 stops for the brighter images).
Many cameras have a built-in bracketing tool. You can also manually adjust the exposure compensation dial will achieve similar results.
So how can I access HDR ?

Try Luminance HDR



Luminance HDR is an open source HDR software. It lets you make HDR images using HDR Creation Wizard. You can add multiple images of same frame to merge and then change different properties, like: **alignment, image exposure, anti-ghosting**, etc. The options available for alignment are **Auto align images, Hugin’s align_image_stack, MTB**, and **Auto-crop**.
Use Tonemap operators and change the properties associated with them. Some of the Tonemap operators are **Mantiuk ’06, Mantiuk ’08, Fattal, Drago, Durand, Reinhard ’03, Reinhard ’05, Ashikhmin, and Pattanaik**. Based on the Tonemap you choose, you can adjust a bunch of image properties. This includes C*ontrast factor, Saturation factor, Detail factor, Contrast equalization, Color saturation, Contrast enhancement, Luminance level, Alpha, Beta, Noise reduction, Bias, Base contrast, range, Lower scale, Upper scale, Brightness, Chromatic adaption, Light adaption, Equation number, Auto cone/rod, Rod level, etc.*
Options to adjust levels and set white balance for HDR images are available as well. Transformation options to rotate, crop, and resize images are also available.This HDR software with extensive features also lets you **batch process HDR images**, copy EXIF data, perform **batch tone mapping**, and import FITS files.

This freeware to make HDR can open and process the following image formats: JPEG, TIFF, KDC, DCR, PEF, SRW, TKV, CR2, NEF, DNG, VDN, MRW, OFF, CLF, ANV, RAF, REFV, PTX, RAW, SR2, RW2, 3FR, MEF, MEFV, MCR, MCS, EIF, NRVV, etc.

After processing HDR, image can be saved as EXR, HDR, PIC, TIFF, or PFS.

Luminance HDR is a free application, which you can download and install on your Mac, Windows, or Unix system.**Operating System:** Mac, Windows, and Unix

Price: Free

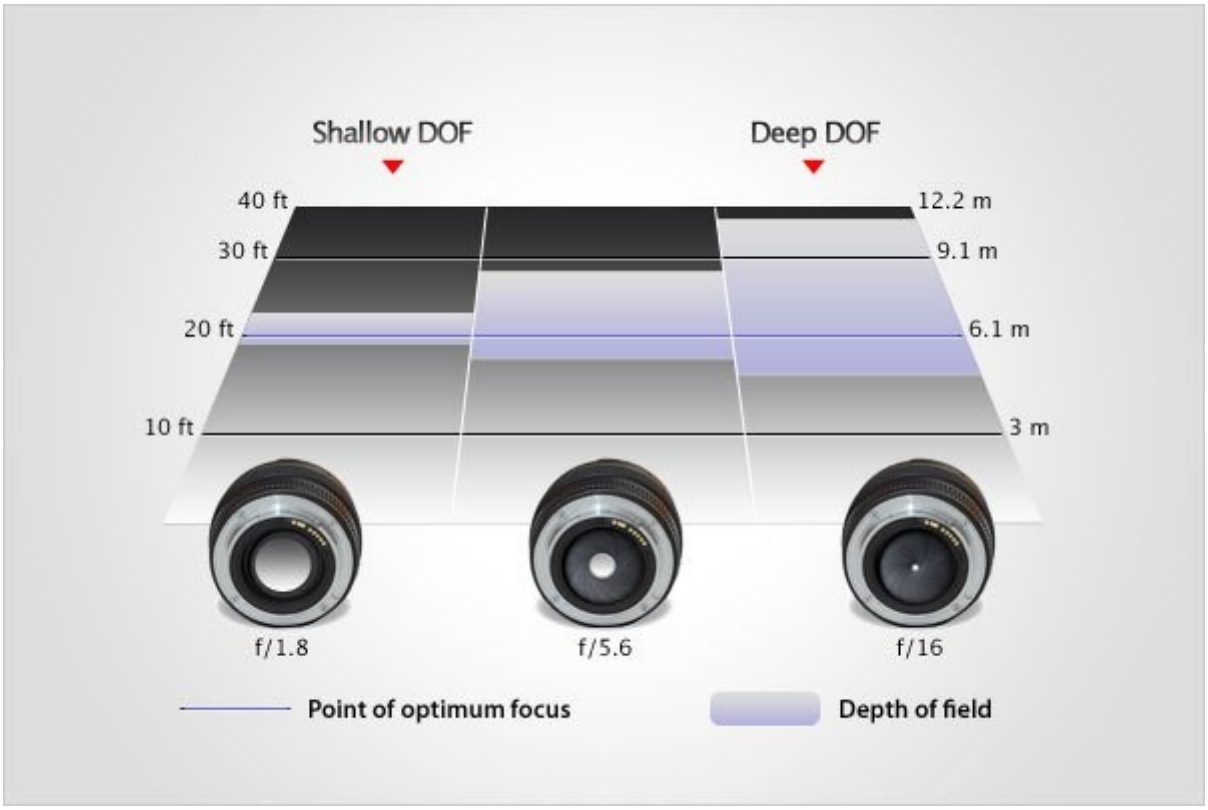
Focusing Basics

Understanding Depth of Field in Photography

By Attila Kun

In this section we're going to discuss several crucial elements for exercising greater creative control over your final photographic image.
Other than lighting, composition and focus (which includes depth of field) are the main elements that you can exercise complete command over.
Focus enables you to isolate a subject and specifically draw the viewer's eye to exactly where you want it.
The first thing to understand about focus is depth of field.

Depth of Field



The depth of field (DOF) is the front-to-back zone of a photograph in which the image is razor sharp. As soon as an object (person, thing) falls out of this range, it begins to lose focus at an accelerating degree the farther out of the zone it falls; e.g., closer to the lens or deeper into the background. With any DOF zone, there is a Point of Optimum focus in which the object is most sharp.
There are two ways to describe the qualities of depth of field – shallow DOF or deep DOF. Shallow is when the included focus range is very narrow, a few inches to several feet. Deep is when the included range is a couple of yards to infinity. In both cases DOF is measured in front of the focus point and behind the focus point.

DOF is determined by three factors – aperture size, distance from the lens, and the focal length of the lens.
Let's look at how each one works.

Aperture

The aperture is the opening at the rear of the lens that determines how much light travels through the lens and falls on the image sensor.
The size of the aperture's opening is measured in f-stops – one of two sets of numbers on the lens barrel (the other being the focusing distance).
The f-stops work as inverse values, such that a small f/number (say f/2.8) corresponds to a larger or wider aperture size, which results in a shallow depth of field; conversely a large f/number (say f/16) results in a smaller or narrower aperture size and therefore a deeper depth of field.

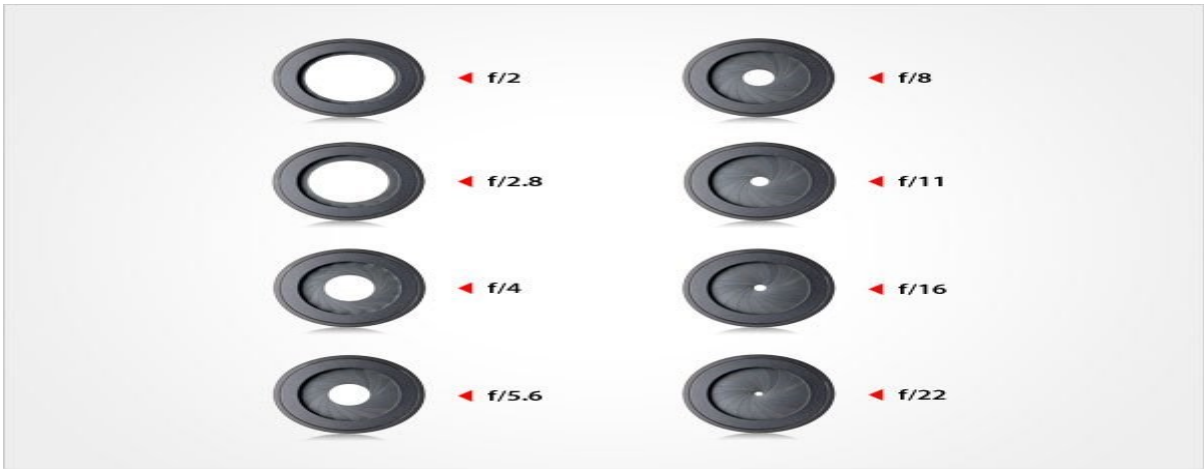
Slow-Motion Silky Water by Archaeofrog on Flickr

F/22 and slower, longer shutter speeds are also used to make the oft-admired 'silky water' shots, like the image above. A long shutter speed creates the long, slow blur in the water. This image was shot at f/22 with a shutter speed of 0.8 seconds. The high speed of the water helped create the blur in that fairly short shutter time.

Small vs Large Aperture

Manipulating the aperture is the easiest and most often utilized means to adjust Depth of Field.
To achieve a deep, rich and expansive DOF, you'll want to set the f-stop to around f/11 or higher. You may have seen this principle demonstrated when you look at photos taken outside during the brightest time of the day. In such a case, the camera is typically set at f/16 or higher (that Sunny 16 Rule) and the Depth of Field is quite deep – perhaps several yards in front of and nearly to infinity beyond the exact focus point.
Let's take a look at these two photos as examples. The left side of the photo has an expansive DOF, most likely shot around noon (notice the short, but strong shadows), with an f/22 aperture. The right side of the photo has an extremely shallow DOF; probably an f/2.8 aperture setting.
However, to achieve an identical proper exposure, the shutter speed is probably closer to 1/1000th to compensate for the increased amount of light entering the lens at f/2.8.

Aperture Range



The aperture range identifies the widest to smallest range of lens openings, i.e., f/1.4 (on a super-fast lens) to f/32, with incremental "stops" in between (f/2, f/2.8, f/4, f/5.6, f/8, f/11, f/16, and f/22).
Each f-number is represents one "stop" of light, a stop is a mathematical equation (which is the focal length of the lens divided by the diameter of the aperture opening) that determines how much light that enters the lens regardless of the length of the lens. Such that an f/4 on a 50mm has smaller opening than an f/4 on a 200mm, but an equivalent amount of light travels through both lenses to reach the image sensor thus providing the same exposure.
Each movement up the range (say f/2 to f.2.8) reduces the amount of light by one-half, and each movement down the range (say f/11 to f/8) doubles the amount of light passing through the lens.
It's important to understand this concept and how it affects exposure because it works in tandem with the shutter speed (we'll discuss this in another section) to establish a given exposure value.
Basically, when you change the aperture size one stop, you have to shift the shutter speed one stop in the opposite direction to maintain a consistent exposure… and this change in aperture alters the depth of field (DOF) accordingly.

Distance from the Lens

The last element affecting depth of field is the distance of the subject from the lens – you can adjust the DOF by changing that distance.
For example, the closer an object is to the lens (and the focus is set on that object) the shallower the DOF. Conversely, the reverse is true – the farther away an object is and focused on, the deeper the DOF. Changing the distance to subject is the least practical way to manipulate the depth of field, and by changing the distance from a subject to the lens, you immediately change your image's composition. To maintain the compositional integrity of the shot, but still have the change in DOF from a distance, you can change the focal length (either by changing lenses or zooming in).
Why does changing the focal length negate the effects on DOF? This is because the visual properties of a given lens either provide either greater DOF (shorter lenses) or shallower DOF (longer lenses). The physical properties of a lens at a given focal length also affect the depth of field. A shorter focal length lens (say 27mm) focused at 5 meters, set at f/4 has a deeper DOF (perhaps from 3 meters in front and 20 meters behind) than a longer focal length (say 300mm), also set at f/4 focused at 5 meters. The 300mm lens has a remarkably shallow depth of field.
Incidentally, to help you with this, every lens has a manual with a DOF chart for each f/stop and the major focusing distances. DOF is just a matter of physics, and it's important to grasp this concept.

Conclusion

Manipulation of depth of field is a good way to modify the characteristics of your photo, and manipulating the aperture is the ideal way to do this because it has little or no effect on composition.
You simply need to change the shutter speed (or change the light sensitivity – ISO) to compensate for the changes in the exposure from the adjustments to the f-number. Changes in distance and focal length also affect DOF, but these changes have trade-offs in terms of composition.
Therefore, changes to aperture are the best way to manipulate DOF without affecting a photo's composition.
https://www.exposureguide.com/focusing-basics/

5 Tips How to Set Up a Home Studio for Dramatic Portraits

By: Lily Sawyer

Having a brick and mortar studio when you are a photographer is such a huge and daunting step. There are so many overhead costs to consider such as rent, electricity, insurance and various other bills. It's a worry to cover all these before you pay staff and yourself and still make enough profit to make a living. This thought can make one feel that having a studio is an impossible dream or is too of a big a step to take. But you can always start somewhere, so let's look at some tips for how to setup a home studio.

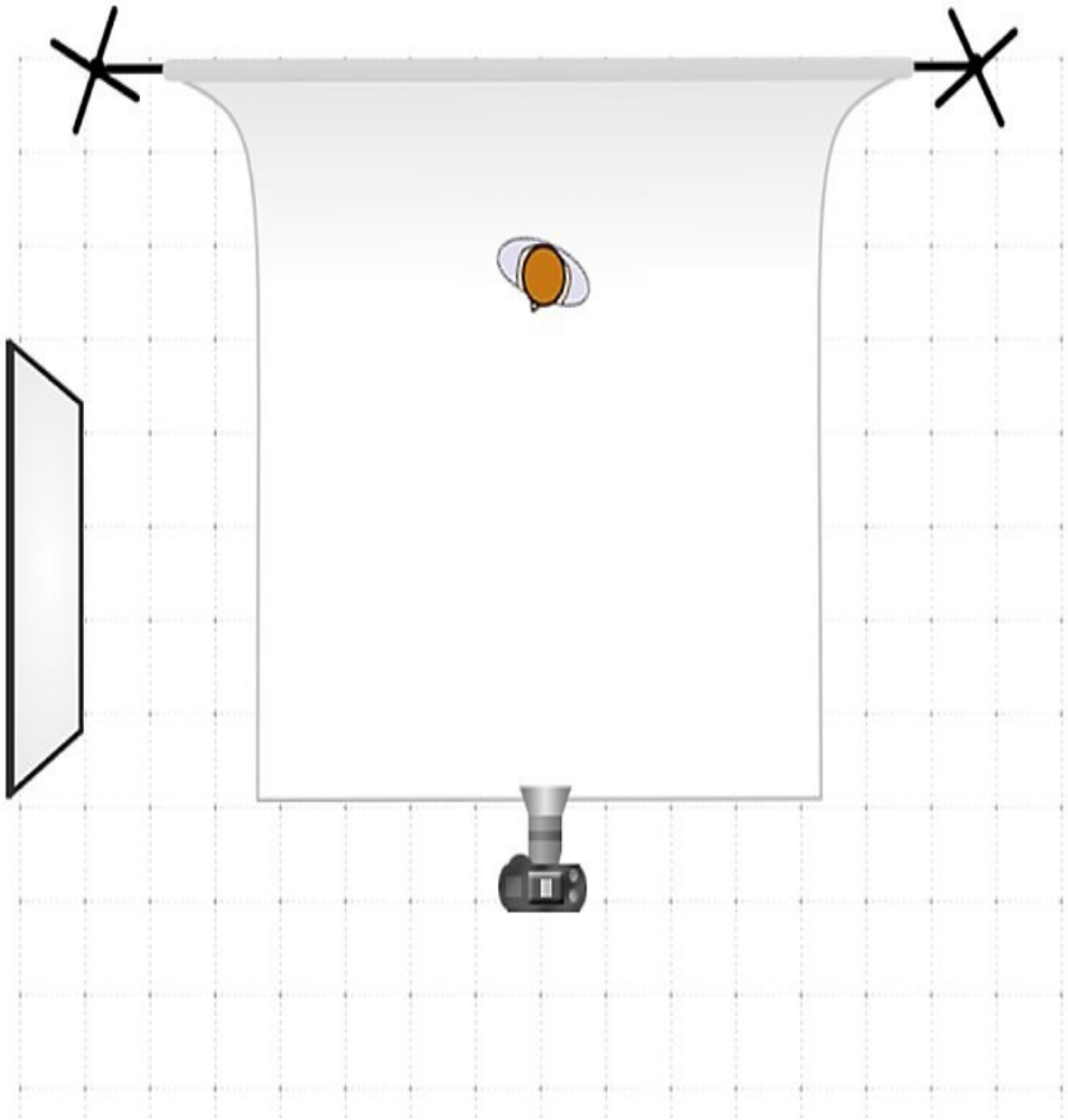
How to set up a home studio

If you have a spare room in your home or a basement, that is a good place to consider as a home studio. You may be surprised at just how much space is needed to start a portrait studio. Not that much at all! In this article, I will show you how I have set up my little home studio which I have recently revamped to make into a dedicated portrait studio.

I live in London in a narrow Victorian house. These houses have a typical 2-up 2-down rectangular layout, short side across and long side from front to back, with a narrow corridor that runs on one side of the house all the way to the back. My house has two reception rooms (living rooms) and a dining room and kitchen at the back. I decided to make the first

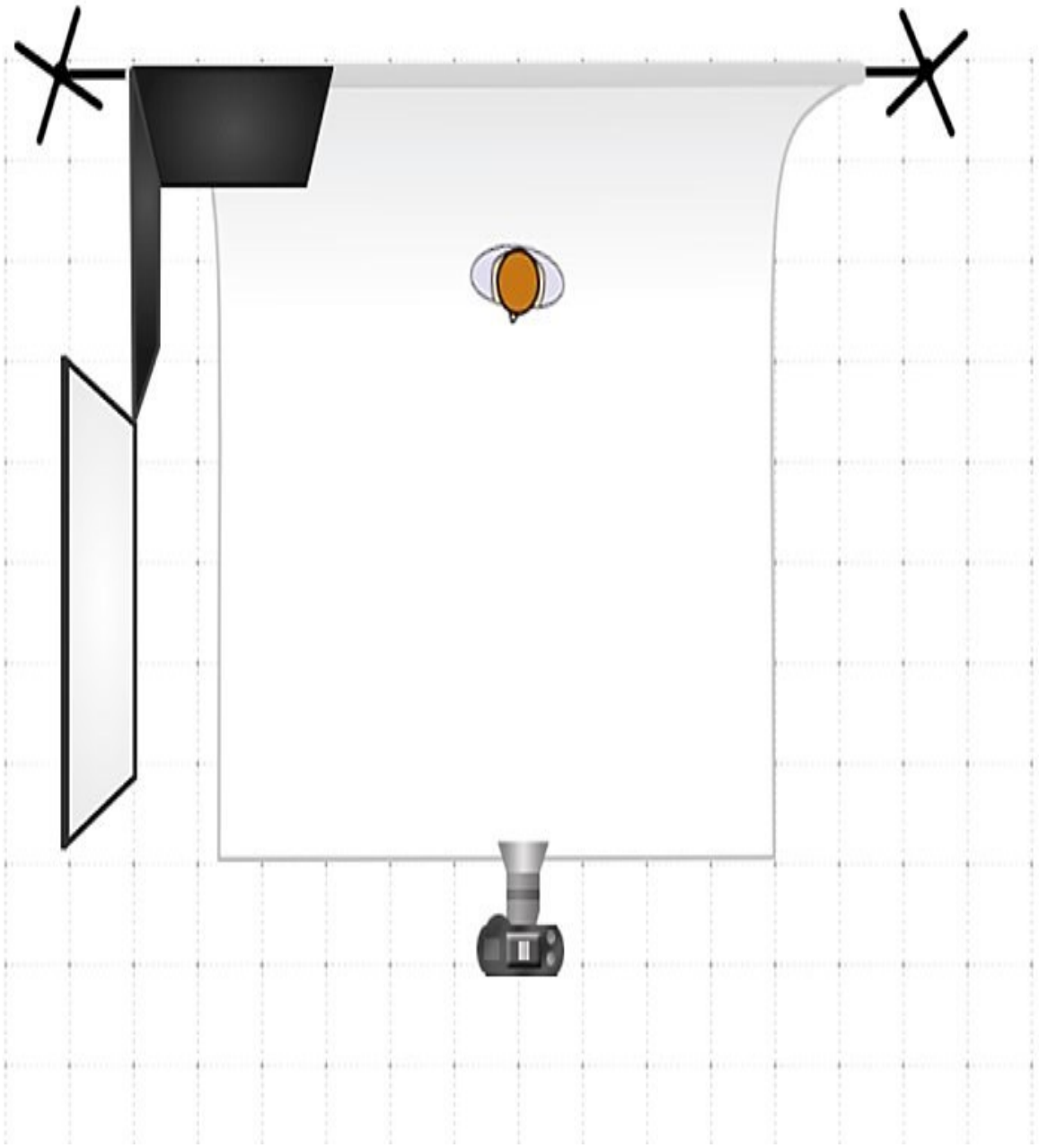
reception room (the front room of the house) into my studio. It has a bay window at the front which juts out of the house and provides nice ample natural light.
At first, I set up my backdrop on the opposite side of the window so it was facing the window directly. The reason for this was so that I could get a much wider area for shooting. However, this is not great for dramatic lighting with natural light flooding from the window, with the camera right in between the backdrop and the window. This lends itself to flat lighting instead which isn't what I wanted for my studio.
In order to achieve a more versatile directional lighting and avoid flat lighting from the window, I use strobes at 45-degree angles to the backdrop to get the lighting setup that I like.
Recently, I have moved things around so that I can use dramatic natural light if I want without the need for strobes, although I still have the flexibility to add strobes and artificial light if needed. This is how I've done it.

#1 Make sure your backdrop is at 90-degrees to the window



This angle gives you a lighting that is more dramatic as it is only coming from one side. If you position your subject so that the far side of the face is unlit, you could achieve lighting similar to the Rembrandt style or low-key portraits.

#2 It is ideal to have an L-shaped corner connecting your window light to your backdrop or wall



Having this little dark, unlit corner between your backdrop and the window gives you a 45-degree angle lighting setup which is one of my favourite set-ups. The corner minimizes the light for you to be able to create a moodier image with only the front left of the face illuminated rather than full light flooding from the side.
In terms of artificial light, this is similar to controlling the amount of light hitting your subject either by the use of grids, a strip light or a snoot. You don't want your subject awash with light as that would make for a rather flat lighting.
My personal preference is for having both light and shadows in my images so I can sculpt my subjects using directional light. If you don't have such a corner, you can use a V-flat (two black pieces of mount-board taped together to form a V) positioned in the corner as shown in the diagram above.

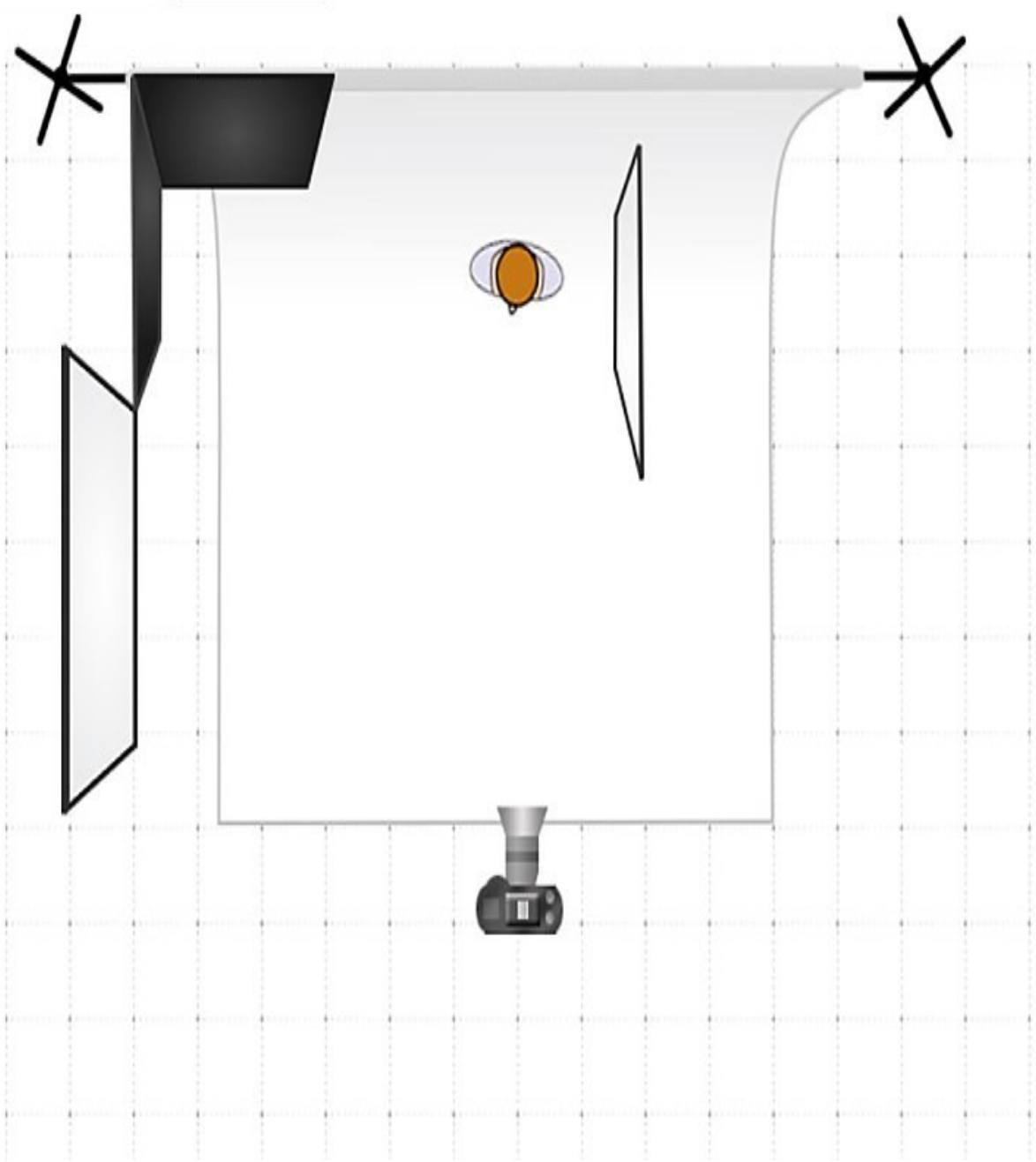
#3 Paint your wall dark or use a dark backdrop

You will be astonished at the difference a dark backdrop makes! It brings focus to the subject far more than a light backdrop can. It also lends itself to more artistic photos.

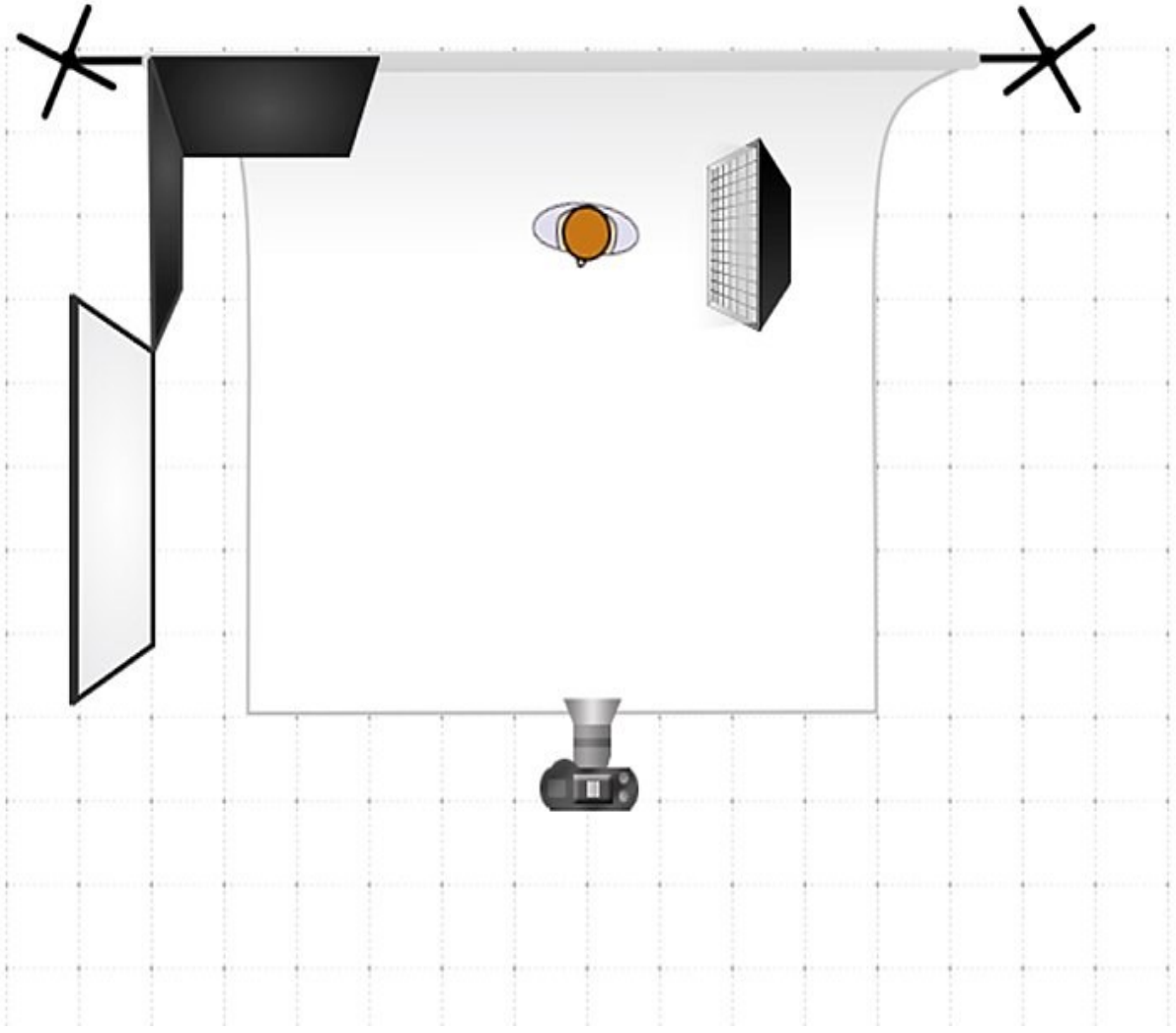
#4 Diffuse your window light

Window light, albeit coming from an angle, can still be a bit harsh. You can further soften this light by diffusing it with some white sheer curtains or voile or any fabric that can diffuse the light. The bottom half of my windows are frosted which means they are already perfectly diffused. I cover the top half with pieces of diffusion fabric to cut out the light.

#5 Use a reflector or light opposite the window



Much like in a painted portrait, reflected light is a pleasing detail found at the edge of the unlit side of the face. A silver reflector can achieve this very well with a stronger reflective light result as compared to a white reflector. I find that the gold reflectors can make the skin too warm so I stick with the silver and warm up the overall image in post-production.
The reflector does have to be positioned really close to the subject to make it more effective. If you don't have an assistant who can hold it in place for you, get a free-standing reflector arm that you clip the reflector into thus making it easy for you to position it as needed.



Using strobes

If you want to use or add artificial light such as strobes or continuous lighting, consider a portable studio kit that you can fold and hide away when not in use. Here you can find suggestions of equipment to use for your portable studio kit.

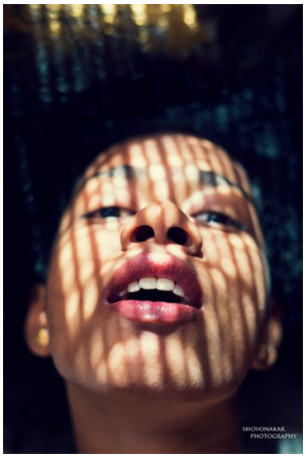
There are many possibilities and things that you can do with this type of setup. Even with just one flash (like this tutorial), you can create dramatic home studio lighting. Another fun thing you can do with flash is creating double exposures.

These images below were taken in exactly the same spot as those above. But this time a gridded softbox was placed on the right as the main light instead of using the natural light coming from the window on the left.

https://digital-photography-school.com/5-tips-setup-home-studio-dramatic-portraits/

Tips for Using Window Light in Portrait Photography

by Mary Buck



Back in the 80s and 90s window lighting was very avant-garde and fashionable. However, the window was always part of the scene. The subject was facing directly into the window or at a 45-degree angle so the light would softly illuminate the side facing the window. Reflectors were sometimes used to fill in the shadow side. This produced a dramatic look.

"morning" captured by shovona karmakar

Other than window lighting, most portrait photographers used studio lights inside or on location. Using natural light as the only light source meant they were just starting out, were too poor to afford lights, and were not smart enough to figure out lighting. I know this because I was one of them.

Now fast forward to 2010. Natural light has made a comeback not only for new-

bies but for pros as well. Natural light is the new look for portraits for newborns, infants, children, and seniors. Now with minimal equipment, almost anyone with a good camera and lens can take exceptional indoor images. It's definitely a sought after look, so how do you nail it?

First, you need windows with a northern or southern exposure. This will provide a very soft, indirect light all day long. Next, you will need a room with lots of windows (floor to ceiling the best). You will need to raise the blinds or drapes for the entire room. Next, turn off all interior lights as they may cause a color balance shift or unnecessary shadows under the eyes.

Once you have the room set up, you need to place your subject in an ideal location. Best to have them face a window, with your back to the window. (you do not want to block the light). You can use your built-in spot meter and meter on their face to obtain an optimal exposure for skin tones. I recommend using a wide aperture (f/2.8 or wider) for a selective focus look. You will most likely need to balance the wide aperture with a fast shutter speed, but that is okay, especially if you are photographing children. Be prepared to increase your ISO to 800 or even more.

What if you want to have the window as the background? That would be a very tricky lighting situation to have your subject back-lit. The back-lighting would result in an over-exposed background and underexposed skin tones. It's best to avoid this situation unless you want to take several exposures and apply a little HDR in Photoshop or you want to use flash.

Not all interiors are suitable for natural lighting. If you want your scene to be 100 percent natural light (no cheating with fill flash) you will need to do test shots prior to the assignment. Also, rooms that have windows facing east or west may offer too much direct lighting. You can still use them; however, you will need to be more careful where you place your subject.

"PA Window Light Portrait" captured by Rayme

What you might save on lighting you will need to spend on equipment. Generally, full frame DSLRs provide higher ISO settings with the least amount of noise. The Canon 5D Mark II is an example. Also, the lens will need to be a fast lens, one which opens up to 1.2 or 1.8. A very popular lens now is the Canon 50mm 1.2 lens. Also, the Canon 85mm 1.8 lens is a good choice. Neither is a zoom lens, so you will need to move instead of the lens zooming.

You may want to consider having a tripod with you in case you need to shoot at slow shutter speeds. I also recommend a white balance target so you can custom white balance your shots. Interiors with brightly colored walls can sometimes cause a color cast on the subject so a custom white balance is a must.

The qualities of a naturally lit portrait are many: the subject has a soft, flattering look, the eyes have catchlights, the background is out of focus from the shallow depth of field, and the subject looks relaxed in an un-staged environment. If you photograph infants or children your client will appreciate the at home service. A studio can also offer this service if there are ample windows.

https://www.picturecorrect.com/tips/window-light-in-portrait-photography/

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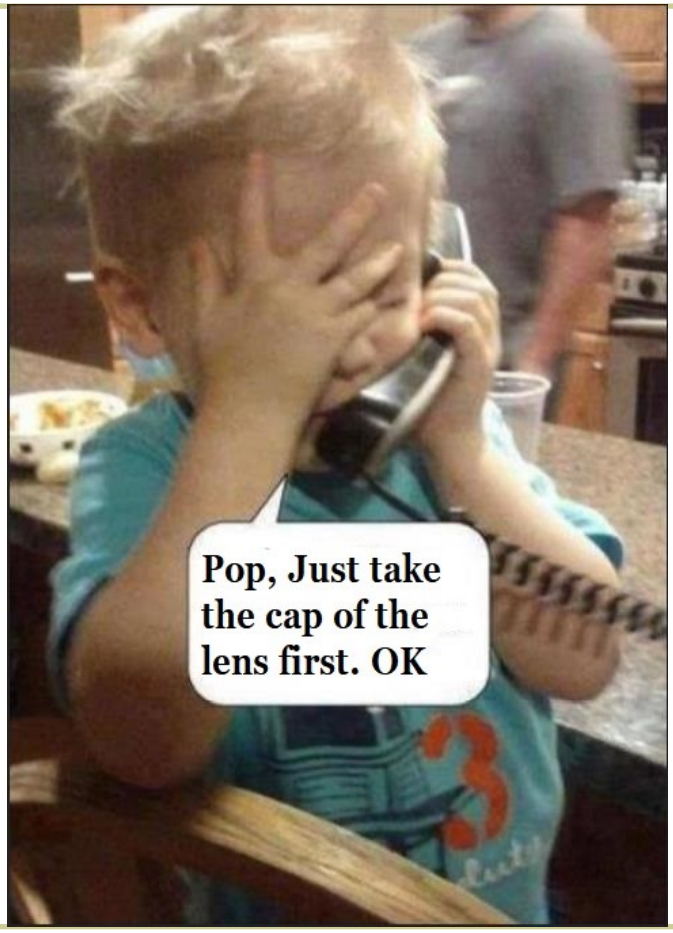

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