

LET'S FOCUS ON YOU



**31 Digital Photography Tips & Tricks
to Improve Your Photography**



Quarrie Photography is a professional photographic service providing action shots of emergency services, photojournalism reporting along with stock photographs for decor and commercial use.

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Welcome aboard QP's very first foray into
Photography Education exclusively for
our fans and followers

Are you...

- STRUGGLING TO UNDERSTAND YOUR CAMERA?
- UNSURE HOW TO MAKE PROPERLY EXPOSED IMAGES?
- IS THE WORLD OF COMPOSITION A MYSTERY TO YOU?
- DO YOU TAKE HAPPY SNAPS & THEN DO NOTHING WITH THEM?
- READY TO MOVE FROM HOBBIEIST TO ENTHUSIAST & BEYOND?

Join in as we unveil...
Tips, Techniques & Tools
to help you grow as a photographer!



TABLE OF CONTENTS



Tip #	Tip Topic	Page
1	Definitions	1
2	Aperture	3
3	ISO	4
4	Shutter Speed	5
5	Exposure Triangle	6
6	Composition	7
7	Project 365	8
8	How to Hold a Camera	9
9	Focus	10
10	Seeing as a Photographer	12
11	Digital Camera Modes	13
12	Balance the White	14
13	Depth of Field	15
14	Homework!	16
15	Image Formats	17
16	Demystify the Histogram	19
17	Metering	21
18	Dynamic Range	23
19	Lenses	25
20	Lens Anatomy	27
21	Lens Aberrations	29
22	Stops	31
23	Look After Your Gear	33
24	Do You Need a Tripod?	35
25	Memory Cards	37
26	Filters	39
27	Rule of Thirds	40
28	Perspective	42
29	Image Structure	44
30	Image Storage	46
31	Putting it Together	48



Definitions



Aperture: the variable opening of the shutter controlling the amount of light allowed to reach the camera's sensor.

Bokeh: a fancy word for the blurry out of focus background in a photo.

Composition: all the things you see in your photo - the subject, the background, the positioning, the angles. What you see, how and where it is placed in the scene.

Crop Sensor: As it sounds the sensor is smaller than the Full Frame sensor and crops out the edges of the frame. They are generally 22 x 15mm.

DoF: "Depth of Field" is the amount of the photo that is in focus, with the remainder deliberately blurred or bokeh.

Dynamic Range: The range of light-to-dark in your photo (max to min measureable light). Higher quality cameras have a higher Dynamic Range.

Exposure: The amount of light your camera's sensor captures while the shutter is open. Exposure is balanced by the Exposure Triangle.

Exposure Triangle: is the delicate art of balancing the ratios between ISO, Aperture and shutter speed.

Full Frame: Refers to the size of the sensor in your camera. A full frame means the sensor is the same size as old fashioned 35mm film (36 x 24mm).

f-Stop: is the number that represents the size of the aperture. The smaller the number the bigger the opening! (We'll explain more about this confusing concept later).

Histogram: The little graph thingy that pops up on your camera or editing software. This tells you the balance of your exposure of your photo.

ISO: is the measurement of how sensitive your camera's sensor is to light.

JPG / JPEG: the default format that photos are stored in after editing (the standard since 1991).



Megapixels: the resolution or number of dots (pixels) that make up your digital image. It is calculated by multiplying the number of pixels wide x pixels high.

Noise: What you can see when you use a high ISO, caused by the sensor being made too sensitive and resulting in electrical interference.

Photography: is derived from two Greek words: photo meaning light and graph meaning to draw, so essentially photography is 'drawing with light'. If you can understand this definition early you will grab the basic concept of photography.

Pixels: the little dots that make up your photo. They are smallest elements of an image that can be individually processed.

RAW: As it sounds this is an unedited image, straight from the camera. It holds the highest amount of data for editing.

Sensor: this is the little bit of electronic gear that catches the light and turns it into electronic pulses to produce your digital photo. The sensor is the modern day version of cellulose film.

Shutter: A 'curtain' like device that sits in front of the camera's sensor that opens and closes to allow light to hit the sensor via the lens.

Shutter Speed: The speed at which your shutter opens and closes.

SOOC: Straight-out-of-Camera - the image your camera produces without any post editing.

White Balance: How your camera's sensor handles the whites in your photo. Different light sources give different hues. Adjusting the white balance returns the photo to close to 'as seen'.



Aperture

This initial concept can prove to be confusing to beginner photographers.

Aperture refers to the the size opening of the shutter of your lens. It has many resultant effects for your photos and is one of the three cornerstones of your photography education, with ISO and shutter speed being the other two. These three elements together form the Exposure Triangle.

The larger the opening of your lens (aperture) the more light you allow to reach your sensor. The smaller the opening the less light you allow. Pretty straightforward isn't it?

Think of the aperture as the pupil of the camera. As humans, your pupil dilates (opens wide) when you are in darkness, all in an effort to let more light in. Likewise when you go out into bright light, your pupil reduces and at times you squint hard to reduce the light even more.

Aperture also controls how much of your photo is in focus (also known as Bokeh). This is called the Depth of Field (DoF), a concept which we will cover later in this series.



ISO

In simple terms ISO refers to the *sensitivity of your camera to available light*. In the old film days the equivalent was called ASA. The higher the ASA the more the film reacted to light.

The camera's sensor is what converts light to electronic data. Rather than changing the actual film or sensor we essentially increase the amount of electricity flowing to the sensor. As we increase the electricity we increase the sensitivity of the sensor.

This means in dark situations we energise the sensor to react with the reduced lighting, and vice versa. The lower the ISO number (eg: 100) the less sensitive it is to the light, the higher the ISO number (eg: 3200) the more sensitive it is.

One downside to this is the more sensitive the sensor the more electronic interference (also referred to as grain or 'noise') appears in the photos. This is particularly noticeable in low light, high shutter images.

When there is plenty of light, you should use the lowest ISO to retain the most amount of detail and to have the highest image quality. You should increase the ISO when there is not enough light for the camera to be able to adequately capture an image according to your desired output.

ISO Settings

100 outside, full sun

200 inside, on a sunny day

400 outside, in the shade on a sunny day

800-1000 inside, not near a window

1600 inside at night, light bulb light source

4000 inside darkened room with light source

10000 inside darkened room with ambient light

(These figures depend on shutter and aperture settings to achieve a well exposed image)



Shutter Speed

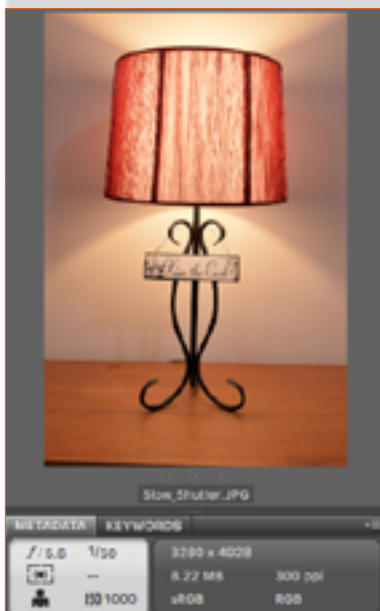
Shutter speed is the last variable in the Exposure Triangle (more about this term in [Tip #5](#)) and is also known as exposure time.

It is a unit of measurement determining how fast the shutter (ie: the 'curtain' in front of your camera's sensor) opens and closes, thus controlling the amount of light that passes through the lens aperture.

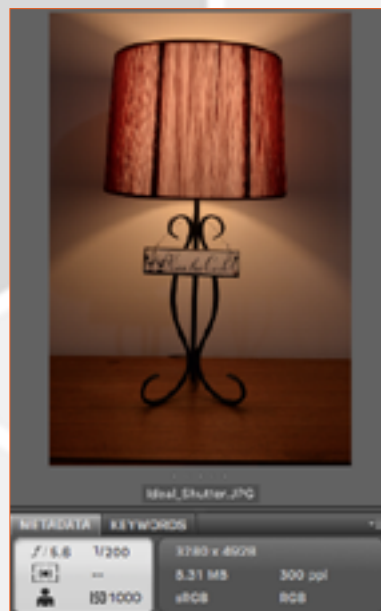
To allow more light in you use a slower shutter speed, keeping the shutter open longer. To reduce the amount of light hitting the sensor you use a faster shutter speed to open and close it quickly.

Slow shutter speeds allow for 'motion blur', whilst a fast shutter will 'freeze' fast action such as motor racing. Shutter speeds range from seconds to thousandths of a second depending on your desired result.

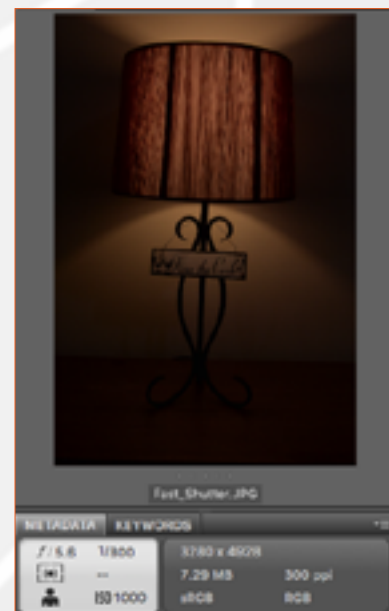
Examples of shutter speeds: 10" (10 seconds), 1", 1/3 (a 3rd of a second) 1/40, 1/250, 1/1000, 1/4000, etc.



Slow shutter speed
1/50th of a second
(over exposed)



Ideal shutter speed
1/200th of a second
(correctly exposed)



Fast shutter speed
1/800th of a second
(under exposed)



Exposure Triangle

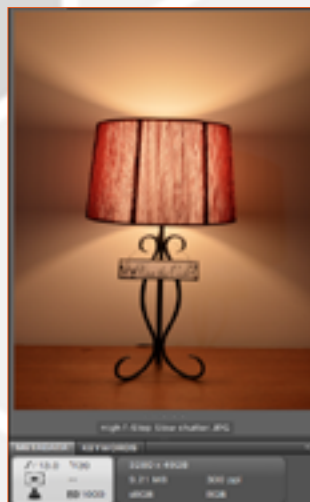
As the name implies the Exposure Triangle comprises three components: **Aperture**, **ISO** and **Shutter Speed**, all of which we have covered already in our first few foundational tips.

So now it's a matter of putting them all together to get the perfectly exposed image. If we get all three balanced we get much more consistent and vastly improved photos. Simple!

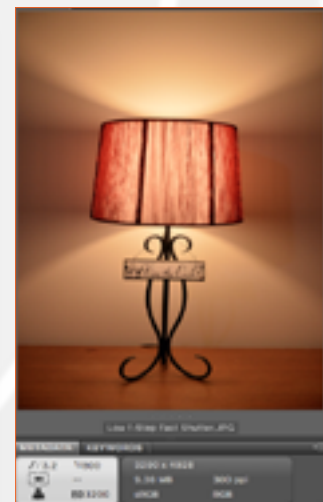
When these three elements are combined they represent an 'exposure value' (EV) for a given setting. It doesn't matter what type of triangle, or what length the sides are in relation to each other - this is photography not geometry. The important factor is that the sides meet neatly and the shape is closed.

If we change one setting on our camera we need to change at least one other to achieve the balance. If the triangle is incomplete, or 'broken' then the exposure is also out of whack (either overexposed or underexposed).

THE FUNDAMENTALS OF EXPOSURE



Slower shutter + higher
f-stop + lower ISO



Faster shutter + lower
f-stop + higher ISO

Different settings achieving the same result!



Composition

Composition is the arrangement of the elements in an image in relation to each other to form a particular visual outcome. Not the main subject, but everything else that supports the 'story' you're telling. It's a way of guiding the eyes to the most important elements of your work. Rules were meant to be broken, but before you can do that you need to know what they are.

Rule of Thirds: To determine the best positioning of your subject in your image you simply divide the image up by drawing two (imaginary) equally spaced horizontal lines and two equally spaced vertical lines on your image. Now place your subject along one of these lines, or ideally where two lines intersect, which is known as the 'sweet spot'!

Leading Lines: These are lines within the image that draw the eyes to the main subject. They can be anything: gaps between timber floor boards; rows of corn; a line of trees along the edges of a road you are looking along. Basically the lines point like arrows towards your main focal point.

Framing: Placing an additional object(s) in the foreground of your picture can visually 'frame' or surround your main subject for emphasis (eg: doorway, window, trees, gap in a fence, etc).

Repetition: Making use of the repetition of shapes, colours, lines, objects, etc can create some visually pleasing images. Repeated elements create a sense of balance, symmetry and flow. Reflections, such as in water or glass, are an effective form of repetition.

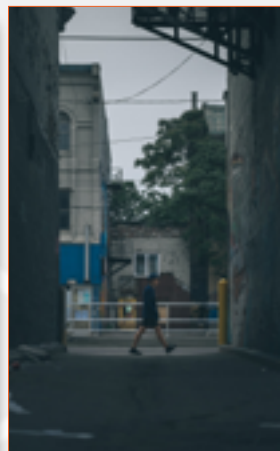
RULE OF THIRDS



LEADING LINES



FRAMING



REPETITION



Project 365

In a recent blog we gave a general bit of advice to **JUST SHOOT IT!** Well now it's time to take that advice and put it into action.

The CHALLENGE?

To create your own Facebook Album called 'Project 365'. The concept is to take a photo a day for a year. Each day you shoot and then post a photo into your album, creating a gallery of images from Day 1. Don't worry about whether you think your shots are 'share worthy'. We've been there and have quite a few shockers from our early learning days!

But WHY?

- Practice makes perfect - it will dramatically improve your photography!
- Your knowledge of your camera, composition, lighting, etc will increase
- It will teach you to 'see as a photographer' (see Tip #10)
- You will naturally become a lot more observant of things around you
- It will be a permanent record of your photographic development
- You won't miss the chance to snap that masterpiece!

What do I shoot?

To make the Project challenging and interesting, shoot a different 'theme' each week ([click here for your free Weekly Theme sheet](#)). Shoot your interpretation of the theme. Hint: there are no right or wrong ideas.

So just **SHOOT F@RKEN** and upload to your Project 365 album each day!



Want to use our awesome P365 graphic to kick-start your Facebook album?
[Click here to grab a copy of the file to use.](#) **FREE!**



How to Hold a Camera

Holding a camera is a personal thing. Everyone seems to have a different style and preference. While options are ok, some things are still mandatory basics. Once you master these basics and they become second nature (like learning to drive a car) you can develop your own style and still shoot with confidence.

Let's start with your stance. Feet should be shoulder width apart, left foot forward with toes pointing in the direction you are shooting, with your right foot behind at a 90 degree angle. This is known as the 'warrior stance'. Next we move up your legs to your hips. Rotate your hips so your left hip is pointing in the direction of your subject too.



Whether you shoot using your left or right eye looking through the viewfinder, you still hold the camera with your right index finger on the shutter release button, with your hand wrapped around the side of the camera.



Your left hand cradles and supports your lens, basically underneath the lens. You need to caress your equipment, but still maintain a firm hold. Now your elbows, you're not a chicken with wings trying to fly, so tuck them in against your body. Lock them in.

Now your lens should align with your front foot, left arm and hand and be pointing in the direction of your subject. And that is how to hold and support your camera to give yourself a stable platform from which to shoot.



Focus

From our recent **'Let's Focus on You' Survey** one of the biggest problems our respondents had was working out how to get great focus and eliminating blurry images. Now that you have a better understanding of how to get better results from your camera, let's focus on getting you to sharpen up your images and get a more rewarding result.

Your camera has multiple formats when it comes to focusing systems. We'll talk through the main ones and how to use them. Grab your camera's manual for your camera's specific settings and experiment to see what works for you.

In general, to focus you half depress the shutter release button, then when it's in focus you fully depress the button. Some cameras have a 'lock out', meaning until a shot is focused it won't allow you to continue to shoot.

Shutter Speed

Often the reason for blurry photos is the shutter speed isn't right for the conditions. If you are shooting a person running in low light often the shutter is slow allowing light in for an exposed image, but in the time that the shutter is open the subject moves.

As a guide when hand holding (camera in hand, not on a tripod) your shutter speed should not be below 1/80th. Even then no matter how still you think you are your body's pulse is enough to make you move and blur a photo. True! This is where you need a tripod and a stationary subject.

To increase (speed up) your shutter speed you either use a lower aperture or increase your ISO. Remember the Exposure Triangle now?



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Focus Point

When you look through the viewfinder do you see a little red square before your eyes? This indicates what you are focusing on, namely your subject.

To start with it's best to select a single point focus and lock in the centre of your frame (viewfinder) aiming that at your subject and when the camera focuses you shoot. You'll need your manual to change and set this. Depending on your camera you may have anywhere from 3 to 153 focus points!

By leaving the setting to auto the camera will generally focus on the closest object that falls on one of the focus points. The red square may jump around the viewfinder until it focuses and locks on. This may not be the subject you want focus on. Auto is not always best.



Image credit: Nikon

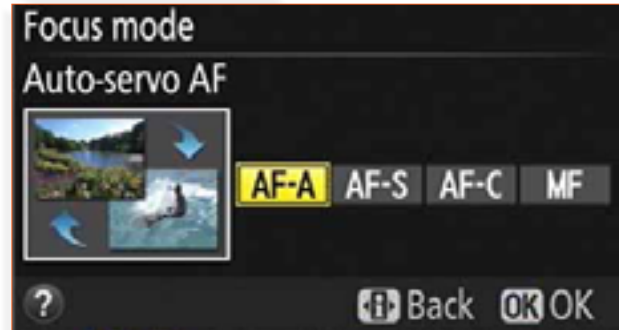


Image credit: Nikon

AF-S and AF-C

AF stands for Auto Focus - the camera and lens focus for you. There are two formats of AF:

AF-S is single focus. When you half press the shutter release button your camera will focus on what the red square is pointing to. Once focused it will hold that focus, which is good until the subject or you move.

AF-C is continuous focus, meaning when you half press the shutter release button it will continuously focus while you keep the button depressed as the subject moves. Continuous focus is great for sports. For example, as an athlete runs towards you the focal distance changes, so the camera will constantly refocus as opposed to single focus where it keeps the original focal length, until you lift your finger and refocus.



Seeing as a Photographer

The world will never look the same once you begin to see as a photographer. As you walk around your house, out in the street, at social events, on holidays and even watching TV ***you will view the world through an imaginary viewfinder.***

This is a fantastic view to have and one that not too many people develop. You really get to see all the details of the beautiful (and not so beautiful) suddenly appearing before you and you wonder why you never saw them before. The reason is easy. You were never really ***looking*** before. Photography changes all of that.



We attended a Ken Duncan seminar a few years back. He spoke of taking the time to get a photo, turning around immediately, going back to get '***the shot***'. Sometimes the shot can never be replicated. The lighting has changed, the main elements don't exist anymore, or you just never get back there again. One of Ken's most famous photos 'Salvation Jane' was taken by turning the car around and going back to shoot the moment.



Photo credit:
Ken Duncan

We've gone back for 'the shot'. We call them 'Kenny Moments'! The other thing to remember is sometimes the photo is behind you! Turn around, don't get tunnel vision. Don't follow the herd. Expand your view.

Do you think Blockbuster directors know a thing or two about composition? They film according to the same 'rules', because they work. Now that we've opened your 'photographer's eyes' to this little nugget, good luck not watching TV through a viewfinder now! :)



Digital Camera Modes

Hopefully we've had you all using (or at least trying) Manual mode for 9 days now. No doubt you've experienced a bit of frustration along the way. Blurry, out of focus, under or over exposed shots? Relax, that's normal!

Most cameras have Manual and Auto mode plus a number other 'semi-auto' modes in the goodie bag. As each camera is different you'll need to know how to change these settings, so get out that instruction book.

Auto mode often has variants; also called 'Scenes'. These can include, landscape, sport, macro, portrait, party/indoor, beach/snow, food, dusk/dawn, night, etc. They estimate the settings for that type of activity.



Scene	Aperture	Shutter Speed	ISO
Landscape	f22	1/50	100
Sport	f5.6	1/1000	400
Macro	f4	1/500	200
Portrait	f5.6	1/250	200

Note: sample settings only - will vary between situations and models

These are very much point and shoot settings, but they won't always give you the best photo. Auto settings are not a magic wand for lack of photography understanding and skill. The other two main settings on a camera are Shutter Priority (eg: Nikon: 'S', Canon: 'Tv') and Aperture Priority (eg: Nikon: 'A', Canon: 'Av'). These are 'semi-auto' in that you choose which is the critical setting you want to control.

For example in Shutter Priority you choose a shutter speed of 1/1000 and the camera will give you a well exposed image. It will set the aperture and ISO, which may be a narrow aperture (f11) with very high ISO (6400) which may not deliver the result you want. With Aperture Priority on the other hand, you select the aperture you want, say f5.6, and the camera will automatically adjust shutter and ISO to give you well exposed image.

A good way to improve your manual use of the camera is to take a photo in Shutter or Aperture Priority mode, then swap over to Manual and adjust your settings to match the auto ones you just used. Take the same shot again, then adjust one setting at a time until you get the result you want to achieve, complete with proper exposure, DoF and shutter speed.



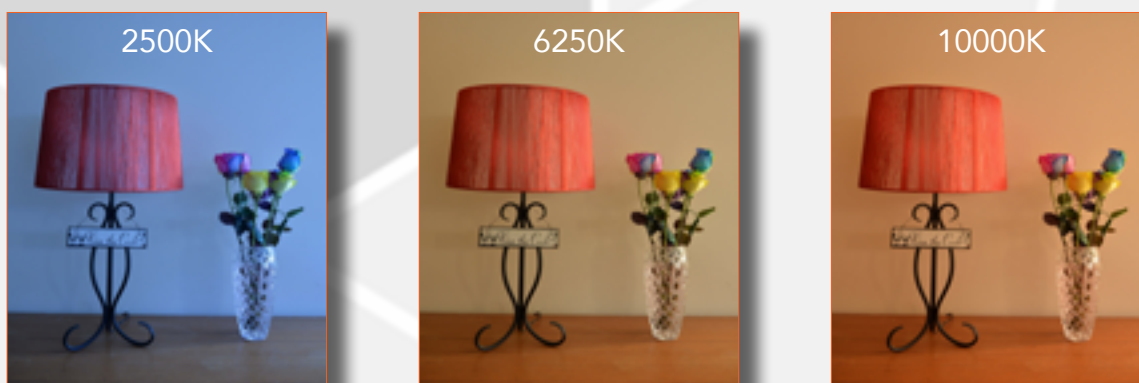
Balancing the White

White balance (WB) is *how your camera's sensor handles the whites in your image*. Each light source reacts differently with your sensor. Adjusting WB gets the whites in your image represented as true to the eye. Get it right and you get a more natural colour palette in your photo.

Ever notice how some lights look yellowish (warmer) or bluish (cooler)? These days light bulbs are sold in 'cool' and 'warm' varieties. Each type of light source emits different amounts of light from the visible light spectrum. How your sensor reacts to what you shoot is the same. Have you noticed how some images have a warmer or cooler look to them?

The simplest way is to change the automatic setting on your camera to the setting closest to the conditions you are shooting in. For example fluorescent lights in a classroom, incandescent lights in a lounge room, outdoors in sunshine or shade. These are automatic settings and just like the auto camera mode settings we spoke about in *Tip #10*, they don't always give you the best result.

WB is measured in Kelvin (same as temperature, which is why we refer to the warmth or coolness of a photo) ranging from 2500K to 10000K. At 2500K your images appear blue (cold). At 10000K they are yellow (warm).



You can always adjust WB in post editing; however it's generally best to get it right "in camera" first.

*Extra Tip: Shooting in RAW file format allows more WB adjustments in editing as opposed to JPG. We discuss different file formats in *Tip #15*.*



Depth of Field

Depth of Field (DoF) is **the amount of the photo in focus**, with the rest deliberately blurred ('bokeh'). So far we've been focussing on how to get pin sharp images and now we want to blur them? Go figure! Our subject still needs to be sharp and stand out, to be different to the rest of our image. One of the easiest ways is to blur the rest of the image as the eyes are naturally drawn to the sharpest or brightest part of an image.

For example, when shooting sports you want the athlete in focus and the spectators to be blurred, after all we are there to watch the players not the fans. To achieve this we use a wide aperture (small f-stop), which equates to a shallower DoF. The human body is shallow compared to a whole stadium. Depending on lighting conditions we would shoot between f2.8 to f4 (or the lowest your camera will go). We then adjust the other settings in our Exposure Triangle (see **Tip #5**) to achieve a well exposed image.



On the other hand standing on the edge of the Grand Canyon we want to see the whole canyon, after all that's what we travelled all that way to see! Here we'd use a narrow aperture (large f-stop), say f8 to f22 as a guide for a deeper DoF, adjusting the other two settings to achieve correct exposure.

DoF is also affected by the amount of zoom and distance to the subject. When shooting a subject at f5.6 and a distance of 10m the DoF is narrow meaning only about 3m will be in focus. If you were to put your subject 200m away and focus on them then the DoF would increase to about 30m. So you see it's all relevant.

One last thing to remember is that the DoF is not an even split; it's usually about one third in front and two thirds behind your focal point, but as your focal length increases it becomes more equal. Using the above example again, when shooting at f5.6 and 10m away about 1m in front is in focus and 2m behind is in focus. **Remember small f-stop shallower DoF; large f-stop deeper DoF.**



Homework!

Well we did warn you! Here it is! Well it's not really homework, its more like a heavily suggested exercise for you to do.

So far we've been explaining the foundational concepts of photography, giving you definitions, talking weird words and generally confusing you. Right? Well now is the time for it all to make sense and to sink in.

Photography is 'the art or practice of taking and processing photographs', so the only way you'll learn is by doing. It's not like writing a thesis, where all you need to do is string words together.

This tip goes with one of our favourite sayings - **SHOOT F@RKEN!** We're going to get you to practice everything you have learned so far. In this exercise you will practice perfecting and understanding the Exposure Triangle (see **Tip #5**).

So without further ado, [click the link to our training video](#).



Image Formats

For 14 tips you've been learning 'stuff' and happily snapping away, but what are we actually snapping? Yes they are photos, but what file format are they in? And why? Most cameras have several formats they use to store images. So why do we have them and what purpose do they each serve?

Jpeg: We all know jpeg (or .jpg) images. This format is the most widely known. By using jpeg as your file type the images can be directly downloaded from your camera and uploaded or printed without additional software. One drawback is the limited colour range and editing capabilities.

Jpeg images are compressed files, meaning the data is squished down to make smaller files. The trade off is it loses data in the process, so the more the compression the lower the data quality. There are 3 options depending on how much detail you want and the size file you want to end up with.

Jpegs also have 3 physical image size options. Depending on how big you want to print the image you select Large (42x28cm), Medium (31x21cm) or Small (21x14). You can also choose the quantity of compression (Fine, Normal or Basic) to help control the size. (Refer page 2 table).

To achieve the best quality image select 'Fine' + 'Large'. Consider what the image will be used for and how much storage you have. An image created with Fine + Large will have a bigger file than a Basic + Small one.

RAW: RAW images referred to as the negatives of the digital world. Whilst you can't directly print a RAW file they hold all the data needed to print, collected and stored by the camera's sensor. The files are bigger than jpeg as they contain more data, but this opens up a whole new world when it comes to editing. For example in RAW images any areas that appear under or overexposed still retain all the image "information" within the file and can be extracted during editing. Whereas with jpeg images the lack of data makes it more difficult to post process to draw out the missing detail.

One setback with RAW is each camera brand has their own proprietary version. This means the file needs to be converted to a printable file format (eg: jpeg) after editing and before printing. To do this you need software compatible with your camera (eg: Nikon use .NEF files, Canon use .cr2 files).



TIFF: Tagged Image File Format (TIFF) files are probably the least known file format used primarily in the graphic art, printing and publishing industries.

Like RAW files, TIFF are large, uncompressed and need photo editing software to open, view and process. Unlike jpeg where each new file save degrades the image quality, TIFF is 'lossless' (if no compression is selected). This means there is no loss of quality each time a file is amended and saved.

Choices, choices! Your format choice comes down to what you're using the final image for. Jpeg is ideal for good sized images and quick editing. Being the smallest sized files you can fit more on a memory card and transferring is faster.

RAW is the preferred choice of photographers who want the ability to do a lot of post processing and manipulation. They are best when time and storage space are not limited. TIFF files are preferred when you want a large file size (like RAW) to pass on to a graphic designer or printer.

Image quality	File name	Viewable in	Direct print/DPE	Compression (approximate compression ratio)	File size
NEF (RAW)	DSC_XXXX.NEF (NEF = Nikon Electronic For-mat)	Software that supports NEF (RAW) format images	Not supported	Compressed. High-end cameras also support uncompressed NEF/RAW.	Large
JPEG	Fine	A variety of general-purpose software	Supported	Compressed (1 : 4)	Large (for JPEG images)
	Normal			Compressed (1 : 8)	Medium (for JPEG images)
	Basic			Compressed (1 : 16)	Small (for JPEG images)
TIFF	DSC_XXXX.TIF	General-purpose imaging software	Not supported	Not compressed	Very large



Demistify the Histogram

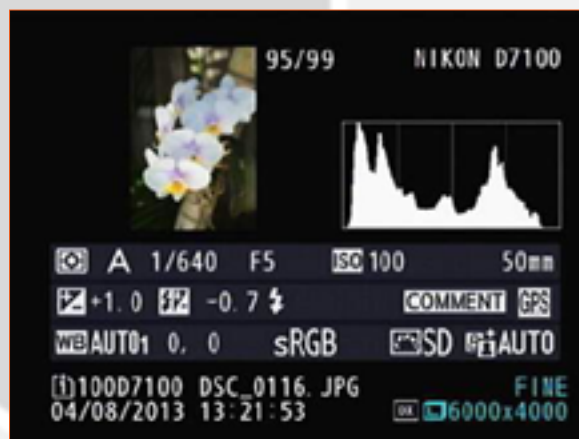
Demystify the what?

The Histogram! The Histogram is a graphical representation of the exposure of your image, depicting the amount of light in your image. It is probably one of the most misunderstood and unused features of the digital photographic world.

Unlike shooting with film where you only get to see if you got the lighting right after you've paid to develop the film, with digital photography the histogram gives you instant feedback on your image.

Where does it live?

Time to grab that little camera manual again and get reading (yes men, you too). There are so many camera models and menus it's virtually impossible to know them all. The best way to learn is to review your image with the histogram and data along side it on the LCD of your camera. This will give you the best overall view of your shot; including the composition, perspective, story and lighting.



What does it tell us?

Just like any other graph we learnt about in school the histogram tells how much there is of something, in this case how much light there is (or isn't!). If you were to name each axis on the graph the horizontal is each colour of light in the visible light spectrum, from black (total absence of light), through red, orange, yellow, blue finally to white (total presence of all colours). How much of school science is now coming back? The vertical is how much of each colour there is. Are you confused now?



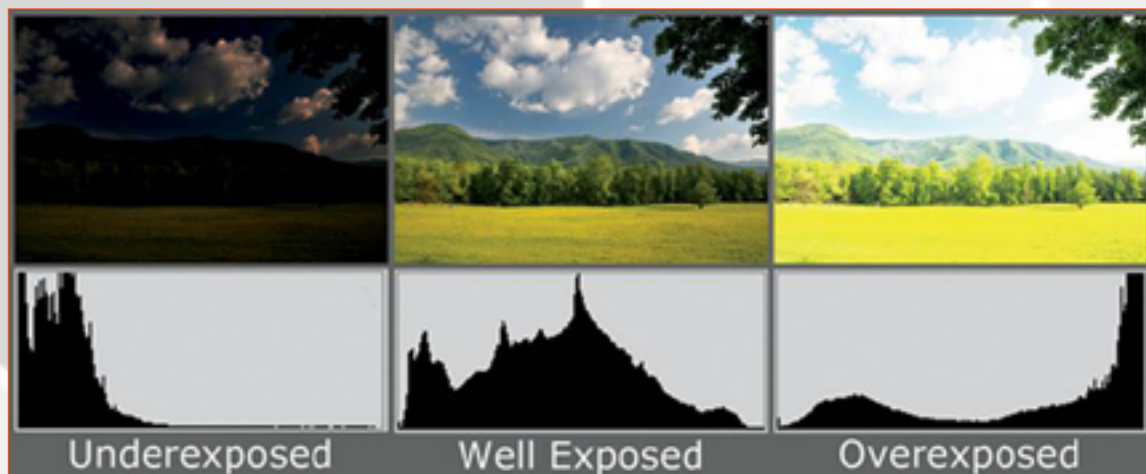
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What is represented is a count of how many pixels (dots) in the image are each colour. The more of one colour the higher the column is in the graph. If there are a lot of black dots then the graph is weighted heavily to the left and the image is underexposed, as opposed to the graph with lots of white on the right of the graph being an overexposed image.

What do we want?

In general terms we want a photo with all colours represented throughout the photo. This is a correctly exposed photo. See we keep coming back to the Exposure Triangle and getting an image correctly exposed.

As a starting point the histogram wants to look more like a mountain in the middle of the graph. It can touch the edges, which means every colour of the spectrum is present and it is well exposed.



Under or overexposed images have their place for artistic flair in the photographic world, they're not a bad thing. You need to understand how and why the graph is the way it is before breaking the rules.

Shoot F@#ken

How did you go with Exercise 2 in our Tip #14 video? Did you get over exposed images? Now is the time to revisit the video and exercise. This time rather than just look at the image, review the image alongside the histogram. Look at the correlation between the brightness or darkness of the image to the position of the mountain in the graph.



Metering

Now we get down to the more nitty gritty stuff of getting the perfect photo. The more you're able to understand and use the features of your camera the closer you will get to snapping that prize-winning photo.

Building on our new knowledge of the histogram we need to know how our camera gathers the information for the graph. So how does it do it? By analysing the image using one of a variety of modes (again a slight difference between Nikon, Canon and other brands). So let's delve into it.

Metering Modes

The main difference in the modes is how much sensor is used to gather the data. Today, every DSLR has an integrated light meter that automatically measures the reflected light and determines the optimal exposure.

The most common metering modes in digital cameras today are:

1. Matrix / Evaluative Metering
2. Center-weighted Metering
3. Spot Metering
4. Partial Metering is a Canon only mode

Which mode?

As we are discovering there is no magic "one setting fits all". So why the different settings? To give you greater control over your end result depending on what "story" you want to convey.

If your story is the whole image (ie: a landscape, or entire room) then **Matrix Metering** is best as it gives the average of the reflected light from the whole scene.

Centre-weighted Metering generally gives the best all round metering for your shots. Use this mode when you have a primary subject, like a model or product, that doesn't take up the whole frame to shoot with high contrast.

If your subject is backlit, meaning the light source is behind your subject and putting it into shadow, the best mode here is **Spot Metering**. This can also be used for sports when wanting to expose for the subject and the background is irrelevant.

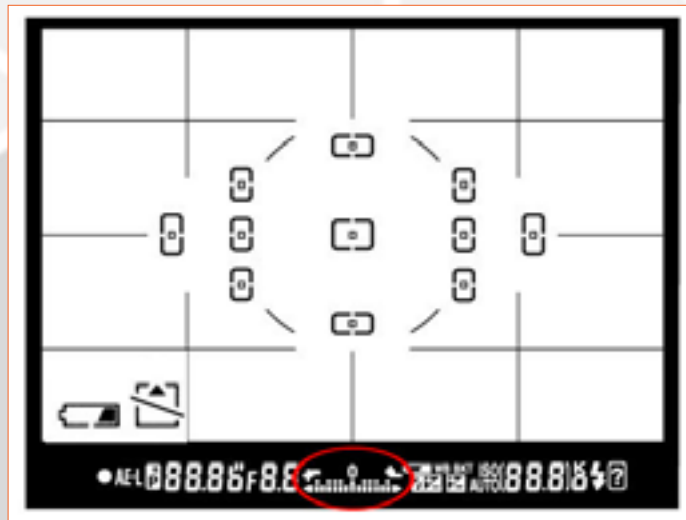


LET'S FOCUS ON YOU

Metering in Action

The whole aim of our tips is to get you to change from shooting average auto snaps to photographing magnificent manual masterpieces.

How do you actually use metering in action? Firstly, look in your viewfinder to see the light meter readout (the red circled bit in the image below).

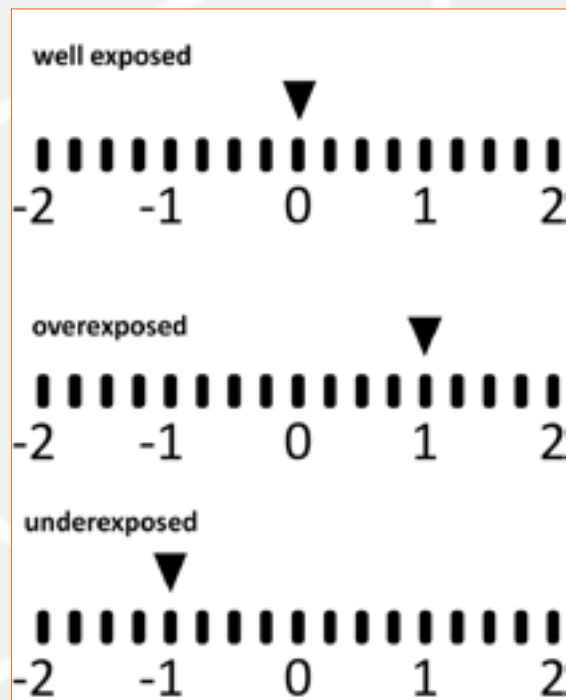


The idea here is to give you instant feedback on the exposure of your image while you have it composed.

The aim is to have a correctly exposed image, which is indicated by an arrow (pointer) pointing to 0.

An underexposed image the arrow will be towards the "-" side of 0. An overexposed image will be towards the "+" side. Then adjust your camera settings to achieve correct exposure, which is the meter on "0".

Simples!



Dynamic Range

Tip #1 Definitions explained that "Dynamic Range" is the range of light-to-dark in your photo (max to min measureable light) and "Photography" is derived from two Greek words: "photo" meaning light and "graph" meaning to draw, so essentially photography is "drawing with light". By combining and understanding these definitions we are then able to calculate how much and what type of light we have to draw with.

Isn't Light Light?

Have you noticed how your final photo isn't always as you saw it with your own eyes? This is because nature is better than technology. The human eye is superior to our cameras, even the expensive professional cameras. So the short answer is no. Not when it comes to photography. Knowing this helps us when it comes to choosing settings to expose our shot.

Why care about Dynamic Range?

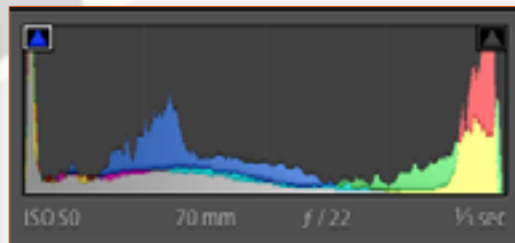
We need to distinguish how much light and dark our camera sees (ie: exposure value or EV). High Dynamic Range is a lot of dark pixels and light pixels with little in between. This is noticeable when you see the histogram.

The amount of contrast in *Image 1* is high and therefore this shot has a high Dynamic Range (ie: there is a significant difference in EV between the shadows and highlights as seen in the histogram - *Image 2*).

Image 1



Image 2

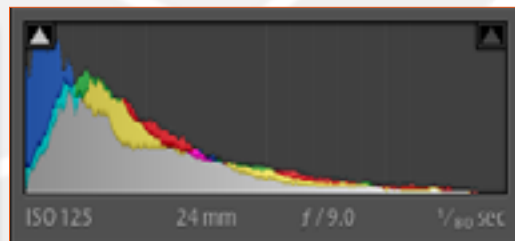


On the other hand, taking a photo with a low dynamic range (*Image 3*) results in a concentrated histogram (*Image 4*), meaning it's evenly exposed with no parts being exceptionally light or dark.

Image 3

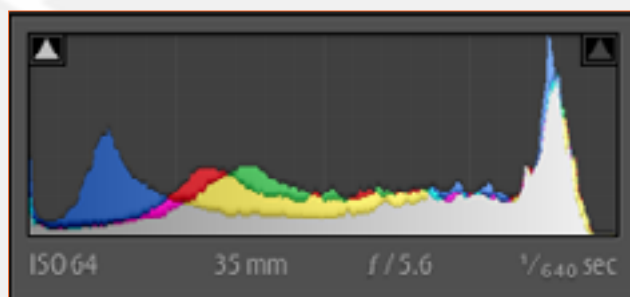


Image 4



What difference does it make?

When we go to shoot we should have an image or "story" in our heads as to what we want. This helps you set up for your shot. I recently spoke of knowing your story in our blog. Knowing your desired outcome, either high or low Dynamic Range before you hit the shutter release button helps with choosing your settings and composing the image.



Lenses

So far we've been focussing on using your camera, but a major component of taking photos is the lens (also called the 'glass') attached to the camera body, so let's get a bit more familiar with them. Often it's the low quality or wrong choice of lens that gives a poor image result rather than the camera itself, particularly if you know the technical photography basics.

To kit or not to kit?

Most beginner or hobby photographers usually buy a camera and a couple of kit lenses straight off the shelf from the local camera store. It's a great way to start as it takes a lot of the guess work out of the selection process.

I'd offer you some advice here >> Haggle! Purchasing my first camera and lenses I haggled and ended up with a better combination. The average kit lenses are 18-55mm and 55-200mm. With a bit of haggling I ended up with a 18-105mm and 55-300mm. This gave me some cross over in focal length as well as better reach. Yes it cost a tad more, but in the long run swapping lenses was less frequent and those extra millimeters made a difference. And there is nothing wrong with starting with kit lenses.



Zoom

These lenses allow you to get closer to your subject without physically getting closer. A kit zoom lens will often have an aperture range as well, for example f3.5 - 5.6. This means when zoomed out the maximum f-Stop is 3.5 but when you zoom in on your subject the maximum becomes f5.6. It all has to do with the glass in the lens. It doesn't mean they are the only f-Stops you can use, they are just the limits. Professional quality zoom lenses will have a constant f-Stop throughout its zoom range, but that's why you end up paying more!



Prime

In simple terms it's the opposite to a zoom lens. A prime lens has a fixed focal length. They are generally better quality lenses and produce sharper images. The drawback to a prime lens is if you want to get closer to your subject you need to zoom with your feet! This will change not only the size of your subject, but also the overall composition of your image.

Wide Angle

Ideally these are suited to landscape, urban, real estate, street or travel photography to capture a big scene, or a smaller scene in a limited area (hence being very popular for real estate images!). As the name implies they cover a wide area due to having a short focal length. Any lens with a focal length of less than 35mm is considered wide angle.

Telephoto

Now we are talking big money!! A telephoto lens is a specific type of a long-focus lens in which the physical length of the lens is shorter than the focal length. Essentially these are the super long lenses you see on the sidelines of football and motorsports a lot of the time. Often they are fixed focal length with wide aperture (f2.8 for example).

Combinations and Specialties

This is where it can get a bit more complicated. Combinations can be a zoom wide angle lens, a prime fixed focal length or a prime telephoto lens. Specialty lenses include macro (close-up), fish-eye and tilt shift which can capture different and quite striking images.



18-35mm f3.5-4.5
Zoom wide angle



28mm f1.8
Prime fixed



400mm f2.8
Prime telephoto

What to buy next?

Don't be in a rush to buy glass. A lot of photographers become "gear junkies" and purchase a piece of equipment, use it once and it then lives in the bottom draw. Take your time to decide what you need. Photography can become a very expensive pursuit!



Lens Anatomy

We now know about the variety of lenses available to us. In order to use them properly we need to understand the parts of the lens.

Essentially the lens is a barrel of steel or plastic that contains the glass elements and the aperture (blades). The glass elements are arranged in a specific order to allow the image (as light) to pass through and to be focused on your camera's sensor as a sharp in focus image.

As discussed in **Tip #2 Aperture**, this is where the blades are that we control by adjusting the f-Stop.



1. Filter thread & front lens cap
2. Lens hood mount
3. Zoom ring
4. Zoom index
5. Distance scale window
6. Focus ring
7. Autofocus / image stabiliser switch(es)
8. Lens mount & rear lens cap

1. Filter Thread and Front Lens Cap - this is where you clip your lens cap to protect the glass. Any scratches here could end up showing on your photo. As you progress through your photography career (or hobby if you can stop there!) you will want to add different filters and attachments to your lens to give you a variety of effects. On the inside of this thin rim is a thread where you screw these attachments onto.

2. Lens Hood Mount - this is where that 'thing' on the end of your lens lives. Quite often it's stored on the lens backwards and then reversed to clip on and hang out over the front the lens. It's purpose is to help keep light off the end of the glass which can cause lighting issues like 'lens flares'.

3. Zoom Ring - this is usually rubberised for grip and rotates around the barrel of the lens to zoom in and out on zoom lenses. Obviously not found on prime (fixed) lenses.



4. Zoom Index - the little white dot aligns with your zoom ring to indicate the chosen focal distance. This value will be between the focal distance of your lens (in this case 18-200) or infinity.

5. Distance Scale Window - inside this little window is a scale illustrating the distance from the lens to the focal point. It is in metres and feet, and is from the closest focal point through to infinity.

6. Focus Ring - this is how you get your image in focus. It adjusts the focal point of the lens to the object you want in focus. This is the same as the focal distance shown in the distance scale window

7. Autofocus / Image Stabiliser switch(es) - depending on your model of lens these switches are optional. The autofocus switch toggles the autofocus function on or off. When switched off you have to manually focus using the focus ring. To assist with producing sharp images some lenses have a stabilisation feature. This switch turns this function on and off.

8. Lens Mount - The all important part that attaches the lens to the camera. It also has the contact points for the electronics so your camera talks to the lens. This is a very fragile part of the lens and where you put the rear lens cap to protect these parts when not attached to the camera.

Aperture Ring - some older manual lenses have a third ring which is used to manually adjust the aperture setting. This ring is usually located closest to the lens mount.



Lens Abberations

It's all coming together now. We have the camera singing by dialing in the right settings for the image our story needs, but we still have a few little hiccups with the final image. Sometimes it's the photographer, sometimes it's the equipment. Now's the time to discover a few quirks about lenses. These are the more common ones, with simple solutions for us.

Lens Flare

We've mentioned this once or twice in previous tips. Lens flare is when a beam of light from a source not part of the images hits the lens and then passes through to the sensor. It gives the appearance of bright spots with lost detail in a line across the image.

The easiest way to prevent this is to avoid the light hitting the front of the glass, either by turning away, or using the lens hood. Also keep your lens clean (we'll cover this in a later tip). Dirt and dust on your glass is a major cause of flare. Even though lens flare is termed an aberration, it can be very beneficial to you incorporate it into your photo. It can give very good effects and completely change the 'mood' of your image.



Lens Distortion

Lens distortion is when the shape of objects in an image have been twisted or pulled out of normal shape. Typically objects in the middle of the image bulge and look larger than the other objects. This is more noticeable in lenses with a short focal range.

How to correct it? If you really don't want it in your shot there are techniques to use when editing to help reduce the distortion. Another option is to learn about your lens and the distortion at various focal lengths and work with it, don't fight it. Shooting from a different angle will change the perspective and your image will benefit from the distortion.



Spherical Aberration

A common cause of blurry or 'soft' images is spherical aberration. It is caused by the parallel rays of light passing through the lens not aligning on the same focal point. It's most obvious when the aperture of the lens is wide open (maximum aperture). By reducing the size of the aperture (increasing the f-Stop) will reduce the amount of aberration.

Chromatic Aberration

Also known as 'colour fringing' or 'dispersion'. As light travels the length of your lens it passes through several elements which refract the light. Remember Pink Floyd's "Dark Side of the Moon" album cover? What will happen eventually is the light rays don't align correctly once they reach the sensor and you end up with several coloured edges on the object.



It's more common in kit or cheap lenses. It's also common in high contrast images, even with high end lenses. Shooting at the extremes of the focal range of your lens can also be a cause, so knowing your lens is a benefit. The most common place to find chromatic aberration is on the outer edge of your image, so cropping in post production will remove it. Centring your subject to start with also helps.

Are aberrations good or bad?

Aberrations can have both good and bad effects on our photography. We can learn to work within the limits of our gear and our skills. By being aware of these our photography can only improve. With better quality lenses and associated equipment these aberrations are reduced, however it's not all about spending more money, but improving with the gear we have.



There are more aberrations than those listed. The other lens aberrations, faults and quirks are a bit more challenging and there isn't much we can do at this time to avoid them.



Stops

STOP! In the name of love. Or rather 'Stop' in the name of photography. This term is used widely throughout the industry. It gets bandied around a lot, but what is it? How do you 'stop down'? What is a 'stop' anyway? Understanding this will take your photography two steps forward.

What is a Stop?

A stop is either a doubling or halving of the amount of light reaching your camera's sensor. In simple terms to allow twice the amount of light to reach your sensor to brighten your photo you are going to increase your shot by one stop (also called to 'step up'). Conversely to darken your image you will 'step down' or halve the amount of light reaching the sensor.

How you step up or down is determined by adjusting the Exposure Triangle (EV). Remember that term from **Tip #5**? When we talk about lightening or darkening your image we are referring to the EV of the image. To change the EV of your image you change the shutter speed, ISO or aperture.

Stops of Shutter Speed

Everything to do with stops is either a doubling or halving of a value. When it relates to shutter speed we are referring to the amount of time the shutter is open allowing light to reach the sensor.

- **Stop / Step Down:** to reduce the light reaching the sensor by one stop halve the amount of time the shutter is open. For example if the shutter speed is 1/500 of a second, to halve the amount of light you change it to 1/1000 of a second (faster).
- **Stop / Step Up:** to increase the light reaching the sensor by one stop double the amount of time the shutter is open. For example if the shutter speed is 1/500 of a second, to double the amount of light you change it to 1/250 of a second (slower).

A stop now has a numerical value, half or double our shutter speed, and no longer a vague word with no value.

Stops of ISO

You can also change the ISO. By doubling your ISO from 200 to 400 you have increased the brightness of your image by one stop again (step up). In the reverse direction to step down you halve your ISO (eg: 200 to 100). ISO and shutter speed are simple stops as the maths involved is halving or doubling a number.

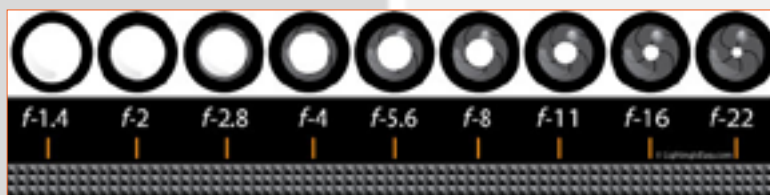


Stops of Aperture

How good is your maths now? When talking EV a stop is not the same as an 'f-Stop'. Remember an f-Stop is the size of the aperture opening. A stop is the EV, or the amount of light that reaches the sensor. The terms are not interchangeable.

Aperture in relation to stops works exactly the same as ISO and shutter speed. You halve or double your f-Stop to darken or lighten your image. The confusion with aperture is the halving or doubling is not a simple mathematical equation. We're talking about halving or doubling a figure (f-Stop) that is itself the result of an equation. As it relates to the opening of the aperture we're referring to halving or doubling the size of a circle.

To step down by one stop an image with an f-Stop of 2, you would change your aperture to f2.8. In this case you are making the aperture (opening) half the size. To step down again you would select an aperture of f4.



Stop up or Down

The most important thing to remember from this tip is that a stop is the halving or doubling of light. You still need to remember and apply the Exposure Triangle to achieve a well exposed image (or EV).

Now rather than just fiddling and changing till we get it right we know that if we change one value by a step up another value needs to be stepped down. We can give our changes a quantitative value.



Look After Your Gear

Yippee! We now have you out and about snapping away. Nothing can stop you now right? Oh wait, maybe the weather? The rain? Heat? Dust? Just like any other device your camera needs to be looked after regardless of how much it cost. From the budget model, if you ruin your camera the cost is not having one anymore to get those great shots, to the pro-quality camera if your camera dies you have no income.

Protect your gear

The first thing you need to do is purchase a good quality carry bag for your gear. It will protect it from just bouncing around in the boot, it keeps everything together so you don't lose stuff and makes it easier to carry everything when you're out and about. It should also carry all your camera cleaning equipment. You don't need to spend a fortune on your carry bag, but it does need to be padded and resistant to some rain and dust.

Minimise the damage

The worst things to get inside your camera are dust and water. Both can affect your photos by leaving spots or causing damage to the camera. The best way to avoid this is to point the front of the camera downwards as you change lenses. As your camera body is open (when the lens is removed) it is now susceptible to falling dust, rain or even fog droplets entering the guts of the camera. Ideally you should be changing lenses out of the weather and dust, but we know it's not always possible. Your camera and lens come with caps and covers for a reason, so use them too.

Clean your camera

On occasion your camera will get wet or dusty and will need to be wiped off. You can use either a small hand towel or a fine brush (like a makeup brush) to remove the water or larger dust particles.

An alternative to the brush is an air blower (see picture at right). It uses compressed air and blows the dust off. There are many varieties and just like everything you get what you pay for.



You can use alcohol wipes on the outside of the camera body or lenses to remove the finer particles left behind. Although you want to just wipe the outside and not force any moisture inside the camera. The towel is also handy to just wipe your hands off before using your camera.

Clean the insides

Now we need to be careful. I draw the line at cleaning the sensor of my cameras. This is a personal choice. Having never done it I won't advise you on how to do it. My suggestion is find yourself a good camera technician. Your local camera store should be able to help. If you look after your gear this isn't a common issue. You'll know when the sensor needs cleaning as you'll see dots or marks on your images when editing, which is too late to fix, hence why you need to reduce the chances of it happening in the first place. A regular clean is also a good idea to avoid poor image quality.

The one thing you may find is dust on the mirror when you look inside the camera body or looking through the viewfinder. To remove any dust hold the camera face down and gently use the air blower, any dust will fall out and not deeper into the camera.

Also check your camera manual. Some models have the option of automatic sensor cleaning. It will be buried somewhere within your menu options, but well worth using to minimise the risk of a dirty sensor.

Clean the lens

Generally only the glass needs a bit of a clean here. The best way is to wet a clean sheet of lens paper with alcohol, wipe the glass and allow it to dry. Don't pour the liquid onto the lens as it may seep in and cause damage. An alternative is to use pre moistened towelettes.



A 'Lens Pen' which has a retractable soft brush can be used to remove the bulk of any dust from the lens or camera body before changing lenses. To clean the lens glass you use the special microfibre pad to swirl around the glass. The pad is moistened by the pen and stays wet.



Do You Need a Tripod?

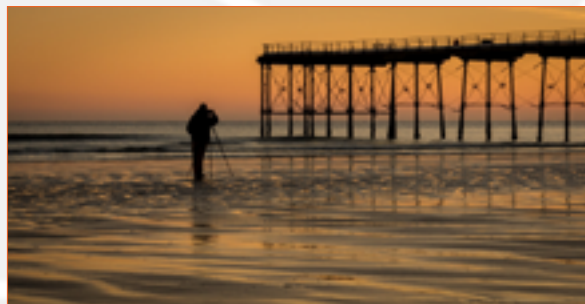
In short, it depends on the extent you wish to advance your photography. If you're only shooting daytime, family happy snaps on your smartphone - probably not. If you're looking to venture into landscape, macro, time-lapse, astrophotography - anything with low light, slow shutter speeds or the need to eliminate camera "shake" for sharp pictures - then most definitely YES!

And here's why. Anything shot at longer than 1/60th of a second will show up your hand shake. Even your pulse is enough to blur an image!

When to use a tripod

For the most part a tripod is used to reduce camera movement in certain conditions (low light, close up detail, long exposure). Here are the most common situations where a tripod is an essential piece of gear.

- **Night, sunrise & sunset:** in low light situations where light is limited.
- **Macro & close up:** small movements can ruin the perfect image.
- **Using Filters** - the darkness of the glass drastically cuts the light, resulting in slower shutter speeds.
- **Landscape:** ideally you want an aperture of f/8 to f/16 to get a wide depth of field and keep everything in focus. The drawback is narrow apertures reduce light coming in resulting in slower shutter speeds.
- **Video:** shaky hand-held videos don't look very professional, so a tripod adds to the quality of the output.
- **Time Lapse:** each image in the sequence needs to be aligned properly in order to get a perfect time lapse video.
- **Astrophotography:** extremely low light conditions of either static or long exposure shots need a tripod to keep your camera still.
- **HDR:** High Dynamic Range photography means you can take multiple shots in difficult light conditions at different exposures, and then blend them together using editing software. Again the alignment needs to be perfect to get great results. Hello tripod!



How to choose a tripod

The 3 main factors to consider when choosing a tripod are weight, stability and price. Different tripods suit different situations.

Weight: firstly consider the weight of your gear as each tripod can hold a different amount of camera / lens combo weight. Also the weight of the tripod can indicate how sturdy it is. Unless you are buying one of the top end lightweight tripods. Heavy tripods are fine in a studio, but not for hiking up a mountain.

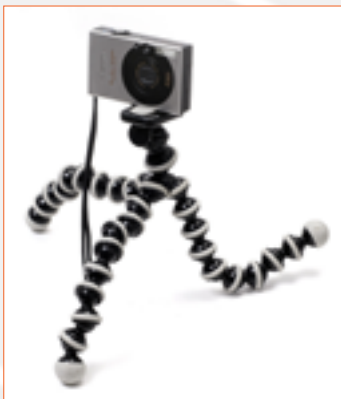
Stability: flimsy tripods are a waste of money. Some tripods have a hook under the center column to hang a weight for greater stability. Some open up a lot taller than others and some are easier to adjust than others. It really is a case of 'touchie-feelie' to work out which one is right for your needs.

Price: this varies widely and depends on what your intended use will be, how often you will use it, whether you need stability over portability and what your budget is.

What if your budget is small, or you want something truly travel friendly? What else is there?

Tripod alternatives:

- Table tripods (small and portable, usually less than 15cm high)
- Clamps (can be combined with a table tripod)
- Beanbags (handy if you have something to rest it on)
- Monopods (popular with sports photographers)



Memory Cards

There's a lot of information out there about how to choose, use and care for your memory cards and 'tricks of the trade'. This tip is my personal opinion, what's worked for me and kept my digital assets safe for over 6 years.

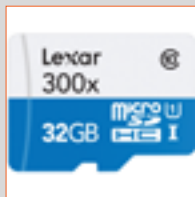
What is a Memory Card?

It's the little plastic electronic 'thingy' that stores your photos to download to your computer. They come in several different types, sizes and speeds.

Types of Cards

There are 4 main types of memory cards associated with cameras:

- **Micro SD** (Secure Digital): for GoPro (mountable action camera) or small point-and-shoot style cameras
- **SD**: the most common for consumer to professional
- **CF** (Compact Flash): generally used in higher end professional cameras
- **XQD**: used in top end cameras (ie: Nikon D4 and later)



Micro SD card



SD cards



CF cards



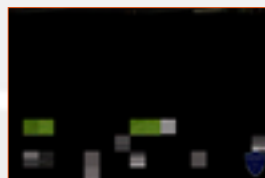
XQD cards

How to pick a Brand

Memory cards are a definite case of 'you get what you pay for'. Did ACME ever help Wile E. Coyote catch Road Runner? Nope! So what makes you think you'll be successful trying to catch great photos using 'No Frills' cheap memory cards? So your first decision is to use popular brand name cards.

Sometimes you only get a single chance to snap that 'once-in-a-lifetime' photo, so why risk it to a poor quality card? Most cameras only have one memory card slot, so if it doesn't save the photo correctly...it's goooooone!

In all my time I've only ever had one bad memory card and it was a brand new well known brand! I lost a few photos, thankfully not the whole 1,500+ images. I was able to return it to the store and exchange it on-the-spot.



What card to buy?

Your camera is like a computer and the memory card like the hard drive. Your camera is only capable of writing data so fast to the memory card. As it writes to the card it stores the data in a 'buffer'. If you shoot faster than can be written to your memory card the camera will stop taking photos. This is an issue particularly when shooting sports on 'continuous mode'.

The last thing you want is to have the camera stop taking photos when it could be that one shot that you really want. Read the manual to determine the "write" (not "right") speed of the camera and purchase a card that writes faster. So, the short answer is to buy the fastest writable card you can afford to get for your camera.

What size do I need?

Unless you're a professional shooting large events with 1,000's of photos, having multiple small cards is recommended. The easiest way to work it out is to read your camera manual. Find the largest image file size (which will be in RAW format), estimate how many photos you're likely to take, multiply the two and it will give you the ideal card size for that camera. As a general guide a 16GB memory card can hold approximately 500 RAW photos.

You're better off having two or more cards and changing them through the day. If one card gets corrupted you won't lose ALL of your photos.

High-end cameras have two memory card slots and are capable of writing to both cards simultaneously (master and backup), which means you can have larger cards to avoid changing during shooting.

Formatting your Memory Card

Once you download your photos you don't need to keep them on the card anymore. My practice is to fully format each card and put them back in the camera ready to shoot for two reasons:

- **It checks the memory card for faults.** It's always best to find out if your card is faulty before you start shooting, or worse, after you download.
- **It clears the card of all old files,** just like when you 'defrag' or 'clear the cache' of your computer hard drive. A clean card will read and write a lot quicker and smoother.



Filters

What is a filter?

In very simple terms a filter is a piece of equipment you attach to your lens. There are a variety of filters made of various materials including glass, plastic, resin and soft polyester gelatin. Some filters help protect the glass, reduce reflections, reduce the amount of light allowed in, help slow your shutter speed for long exposure images, others have a polarising effect like sunglasses, cut out UV, or add artistic effects to your shots. All filters serve a different purpose and help to expand your photographic capabilities.

UV / clear / haze filters

Permanently attaching UV filters on all your lenses is a smart move. These inexpensive bits of gear can save your expensive equipment from scratches. Although cheaper than repairs for scratched glass, don't scrimp on these. A cheap, poor quality filter will affect your photos and cause problems.

Polarising filters

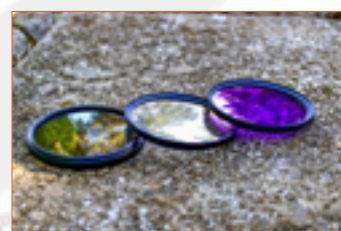
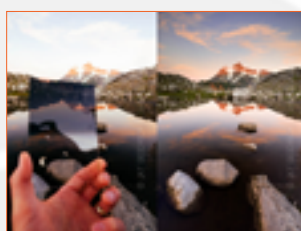
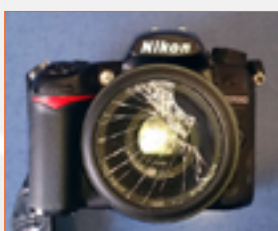
Linear and circular polarisers are the most widely used and useful filters. They reduce reflected light getting through to your sensor, reduce glare and reflections off water and other surfaces, improve saturation (eg: skies appear deeper blue) and reduce the contrast between land and sky. Most commonly use for sky, water and foliage shots.

Neutral Density filters

Neutral Density (ND) filters uniformly cut the amount of light reaching your sensor for long exposure shots. Popular filters for shooting waterfalls and rivers for a smooth moving water effect. Graduated ND filters cut the amount of light in a smooth geometric pattern, control strong light gradients and reduce vignetting (darkening around the edges). Useful for intensely lit landscapes with dramatic gradations from light to dark.

Warming / cooling filters

These are used as an alternative option to altering your white balance in camera. Commonly used for underwater shots, or special lighting effects.



Rule of Thirds

In **Tip #6** we touched on 'Rule of Thirds' as a method of composing your images. When it comes to composition this is a big one. At times it can make or break your photo.

Recap!

To determine the best position for your subject divide the frame into two equally spaced horizontal lines and two equally spaced vertical lines. Place your subject along one of these lines, ideally where two lines intersect, known as the 'sweet spot'.



What's the theory?

The eyes are naturally drawn to the these 'sweet spots' or points of interest. They won't look in the centre first, unless there is a strong subject or other composition technique drawing the attention there.

Applying the rule

Visualise your image divided up and identify the sweet spots. What's also very important is that you have one or two other elements within the frame that balance or create energy, tension or harmony with your subject. It's not enough to just have your subject off-centre.



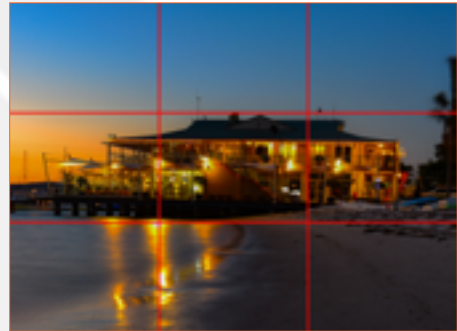
In the first example the coach is placed on the right hand vertical third. Even though we can't see his eyes, we're drawn to look at his face and then travel down his dejected posture. He is the prime subject, isolated from the other elements. The rest of the image, although out of focus due to the shallow depth of field puts the image into context with a linesman and sideline.



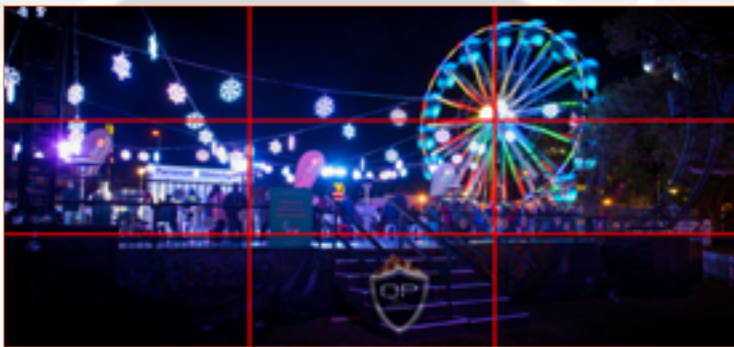
Our main subject is in the bottom right in this example. Being one of the two bright patches in the image helps it stand out. Our eye then follows the water from the hose across the bottom horizontal line to the second subject, the fire. Placing two subjects on the sweet spots helps to balance the photo. The base of the trees also generally follows the bottom horizontal.



This image ticks many boxes when it comes to the Rule of Thirds. While the main subject is centre of the image there are several components that draw your eyes around the image to discover more detail and tell a bigger story. Firstly the brightest area is positioned on the bottom left sweet spot and the leading line of the reflection is on the vertical line. The bottom horizontal defines the separation of the building and the beach. The top horizontal differentiates the roofline and the sky.



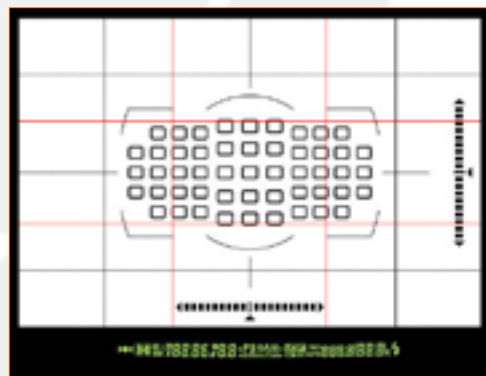
In our final image the main focus is the bright section in the middle and on the ferris wheel. Our eyes are drawn directly to the ferris wheel then down the vertical to the stairs. While the stairs start on the vertical line they then lead the eyes back up to the main stage area.



Learn the Rule

The best way to learn how to apply this rule is by using your camera's viewfinder. Check in your camera menu to turn on the grid option in your viewfinder. Whilst it won't give you the exact Rule of Thirds guidelines (drawn in red) it will help you visualise them. As you take your photo this will help you compose before hitting the shutter button.

As you learn to compose and apply the Rule of Thirds (or other composition techniques) your photos will improve. But remember 'Rules were meant to be broken'. If you intend to break a composition rule make sure you understand it and why breaking it can sometimes work and other times not! Most importantly, try, test, review and then decide what works for the story you want to tell.



Perspective

When we get a camera in our hands we get a different perspective on the world around us. This is a good thing. If we saw and snapped the same as everyone else we'd be no different and our photos wouldn't stand out.

Now we have you seeing as a photographer, applying photographic rules and improving in general now is the time to get you looking at the world differently to every other photographer. No pressure! You need to find your own perspective on the world. Standing tall and shooting the same way for every shot is not going to make your shots stand out.

What is perspective?

Synonym: outlook; view; viewpoint; point of view; position; stand; stance; angle; slant; attitude; frame of mind; frame of reference; approach; way of looking/thinking; vantage point; interpretation.

Perspective involves training yourself to notice photo opportunities, to be creative in composition, plan your shots and look at things differently. After all, that's what we're aiming for.

How do we get perspective?

The list is endless and limited purely by your imagination. There are a few techniques that will start you on your way and get you thinking.

- **Get low:** bend down, kneel down, lay down on the ground if you have to. Shooting along the ground can give several effects from intimate to introducing tension into the shot. Even from a low angle shooting up changes perspective from just standing normal.
- **Get elevated:** climb the stairs, climb a tree! Shoot down from an elevated viewpoint.

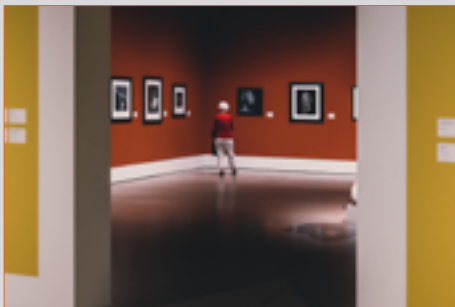


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- **Shoot wide / tight:** with a wide angle you can introduce context or add to the story you are telling. Shooting tight you remove unnecessary clutter or objects that detract from or confuse the story you are telling.



- **Shoot through:** shoot through a window or other framing object. This can give the perspective of revealing a hidden or private moment.
- **Shoot on an angle:** not everything has to be head on. Rather than stand in front of a building stand to the side, have it fade off into the distance.



- **Include a scale:** add a person to give a perspective of scale to an object. It can be hard to gauge the size of something without a reference point.
- **Reflections:** use reflections in mirrors, puddles, or shoot into the mirror to view the subject. This can add an interesting dimension to your shoots.



What next?

You're seeing as a photographer and now know how to get a unique viewpoint. Keep experimenting, push the boundaries and opportunities.



Image Structure

What's actually in your image? What's missing from your image? After 28 tips we now have a much better understanding of what settings to use, which lens(es) to use and what composition rules to follow (or break), but do we know what contents we are capturing in our photos?

The actual makeup of the image is just as important to our storytelling as everything else we have covered so far. The foundations of composing your image are to keep it simple, exclude any unnecessary or distracting elements and then work with what remains.

What doesn't belong?

If it doesn't benefit your story, don't put it in the frame. Anything that isn't directly adding something critical to the composition takes away from it.

We are after strong images. A strong image jumps off the page at the viewer, even if it's only a thumbnail image it should still draw the viewer in to open the thumbnail and to explore the image more.

To simplify the image we can physically remove objects or distractions from the shot. If you can't remove it then recompose the shot! Get a different perspective, so the distraction is no longer visible.

You can zoom in on your subject, you can move left or right to avoid the distraction. If the distraction still can't be removed or simplified then use your composition techniques to minimise the impact it will have.



*Subject unclear, too many distractions,
no strong composition*



*Subject clear, no distractions,
strong composition*



What to include?

Try to include small details in the frame that enhance the story. When we first view an image our eyes will generally be attracted to the brightest, most contrasting or colourful component of the image. Once you capture the viewer's eye you need to retain their attention.

Your detail and subject need to be kept out of the corners and off the edges of the image. This prevents the eye from leaving the frame and drifting off to another image.

How do we achieve all this?

Visualise! You need to see what your final image will be ahead of releasing the shutter. Plan your shot as much as you can. Part of achieving that is to "take control" of the whole frame. Don't just think about your subject's positioning. It's important to teach yourself to be aware of the whole rectangle (frame) in front of your eye.

The more you get the shot right in camera the better your end product will be. Post production editing can't fix a poor photo. Yes, PhotoShop can add and remove items and manipulate images beyond our imaginations, but in my opinion we are photographers first. We capture that moment in front of us - a slice of time that will never be again - so treat it with respect!



A critical element to the story is missing from the frame



Story visually stronger with inclusion of critical element



Image Storage

30 tips, Project 365, BBQs, birthdays, weddings, family snaps, travel, the list goes on. As we get better at photography our confidence grows and we start taking even more photos. The more we take the better we get. It's a wonderfully infinite cycle, which brings a different problem to solve!

We now have hundreds (possibly thousands) of images on our camera's memory card, but now what? As we've mentioned in Tip 7, our Project 365 group and blog post "Just Shoot It", there's no point in just taking photos. We want to post them on social media, make slideshows, print and frame them, or perhaps even produce a photobook. There is no point leaving them on your memory card (which is risky at best!) or downloading them to the "great bucket of photos" on your computer. The best approach is to have a workflow to make sure you can locate your precious memories easily.

File where?

There are many software, hardware and cloud technology options out there to help you with storage, editing and image production, but to get started (remember this Tip series is for beginners) you don't need any editing software or special equipment. The best thing you can do is start a filing system NOW. If you think you have a heap of photos now, wait until you're shooting everyday, every week for a month, a year or more!

You need to walk before you run. If you establish a good filing system early on it's easier to expand as your photo library grows. Most of us have a desktop or laptop to store photos on and in the early days it's all you need. Eventually you'll outgrow your computer, but for now we'll work with that.

File how?

The easiest analogy is to visualise the old fashioned filing cabinet sitting in your office. The 'office' is your hard drive and the 'filing cabinet' is the parent folder for your photography on your hard drive.



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Step 1: Create a parent folder 'Photography' on your hard drive (*Image 1*).

Step 2: Create a folder for the calendar year, for example '2017' (*Image 2*).

Step 3: Now sort into 'drawers' in the filing cabinet. These aren't limited in number, but should describe the general categories of photos (*Image 3*).

Step 4: Under each category create a new folder for each type of event or subject. Ultimately you create an end folder for each photography session. As can be seen under 'Nelson Bay', each time we travel there we create another folder with a date included in the name. This helps us identify which visit is which without having to open the folder (*Image 4*).

Step 5: Each calendar year you start over with a new folder (*Image 5*).

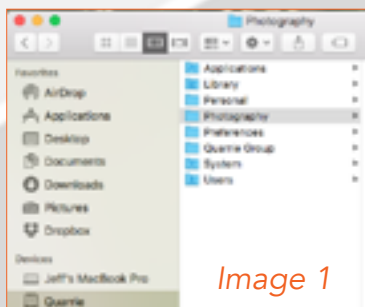


Image 1

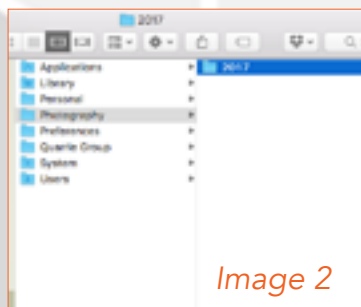


Image 2

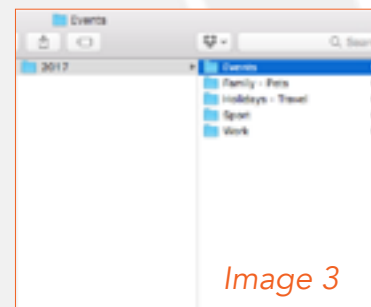


Image 3

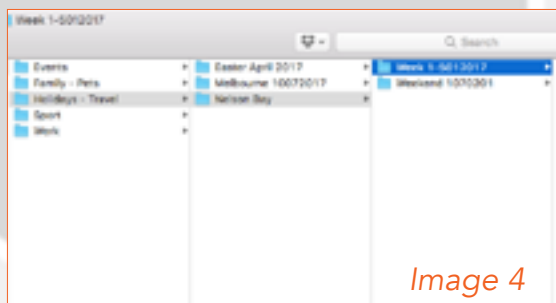


Image 4

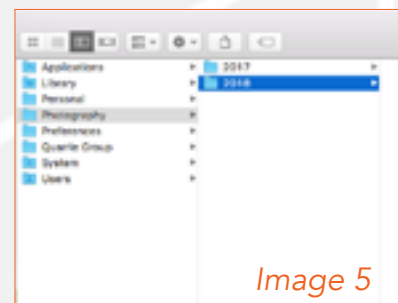


Image 5

File why?

Each time you shoot download and file your photos as soon as possible. Keeping individual folders for each event makes it easier to find a photo no matter how long ago you took it. Archiving also becomes a simple task. As your library grows, you can archive older years onto external storage for safe keeping, which also frees up your computer for more recent shots.

Take note! If you delay downloading your images off your memory cards it becomes a chore to catalogue them with any meaning later on. Plus as long as the photos are on your memory card in your camera you risk losing them, either via a corrupted card or worse still a lost camera! Either of these can happen any time. It's a horrible experience you really don't want to have.



Putting it Together

As photographers we have the ability to freeze moments in time that we may never have thought to capture until picking up a camera. Inspiration can be found everywhere and can help us craft our own unique vision. Over the past 30 tips you've learned a lot, from technical terms to creative techniques, all in the name of becoming a better photographer. Now that we've reached our final tip, we will explore one final frontier - putting together all the visual elements of what makes a 'good photograph'.

Visual Elements of Photography

Light - the type, quantity, quality and direction of your lighting make a huge impact on your overall image. Natural (sunlight) or artificial (flash, lamps) lighting can be further altered by direction (left, right, top, bottom) and diffusion (clouds, diffusers, reflectors) to create completely different effects. When visualising your shot, think about whether natural or artificial lighting would best suit. Are you looking for harsh, directional light with clean lines, or would natural, diffused light creating soft edges tell your story better?

Texture - is how something feels to the touch. How does this apply to 2-dimensional photography? How light falls across the surface of elements in an image creates 'texture'. Have you ever looked at a photo of a tree and thought the detail in the bark looked so sharp you could almost feel it? This texture is created by the play of light and shadow (ie: contrast).

Focus - *Tip #9* explained focus, so you know how to achieve the type you want in camera. *Tip #13* covered Depth of Field and how to use it to create different effects by choosing the amount of the photo in focus. What is (and isn't) in focus and whether the detail is sharp or soft will change your story.

Angle of View - *Tip #28* was all about Perspective, your viewpoint when you hit the shutter button. There are so many ways to change your view to create a completely different image. Shooting high will deliver a different result to shooting low. A wide angle 'bigger picture' will differ from a tightly cropped intimate portrait. What story do you want to tell?

Framing / Composition - *Tip #6* and *Tip #29* talked about Composition and Image Structure. Both of these involve the arrangement of the elements in an image in relation to each other to form a particular visual outcome. This isn't just about the main subject, but how you place (compose) the rest of the supporting elements to draw the attention to the centre of interest.



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Colour - great impact can be achieved by the selective use (or elimination) of colour(s). You can create a certain mood and direct the eye around an image to create a sense of space. Colour also affects the emotions, so careful use of this visual element can deliver a strong story.

So, where to now?

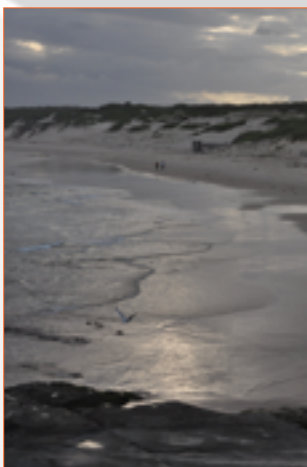
In simple terms, being a photographer is not about analysing a situation too much, but rather trust your instincts and see what unfolds. Sometimes letting go of the rules can bring about your greatest images.

Often people ask me about becoming a better photographer, or what was the 'magic wand' that improved my photography. The secret is there is no magic, just learning and practice. If you haven't improved much, ask yourself when was the last time you picked up your camera to practice?

The more you shoot and practice, the more you improve your skill. So, get out! Get mobile! Anywhere you can take a camera. Photography is like any sport, work practice or skill we are taught. If we don't use it we lose it!

Photography involves taking action, so read over all our tips again from the start, pick up your camera and put them into play to improve your shooting.

Just remember to **SHOOT F@RKEN!**



"In this fast-paced world, where the emphasis is on immediacy, a still photograph stops time. It gives the viewer a moment to think, to react, to feel." - Renée Byer





quarriephotography.com.au

SYDNEY, AUSTRALIA

+61 458 28 78 55

enquiries@quarriephotographygroup.com