



## Photography

Many of my friends and Online acquaintances have been inspired by either myself or others to take up photography as a hobby, and i am often the 1<sup>st</sup> person they approach for tips or advice on taking pictures so I've decided to write this little beginners guide to give those just starting out a few little tips to taking nicer photographs.

You **don't** need to have a high end Digital SLR (single lens reflex) camera to take great photographs, Most of the tips in this guide can be applied to just about any camera and as technology advances many of the manual features that are found on dSLR's are appearing on cheaper bridge (looks like a mini slr with a fixed lens) and even point and shoot cameras, all be it with more limitations.

One of the biggest misconceptions is that you need high end equipment to take amazing photographs, this is just not true, Obviously having a bigger and better camera makes life a lot easier, but you can improve your current photographs 100% by understanding a few basic rules of photography, such as composition, exposure, depth of field & focal points. I have seen some amazing photographers who use pretty budget equipment (comparatively speaking) and ive seen equally if not more photographers with ridiculously high end equipment who cant take a picture that I'd **even** bother spending £1 printing out.

The main types of camera i will refer to in this guide are:

Point and shoot (P&S): pocket cameras, that have a fixed lens, usually with a zoom and very little manual control and limited features,

Bridge: Probably the best place to start if you want more than just a snap shot, they offer the affordability and simplicity of a point and shoot, with a fixed lens and full automatic mode, but they have a manual override which offers almost all the same control of dSLR camera.

dSLR: Digital Slr cameras offer full control over everything, and with changeable lenses you can really get the very best and very sharpest images, it is however a very expensive way to take pictures, body's cost anything from £500-£5000, and lenses can run well into the £1000's with some even costing £100,000+ (although this is the very extreme end of the scale)

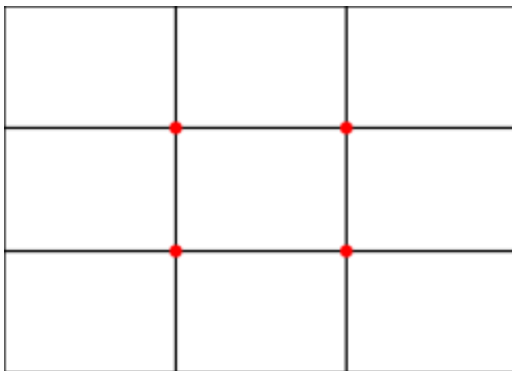
# Composition

This is quite possibly the most important area of any photograph, The position of objects within the frame makes a huge difference to the way the eye scans the photograph. One thing people often neglect is the out of focus, or background objects when composing an image, in the examples i will show you soon i have intentionally kept the background busy with objects to show what a difference it can make.

There are so many different ways to compose a photograph, using perspective, negative space, grids, lines, minimal, repeating patterns, the list goes on and on. But Probably the most useful and i guess you could say **“standard”** composition rule is the rule of thirds.

I **don’t** like to use the word **“rule”** because some of the greatest photographs ive seen break them, but more often than not, they were broken intentionally by a photographer who clearly understood composition. But for now it is better to know and learn the rules before you start to think about breaking them.

The rule of thirds is a very basic concept, you split the frame (most cameras have an option for this in the display) into a grid, 3 across and 3 down like this



the Red dots are the main areas you should focus on (no pun intended) when taking photographs of just about anything, it is better not to have them in the middle, a car moving, a portrait, a landscape etc, they can all apply to this rule to improve the composition.

The trick is to have the negative space or bigger gap at the side of the subject in the direction of travel. For example, if you photograph someone looking off to the side, leave the space in the direction they are looking, if an object is photographed in motion, you show where it is going, if the object is from behind, you generally show where it has been. Here are a few examples to illustrate.



These are just a few examples, Google the rule of thirds and you will find many more examples that illustrate the many different ways to use this **“rule”** of composition.

Here are 3 examples i have taken of the same subject using this rule only once with an explanation of why each picture is good or bad. I have intentionally left the backgrounds busy to show why taking notice of the things around and behind your subject can make a huge difference to the composition.



#### EXAMPLE 1

The camera is central to the image, this is a not a problem if the background is empty or non descript, but there are clear objects that are in the background and whilst they are kept out of focus they become distracting as they are awkwardly placed in the image, there is too much space behind the bike wheel, and the right hand side of the image looks empty and un balanced compared with the left hand

side of the image which is heavy with objects and colour.



#### EXAMPLE 2

This photograph was taken using the rule of thirds badly, the main subject is facing to the left hand side of the frame and whilst the object itself is on one of the lines you would use to compose, it is clearly on the wrong side, this photograph would however look good if there was a photographer behind the camera who would inevitably be on the opposite line of composition and filling the frame. Again the

background is distracting, the negative space on the right and the globe and box are clearly cut off and an annoyance on the left hand side.



#### EXAMPLE 3

Here the rules have been followed correctly, taking into account the background, the Main focus is on the Camera and its on a line of composition, because it is over to the right hand side where there is more negative space and less “weight” it balances out the image which is taken up by the globe and box on the left hand side of the frame.

## RECOMPOSING

This is a very important tip and can be done on almost all cameras. You will notice that most cameras have a 2 stage shutter button, holding half way will focus and usually make an audible beep to let you know it has done, and then you push down fully to take the photograph.

So for example, in the shot above, i focused on the camera, then (whilst keeping the button in the half pressed position) i moved the camera to frame it right, the focus will stay where you 1<sup>st</sup> half pressed it, This is called Recomposing the shot.

## Depth of Field (DOF)

Depth of field is something that you really need to understand when taking photographs of objects, people etc. It is less important in things like landscapes but understanding it will ultimately improve your photographs of just about anything.

Depth of field is controlled by and is the primary use for Aperture (f-stops) on your camera, Most point and shoot cameras have no control for this but bridge cameras and professional cameras have manual control over this.

Aperture confuses many people at first because a bigger/wider aperture is a smaller number, and vice versa. What this does is not (as most people think) effect how much light gets into the camera (that is shutter speed), But how quickly that light gets in. Using a wide (smaller number) aperture lets in the same amount of light as a smaller one (higher number) but does so much quicker, this can be used in lower light conditions to gain shutter speed and keep your exposures up but its main use is for control over the depth of field.



These 2 photographs were taken at opposite ends of the scale, The 1<sup>st</sup> was taken at F2 and the 2<sup>nd</sup> was taken at F22, it is quite clear the differences between them, both have the camera in focus but the background is drastically effected by the depth of field.

This is important when taking a photograph for a few reasons, As in the image above the main focus is on the camera, this is what you are photographing and this is where you want the eyes to look when viewing your photograph, in the 1<sup>st</sup> example the eyes are immediately drawn to the main focal point and stay there, in the 2<sup>nd</sup> the eyes wander all over, you notice the globe and the bike and the box, When taking a portrait, or when you want an object to be the focal point of the photograph using a wider aperture to get a shallower depth of field is the best way to bring the attention to that object.

In contrast to this, if you were taking a photograph of an object or person where the background is important, for example, someone standing in front of a building or monument at a tourist destination, or in front of a car or painting at an exhibition, you will want to use a narrower aperture to make sure that both the person and the background object are in equal focus.

No point is saying “here is me in front of the Taj Mahal” when all they can see is you and a blurry blob behind you.

## Depth Of field in Portraits.

When taking Portraits you should keep the depth of field quite shallow, This of cause is not a hard rule and you should adjust your focal range to suit each subject but i generally keep them lower to keep the portrait the key and only focal point of the image, When using a plain backdrop this is less necessary but in these situations a shallow depth of field is great for highlighting the eye,

Focusing on the eye is probably the biggest and most important thing you should know about portrait photography, There is almost never a reason not to do it, when focusing you should always let the camera focus on the eye before recomposing (see bottom of page 3) the camera to frame the person how you wanted.



The examples above are a crop taken from a much larger photograph, as you can see, the picture on the left was focused on the eye before being recomposed, and the one on the right was focused just straight as i took the photograph, this focused on the tshirt and as you can see when zoomed in, the face sticks out a little forward of that focal range and there for is out of focus, the face, and eyes specifically are the most important focal point when taking portraits.

The same can be said for many objects, A racing car for example, if taken with a narrower depth of field should be focused on the driver, an aircraft on the cockpit, a golf action shot on the ball/tee etc etc. These of cause are not set in stone and you should always experiment to find the best shots, but following this simple rule will improve your snap shots 100%.

Here are some shots that have been focus and recomposed with shallow DOF.



The shallow depth of field on this portrait brings the focus not only onto the person, but very dramatically into the eyes, you get a real sense of looking into them.

This was taken at F2.8 using a 50mm Prime lens.



In this portrait the focus again was on the eyes but the photograph was composed to use the intentionally out of focus parts of the subject,

Using a wider aperture would have made this portrait more distracting and the person lost more in the pose, Something which i think would have worked on a location shoot more so than a studio shoot.

There is another way of doing this photograph, and that is to focus on the hand in the foreground, In this particular one not so much, but in some cases, the hand sign, the emotion or meaning behind it can and should be the focal point.



In this example a slightly narrower aperture was used to ensure both the whole face, arm and chair were in focus, whilst still retaining the nice blur on the background.

The focus was again on the eyes (although with a moving child you often just get when you can haha)

This photograph was processed in black and white and sharpened because of the wonderful textures in the image in both both wood grain and the sand on the child's face, it captures more emotion this way, emphasising the sand and the smile shows the cheeky boy at play, a colour and softer image would merely show a portrait of a child.

Black and white can be used to change a photograph dramatically this way, But i'll touch on that more later.

## EXPOSURE

Exposure is the amount of light you let onto your sensor/film. Correct exposure in my opinion is a myth, and both over and under exposing images can be used to great effect, especially when shooting black and white. But in general for most pictures, the correct exposure should always be your goal, the effect of over or under exposing can usually be added later in a darkroom or on a pc when processing, but should you decide later on that the original photograph would have been better without that over or under exposed look, you can almost never rescue it back to normal if it were not taken correctly.

When Exposing you need to think about what the picture is of. If it is a building then you light meter (automatic on most cameras by pointing it in the direction of the object and focusing) the building and often have to sacrifice the sky being blown out, sometimes you will want the sky to be the focal point, leaving the ground, or objects on it as silhouettes, in which case you expose for the sky. So try to think about what is most important before you take the image, If using digital of cause you can take a variety of pictures at different exposures to see what you like best and why, using film, you often **don't** have this luxury.

Getting both can be very difficult, but there are ways, one of the best ways is to always keep the light source behind you, the sun in most cases. Having the sun behind you means the sky will be nice and blue, whilst the sun itself illuminates the building/landscape/person etc.

Of cause this is not always possible so you usually have to compromise, either sky or object, you can often find somewhere in the frame that has a good medium of light for both (or a shutter speed should you be using a manual mode). This will give you a better all round image, for things such as landscapes etc, and especially if you intend to process the image in a darkroom or on a PC you will have the most amount of information available to you to work with.

Some examples of under, over and “correct” exposure.



In these examples you can see that the 1<sup>st</sup> image is way over exposed and pretty much useless, the 2<sup>nd</sup> image is badly exposed but it retains the detail of the trees against the harsh light well and could very easily be rescued in processing.

The last image is correctly exposed and has a good balance of exposure across the whole image.

Lighting conditions obviously have a dramatic effect on exposure and there are a few ways to get around this. If you are shooting a landscape, building or stationary object in low light then obviously the best option is to mount your camera on a tripod for the shot. But if the subject is a person or car etc you need to try and get as much information as fast as possible. The easiest way to do this is with a Flash, the problem with a flash though, is that they wash out the subject and you almost always lose the background to complete darkness, High end Strobe flash units for dSLR's can be used to very good effect to avoid this, but I suggest you read a book/web site on "strobist" photography once you get to that stage.

The most powerful tool available in low light is ISO, this is how sensitive the light surface (film, sensor etc) is to the light it receives, For example a Shot taken at ISO100 might require a second of exposure, but at ISO800 the same shot will need just a fraction of a second, making hand held photography, and moving images a lot easier to get with no motion blur or camera shake.

The negative side to using higher ISO is that it retains less detail and is noisier (grainier) so your pictures are not of the same quality. So as with everything in photography, it's a trade off, a compromise. In my opinion a grainy photograph in focus with no movement blur is still better than a super clean one with blur/camera shake.

These images show what ISO degradation does to quality, dSLR's and higher end cameras deal with ISO significantly better than point and shoot and bridge cameras due to their much larger sensors and pixels.



The 1<sup>st</sup> Shot is at ISO100, typically the lowest setting on a camera, it shows no noise or grain and all the colours are smooth and the details are sharp. The 2<sup>nd</sup> is at ISO800 still not bad and I use 800 all the time for action shots, but the noise is there and the colours you can see are a little blotchy, especially in where the red fades through to the darker area at the bottom, the gradient becomes less smooth. The last image is at ISO1600, the noise is now very obvious and the colours look poor and quality is drastically reduced. These were taken with a dSLR and you should expect to see them dramatically more on a point and shoot camera.

These effects can be used to your advantage, Noise/grain often adds a great quality to black and white images. But again it is something i personally prefer to add in processing, it is very easy to add grain and noise to a photograph, it is very difficult to remove it effectively.



Another way to help out with exposure, for landscape and outdoor photography specifically is to use filters, An ND (neutral density) filter slows down the amount of light entering the lens, using a gradual filter (right) that fades from Filtered to Clean glass can be used to slow down the light from a sky, and not the ground, allowing you to expose both perfectly, keeping that blue sky whilst exposing the ground / buildings perfectly. See the examples below where i have used this filter.

The middle photograph is straight into the sun, the filter making this impossible shot, possible.



Long exposure, Used at night for various reasons, usually to expose something in very low light, but often as an effect with light trails. Always use a tripod for these kind of shots, and remember to expose for the wider image rather than the light trails. Only trial and error will show you how much or little exposure to use.



the image on the left was taken in slightly dimmer light, I made the exposure longer to about half a second by using iso100 to emphasise the movement on the taxi, using iso800 in this light i could have frozen the taxi. The image on the right was exposed to show the light trail of the bright international space station passing overhead in a dark sky.

# Macro Photography

One of the most visually impressive types of photography which always gets people's attention is macro. This is taking photographs in very high detail of objects very close up.

Macro photography is a very expensive hobby and many macro photographers use cheap DIY methods to take these amazing photographs.

Most pocket cameras and bridge cameras have a macro mode (a flower symbol usually) which allows the camera and lens to focus at a much shorter distance, they do not however magnify the object any more. But there is a solution, all be it not an amazing one, you can buy for bridge cameras a macro lens that screws into its filter thread (also can be used on dSLR lenses) these offer the magnification of a macro lens for a fraction of the price, they are available for point and shoot cameras also but they are very rare and difficult to find.

The biggest advantage besides price is that they still use the cameras auto focus system. The biggest downfall with them is that whilst very sharp in the middle, they become very soft and often distorted at the edges, Here is a set i bought for £5 off ebay a few years ago for my Fuji bridge camera,

They can be used individually, or as a group to give maximum magnification.



Here is a Comparison using the lens normally and then with the Macro lenses screwed in. Note the softness around the edges.



For people who want to take this a little further and own a dSLR camera, there is another option, this gives you amazing detail and insane magnification and costs very often less than £20, The downside to these is that you have no automatic or on lens control over the focus and you focus by moving the whole camera towards or away from the subject. It is a little tricky but with practice you can achieve some amazing results.

This technique is called “reverse ring” which is a ring that screws into the filter thread of an old manual lens, which can then be mounted onto your camera body backwards, the effect of this is a very high magnification lens with manual control over the aperture, These are the 3 lenses i use, with the reverse ring, each lens cost less than £10 and all offer a different level of magnification.



And here are some examples, using this technique, the 1<sup>st</sup> with the 50mm Pentacon lens and the 2<sup>nd</sup> with the 35mm Helios lens.



## Lens's

For those people lucky enough to own a dSLR, the biggest advantage is ability to change lenses, there is quite literally a lens for all applications, some have a very specific job, such as macro lenses, or fish eye's, and some are more versatile, such as the kit lens or zoom lenses.

The 2 main types of lens are:

Prime lenses, these are fixed focal length, they offer better quality usually and are normally much faster than zoom's, this means they usually have a much wider aperture, some go as wide as F1.2. Prime lenses are perfect for portraits, macro and still life but can be used for a multitude of things.

Zoom lenses, These are more versatile lenses, a common misconception is that zoom lens = much closer, this is not true, you can get zoom lenses that are still very wide angle, even at their longest setting (such as the Canon EF-S 10-22mm). Zoom just means it has a changeable focal length,

Both these types of lens are available in wide angle and telephoto. Wide angle is used for things such as landscapes, car's, buildings etc as they get more in the frame, Telephoto lenses get you closer to the subject, and work very much like a telescope and is what most people mistake zoom lenses for.



You can use these lenses to also create an effect (see picture on left), Both were taken using the standard 18-55mm Kit lens.

The top image was taken at 55mm using the kit lens and shows the car and its background very much in proportion.

The lower picture i took with the same lens but at 18mm (the widest setting) then i got closer to the image so that the car takes up the same amount of the frame, this has a huge effect on the image, distorting the car and the background to give a much more elongated look.

You can do this trick with landscape's too, using zoom's or wide/telephoto prime lenses to drastically change the perspective of the image, as this picture of a statue i found online shows very well



## Processing

Processing is probably the most neglected part of photography, you often hear people say things like “i prefer to do it all in camera” which is an terrible way to look at photography and is often said by people trying to make out they are better for some reason.

The fact is that film had to be processed, and so does digital, if they shoot in normal modes on a camera they are producing a jpeg which is and has been processed (within the camera) people with higher end Bridge cameras or dSLR's can shoot in RAW, this is a digital negative and is the best format to use for artistic work as you have an unmatched level of control over the image before you save it.

So how to process? Well obviously the most common way to do this is with a powerful program such as Photoshop, but this is expensive and can be quite confusing, there are many RAW processing softwares available and many are free, also software such as GIMP offer much of the features that photoshop does and for free.

Processing is an art and can vary from software to software and i suggest you google for tutorials on the software you use and for the effects you wish to get out of it, But i do highly recommend you learn to process your images as it can make a huge difference to the final image.



This is a comparison of processed v's unprocessed.

The top image has been processed from the image on the bottom, as you can see, the white of the background is much brighter and the shadows and highlights have much more contrast, the details are brought out by doing this and the colours "pop" a lot more, the image is a lot less flat and over all a lot more pleasing to look at.

This was processed using adobe's Camera Raw plugin for Photoshop, The plugin is free and in my opinion is the best and most effective RAW processing tool available.

This processing power is also available in Adobe's Light room software, which is a lot cheaper than Photoshop and specifically designed for just processing images. Adobe also offer a "light" version of Photoshop, called Elements, it offers many of the features at a fraction of the cost.

## Black and White

Black and white is probably one of the most loved and also most abused processing techniques. People often make the mistake of just de-saturating an image and thinking it somehow makes it more "artistic" and it's not the case,

When I process a black and white photograph, i very often knew it was going to be processed that way when i took it, not any photograph can or does look good in B&W, I look for shape, contrast, angles etc.



In this Image i knew i wanted to process it in black and white as soon as i took it, so i exposed it to get the most contrast, to enhance the shadows and highlight, and i composed it using a wide angle lens to emphasise the shape.

Some more Black and white Photographs of mine that are good examples of images to process this way, with shape and contrast being the focal points as much as the image itself.



Another common and increasingly popular processing technique using black and white photographs is “selective colour”. Again this is very often done badly, but done right it can make for a great effect and wonderful image. The trick is finding the right item to leave colour, Well composed images are more important for this technique. Here are some of my examples.



There are many ways to do this from using masks, to painting, to layers, and it can be done in most image processing software so find a tutorial for your software and find the easiest and most accurate way of doing it for you. There is even an iPhone app that does this quite well. (colour splash)

## HDR – High Dynamic Range

My advice is DONT...

This processing technique is fairly new and is quite possibly the most abused and terribly executed technique currently being used, The idea is that you take 3 identical photographs that are exposed differently, then using software merge them together, which in turn gets you the shadows from the under over exposed image, the highlights from the under exposed image and the colours from the correctly exposed image, this gives you un paralleled exposure over an image, If done well it can give you a wonderful if looking image, but as is the case 99% of the time, the effect is way over done and the pictures look fake and ridiculous.

Here are a few examples of HDR, done well and done badly.



This is a badly done image, Probably done using a single image and the effects have been turned up to the maximum, the colours and details are ridiculously false and everything has a horrible halo glow around it.

I really cannot stand this type of HDR as it completely goes against what i consider photography to be, but this is my taste and you should feel free to experiment with your own pictures.

Below is a HDR image of mine, the colours and exposure look far more natural and it made an otherwise dull image taken on an overcast day more colourful and nicer, the key to this image and all good HDR is to be subtle, to have restraint.



## Breaking the rules

In this final section I'm going to touch briefly on breaking the rules with just a few examples, I **won't** go too much into detail because there is no right or wrong way to do this, and many people will love or hate pictures that break the rules. But i do feel it is worth a mention because they can be fun and interesting to do and look at.



In this example the image is dead central and breaks all rules of composition, i like the minimalism of it and the negative space, Had i put the dandelion within the rule of thirds i think the image would have been far less dramatic.



In this one again i break any rule of thirds with the composition, and also by spinning the umbrella the image is blurred.



This Photograph was taken whilst moving and doing a long exposure, the zoom and movement effect creates a cool image and whilst no part of the image is sharp due to camera shake and motion blur i like the way it turned out.



This image was taken by mistake when i left the shutter open and was moving the camera about, nothing is in focus and the motion of the camera has only caught the lights of the London eye in a Spirograph type pattern.

It is no more a photograph than it is painting with light, I like it for no particular reason.

So there is my little guide to Photography basics, there is so much more i could talk about, and so much more you can learn but those are for another time and i personally feel the best way to learn advanced techniques is to switch your camera on, go outside, grab some still life objects and take photographs,

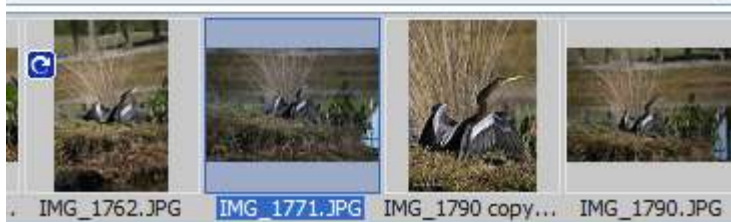
The other way to learn is to join flickr, or some other photo sharing website, upload your photographs, join groups and look for feedback on them, search around the websites for other pictures, get inspiration, comment on photographs and look at the EXIF (see below) information to learn how they were taken, try to replicate them, and you will learn so many new techniques.

Also **don't** always right off your badly taken photo's, use them as examples of how not to, learn from them, and sometimes keep them, pictures taken with poor white balance, or bad composition often look great and by accidentally breaking the rules you have learned a new way to make interesting pictures.

## EXIF

Item Name	Value
File Name	IMG_1771.JPG
Camera Model	Canon EOS DIGITAL ...
Shooting Date/Time	1/18/2009 11:13:36 AM
Shooting Mode	Aperture-Priority AE
Tv( Shutter Speed )	1/500
Av( Aperture Value )	6.3
Metering Mode	Evaluative Metering
Exposure Compensation	-2/3
ISO Speed	200
Lens	EF-S55-250mm f/4-5.6 ...
Focal Length	250.0 mm
Image Size	4272x2848
Image Quality	Fine
Flash	Off
White Balance Mode	Auto
AF Mode	AI Focus AF
Picture Style	Standard

This can be found by right clicking the image and looking in its properties, and also within many photo editing software. It shows just about everything about the photograph, from the date and time taken, to the camera & lens used, the focal length, aperture, shutter speed, exposure compensation, flash used, etc etc, Some cameras are even putting the GPS location to where it was taken, it is an invaluable tool for any photographer.



Now go take some photographs, and enjoy your hobby.