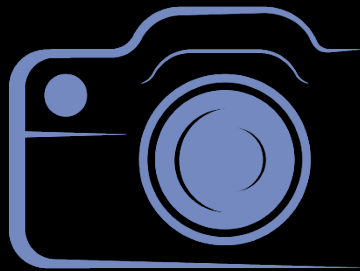


Book of Photography Tips













Premium Edition




 **iPHOTOGRAPHY**

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What's Included

-  Understand your Camera Dial
-  What are Drive Modes?
-  Focus Modes
-  How to do Focus Stacking
-  Exposure Meter Reading
-  Understanding Histograms
-  Using Exposure Compensation
-  How to Bracket Exposures
-  Shutter Speed Overview
-  All about Sensor Size
-  Your Maximum Print Size
-  Lens Accessories
 - Step-up rings
 - Macro filters
 - Extension Tubes
 - Conversion Lenses

Top Tips for...

-  Pet Photography
-  Bird Photography
-  Wildlife Photography
-  Portrait Lighting Guide
-  Posing Guide for Boudoir
-  Landscape Photography
-  Car Photography



Your Camera Dial

Basic Modes

AUTO



What else can you say – it does what it says on the tin! Auto is quite literally the automatic mode that most beginners opt for. The camera will choose all settings based upon its light meter reading which is taken milliseconds before you take a picture – so quick you won't even notice. Sometimes it may be symbolised by a simple green rectangle.



This icon is your macro function, which will allow you to unlock an extra focus range on your camera so you can get in nice and close to capture small details, ideal for floral, insects and abstract photography. Remember to switch back to different setting after using your macro mode though, otherwise you'll suffer a delay in your focusing time.



For the landscape lovers, most cameras have a dedicated mode for bringing out the best in a scene. This option will automatically make the camera focus on as much of the scene as possible by using a wide depth of field. The camera may also use a slower shutter speed in some cases to compensate for the small aperture, so it's always worth using a tripod to avoid camera shake.



Sometimes called Night or Party mode, they both mean the same thing – its suitable for working in low light. Night mode forces the camera to use slower shutter speeds knowing there isn't much ambient (natural) light available. It will fire your flash automatically to help with the exposure, so expect some quirky light trails along with freeze framed motion.

Your Camera Dial

Basic Modes



Ideal for action and rapid movement, sports mode will do the opposite to night mode and push the shutter speed to a higher rate to make sure any motion is frozen still, and no movement blur occurs. The camera will widen the aperture if necessary, to compensate for the fast shutter to make sure you get an even exposure. The camera may implement a facial tracking focus mode to make sure the focus follows the action, but this depends on the camera.



One of the more common features on the camera dial is the unmistakable portrait mode – suitable for humans and animals (but subjects in motion maybe better in sports mode). The aperture will be widened significantly to reduce the depth of field, throwing the background out of focus and making your subject the obvious feature. Use it for formal portraits rather than candid shots, which can sometimes end up soft if there is movement.



The flash will not fire under any circumstances, ideal if you are trying to be discreet with some street photography. Not common on many camera dials nowadays as its normally included within the menu system under flash settings.

SCENE

This is an option for shooting specific specialised scenes (sometimes called creative modes), the choices will vary brand to brand, so it is hard to detail all of them. You may see options such as Candlelight, Autumn Colours, Dusk, Toy Camera Effect, Miniature Effect and High/Low Key. The camera may directly apply colour filters to your LCD screen so you can see the effect live.

Your Camera Dial

Advanced Modes



M

The power is in your hands with manual mode, the camera will sit back and let you make all the decisions over aperture, shutter speed and ISO. It will not help you balance the exposure if you get your settings wrong, but learning this function opens up a whole world of fantastic creativity!

A/A_v

It's like a shared responsibility these next two options – part of the decisions will be made by you; the camera will help you out with the rest. Aperture priority allows you to choose the size of aperture, but the shutter speed and ISO are automatically adjusted to give you the best exposure possible. It's great to use if you want to learn about aperture, but without the burden of other settings.

S/T_v

So, if you understand aperture priority, then shutter priority will be a piece of cake! It's a fantastic tool to use if you want to learn about the effects of long exposures its relationship to capturing stunning motion photography. The camera will continue to change the aperture and ISO based upon your chosen shutter speed.

P

Despite aperture and shutter speed being extremely important to photography, they aren't the only functions that need consideration on your camera and program mode will help you learn them. Switching into program allows you to control ISO, exposure metering and white balance whilst shooting. Ideal for those slightly more advanced users who like to perfect their work when out in the field.

Single Shot

Single shot is generally the default for most and means you'll only take one photo with each press of the shutter. Until you're faced with a situation that warrants different drive mode, then single shot is your safest bet for 99% of your photography.

Self-Timer

A simple drive mode which gives you a little more time before the exposure starts.

- Maybe you want to get in the shot yourself?
- Or you're shooting some long exposure landscapes and don't want to touch the camera?

Either way, cameras will have options of 2, 5 or 10 second countdown timers to work with. As soon as your press the shutter button down the countdown begins signalled by either an audio beep or a quick flash of light.

Continuous / Burst

In continuous or burst mode your camera will keep shooting shots the images for as long as you are holding down the shutter. You may have guessed by now that sports, transport, animals, and candid portraits of children are perfect subjects for this drive mode. When you are reviewing your images, you can cycle through all the candidates and pick the one that captures the story best.

Be aware though that you will need a fast writing memory card and a large capacity, especially if all these burst shots are in RAW formats.

Depending on your camera, you may only have access to one rate of burst or frames-per-second (fps) speed. The higher the spec of the camera generally the choices increase. 5-7fps bursts are common but it is not unheard of to over 20 in some bodies. In cameras where there are multiple burst rates you may have the choice between low and high.

- **Low:** The camera will still take multiple shots but at a slower rate. This is good if you want to take several shots of a specific movement, but not ramming your memory card with files.
- **High:** Ideal for dealing with high action events such as sprinting or race cards. Use this continuous high burst drive mode alongside a fast writing and large capacity memory card, otherwise you'll be out of space quickly.

Drive Modes

Long gone are the days where you just turned your camera on and shot a picture, now even that basic step has choices to it - how many pictures do you want to take in one shot and when does it start?

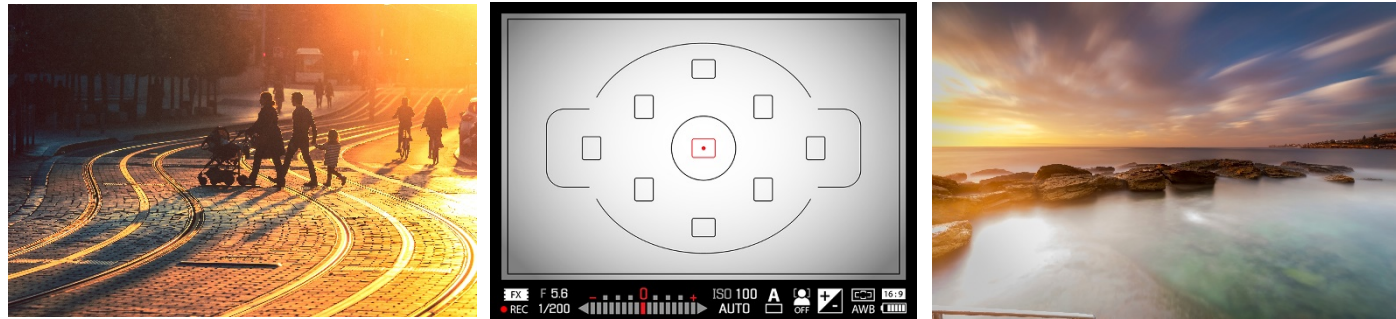
This is all decided in your camera's drive modes.



Quiet Mode

Some cameras which have a mirror door, which flips up and down to reveal the sensor behind it during an exposure, will create noise when in operation. It's a little clicking sound that most of us get used to when taking pictures.

But there may be times you want to stay more discreet with your camera, for example in street photography. In this situation a quiet drive mode is perfect. It works in the same way to single shot drive mode, but the mirror door opens slower to avoid the clicking sound (it won't make a difference to your shutter speed).



Mirror Lock-Up (ML-Up / MLU)

To help reduce blur caused by camera shake, most DSLR cameras feature what is called the Mirror Lock-up drive mode. If it is not listed in your main drive mode menu then check other menus in case, it's a little hidden.

In ML-Up mode your camera will wait until the mirror has lifted to take a picture. You can understand why lots of landscape, macro, night photographers use this drive mode as it helps with long exposure or close up situations where little vibrations make all the difference to the sharpness.

To operate: Some cameras will require you to press the shutter button twice: First press will lift the mirror, and then the second will take the shot. With that said more advanced DSLR's have made the technology more intuitive to run the whole action itself meaning you only need to press the shutter once and the mirror locks up and then the shot is taken briefly after.

Be careful with this automation though as you can't time action shots as accurately.

Drive Modes

Long gone are the days where you just turned your camera on and shot a picture, now even that basic step has choices to it - how many pictures do you want to take in one shot and when does it start?

This is all decided in your camera's drive modes.

70 85 105

WB • [icon] DRIVE • AF [icon] • ISO [icon] [icon]

Focus Modes

In a similar way that exposure meters can read light in a number of ways, you can also educate your camera on how, and where, you want to place your focal point.

It's important to understand the focus of your image may not always be in the dead centre of your frame and therefore selecting a different focussing method may help to improve the story for your audience in your composition. If you've been seeing unwanted blur in your photos then changing up your focus method may improve that essential sharpness.



When using AF (autofocus), like most of us do, your camera decides what it should use as your focal point. This is based on what looks most prominent in the viewfinder or closest to the camera. But if you want a little more control over where and how much your frame is considered in this focus conversation then you'll need to consider the subject in the shot it's potential for movement to choose the right method.



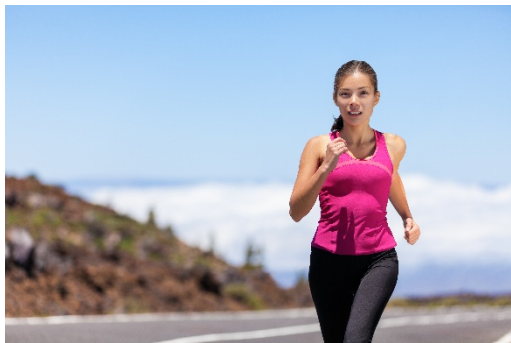
Still Life / Product / Landscapes (Stationary Subjects)

Answer: Single Shot Autofocus (or "AF-S" on a Nikon and "One Shot" on a Canon)

AFS locks focus based on the distance to your subject. As long as your subject stays at that distance, your photo will be sharp. In some instances, your camera may not take the photo if your subject is moving.

But the benefit is that AFS allows you to recompose whilst retaining focus. Imagine that you focus in the middle of a frame, but your main subject looks better further to the left or right.

All you need to do is keep your shutter button half-pressed to firstly lock focus on your subject and then (whilst still half-pressing the shutter button) shift your composition to suit. As long as you don't change the distance between camera and subject then your shot should still be sharp.



Sports / Motion / Transport (Moving Subjects)

Answer: Continuous Autofocus (or "AF-C" on a Nikon and "AI Servo" on Canons)

AFC places multiple autofocus 'points' on your subject and continues to adjust these points while your subject moves. You need to keep the shutter button half-pressed and your subject frame as they move for the focus to track correctly.

This is ideal for capturing movement in your shots. Athletes or just leisurely cyclists all benefit from AFC. Once you've spotted your subject track them by half-pressing on the shutter button and move the camera to keep them in the frame. When you are ready to take the photo, fully press the shutter down, and the camera will focus on your subject for a sharp image.

Children Portraits / Pets

Answer: Hybrid Autofocus (or “AF-A” for Nikon users and “AI Focus” for Canon users)

This method merges the functionality of the AFS and AFC. Basically it begins as AFS but your camera needs to lock in focus on a stationary subject first. Only then can you take the photo as you would in a traditional AFS mode.

But - and here’s the magic - if your subject starts moving, the AFS stops and AFC takes over to track your moving subject. It gives you the best of both worlds.

Be aware though, if you recompose a stationary object quickly in AFS mode, the camera may think the subject is moving and release the AFS too soon. Try to keep the camera still until you’ve got your subject in the frame.



Why are my shots blurred?

- You might be **too close to your subject**. Take a step back. If you are too near the subject, it might prevent the camera from focusing properly. Every lens has a minimum focus distance that you need to maintain for quick focus, look it up in your manual to know the requirements.
- Possibly **there’s not enough contrast** in the shot. Your image needs to have some contrast for many AF systems to work. Imagine trying to photograph a white sheet of paper in the snow. Your camera relies on comparing adjacent pixels to find contrast, but if you have too many pixels of the same colour/tone then it’ll be impossible to get focus.
- **If your depth of field is very shallow** - i.e. shooting at F/2 or wider then despite the AF system working it may just be so shallow it’s impossible to see the focus area as it’ll be so small. Entry-level lenses with wider apertures F/2.8 and wider do suffer from this paradox. Higher quality glass will make a difference in this situation.
- **Is your shutter speed too slow?** Camera shake can account for areas of blur that occur during your exposure, even if your subject isn’t moving. Make sure your shutter speed is faster than the equivalent of your focal length (the reciprocal rule - important for long focal length lenses). For instance, shooting at 200mm, your shutter speed should be 1/200th or faster to avoid camera shake. Tripods will always add an extra level of stability on top of this.

Focus Stacking

In the same way that exposure can be bracketed for enhanced detail, so can focus for a deeper level of detail throughout the depth of field. This can be really helpful when you are working in low light situations (landscapes pre-sunrise and post-sunset) and you've opened up your aperture but left with a shallow depth of field.

Focus stacking requires a number of shots to be taken manually at different focal planes, from a nearby subject through to the furthest point in the distance.

Tip: Don't change any other camera settings for the shots to match up in editing - touch screen focus tools are great in this situation.

How many shots you take to stack will depend on how many focusable objects are in the frame, 3-5 will generally be enough though. Otherwise, you could also opt for manual focus and judge by eye different focal planes to take shots at.

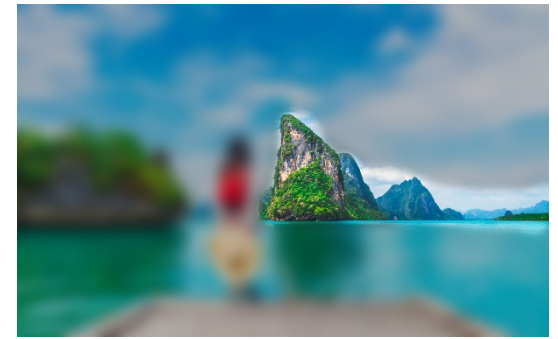
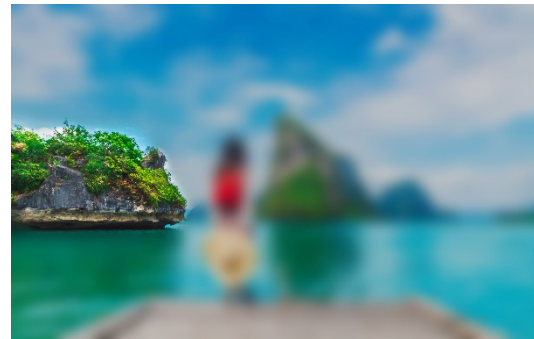
To stack the effect in editing layer all shots together in the order you took them and erase/mask out the blurred areas on each shot to reveal a wider depth of field containing sharpness front to back.

Take 3 shots:

1 x Focus on the Foreground

1 x Focus on the Mid-ground

1 x Focus on the Background



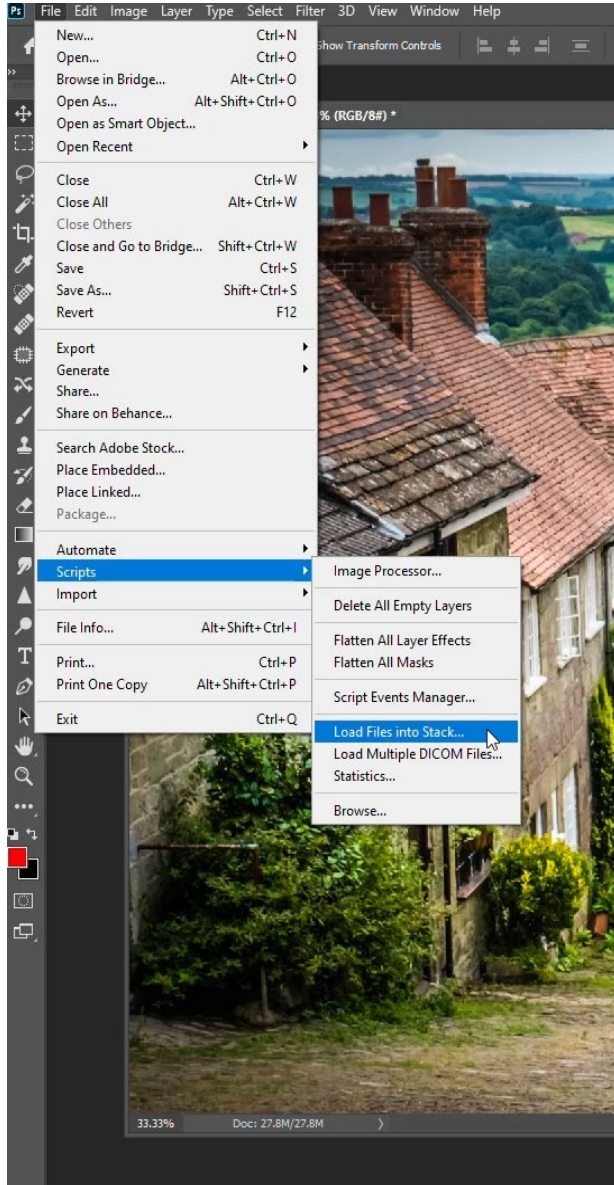
Layer all 3 images in editing and erase out all the blurred areas to leave your image with front to back focus.

Focus Stacking

Align your layers

In Photoshop go to *File>Scripts> Load Files into Stack*. Select your files and check *Attempt to Automatically Align Layers* and click OK.

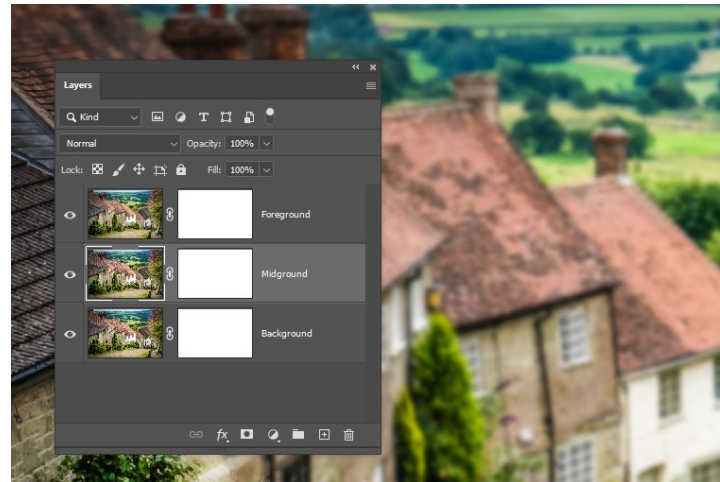
If the option to align isn't available in your version, you'll need to align the layers by selecting each layer in the Layers palette while holding Shift key and choose *Edit>Auto-Align Layers*. Leave Auto selected and click OK.



Automatic stacking

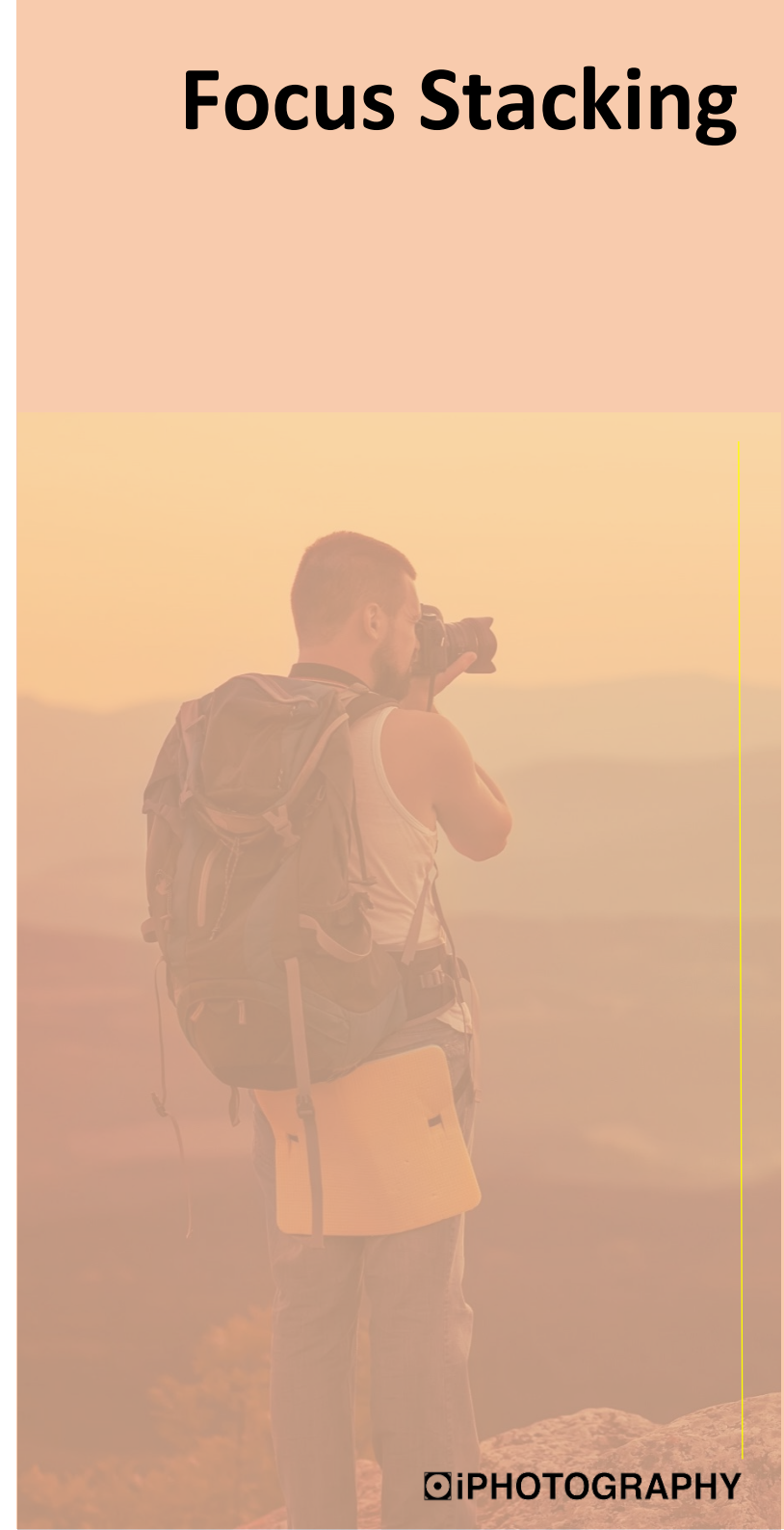
To let Photoshop's automatic blending do the work, go to *Edit>Auto-Blend Layers* and select *Stack Images* and click OK. Turn off *Content Aware Fill Transparent Areas*.

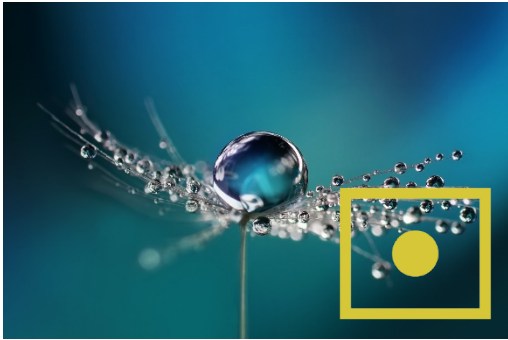
Once it's complete you can apply any final crops, tonal, colour and sharpening tweaks to your image and save as a JPG.



Manual stacking

You may prefer to manually blend your images. When you have all your images aligned in the Layers palette add Layer Masks to all the layers (*Layer>Layer Mask>Hide All*). Using the Brush Tool set to White, meticulously brush over the sharpest areas in the scene as you work your way back through the image.





Spot Metering - In spot mode, your exposure meter will read light from a small area – around 4-5% of the frame. Place the spot exactly where you want to take your reading from, it's normally in the centre of your frame, but some cameras may allow you to move this spot manually. Your main subject should generally be the target of the spot metering.

Depending upon your camera it may be possible to move the spot along with your point of focus. Do a little research into your own camera to find out what options are available. Because of the size of the reading area, it's best to use spot metering with small subjects such as macros.



Centre Weighted - Centre-weighted mode works similarly to spot metering. But whereas spot metering reads around 4% surrounding the target area, centre-weighted takes into consideration an extra 50-55% (depending on the camera). Some camera models allow you to vary the area it covers.

Portraits and still life shots are fairly good situations to use centre weighted readings if there isn't too much space surrounding your subjects.



Averaged - As well as being called averaged you'll find that camera brands have their own terminology:

Nikon - Matrix metering

Canon - Evaluative metering

Pentax & Sony - Multi-Segment Metering

Either they all work in a similar way, but each manufacturer has different algorithms to determine the outcome. Basically, with averaged readings the camera partitions the frame into zones and measures the light in each. It compares these light readings. Then averages them all out to provide, what it thinks is, the best exposure.

It's the go-to mode for most landscape photographers as it is useful for reading shifting light falling over a very wide area

Exposure Metering

Most digital cameras have built-in exposure meters. These meters read the amount of light in a scene to provide you with an even exposure. But there are a number of options for you to decide **how** that meter reads the light, and more specifically from **where** in the scene.

This can be incredibly helpful as you can be more creative, stylised and personal with the final image. Different camera brands refer to these exposure meter readings with varying names, but here are the most common (and a reflection on how they work).

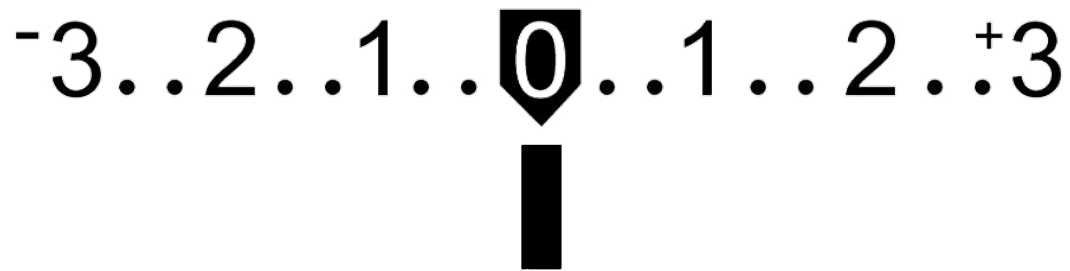
Exposure Metering

How to Read the Exposure Meter

Every time you half-press the shutter button your light meter will spring into action reading the scene in front. The current exposure will be displayed on a little chart on your live view or through your viewfinder.

Only semi-auto and fully manual modes will allow you to change it. You may not even see it when shooting in auto.

It's a chart graded from -3 to +3. The aim is to get the pointer to 0 - which means your exposure is as balanced as possible. When it drops into the negatives it means the exposure will be underexposed, and inversely when it hits a + it could look a little too bright. Use your aperture or shutter speed to move it to 0 in these cases.



Top Tips to Remember:

- Under bright light, take a reading from the most important area of your composition. Choosing averaged or centre-weighted metering can result in sub-par exposure.
- Spot metering is the best option when your scene includes a lot of contrast.
- If you don't use the AEL (auto exposure lock) button, then your camera will readjust the settings every time you take a shot. If you want to re-compose the frame slightly then hold down the AEL button to retain the exposure reading.
- In manual mode, the exposure settings remain constant until you change them.



Histograms

Most DSLR or Mirrorless cameras will have the ability to display a histogram after you've taken a shot - and sometimes during it. On top of all the other features and teachings that new photographers must learn to master their camera, the histogram is a really easy and quick tool to understand. It will help you control your exposures and detail levels with much more precision. No more whited-out skies or super dark shadows.

What is a Histogram?

A histogram is a graph representing the pixels that are visible in your image. The left side shows the blacks or shadow areas and the right side is about the highlights or bright areas. The middle section is for your mid-tones (grey areas).

The height of the peaks in a histogram details the number of pixels in that particular tone. Each tone placed on a scale of 0-255 (with black being 0 and 255 being white) is one pixel wide on the graph. Basically, think of the histogram as a bar graph all squished together with no spaces between each.

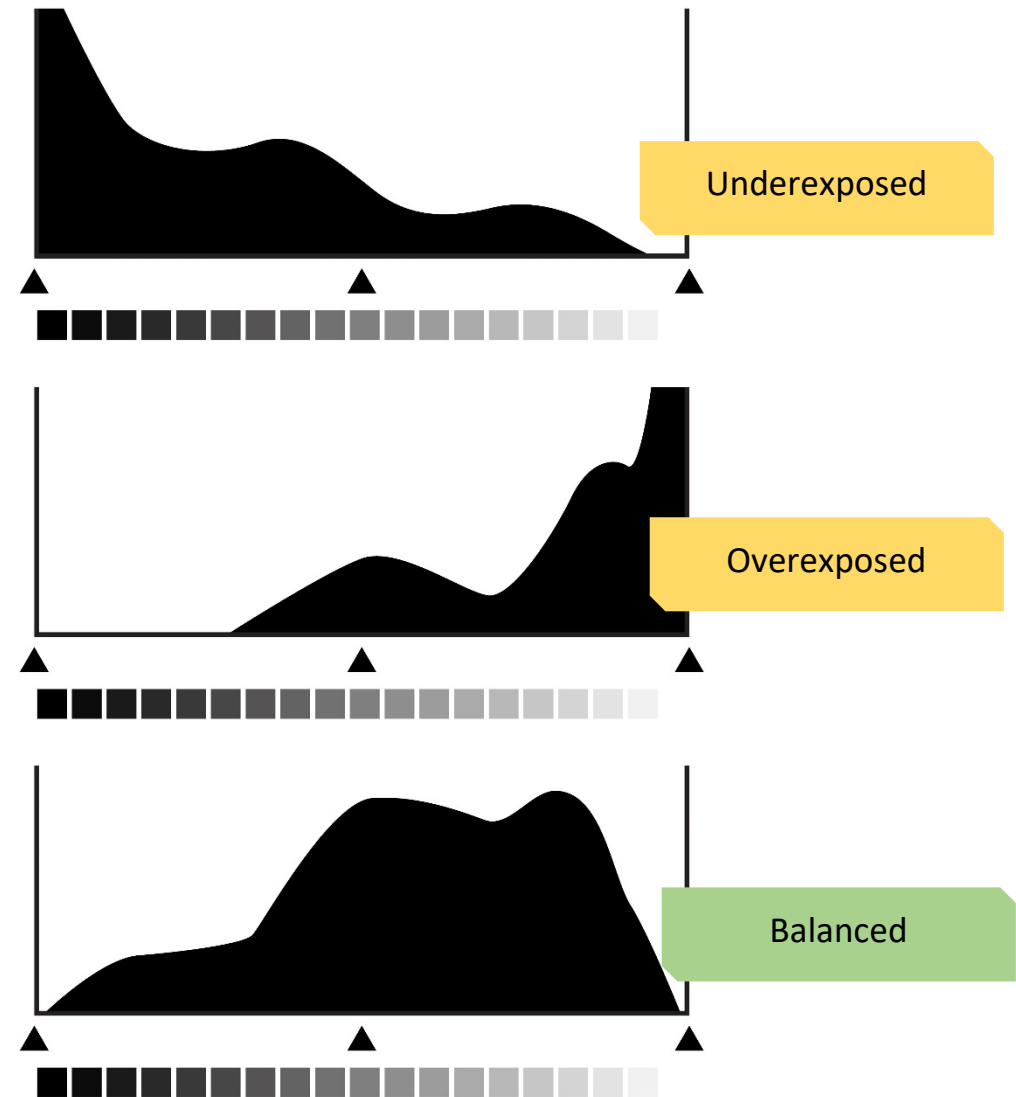
Clipping

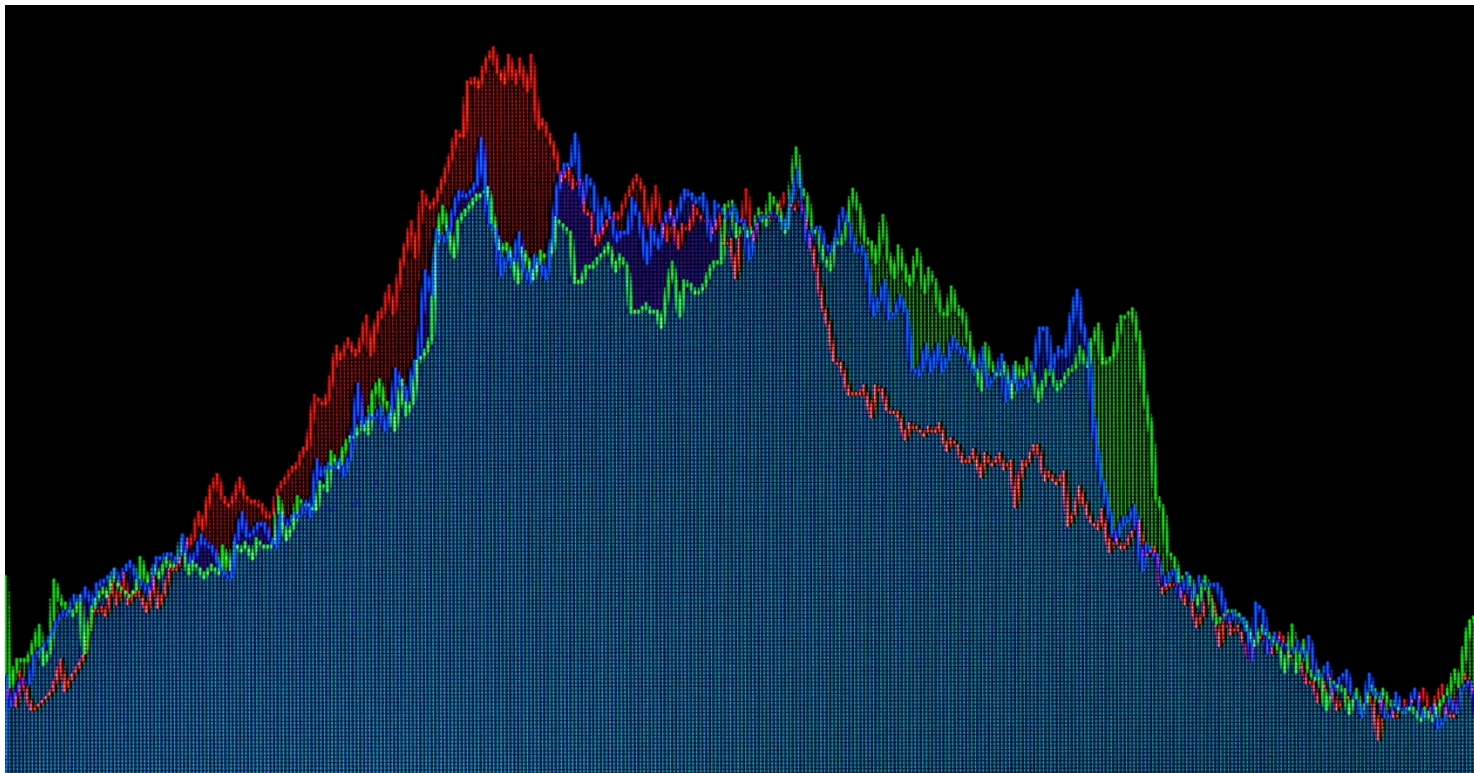
When the graph demonstrates that there are pixels touching the extreme edges, this will indicate loss of detail, also called clipping.

Clipping in the highlights (areas that are completely white) happens if the graph is touching the far-right side. Shadow clipping (areas that are true black) occurs if pixels are touching the extreme left. Either case this means, even if you raise or lower your exposure in editing to fix this, there will be no detail in the pixel to bring out. *You're stuck.*

Fixing the exposure, whilst you are shooting, is always the best approach. If your camera has histogram in live view mode, then use it to judge your exposure. If highlights are clipping for example then you'll know to close your aperture, increase your shutter speed or lower your ISO.

Some instances of shooting into the sun can cause highlights to be blown out (clipped) so expect that it will happen but aim to minimise its impact as much as possible.





What does a 'good' histogram look like?

The type of histogram you would want to create, where possible, would show the bulk of pixels in the middle of the graph, and only a few towards the edges.

A nice even arc from left to right will leave you with detail in the darkest and brightest areas which you can then manipulate further in editing if you need.

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course

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RGB Histograms

As well as tonal histograms you will also come across graphs that show results in red, green and blue - known as RGB histograms. Lightroom has RGB histograms available when editing your photos. It's not just 3 colours being demonstrated though, there are several charts marking different colours.

The grey part shows where all three RGB channels overlap. Yellow, cyan and magenta appear where only two of the channels overlap.

Whilst they may look advanced and another level of complication, they aren't. It's best to use these RGB histograms to control which colours stand out the most in your image. High peaks in the graph of any colours suggest the image has a high proportion of pixels in that hue.

Histograms

Exposure Compensation

It's the job of your camera's built-in light meter to measure the amount of light entering the lens.

Then your camera takes over (if it's in a semi/fully-auto mode) and changes the aperture and/or shutter speed to make a balanced exposure; or as close to one as possible.

The problem though comes from where the light meter is taking the reading from the whole frame, the middle or just a small spot.

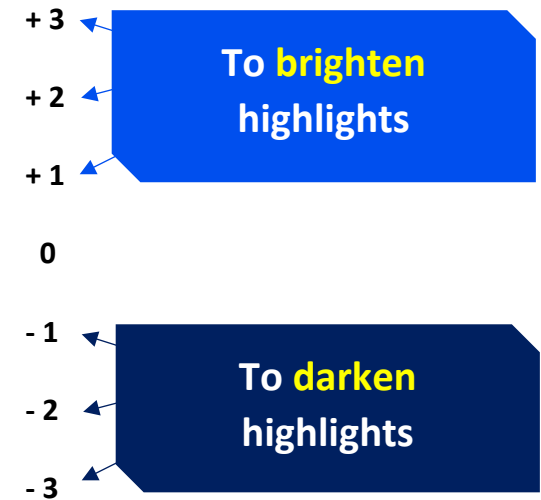
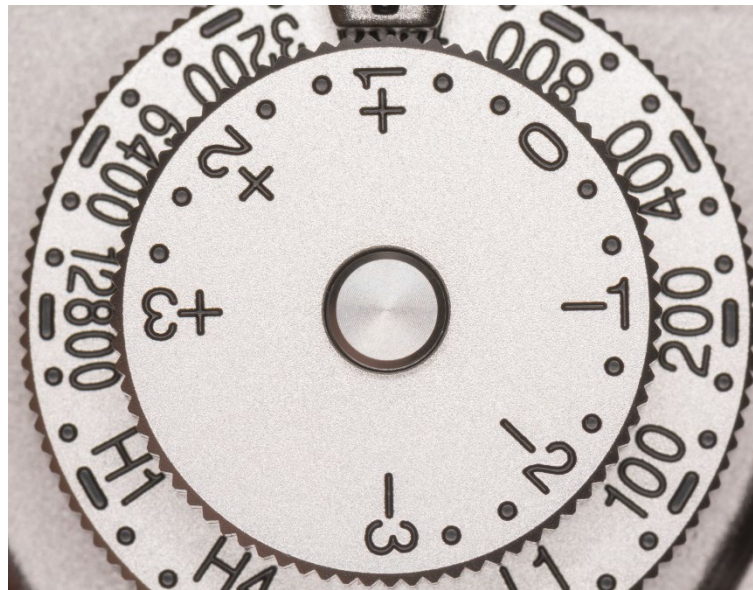
This may not result in the kind of shot you were looking to take - so how can you take further control?

What Does It Do?

Your camera's exposure compensation dial will allow you to make more specific tweaks to your shot. If you've maxed out your aperture, shutter speed and/or ISO settings then turn to your exposure compensation option to increase or decrease exposure a little further.

Depending upon your camera and its functionality, you should be able to use exposure compensation in most shooting modes (auto, shutter/aperture priority and manual). Some cameras disable the function when using scene modes or auto ISO, so do your research.

Basically, how you should think about it is that if your photo turns out too dark, simply use the "+" part of the button to make the next photo brighter. If it's coming out too bright, turn it down to the "-" to make it darker. You can make gradual changes on a scale from -2 through to +2 (some cameras may offer wider ranges).



Common moments to use exposure compensation:

- To achieve better exposure when all other settings have been considered
- To achieve or avoid silhouette lighting
- For creative effects like over-exposing highlights for high key lighting
- Similarly, for decreasing bright highlights and making images appear more low key or low-contrast.

Bracketing your photos involves taking multiple images of the same scene at different settings in order to capture more detail.

Depending upon your camera, you may have a built-in option to let your camera do the bracketing or you can do it manually.

It may also be called **HDR** (high dynamic range) in some camera menus.

When letting your camera bracket the exposure you will be faced with a choice of how wide you wish to set the bracket. **AEB** (auto exposure bracketing) means the camera will decide on the range based on the scene. Otherwise, you may be able to select 0.5, 1 or 2 values to the left and right of your current f/stop.

i.e. a 1 stop bracket starting at **F/11** will mean 3 shots are taken (one at **F/8**, **F/11** and **F/16**) and then all 3 shots will be compiled together, and you'll see the resulting merge.

Some cameras will still retain all 3 images (plus the composite) as separate files on your memory card. This means you can also do the bracketing in editing too.



F/5.6

F/11

F/8

A wider bracketing range doesn't necessarily mean a better photo. It may increase highlights too much and brighten your image too much, so it's best to keep the range narrow to begin with and adjust based on results.

If your camera doesn't have a built-in bracketing function then follow the same principle to do it manually. Shoot 3 images (or more if you wish) at different aperture settings. Take your shots and run them through software such as Photoshop or Lightroom to create an HDR composite.

Exposure Bracketing

Shutter Speed



1/2



Fireworks
Long light trails



1/4



Night-time
Blur moving water



1/8



Light tracing
Short light trails



1/15



Dark buildings
Panning effect



1/30



Candlelight
Low light with flash



1/60



Golden hour
Slowest handheld



1/125



Everyday
People walking



1/250



Sunny day
Slow moving cars



1/500



Sports action
Animals / Wildlife



For beginners, concentrate on learning your shutter speed by using S/Tv Mode (Shutter Priority). You can control the shutter speed and the camera will take care of everything else.

Choose the right mode and the correct speed for your subject or effect.

Remember...

Use longer/slower shutter speeds when the natural light is low.

Use shorter/faster shutter speeds when the natural light is bright.

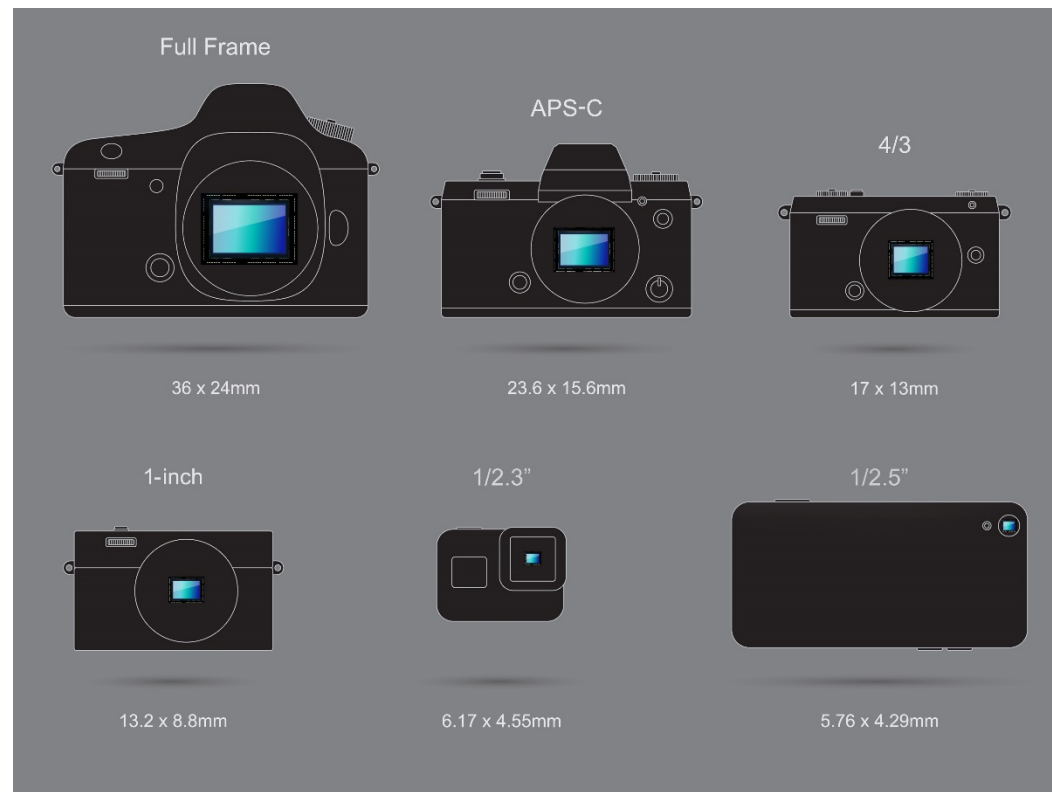
Full Frame

Full frame sensors are reserved for the higher end market of digital cameras, but those prices are slowly starting to come down.

A full frame sensor is one that is the same size as a single frame of 35mm film (36mm x 24mm).

They are the largest types of sensors in comparison to others and with that requires a larger housing.

This is why full frame cameras are typically found in DSLR's or larger mirrorless cameras - never in compacts or smartphones.



The sensor is the digital heart of your camera.

The size of this 'digital heart' determines how much light can be recorded; large sensors receive more light, and smaller sensors get less. The more light the sensor can detect, the better the image quality.

There are variations of sensor size in different types of cameras.

Full Frame

APS-H

APS-C

Micro Four Thirds 4/3

1"

1/1.63"

1/2.3"

1/3.2"

Cropped Sensor

If you don't have a full frame sensor then you'll otherwise have a cropped sensor. This is a smaller sensor in comparison but can fit inside smaller units giving purpose to mirrorless, bridge, compact and smartphone cameras. There are a range of sizes in the cropped sensor market.

- **APS-H (mirrorless/DSLR)**
- **APS-C (mirrorless/DSLR)**
- **4/3 (bridge/mirrorless)**
- **1 in (bridge)**
- **1/1.63 in (compact)**
- **1/2.33 in (compacts)**
- **1/3.2 in (camera phones)**

Sensor Size

Sensor Size

Crop Factor

Because all these sensors are smaller than the full frame the images captured using them are determined based on a crop factor.

The crop factor is used to calculate what the effective focal length of a lens would be in 35mm terms based on the focal length printed on the lens. Crop factors can range from 1.5x through to 2x or more.

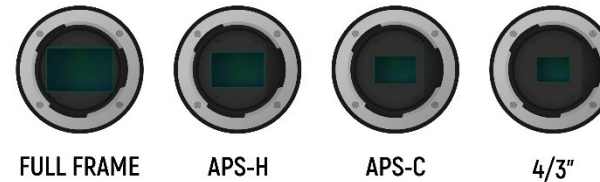
For example, if you put an 18-55mm lens on a camera with a 1.6x crop factor, you get the equivalent of a 28-88mm lens in 35mm terms. It's important to know your camera's crop factor to understand what actual focal length your lens is operating at.



100mm (Full Frame)



100mm (1.5x cropped)



What's More Important: Sensor Size or Megapixel Count?

Given what we know already about the importance and benefits of sensor size then you'll understand why a 16MP compact camera (with a cropped sensor) isn't ever going to be as good as a 12MP DSLR (with a full frame sensor).

Sensors consist of millions of light-sensitive spots called photosites which record what is seen through the lens. Therefore, a bigger sensor can gain more information than a smaller one and produce better images.

Here's a different way to think about it: If you had a compact camera with a cropped sensor, its photosites would be tiny in comparison to a DSLR with the same number of megapixels but a much bigger sensor.

The DSLR with the bigger photosites can capture more dynamic range, less noise and generally works better in low light situations.

EXAMPLE: If you are using a 100mm lens on a full frame camera then you are seeing the true focal length of 100mm. But if you switched that lens on to a cropped sensor camera (not all lenses are cross compatible in this way) with a crop factor of 1.5x then the focal length you'll actually be seeing is 150mm.

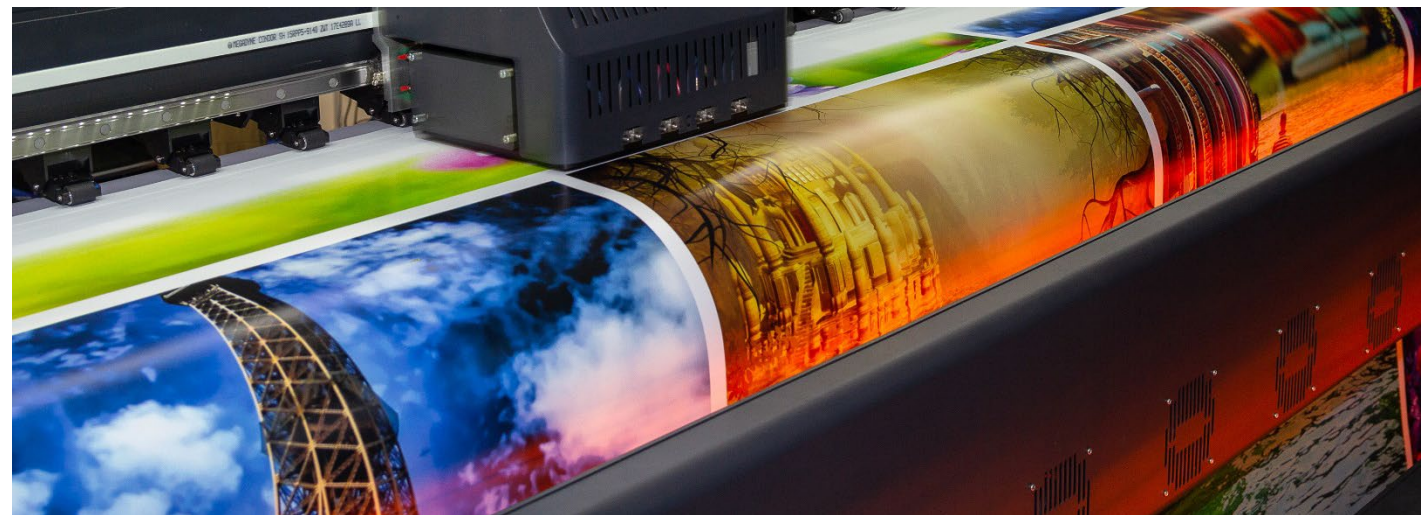
This completely changes your angle of view - it'll be narrower with a compressed background behind a subject than it would look on a full frame camera.

Your Maximum Print Size

If you are printing to an **inkjet printer**, a full frame picture from your 4000x3000px camera file will print a 20x15 picture. Since the resolution of inkjets requires just 200DPI, divide 4000 (the width of your image) by 200 to get the 20-inch measurement and divide 3000 (the height) by 200 to arrive at 15 inches.

Since inkjet printers don't print with specific sized dots, you can get away with using 150DPI on output (thus producing a 26x20 inch print from your camera), but we wouldn't recommend going below that.

Megapixels	Pixel Resolution	Max Print Size (@200dpi)
12	4290 x 2800	21.45" x 14.00"
16	4920 x 3264	24.60" x 16.32"
21	5616 x 3744	28.08" x 18.72"
24	6016 x 4016	30.08" x 20.08"
30	6480 x 4632	32.40" x 23.16"
36	7360 x 4912	36.80" x 24.56"



The benefit of step-up rings is that it allows new photographers to borrow filters from other photography friends. **They are a series of rings which accept filters of different thread sizes to be fitted on to one lens.**

There is an element 'hacking' by using step-up rings. It's a quick short-cut to using any filter on a lens, instead of the right filter for the right lens.

Imagine being a shoe size 7 but wearing a size 10 - of course, your foot will fit but is it the best fit?

The downside is that step-up rings can be susceptible to light leaks and vignette around the edges as the rings can infringe when the lens is shooting wide.

With that said they are cost-effective and helpful for beginners to try out different filters before deciding what works best for their own photography.



Example

You could use a 77mm infrared filter on a lens with a native 58mm thread size.

Step-Up Rings

Macro Filters

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Lens Accessories

A much more budget-friendly approach to getting into macro photography is to purchase a set of macro filters, rather than splashing out on a dedicated macro lens.

The filters can be purchased in a bundle of different magnifications from +1 through +10.

They can help improve the appearance of small objects at close range, but you will still have to adhere to your lens' minimum focus distance.

Try stacking a few filters on top to increase the magnification levels. Whilst they are a fun way to get closer to the miniature world they also come with drawbacks.

The heavier the magnification the smaller the focus area becomes which will force you to keep your subject in the dead centre of the frame. This could cause your composition to look basic in some instances.



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Extension Tubes

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Without getting too technical, when your lens is set to its minimum focusing distance, the front element (the front of your lens) can't zoom/move in any further. You have reached the limit of your focus range.

To get closer shots you'll need an extension tube. It's a hollow tube that fits between your lens and camera body - not at the end of the lens. It moves the lens and sensor further apart, increasing the extension of the front element. This lets you move the lens closer to the subject, increasing magnification, and in some cases even matching the 1:1 magnification of a true macro lens.

TIP: Extension tubes are a clever hack to get tighter in on macro scenes and best used on lenses between 30mm-100mm.

You can still use macro filters on the front of the lens too, but this extra amount of extension and magnification can start to reduce image quality so use them together sparingly.



It's worth being aware that if you are using a lens that electronically controls your aperture then cheaper extension tubes break that electrical connection between lens and body meaning you won't have control over the exposure as much. Though you can purchase more expensive tubes that carry that electrical connection through the adaptor - it is worth looking out for these differences when purchasing.

The best types of tubes are ones made by your own camera's brand firstly. Otherwise, there are 3rd party ones available.

Extension tubes are sold by extension size i.e. 16mm, 20mm etc. Keep an eye out as tubes are notorious for light loss and may require you to slow your shutter speed or bump up the ISO to compensate for the reduction of incoming light.

Lens
Accessories

Conversion lenses give you an additional optic to thread onto the front of your existing lens to increase or reduce the effective magnification.

With this you can either widen your field of view to look like a wide-angle (or fisheye) or narrow your perspective to give the look of a telephoto lens.

Lens adaptors make it possible to mount a lens from one system onto the camera body of another system, such as mounting a Canon lens on to a Fuji camera. Ultimately, they are great money saver as buying a new camera isn't cheap in the first place.

Some conversion adapters are able to retain a full range of focus without the need for any additional optics. But others are fully manual, which means you have to judge the focus by eye instead.



Reversing rings are a rarity in photography but still a creative tool. They allow you to mount a lens “backwards” onto your camera body. This offers an increased magnification without the need for a macro lens or filter.

They are best used on lenses between 20mm-60mm. As well as it being a money saver they are also lightweight and compact too which is ideal for travelling photographers.

Alongside the rings you may want to discover macro couplers. Similar to reversing rings, these male-to-male couplers enable a photographer to reverse a lens to fit the front of a telephoto lens resulting in a quality macro photo.

Lens Accessories

Are They For You?

Converter lenses are perfect for photographers thinking of buying a new camera system but don't want to leave their current lenses behind.

Conversion Lenses

Nearly half of the world's households have a pet of some sorts.

If you're one of those people who loves to snuggle up with your cat or go for walk with man's best friend, then read these quick tricks for taking amazing portraits of your fluffiest family member.



Tip 1

Choose a location that evokes a strong memory for you and your pet. For example, you might have a place that you take your dog all the time. It will mean a lot in the future as you look back over the portraits.

Tip 2

Work in Shutter Priority mode to give you scope to quickly change settings depending upon the pet's reaction.

If they are quite active, then stop any motion blur happening by using a fast shutter speed i.e. 1/400th.



Tip 3

Action shots are not easy to capture at high speed, but you can use a focus mode that is available on all modern DSLRs called "Continuous/AF-C" (on a Nikon) or "AI Servo" (on a Canon).

This mode is used for tracking moving subjects and it is a must for shooting wildlife.

Continuous mode will automatically readjust the focus if you or your pet moves.

One common mistake made by budding photographers is that they photograph their pet from a human height.

This rarely works well. Photos of cats and dogs taken on their own level tend to have more impact and show the animal's personality better, from the perspective of an equal.



Tip 4

If you are feeling creative, build a little scene or setting for your hamster, mouse, or rat. To overlook the cage bars, you can design an outdoor backdrop from card, so it looks like blue sky and flowery fields and place it inside the cage. Add some natural elements like sticks, leaves and foliage to create the impression of the wild.

Tip 5

Pet Photography

There are so many passionate bird photographers out there trying their best capture pin sharp avian portraits.

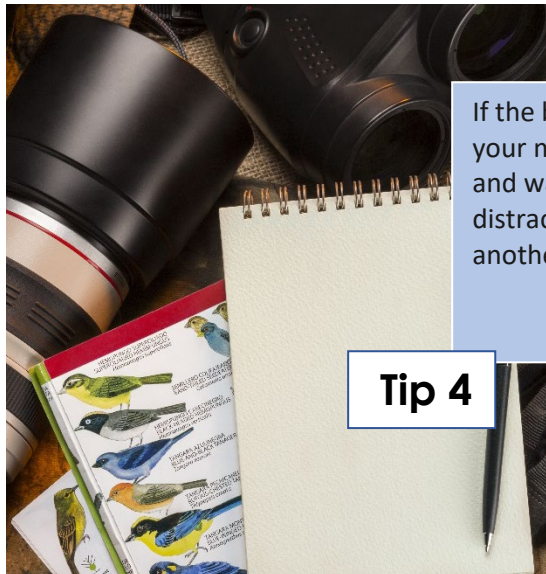
We've created a guide of the *TOP TIPS* that you'll need to know so you don't get in a flap!



Tip 1

Don't get too close to the bird with the camera as they may decide to attack it if they see it as a threat.

Instead use a zoom lens to keep your distance.



Tip 4

If the bird is watching your movements, stop, and wait for them to be distracted before you take another step.

Tip 5

Choose Aperture Priority and **not** Shutter Priority, when photographing birds outdoors.

If we are shooting at high shutter speeds, most likely the aperture will be always set to wide open which will always lose some detail in the final image, due the decreasing focus area.

Worst of all, if the lighting conditions change quickly, the image might come out underexposed – and you might miss the opportunity.

Tip 2

If you are shooting hand held, you will need to select a shutter speed that is equal to or a higher value than your lenses focal length, i.e. shooting at 300mm then shutter speed needs to be 1/300th or faster, and 1/500th for lens around 500mm. This will help avoid motion blur in the image.

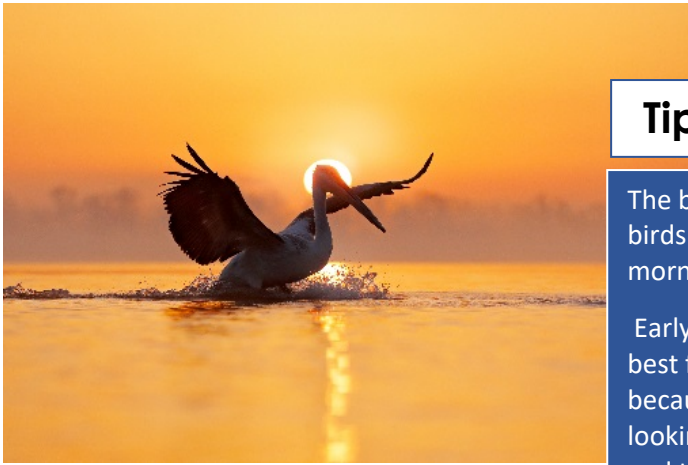
Invest in a fast Mirrorless or DSLR camera and one or more telephoto lenses.

We would recommend a camera that can handle at least 1/2000th of a second shutter speed with 6 to 9 fps (frames per second).

Tip 3



Bird Photography



Tip 6

The best time to photograph birds is either during the early morning or late afternoon.

Early morning is typically the best for bird photography, because birds are actively looking for food for themselves and their youngsters.

If your camera has an AF (auto focus) beep assist (when the camera locks on focus it makes a little noise to signal to the user) then turn it off.

The noise of the shutter will spook the bird so best to take a few shots at distance and more as you close in. Some mirrorless cameras feature a *leaf shutter* which is silent when firing – perfect!

Tip 8



Tip 9

Always focus on the nearest (to the camera) eye of the bird.

It is acceptable to have a blurred tail or other parts of the bird, but at least one eye always needs to be sharp.

For birds in flight, focus on the bird's head or chest.

Tip 7

Aim to wear muted and dark clothes. Try and blend in to the environment – throw on a bit of camouflage if you've got it.

Bright clothes are a NO!

It will instantly make you stand out to a bird.



Tip 10

Shoot lots of images, using burst or continuous mode to help you to freeze moments of take-off or shaking water off wings.

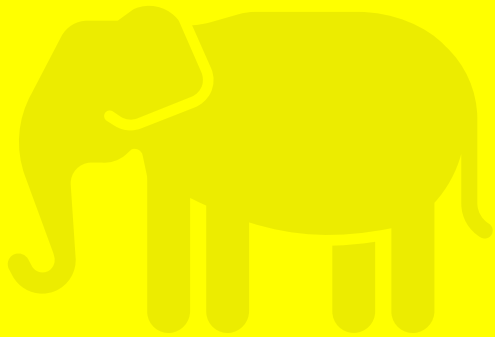
These actions are fast moving, don't miss the opportunity.



Bird Photography

Wildlife Photography

If you are an animal lover and enjoy trips to the Zoo, then we've put together these **5 essential secrets used by pro photographers to capture incredible wildlife photographs.**



Tip 1

One of the biggest challenges at the Zoo is to avoid the wire fences.

If your camera has changeable focus zones, switch to using a small centre focus spot to stop it focusing on the fence and keep the animal sharp.

Don't attempt to use a flash against glass this close as it scares the animals on the other side and most of the light will be reflected having no benefit on your exposure.

Tip 2

Glass partitions can allow for surreal interaction between humans and animals.

You can achieve images that make it look like people are touching the animals, by moving to an acute angle, and shoot parallel to the glass to see a profile of both subjects.

You just need to be mindful of reflections of

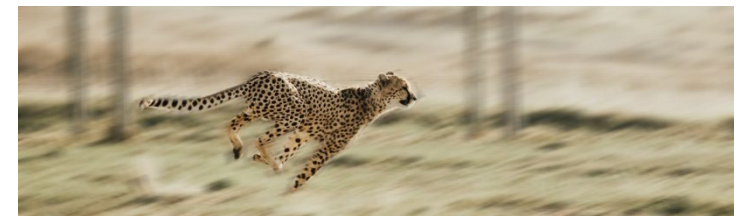
Tip 4



Tip 3

Try creative motion panning shots by using a slow speed when shooting Lions and Tigers etc. Follow the path of the animal as you press the shutter.

When panning aim for a shutter setting of around $1/8^{\text{th}}$ to $1/30^{\text{th}}$, depending on the speed of the animal.

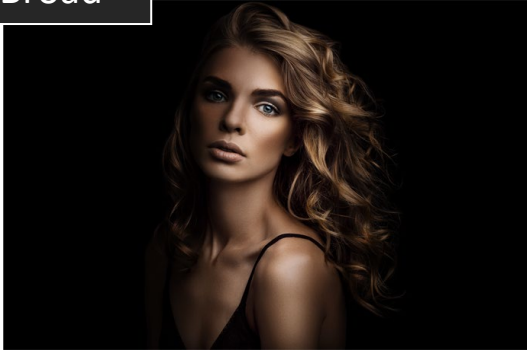


Tip 5

If your camera has a manual or A/Av mode, adjust the aperture to its largest size (i.e. F/3.5). This will reduce depth-of-field and throw the fence out of focus.

Hopefully the fence will be so blurred it will hardly be visible in the photograph.

Broad



Pose your subject so that their body is side on to the camera and turn their head to face the lens. Direct a single light towards the **nearest (broad) side of their face**, keeping the rest in shadow.

Narrow



Follow the same directions as in Broad lighting, but this time move your light to only light the **far (narrow) side of their face**. This will cast the near (broad) side of the face in shadow making your portrait look mysterious.

Rembrandt



Taken from the Dutch artist, Rembrandt lighting is signified by an inverted triangle underneath the subject's nearest eye. **Follow the setup of narrow lighting but raise your light higher.**

Loop



Following on from Rembrandt lighting, bring the light source closer to the camera position. Maintain the height of the light and shine more light on the cheeks. **Aim to keep a gap between shadows beneath the nose and the and cheeks.**

Split



Split lighting is incredibly easy. Start by facing your subject towards the camera and position a light source 90 degrees to their body. It will 'split' the face in half light and shadow.

Perfect for telling a dark or sinister story.

Portrait Lighting

Use this portrait lighting guide to capture dynamic and flattering photographs.

Position your light source appropriately to create these techniques.



iPhotography Portrait course

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Posing for Boudoir

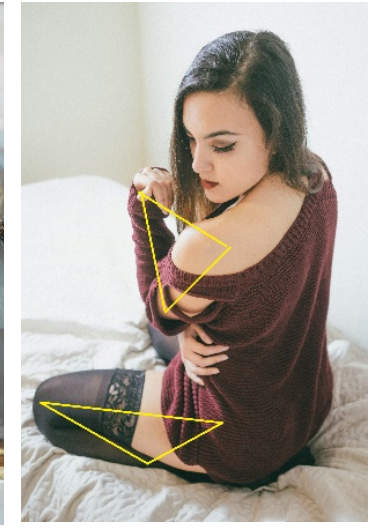
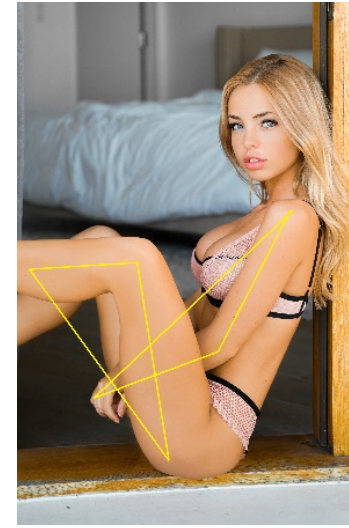
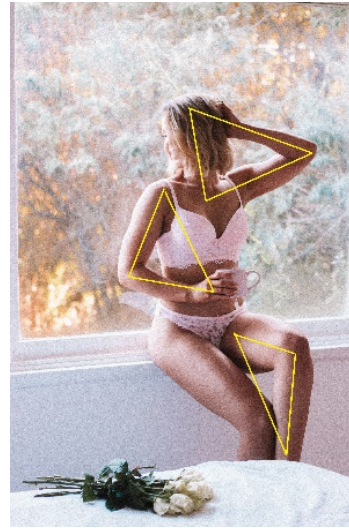
iPHOTOGRAPHY

Making your client look alluring is essential when they bare all (almost). Use our boudoir photography posing checklist to create flattering and beautiful moments of sensuality.

Bend those limbs

All portrait poses should have angles to create conflict and leading lines. **Bend your subject's legs or arms to create triangles.**

These shapes stop your client looking flat, one dimensional and tense.



Eye contact

The eyes are the first place we look to on any portrait. They are the first line of the picture's story.

Direct your subject to convey the mood you're creating with their eyes. Think of 'intense', 'suggestive' or 'innocent' expressions to portray.

If you want your shot to look less engaging, then ask them to look away from the camera. It then becomes more voyeuristic for the audience.

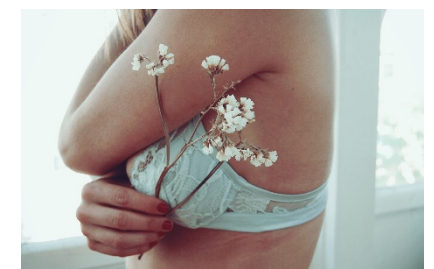
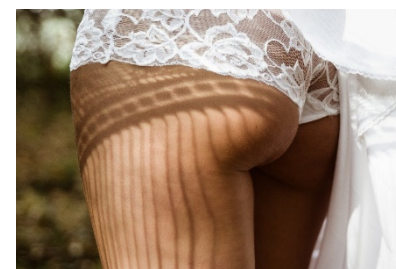


Leave a suggestion

Boudoir is all about beauty and/or temptation, if you give everything away then it leaves no further interest.

Don't ask your model to bare all, cover up private areas, leave a hint, or a suggestion. They should reserve their dignity whilst still showing their strength and power.

Using sheer clothing is another way to tempt and tease.



Posing for Boudoir

iPHOTOGRAPHY

'Windswept look'

Don't forget to pay attention to the hair. Use a reflector or a fan to waft your model's bonnet so it looks mid motion and dramatic.

Combined with a low angle can make your subject look like a sexy superhero.



Pay lip service

The mouth has an incredible power of suggestion to an audience.

Open mouthed shots look conversational, parted (or pouted) lips could suggest a kiss or bated breath.

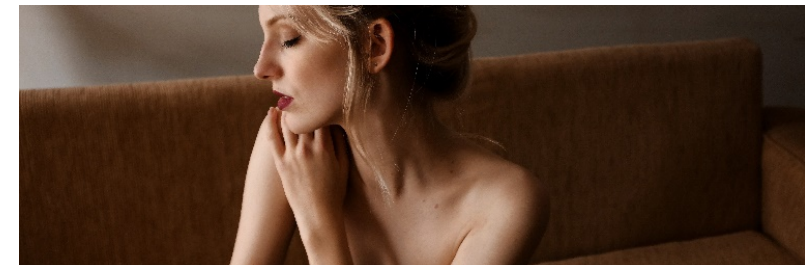
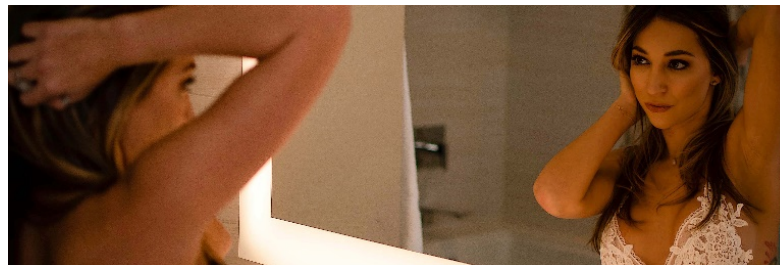
Closed mouths can look closed off or cold so make sure you strike the right mood.



Position the hands

Don't leave your subject lingering. Idle hands can look distracting and unprofessional.

Instead position them over your subject's body, behind the head or clasped together to make them look purposeful.



Landscape

If you love a good walk out into the countryside and want to make amazing memories of those wonderful vistas, then you're in the right place.

Check out our 5 fantastic ideas to help you master landscape photography!

Tip 1



Create a sense of depth by keeping everything in focus.

Use a small aperture i.e. F/16-F/22 to keep the foreground and background sharp.

Place your camera on a tripod when using a small aperture, as less light will be entering the lens.

Tip 2

Try using filters to balance your exposure. Polarising filters darken skies and bring out blues to contrast white clouds. Neutral Density (ND) filters prevent too much light from entering the camera.

This is useful on bright days, when you want to try out long exposures without your shot coming out overexposed.

Check your lens thread to get the right filter size.



Tip 3

Use the rule of thirds to compose your landscape. Imagine four lines, two horizontal and two vertical crossing your shot to create nine even squares.

Try placing your main subject off centre on one of the four intersecting points. This will often create a more aesthetically composed photograph.

Landscape



Want more tips about taking landscapes?

Visit [iPhotography](#) and join our incredible and comprehensive online training course.

18 in-depth modules covering camera settings, composition and inspiration for taking amazing landscapes.

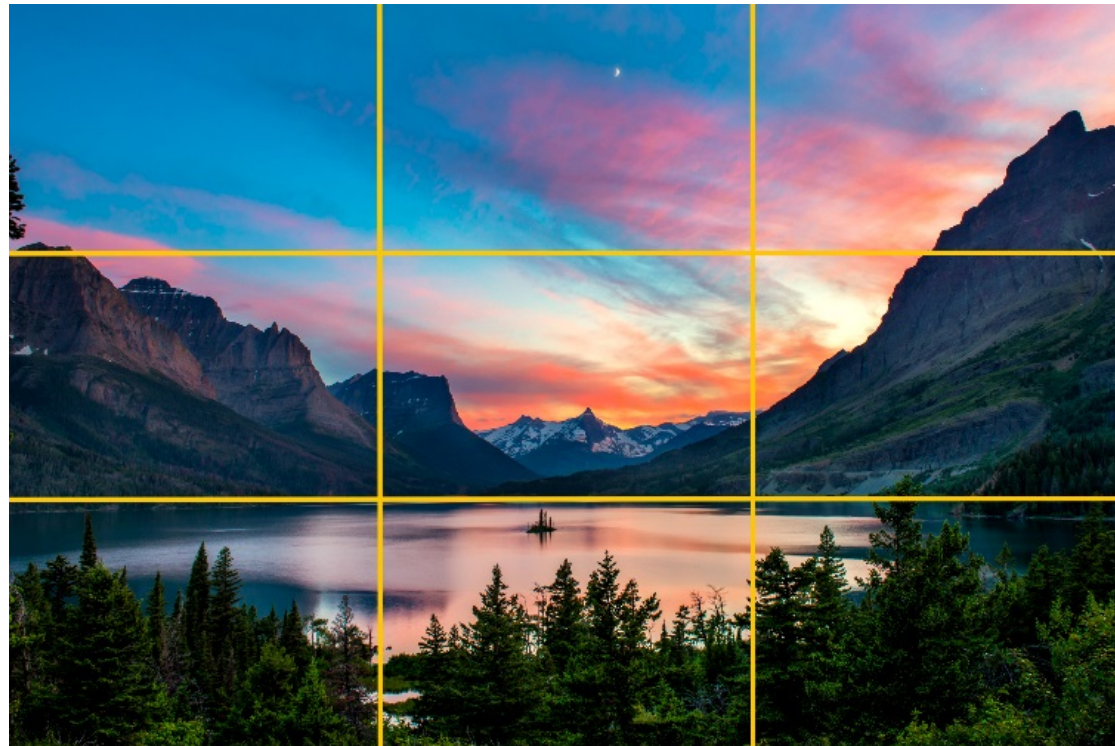


Tip 4

One element that can set apart your landscape shots is to think carefully about the foreground of your shots and by placing points of interest in them.

Think about rocks, stones and cliff edges.

When you do this, it draws in your audience to the image and makes helps them become more engaged to the shot.



Tip 5

Always think about your horizon with 2 questions in mind. **'Is it level?'** and **'where is it compositionally?'**

The best place for your horizon is on one of the horizontal third's lines (either upper or lower) rather than completely in the middle.

You don't have to understand the mechanics to appreciate the beauty of some cars.

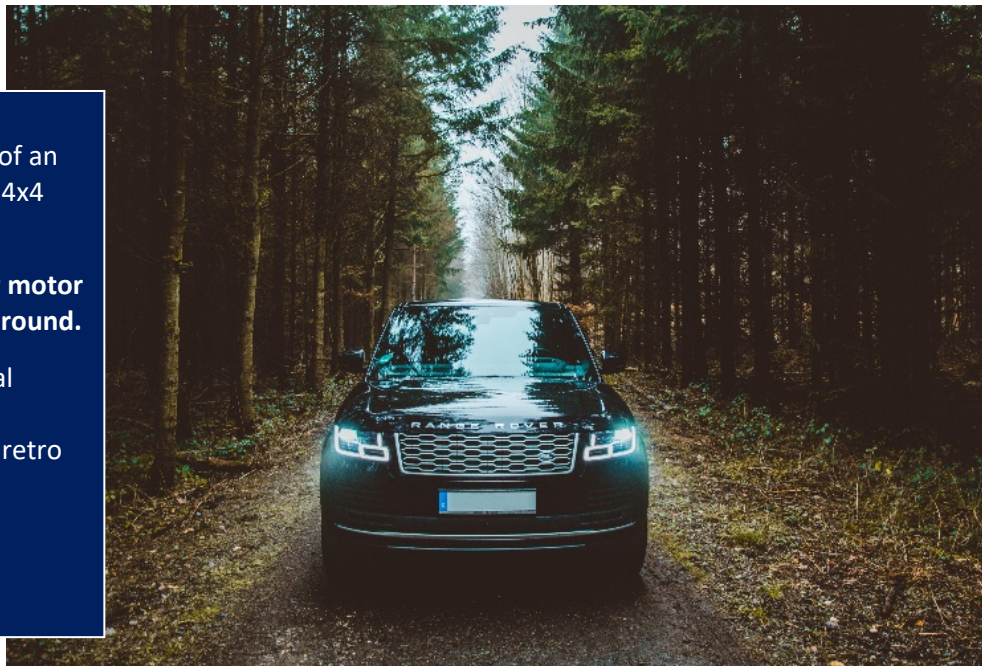
Therefore, we've designed a guide to help you capture the sleek aesthetics of auto photography.

Give Context

Certain cars are designed for particular environments. Think of an off roader, taking a picture of a 4x4 would see odd in a city.

Create greater **context for your motor** by using the appropriate background.

Take your off roader to a natural surrounding, sports cars to the racetrack and vintage rollers to retro locations.



Get Low

Sports cars especially are known for their power and imposing noise on the streets.

To emphasise that stature **get down low and shoot on a wide-angle lens** to make your motor look grand and overwhelming.



Turn the Wheel

A sneaky insider secret from pro photographers! When parking your **vehicle turn the front wheels** in the opposite direction of your camera.

It'll make the car look dynamic, mid movement and as if it's swerving to avoid you!



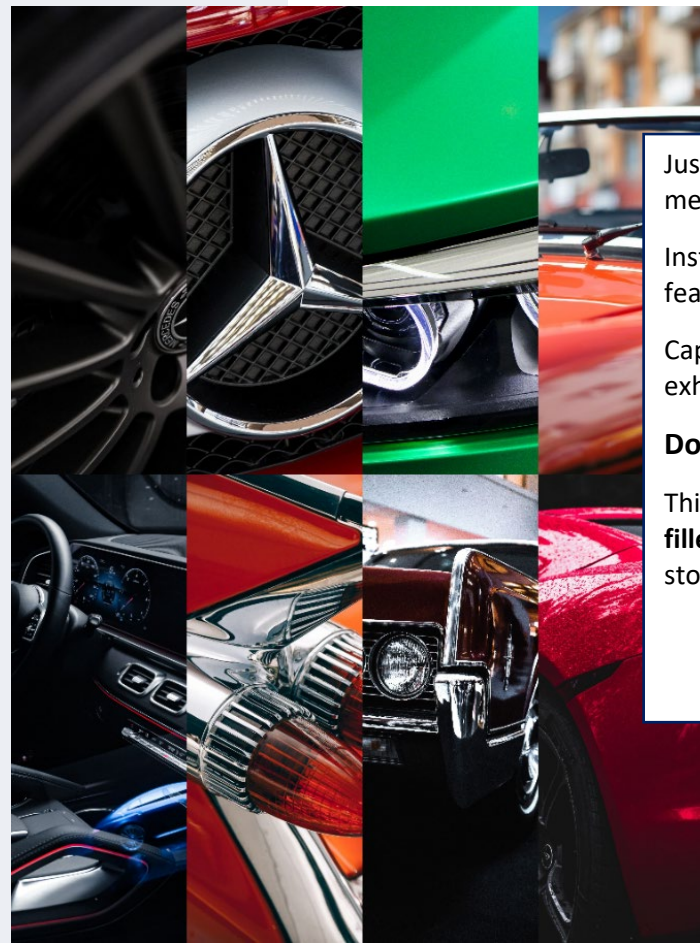
Car Photography

Curvy Profiles

Some cars have sumptuous aerodynamic curves across their bodies.

Shooting side-on (profile) to these motors will help show off those sleek rolling lines from front to back.

Keep at a low angle and use a focal length **below 30mm** to help with the width.



Think in Parts

Just because a car is one unit doesn't mean you only take one photo.

Instead think of all the different unique features and elements they have.

Capture iconic badges, wheels, spoilers, exhausts, grills etc.

Don't forget to shoot the inside too!

This is a great way to **create a texture filled collage**, making a more colourful story.

Go Dark

To add a little bit of mystery to your machine shoot at night and provide your own lighting.

Little units such as [Lume Cubes](#) are great portable lights to expose small areas, drawing attention in a low-key format.

Park under streetlights or near neon signs for different effects.



Car Photography

Book of Photography Tips

Private Online Gallery

Assignment Feedback

Photography
Competitions



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