

COM1205 – Photography

Key Components and Functions

This booklet will introduce you to the key components and functions of the most commonly used cameras. Understanding basic controls of your camera will help you to use this mechanical, electronic, light gathering device to capture your vision.

Introduction

There are several types of camera available to photographers. There are compact digital and full-size SLR (single lens reflex) digital cameras. Also still available is the option to capture images on film. As well, professional photographers may use medium and large format cameras with both film and digital capture options.

Choosing the Right Camera

For most people, the small compact digital point-and-shoot is all that is needed to take pictures. For advanced amateurs and intermediate level photographers, the SLR is the camera of choice.

Professional or commercial use may require larger file sizes or film formats. Medium format cameras will meet those needs.

With the quality of traditional film, lens quality and now the excellent capture quality of the digital sensor, the photographer is not limited to using one specific type or format of camera. Documentary photographers and photojournalists use everything from point-and-shoot cameras to full-size digital SLRs. Most working professional photographers are using digital SLRs as their main tool while studio photographers might need the extra resolution they get when shooting with medium format or large-format cameras.

dSLR (Digital Single Lens Reflex)



- all the same functions as the traditional film camera but with fully digital capture
- multiple file format support
- most new models offer full high definition video capture, increased sensor chip resolution for improved image quality, more functionality (faster shooting speeds, built in image manipulation and control)

Digital Point-and-Shoot



Small, lightweight, convenient, excellent optics and easy to use

Medium and Large Format



- can be used to photograph with film or digital (with adapter)
- offer significantly higher resolution (image quality) than a SLR
- offer incredible image quality, although they are typically only used in studio or large commercial settings due to their large size and slow shooting speed

Digital SLR (dSLR)

LCD display screen

LCD display screen - shows image playback as well as camera menu functions



Image playback button



Image playback button - used to view digital images on the camera's LCD display



Macro selection



Macro selection - allows for close focusing (flowers, bugs, etc.)



Trash can



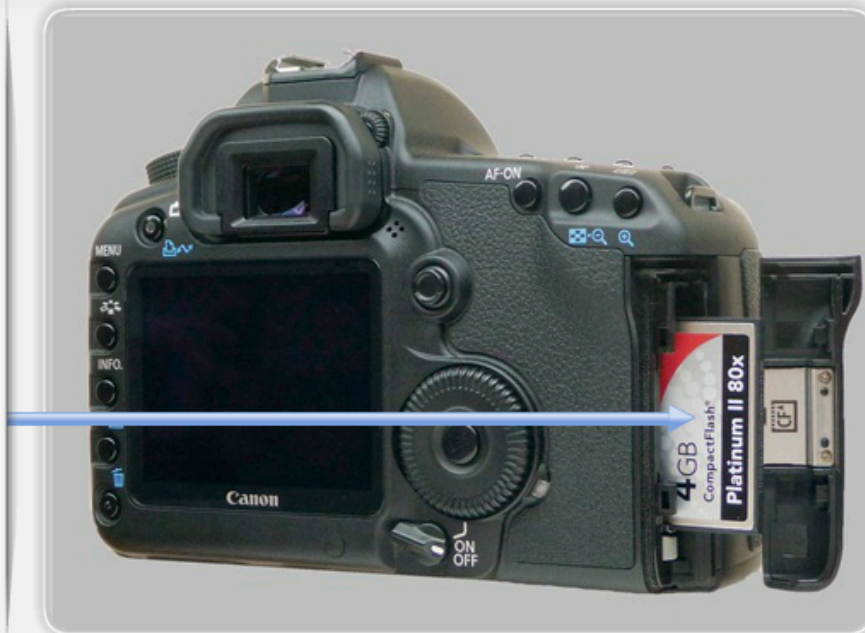
Trash can - used to delete single or multiple images from the memory card



Memory card



Memory card - image file storage device



Memory card slot door



Memory card slot door - protective cover



Image playback magnification selector



Image playback magnification selector - used to zoom in on images during playback



LCD Data Display Screen (dSLR)

Shutter speed selected

Shutter speed selected - shows the current shutter speed

1/60	F4.0	ISO AUTO
M	-2..1..0..1..2	
S	ONE SHOT	
[17]		

LCD Data Display Screen (dSLR)


Aperture or f-stop selected

Aperture or f-stop selected - shows the current f-stop

1/60	F4.0	ISO AUTO
M	-2..1..0..1..2	
S	ONE SHOT	
[17]		

LCD Data Display Screen (dSLR)

Sensor or film sensitivity (ISO) setting




The LCD screen displays camera settings in a grid layout. At the top, it shows '1/60', 'F4.0', and 'ISO AUTO'. Below this is a row with 'M', '-2..1..0..1..+2', and a battery icon. The next row contains a focus mode icon, 'S', 'ONE SHOT', and a crop icon. The bottom row features a grid icon, a 'Q' button, a battery level indicator, and a remaining shot count of '(17)'. A blue arrow points from the 'ISO AUTO' text to the left.

Sensor or film sensitivity (ISO) setting - shows the ISO value

LCD Data Display Screen (dSLR)

Exposure value indicator



The LCD screen displays the same camera settings as the previous image. A blue arrow points from the exposure value indicator '-2..1..0..1..+2' to the left.

Exposure value indicator - shows whether the exposure will be correct

LCD Data Display Screen (dSLR)

Metering mode

Metering mode - used to select metering mode (evaluative, centre weight, spot)

1/60	F4.0	ISO AUTO
M	-2..1..0..1..+2	
S	ONE SHOT	
		(17)

LCD Data Display Screen (dSLR)

Frame counter


Frame counter - shows the number of shots taken or that may still be taken before a new memory card or film must be loaded

1/60	F4.0	ISO AUTO
M	-2..1..0..1..+2	
S	ONE SHOT	
		(17)

LCD Data Display Screen (dSLR)

Battery charge condition

Battery charge condition - shows the current battery charge level



The LCD screen displays various camera settings: 1/60, F4.0, ISO AUTO, M, -2..1..0..1..2, S, ONE SHOT, and (17). A blue arrow points to the battery icon in the bottom left corner of the settings grid.

LCD Data Display Screen (dSLR)

Digital image capture quality setting

Digital image capture quality setting - used to select the file capture size



The LCD screen displays the same camera settings as the previous screen. A blue arrow points to the 'Q' icon in the bottom left corner of the settings grid, which is used to access the digital image capture quality settings.

LCD Data Display Screen (dSLR)

Program mode selected

Program mode selected - in this example is Manual mode (M): fully manual exposure mode setting

The LCD screen displays the following information:

- Shutter speed: 1/60
- Aperture: F4.0
- ISO: ISO AUTO
- Exposure compensation: -2..1..0..1..2
- Mode: M (Manual)
- Focus mode: S (Single Shot)
- White Balance: AWB
- Flash: (Off)
- Battery level: (Full)
- Remaining shots: [17]

Basic Camera Functions

Information Displayed in the Viewfinder

SLR Viewfinder Components and Focusing Procedures: The viewfinder is the visual connection between you, your camera and the subject that you want to photograph. When looking at the viewfinder of a SLR there will be various symbols and icons visible. The most common of these are identified to the right. As there are so many different styles and types of cameras, the symbols and icons on your camera might be different.

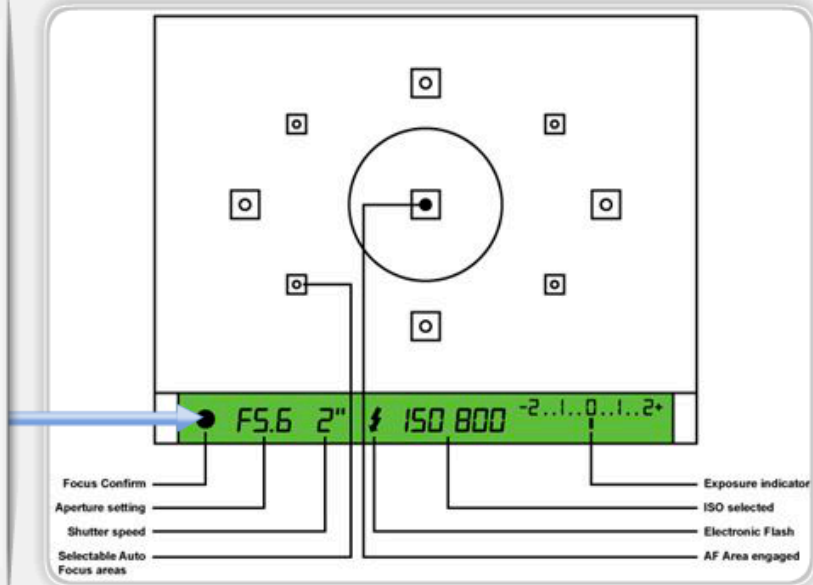
The viewfinder diagram shows the following information displayed:

- Focus Confirm (dot)
- Aperture setting (F5.6)
- Shutter speed (2")
- Selectable Auto (lightning bolt)
- Focus areas (circles)
- Exposure indicator (dot)
- ISO selected (ISO 800)
- Electronic Flash (lightning bolt)
- AF Area engaged (dot)

Focus Confirm



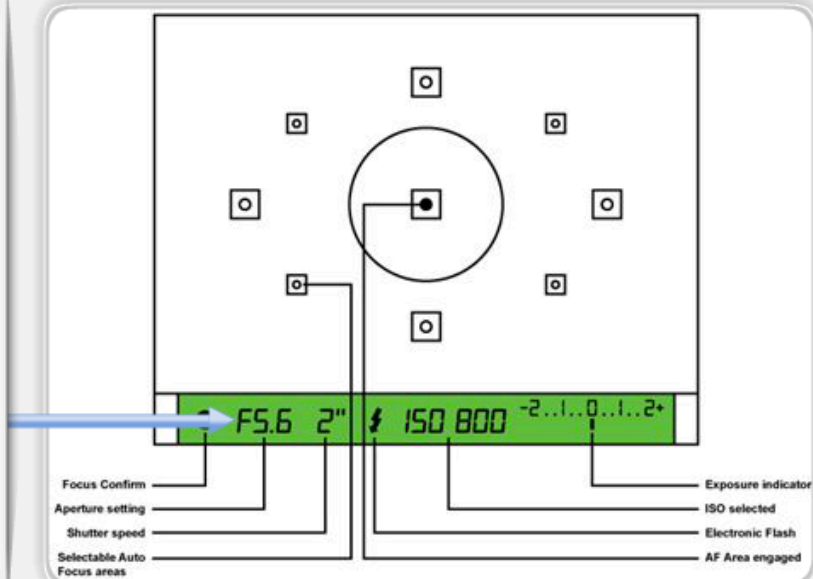
Focus Confirm - lights up when subject is in focus and blinks when subject is not



Aperture setting

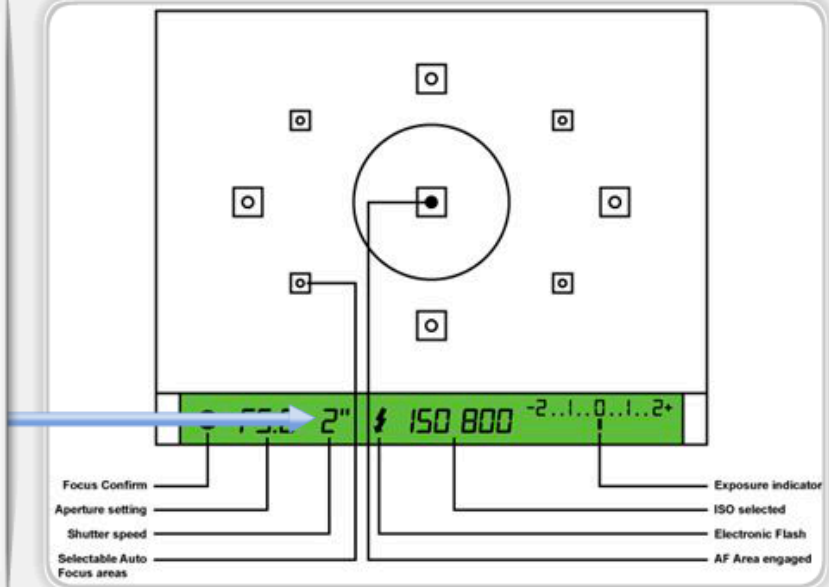


Aperture setting - shows current f-stop



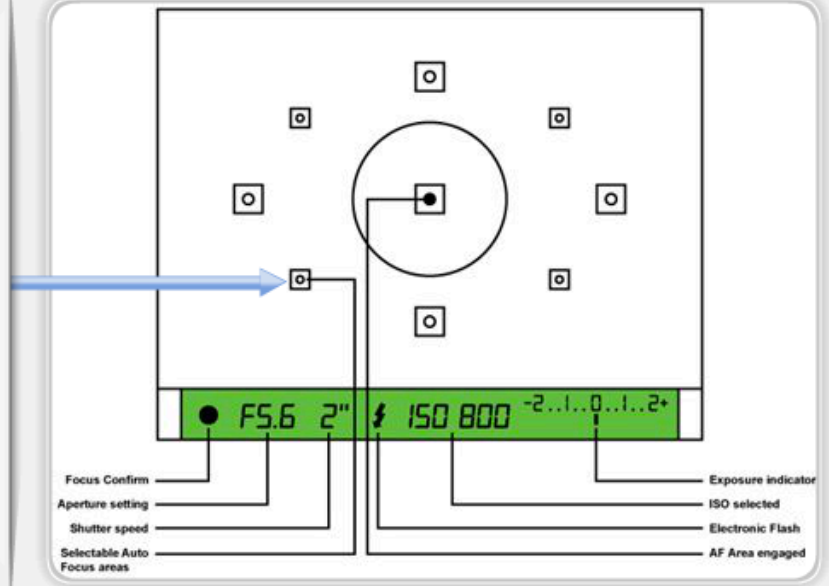
Shutter speed

Shutter speed - shows current shutter value



Selectable Auto Focus areas

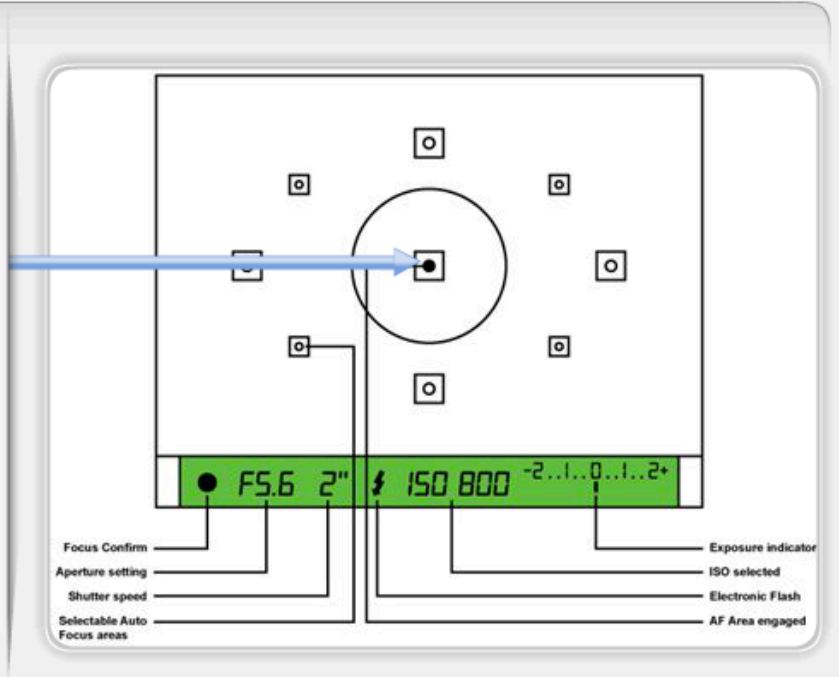
Selectable Auto Focus areas - the areas that the camera is using for auto focus



AF Area engaged



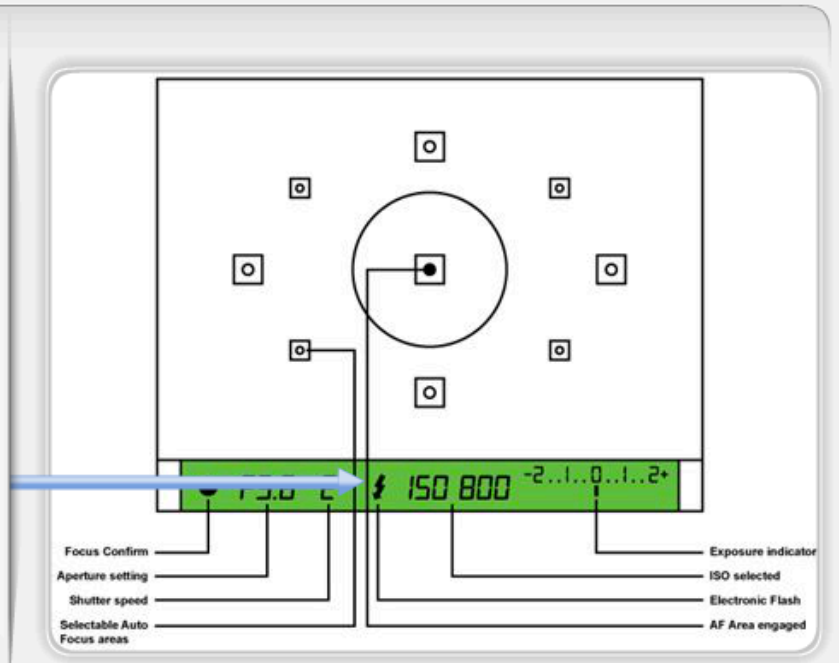
AF Area engaged - shows current focus mark



Electronic Flash



Electronic Flash - lights up when the flash is going to fire and blinks when flash is recommended but not set



ISO

ISO - shows film or sensor sensitivity

Focus Confirm

Aperture setting

Shutter speed

Selectable Auto

Focus areas

Exposure indicator

ISO selected

Electronic Flash

AF Area engaged

Exposure value

Exposure value - shows current exposure value

Focus Confirm

Aperture setting

Shutter speed

Selectable Auto

Focus areas

Exposure indicator

ISO selected

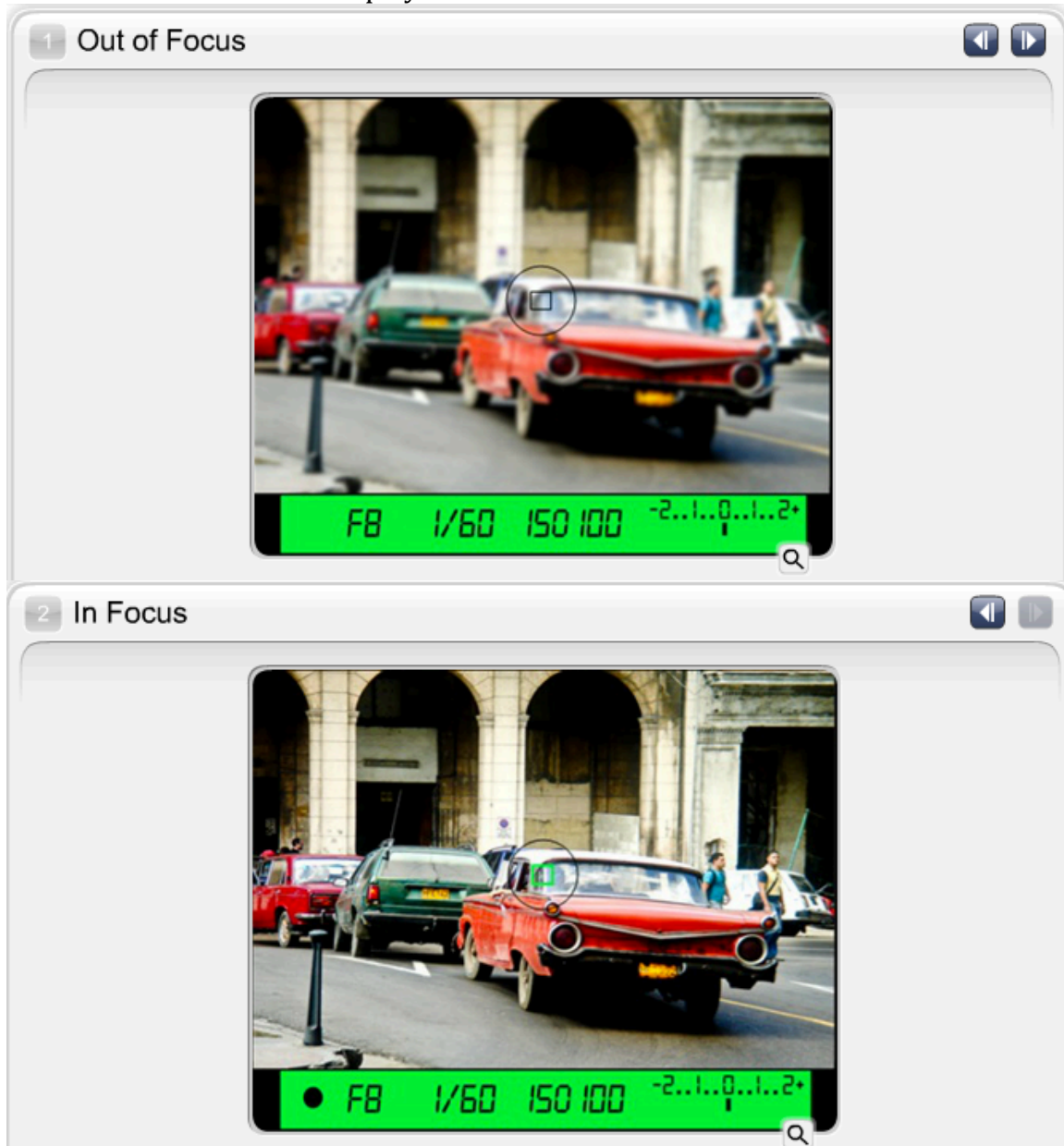
Electronic Flash

AF Area engaged

Focusing

Focusing your image is very important. Many images end up being ruined due to poor focus of the subject. When using an auto focus camera, the image will focus automatically and usually shows two indications that the subject is in focus:

- An indicator in the focus screen will change color
- A small solid circle will appear in the bottom left corner of the viewfinder display



Automatic Camera Settings

Most cameras offer the convenience of program photography. The program mode allows for point-and-shoot photography without the worry of exposure control. Under 'normal' photographic conditions the program mode of exposure control gives adequate results.



'P' indicates the program mode on the command dial. The program mode selects the shutter and aperture combinations for 'correct' exposure. Depending on the advanced features, your particular camera might have the ability to select different aperture/shutter combinations in the program mode. Regardless of your choices in changing the program shutter/aperture combinations, the end exposure is usually chosen by the camera.

Semi-automatic Settings



Shutter Priority (S/TV): the shutter priority setting allows you to select the shutter speed. The camera will automatically choose the corresponding aperture to give you correct exposure.



Aperture Priority (A/AV): the aperture priority setting allows you to select the aperture size. The camera will automatically choose a corresponding shutter speed to give you correct exposure.

Regardless of which of these semi-automatic functions you use (and many cameras offer you both) the only choice you are given is the selection of the shutter speed (S/TV mode) or the aperture (A/AV mode). Once you have chosen the one function, the camera automatically sets the other for correct exposure of the subject.

Manual Settings



Manual (M): the manual setting allows you to select the shutter and the aperture for exposure control to suit the situation. When using manual exposure controls, no automatic functions are accessible. You must make all of the decisions necessary to create your image. You must decide on both a shutter speed and an f-stop (aperture) selection.

Manual Exposure:

Depending on the make or model of your camera you may or may not have manual exposure control.

Exposure

Exposure is the total amount of light allowed to strike the photographic medium (film or image sensor) during the process of taking a photo. "Correct" exposure may be defined as an exposure that achieves the effect the photographer wanted.

You may have a great idea or concept, and your shot may be composed perfectly, but if the exposure is not correct, the image will likely fail. Getting correct exposure control requires thought, consideration and understanding.

No matter which camera mode you are using (e.g. program, semi-auto or manual), make sure that the subject is in the viewfinder and is positioned well in the shot. Check the outside edge, or left/right or bottom of the viewfinder and you will see a meter indicator. If that needle or indicator is halfway between the + and – signs the exposure is correct.

Exposure Modes

When taking an image with an automatic exposure mode (program, aperture or shutter priority), you cannot adjust the exposure control. The camera will adjust the settings to try to ensure the correct exposure.

When taking an image in manual mode the exposure control is up to you. You must first decide whether the shutter or the aperture is to be your main photographic tool. After choosing the function (e.g. shutter for subject motion control) you will then have to adjust the other function (in this example, the aperture) until the needle or indicator is halfway between the + and – signs. This will ensure correct exposure.

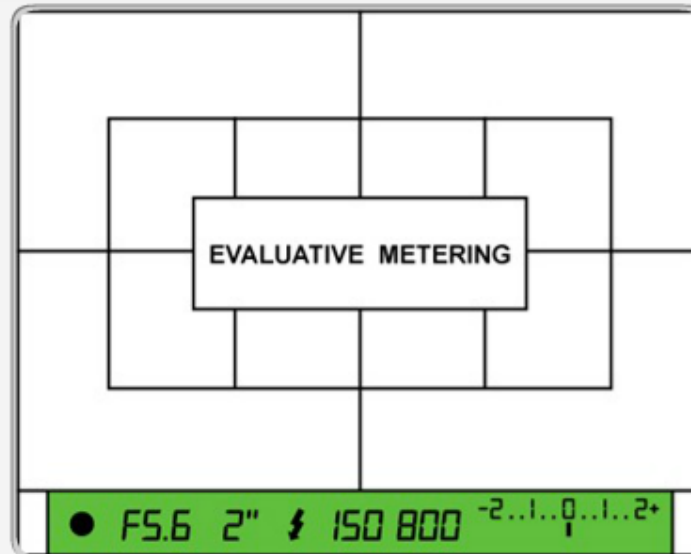
In-camera Light Meters

Following the rules for exposure modes, your chances of getting the correct exposure vary according to the subject matter. The camera metering systems have been designed for the amateur photographer who uses a camera on weekends, in sunny locations, with nice green grass and trees, blue skies and white clouds. Generally the photographic process does not involve anything more complicated than 'snapshot' photography.

If your intent is to take photographic images that are beyond 'snapshot images' then exposure control will help you succeed. First you must decide (if the option is available) which metering pattern will best suit your needs. There are 3 main types and they all 'see' the environment a little differently. Not one metering pattern is perfect for all situations, though most photographers will select the evaluative metering as it is considered the best all round choice for most situations. The three metering choices are:

See the following page.

Evaluative Light Meter



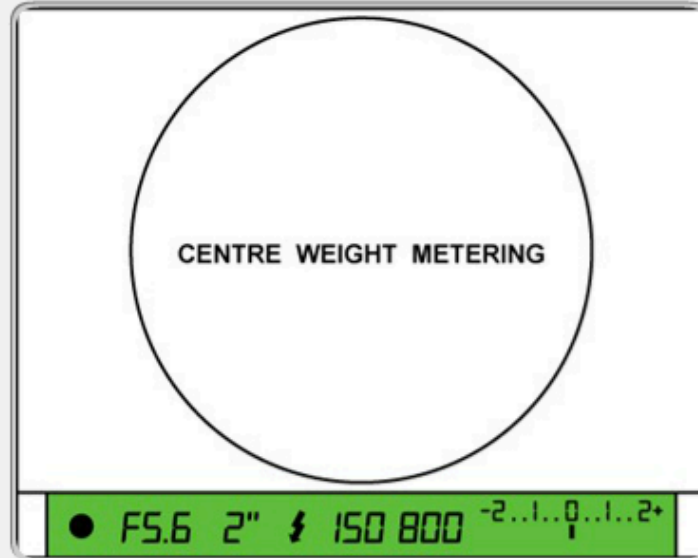
Evaluative metering is a refined metering response. Evaluative metering covers most or all of the overall viewfinder image area with a series of metering compartments. Each of these 'cells' is further broken down into smaller sub cells to analyze lighting within that area. Using the ability to analyze areas within cells and averaging the results along with all of the other cells allows for more refined exposure control for the bright to dark contrast range in the scene.

On some of the newer cameras using evaluative-metering systems, the meters are actually looking for extra bright or extra dark areas of the image. Since these areas fall outside the contrast range of 'normal' exposure, that portion (extra bright or dark) is cancelled out of the overall exposure calculations. The idea is that these areas, being overly bright or dark would 'taint' the final results. Unfortunately, since the camera doesn't know what it is actually looking at, the meter could very well be cancelling the very subject that you are trying to expose for in the first place, i.e. the bright sun in a sunset.

While these systems are certainly being refined with each new camera model, the net result at this point is that the meter does not know what it is looking at and therefore cannot be trusted to always make a proper determination as to how to expose that scene. Further adjustments of the metered values might be necessary for correct exposure of the subject(s).

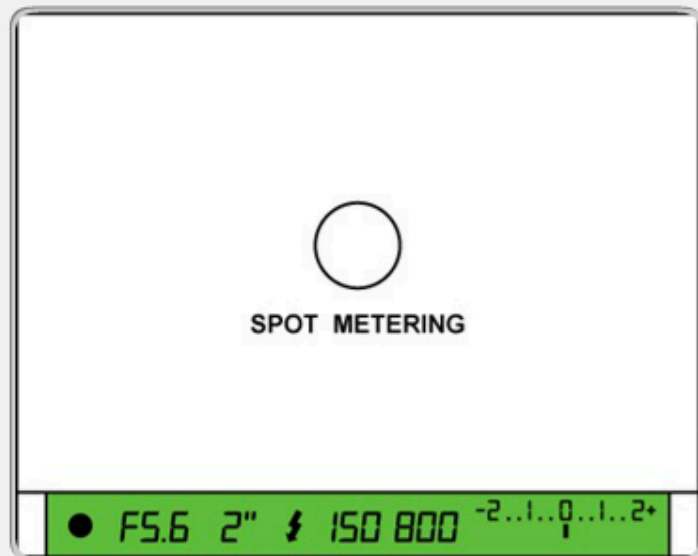
This is the metering pattern of choice for most photographers. It is very good at determining proper exposure in a majority of situations.

Centre Weighted Meter



Centre weighted metering is one of the more common styles of light meters built into cameras today. Approximately 75% of the metering area is directed towards the centre of the image, while 25% is distributed around the outside of the 'zone' of centre weighted metering.

Spot Meter

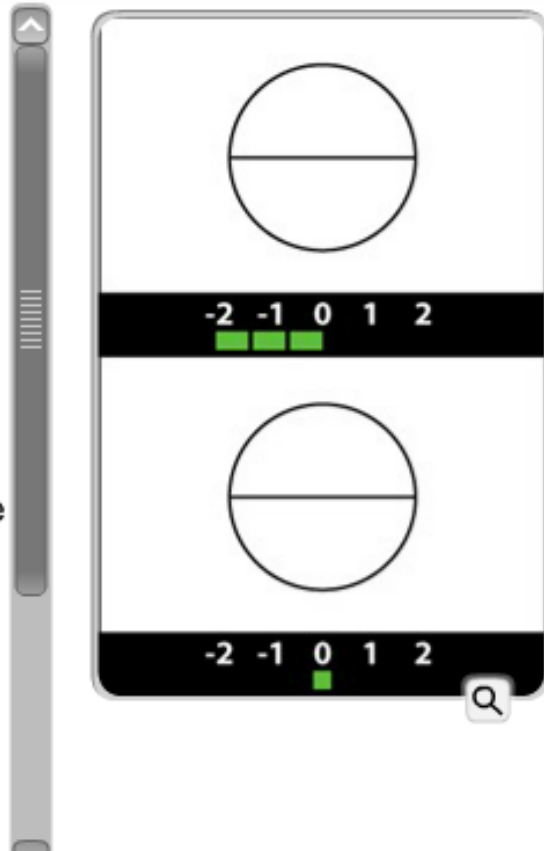


Spot metering is limited to a single metering circle in the centre of the frame and usually with an angle of view of somewhere between 12.5 degrees down to a one-degree spot. This system allows you to take an exposure reading for a more defined target area.

Digital Indicators

Instead of being an analog needle moving up and down, this digital indicator is a digital light moving left or right. In the first example, it is indicating that the exposure is pointing to the '-'. The camera is showing you that the image will be darker than "normal" and therefore, unless you want the image to be recorded dark you would adjust the shutter/aperture combination until the single light bar is back in the centre position. An advantage to the digital readout is that you can see whether you are over-exposing in half-stop or full-stop increments. On most of the newer cameras you can go into the menu selection and change the meter readout indicator from 1/2 stop increments to 1/3rd stop increments, which means you have a more refined meter evaluation of the scene.

In the second example, the single light bar is under the zero position, neither illuminating a succession of lights towards the '-' nor '+' end of the scale. The camera is suggesting the exposure is correct.



Film ISO

ISO stands for "international organization standards". ISO refers to the film or digital sensor's sensitivity to light. The lower the ISO, the less sensitive the surface (film or sensor) is to light. The higher the ISO, the more sensitive the surface is to light.

If 400, 800 or 1600 ISO film/sensor settings require less light to obtain the same exposure, then why wouldn't we use the higher ISO numbers all the time? Wouldn't we be able to take pictures in any conditions using a high ISO?

The answer lies in the composition of the film/sensor. The higher the film/sensor ISO number, the greater the sensitivity to light and also the greater the film grain size or increased sensor noise level. What this means to you is that while you have the ability to shoot in lower light, the detail of the subject will unfortunately not be as clear due to the film grain or sensor noise. The smaller ISO number settings are less sensitive to light and although you will need more light to get the correct exposure, the end result is a more detailed image with greater definition and colour tonality due to the smaller film grain size or decreased sensor noise level.

ISO Choices

The choice of ISO setting that not only allows you exposure control but also maximizes the detail of the image (grain or noise) must always be considered. ISO 100 is the normal film of choice. ISO 100 film speed offers very good grain/noise levels and moderate light capturing power for general shooting situations.

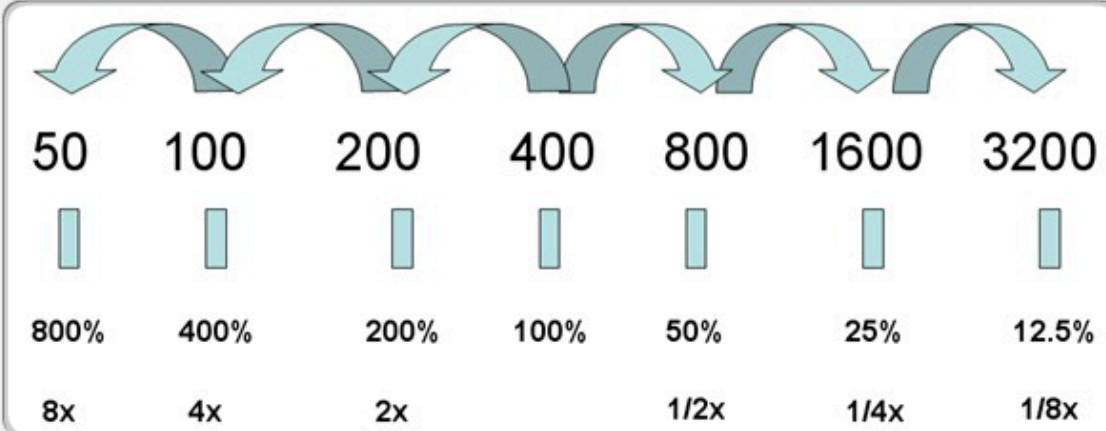
25 50 100 200 400 800 1600 3200

The ISO numbers listed above are the standard traditional film speeds. Anyone photographing with film can purchase these ISO film speeds. If you are photographing digitally, depending on the camera, you might have access to some of, all of, or more than the ISOs listed above.

The amount of light striking the film/sensor increases either in 2x (two times) the amount or 1/2x (half times) the amount, depending on which new ISO you choose.

Having a sensor or film ISO of 100 and then deciding to shoot at 200 ISO will tell the camera that it now only needs half the light for the same exposure. Changing from 100 ISO to 400 ISO means that you now need only a quarter of the light to take exactly the same image. On the other hand, shooting ISO 100 and then choosing 50 ISO setting tells the camera that now half the amount of light is required for the same exposure.

ISO Light Requirements



Starting with ISO 400 worth of light, then moving in full stops up or down, the film will require double or half the light depending on which new ISO setting was selected.

Starting with ISO 100 worth of light, then moving in full stops up or down, the film will require double or half the light depending on which new ISO setting was selected.

ISO Grain and Noise



100 ISO



Enlargement of 100 ISO Image



Enlargement of 1600 ISO Image

Digital File Formats

Most digital cameras will offer you the ability to save your images (files) in two or three possible file formats. The most common file format is JPEG (joint picture experts group). This form of file format saving is a lossy file format. Lossy means that some information from the image file is discarded when saving, allowing for smaller file sizes. By removing needless information, the file size can be reduced significantly.

JPEGs

All digital cameras allow for a variety of JPEG compression. A higher degree of compression reduces the file size but it also lowers the quality of the image. The quality of highly compressed JPEG images is fine for the web. The reduced quality of the same file would be very noticeable in a print enlargement though. If you take a fabulous shot captured with the highest JPEG compression, you might find that the largest print you can make from the file is a 4x6. Reducing the amount of compression will allow you to print enlargements of 16x20 or larger.

The degree of compression affects how many shots can be taken before your memory card is full. Better quality requires lower JPEG compression, which results in larger file size. Larger files take up more space on your memory card. They also transfer more slowly to your computer, take up more hard drive space and are processed more slowly by your photo editing software. Higher compression will reduce file size, transfer time, storage space and software processing time.

RAWs

The final option of a digital image file format is known as RAW. Each camera manufacturer has its own version of this format. Some manufacturers use a different RAW format for each model of their digital cameras. The advantage of RAW is that it is a non-lossy file format that is much smaller in size than a TIFF. Even though the file size is smaller, it contains all the information about how the shot was taken, and when. Currently, the disadvantage of shooting RAW is that you need proprietary software to open, view and manipulate the image. Otherwise, it is the file format of choice for professional photographers.

Shutter Speed and Subject Motion

The shutter in your camera affects two things, subject motion and exposure.

Subject motion:

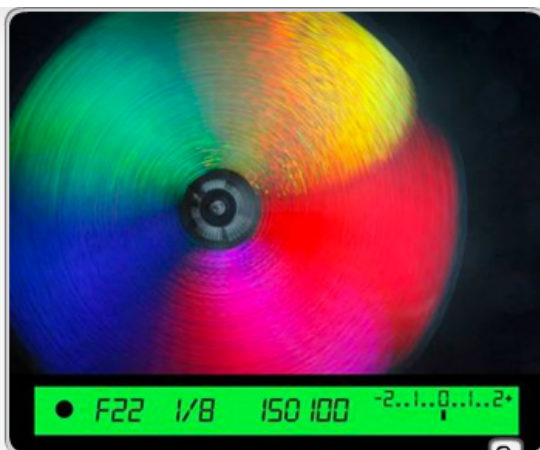
The shutter is a tool to control the amount of subject motion. By choosing the correct shutter speed, the photographer has the choice of showing motion or stopping motion within the image. This is one of the decisions to be made when setting up your shot.

30" 15" 8" 4" 2" 1" 1/2 1/4 1/8 1/15 1/30 1/60 1/125 1/250 1/500 1/1000 1/2000
1/4000 1/8000

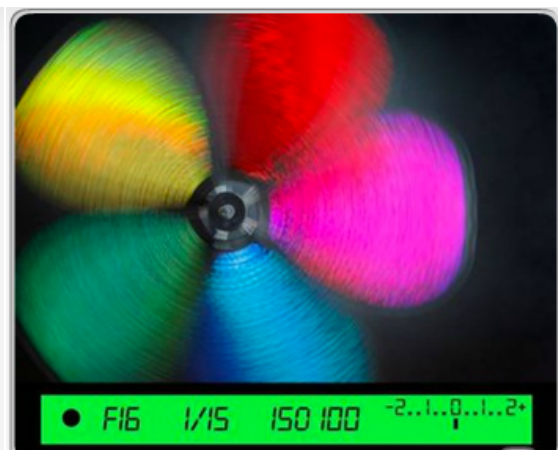
The numbers listed above are standard shutter speeds found on most cameras. The " marking denotes seconds. Your camera may not go all the way down to 30 seconds or all the way up to 1/8000 of the second, but all cameras will have 1 second to 1/1000 seconds.

Subject Motion Examples

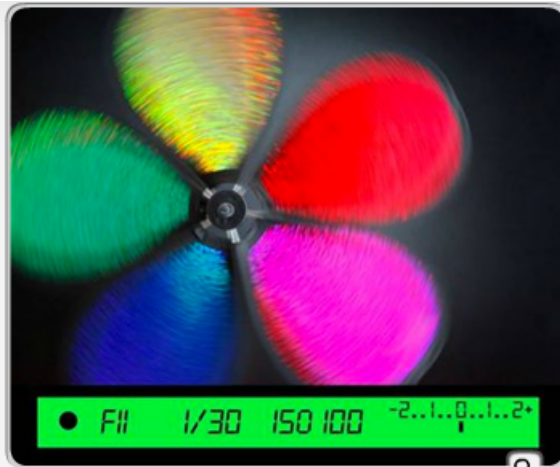
The slower the shutter speed, the less ability you will have to capture motion or to stop motion. The faster the shutter speed, the more likely you will be able to capture or stop motion. Keep in mind that showing or stopping motion depends on the motion of the subject to begin with, and your film ISO choice.



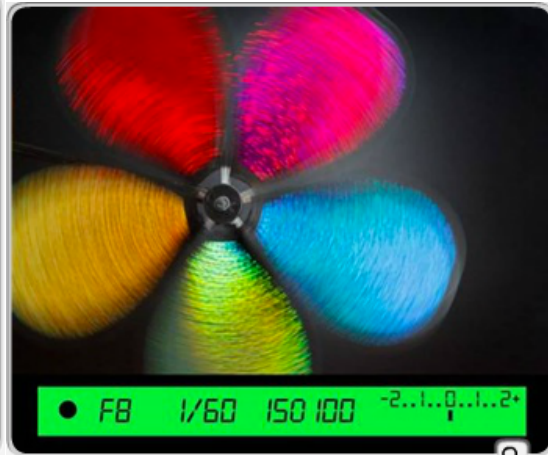
Shutter speed = 1/8th second



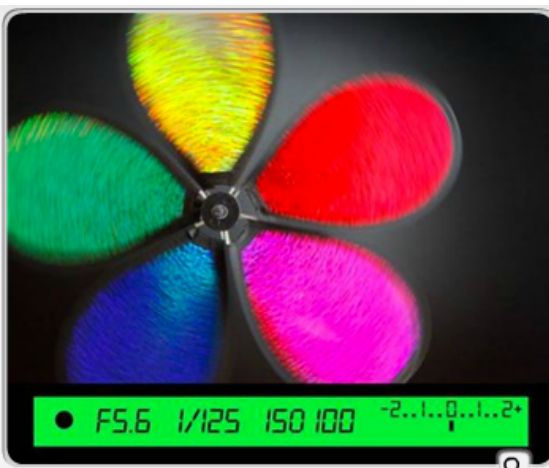
Shutter speed = 1/15th second



Shutter speed = 1/30th second



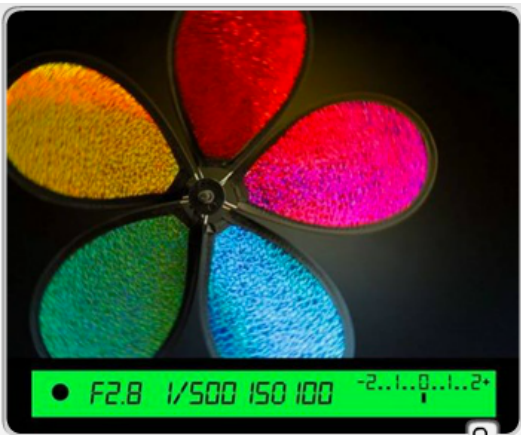
Shutter speed = 1/60th second



Shutter speed = 1/125th second



Shutter speed = 1/250th second



Shutter speed = 1/500th second

Shutter Speed and Exposure

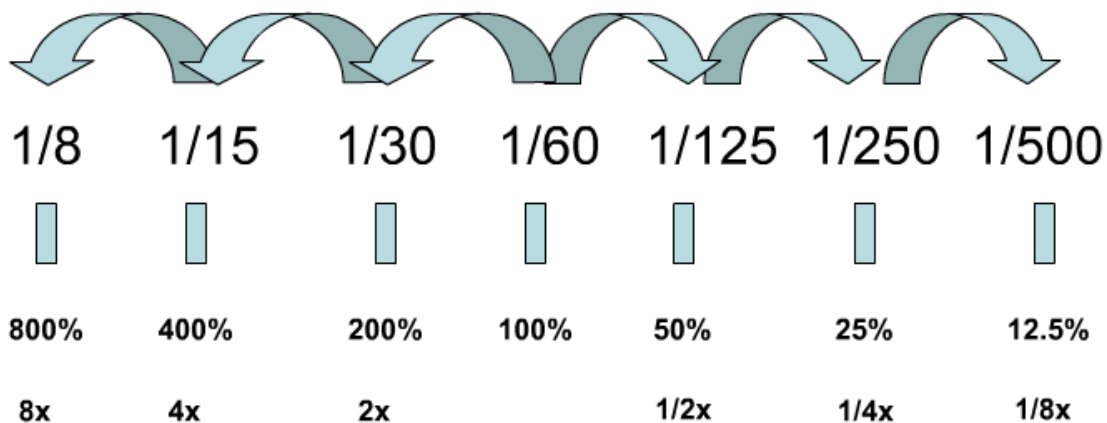
The shutter in your camera affects two things, subject motion and exposure.

Exposure:

As well as the shutter being used as a tool for composition, the shutter is also half of the control of exposure. The aperture is the second part of the equation needed for correct exposure. Longer shutter speeds allow more light to strike the film or sensor. Shorter shutter speeds reduce the amount of light striking the film or sensor.

Shutter speeds are measured in fractions of a second. Moving a full stop from one adjacent shutter speed to the next allows either double or half the amount of light through, depending on which way you move. For example, having an original shutter speed of $1/60$ of a second and then moving to $1/125$ th of a second will allow $\frac{1}{2}$ the amount of light through.

Shutter Speed Chart



Starting with $1/60^{\text{th}}$ sec. worth of light, then moving in full stops up or down, will cause a doubling or halving of the light intensity, depending on which way the shutter speed was changed.

Starting at $1/500^{\text{th}}$ sec. then moving in full stops up or down, will cause a doubling or halving of the light intensity, depending on which way the shutter speed was changed.



8 seconds @ f22



4 seconds @ f22



2 seconds @ f22



1 second @ f22



1/2 second @ f22



1/4 second @ f22

Aperture and Depth of Field

An aperture is a hole or an opening through which light travels. The aperture setting on your camera affects two things, depth of field and exposure.

Depth of Field:

The depth of field is the portion of a scene that appears sharp in the image. The aperture is used to control the amount of depth of field recorded. By choosing the correct aperture, the photographer has the choice of showing greater depth of field or less depth of field within the image. How much of the image should be in focus is another decision you need to make when setting up your shot. Do you want your subject clear and the background blurry?

f1.4 f2 f2.8 f4 f5.6 f8 f11 f16 f22 f32

The numbers listed above are the standard aperture settings found on most cameras. The aperture setting is also called the f-stop. Your camera may not go all the way down to f1.4 or all the way up to f 32 but you will likely have most of these f-stops.

The smaller f-stops (i.e. f2.8 or f4) open the aperture wider and result in less depth of field or a smaller amount of focus in front of and behind the subject. The larger f-stops (i.e. f11 or f16) open a smaller aperture and result in greater depth of field or a larger amount of focus in front of and behind the subject.

Aperture and Exposure

An aperture is a hole or an opening through which light travels. The aperture setting on your camera affects two things, depth of field and exposure.

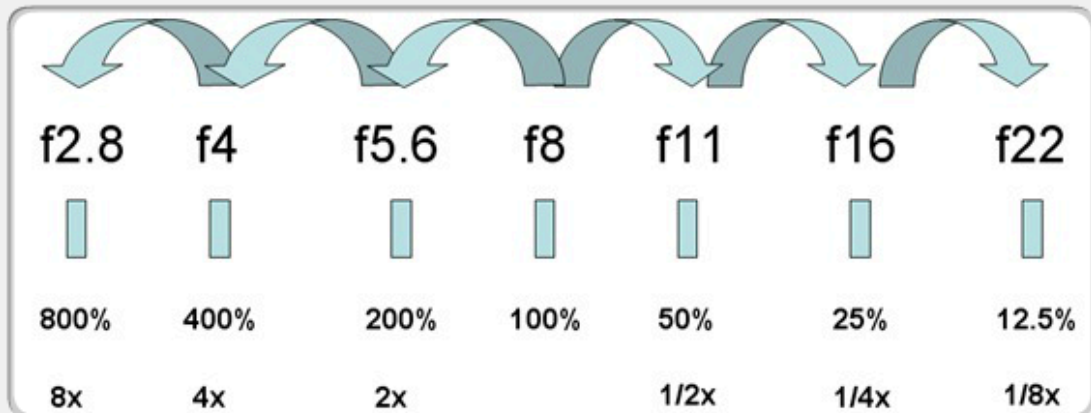
Aperture setting and exposure:

As well as the aperture being used to control depth of field, the aperture is also used to control the amount of light hitting the film/sensor and it is half of the tools necessary for exposure. The shutter is the second part of the equation needed for correct exposure.

The smaller f-stops (i.e. f2 or f2.8) allow the lens to have a bigger opening or a larger aperture, allowing more light to pass through the lens to strike the film/sensor. Higher f-stops (i.e. f16 or f22) set the lens to a smaller aperture and therefore allow less light through the lens.

Moving a full stop from one adjacent f-stop to the next allows either double or half the amount of light through, depending on which way you move. For example, having an original f-stop of f11 and then moving to f16 will allow half the amount of light through.

Aperture Chart



Starting with f8 worth of light, then moving in full stops up or down will cause a doubling or halving of the light intensity, depending on which way the aperture or f-stop was changed.

Starting at f16, then moving in full stops up or down, will cause a doubling or halving of the light intensity, depending on which way the aperture or f-stop was changed.



f4



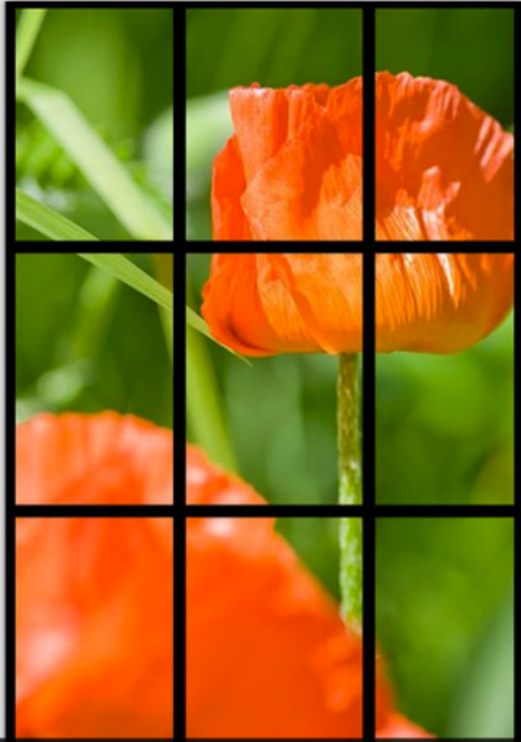
f16

Rule of Thirds

Whenever we use the camera to capture a creative idea, a picture of our best friend, the family pet or a spectacle of nature, we accept the fact that usually the camera can only capture a smaller portion of the whole picture. How you place the subject within the frame will help determine the impact of the final image. Knowing that you must consciously place the subject within the framing available to your specific camera, the most common strategy is to apply the rule of thirds. Instead of placing the subject in the middle of the frame and pressing the shutter button, the subject will usually have more impact if it is placed off centre within the image.

When considering how to apply the rule of thirds, always keep in mind that all film and sensor formats can be subdivided into nine equal sections. Simply divide the frame horizontally by two equally spaced lines and vertically by two equally spaced lines. Placing the subject at the intersection of one of the horizontal and vertical lines gives the focal point (your subject) more visual energy, more visual interest and more visual weighting or strength.





Example 2

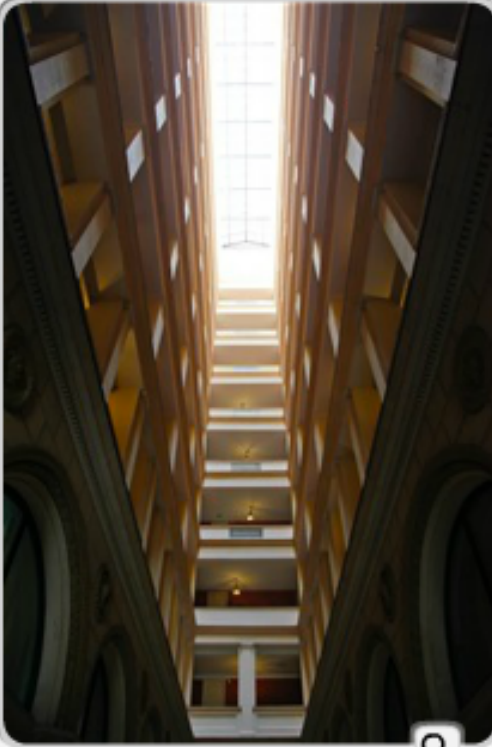


Example 4



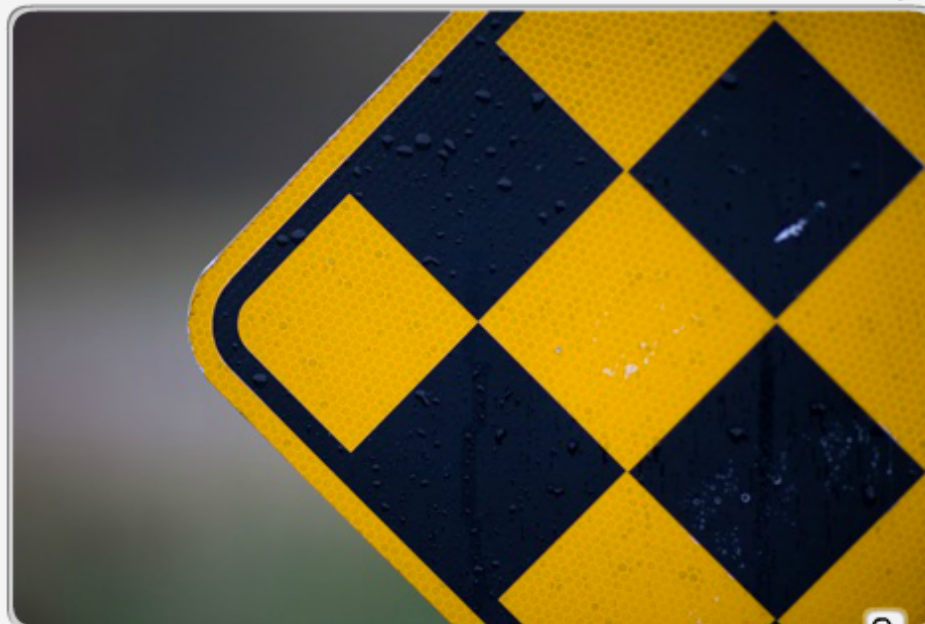
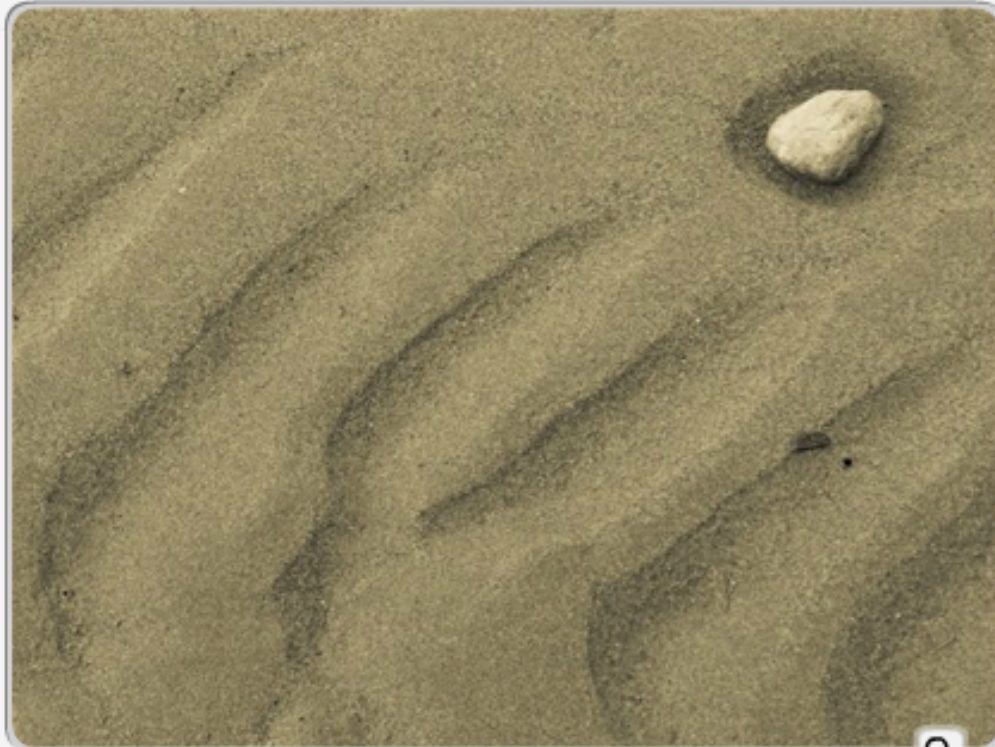
Formal or Symmetrical Balance

Image patterns uniformly placed or balanced give visual strength or weight. The subject matter on both sides or top and bottom of the image has the same visual weight.



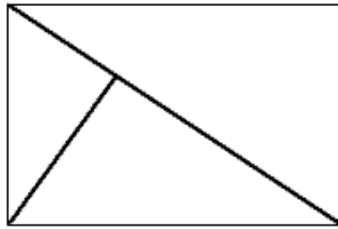
Informal or Asymmetrical Balance

Image patterns will have a stronger visual weighting or strength on one side or part of the frame. The subject stands out from the rest of the frame in some way. Either the subject itself is very different from the rest of the frame or perhaps the tone, colour or brightness of the subject contrasts with the rest of the image. Its position enhances the contrast between the subject and the rest of the frame.



Golden Triangle

Another way to compose an image is to place your subject so that it follows the golden triangle rule. To apply the golden triangle rule, divide the image into 3 triangles with equal angles but different sizes. Placing the subject along the diagonal line where the smaller triangles intersect will give that subject more weight and impact.



Should the image be captured as a horizontal or a vertical?

The best way to find out which format is a better capture is to try the camera in both positions before you press the shutter. Usually, one way will have a stronger visual appeal.





Is the image level?

Many photographers are usually so concerned with the main subject that they never notice that the horizon is not straight. Having to correct this later in the print often leads to undesirable cropping that will require the removal of some subject material on the edges of the frame.



What is the best camera position?

Many beginning photographers only consider the subject and not the rest of the components in the frame. A common mistake is to shoot downwards on a subject, showing the viewer a less desirable angle of the subject.



The flowers are intended to be the centre of attention but with all of the dirt in the background, the image seems more like a snap shot.



By changing the camera position to photograph across the flowers instead of down, there is no dirt to contend with. All attention is now directed only on the flowers.

Is there anything in the background that might interfere with the subject?

Is there too much background? Are there any items from the background that are protruding from the subject? Photographers become so focused on the subject that they can be unaware of things in the background and how they affect the subject. Many beginners do not get close enough to their subject and therefore the background becomes as visually important (and sometimes more so) as the subject.

Reposition yourself until the subject is properly placed within the viewfinder frame.



The subject is too far away and the background is distracting.



The subject is getting closer but a telephone pole is sticking out the top of the statue and the background is still distracting.



The subject is a nice size in the frame, but so is the light pole and fencing in the middle right of the frame.



The subject is well presented in the frame.

What about the light source – photographing in natural or artificial light and how will that affect my subject?

Human vision automatically corrects for different light sources. The traditional film camera will not correct for different light sources and digital cameras will attempt to correct but they are hit and miss in their accuracy. For beginners, when photographing in colour it is best to photograph using natural daylight.



Light source = daylight



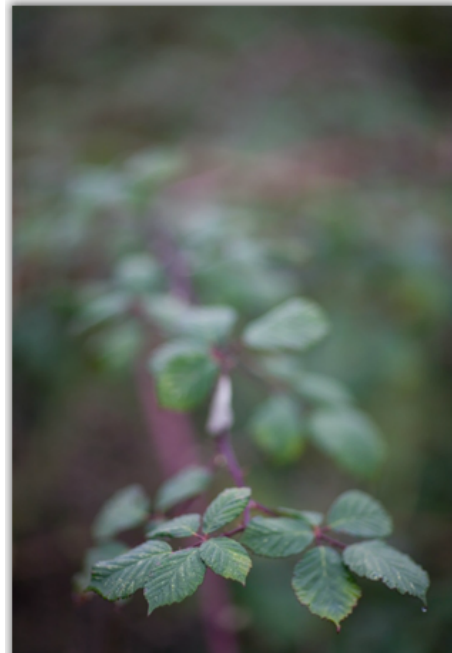
Light source = tungsten (house light)



Light source = fluorescent

Should the image contain a large depth of field or would the subject benefit from a shallow depth of field?

With each photograph, the photographer must consider how the subject will be best represented using the visual focus technique of depth of field. A large aperture might result in less depth of field and therefore more focus on the subject. A smaller aperture might put more of the foreground and background in focus which might enhance the visual impact of the image. There is not one correct aperture to use for all image captures. When learning about depth of field as a novice photographer, experiment with different aperture settings.



Large aperture = small depth of field



Small aperture = large depth of field

Light Quality

Photography is the process of capturing light on chemical or electronic media to record images. Light is needed to physically capture the image. Of equal or possibly greater importance is the availability and condition of the light. The quality of the light defines the atmosphere of the photograph.

The photographer must be keenly aware of the quality of light and how it affects the visual representation of the subject in the final image. Before the shutter button is clicked, considering the light source is crucial in understanding and predicting what the final image will look like. Is the light source a hard light or a soft light? Is the light natural or artificial? Is the photograph being taken from the illuminated side or from the shadow side? Will the light be better at a different time of day when the shadows created would be less or is it better to have stronger shadows? Does the light make the image more or less dramatic? Is it better to take the image on a sunny day or would an overcast sky offer a more intriguing lighting element?

These are some of the considerations that the photographer must make during the moments leading up to the taking of the photograph.



Example 1



Example 2



Example 3

Critiquing Images

Analyzing and critiquing yours and other photographers' images is a great way to expand your photographic skill and vision. Look at your work and that of others and consider the use of light, focus and depth of field. This will help in your understanding of the ways in which these components can be combined to create strong images. Discussing the positioning of subjects within the frame, the placement of colours or tones and how they affect the mood or spirit of the photograph is an excellent way to enhance your own level of photographic awareness.

Placing your images 'out there' for everyone to look at and make comment on is not an easy thing to do. Joining a group that shares in the joy of photographic excellence, and that openly invites participants to join in on thoughtful, informative discussions is an excellent opportunity for you to grow as a photographer.

Points to Critique

Consider these common points when critiquing images:

- How is the exposure?
- Is the image or subject in focus?
- Is there proper placement of the subject in the frame?
- Are the other elements in the composition a good balance and an effective addition to the subject?
- Is there considerable thought behind the making of this picture or is it simply a snapshot?
- What about the use of colour, or its absence, if the shot was taken in B&W? Was this the right choice for the image as it was presented?
- Was your eye directed to the proper point in the image or do you find that there does not seem to be any centre or focal point?

These are but a few points to consider as you look at a photograph. Since each new image is different, the same critique will never happen twice and there will always be something new to learn.

Application of Photographic Knowledge



Image: Karl Weatherly/Photodisc/Getty Images

It is time to put into practice and improve upon all of your newly learned skills. You now have a strong understanding of basic camera functions as well as a fundamental understanding of exposure, focus, and depth of field and the rules of composition. All of these things are needed to create strong images.