

DSLR FOCUS MODES



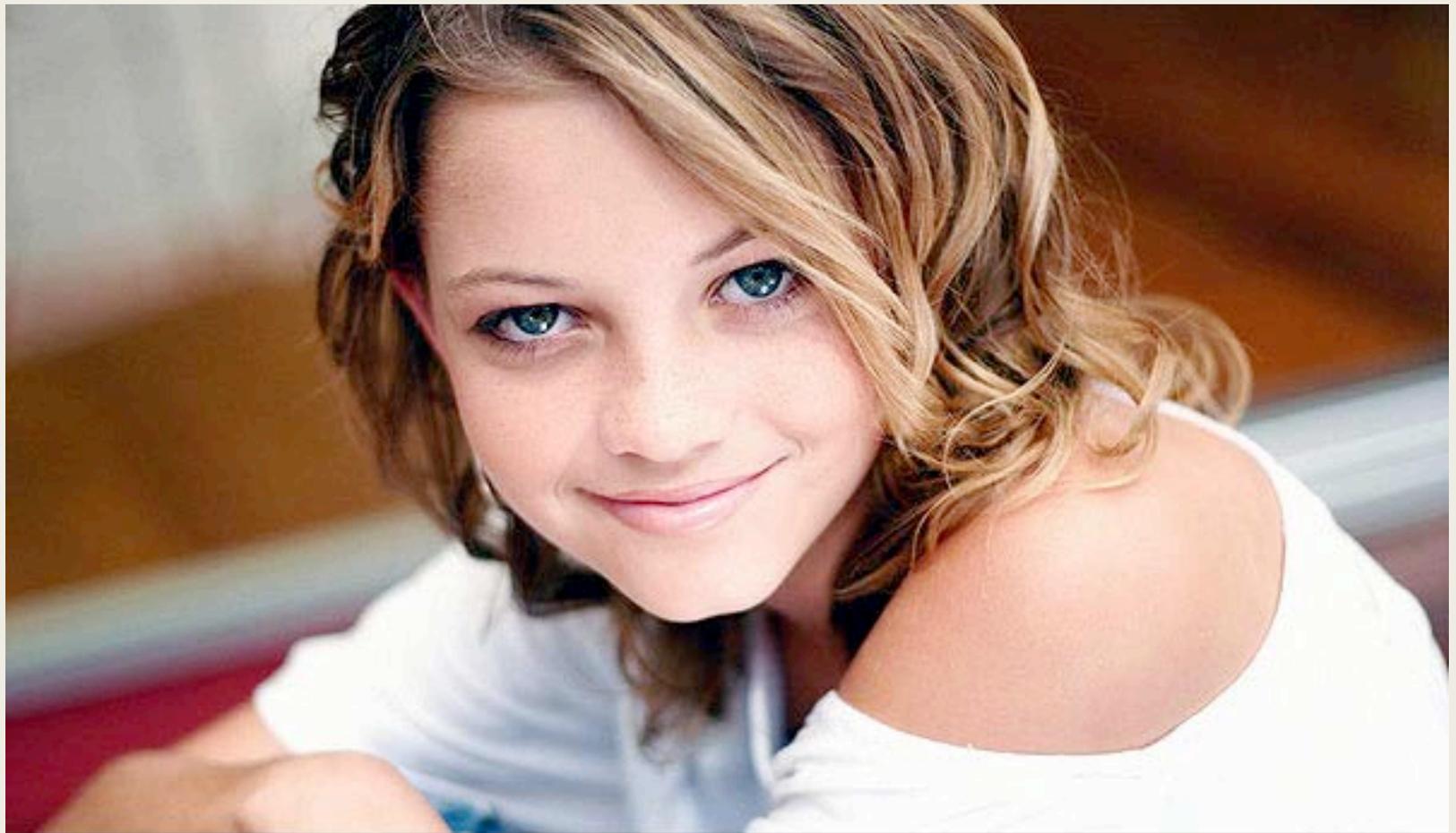
Single/ One shot Area
Continuous/ AI Servo
Manual

Single Area Focus Mode

- The “Single Area AF”, also known as “AF-S” for Nikon or “One shot AF” for Canon.
- A pretty straightforward way to acquire focus. You pick one focus point and your camera will look for contrast just in that single focus point.
- When you half-press the shutter or press a dedicated AF button, the camera will snap into focus once and if your subject moves, it won't reacquire focus even if you continue half-pressing the button. The focus remains “locked”. The Single Area AF mode often requires the camera to lock into focus before allowing you to take a picture, so if focus is not acquired or your subject moves, pressing the shutter will do nothing (due to focus error)
- Try using Single Point AF-Area Mode when photographing landscapes, architecture and other stationary subjects.



Single-Point AF-Area Mode



SHUTTER SPEED: 1/1600

APERTURE: F/1.8

ISO SPEED: 200

FLASH: FIRED

Continuous/AI Servo Focus Mode

- Another focus mode available on all modern DSLRs is called “Continuous/AF-C” (Nikon) or “AI Servo” (Canon).
- AI Servo AF (Canon)/AF-C (Nikon) stands for Continuous Focus and this mode is most useful for keeping moving objects sharp within the viewfinder as you track the object. As soon as you begin to depress the shutter release, the camera goes into action and begins to focus.
- The nice thing about the Continuous mode, is that it will automatically readjust focus if you or the subject move. All you need to do is continue half-pressing the shutter button or holding the dedicated AF button (if you have one) on your camera and the autofocus system will automatically track any movement
- This mode is used for tracking moving subjects and it is a must for shooting sports, wildlife and other non-stationary subjects.

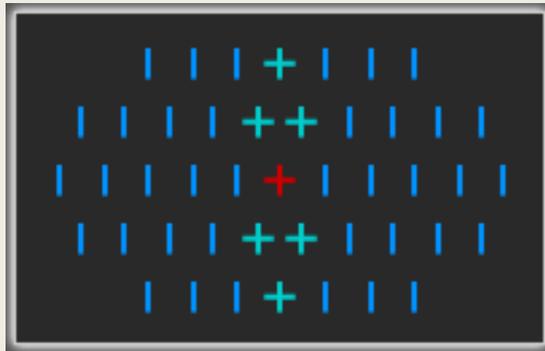


SHUTTER SPEED: 1/750 APERTURE: F/9.5 ISO SPEED: 200 FLASH: NOT FIRED

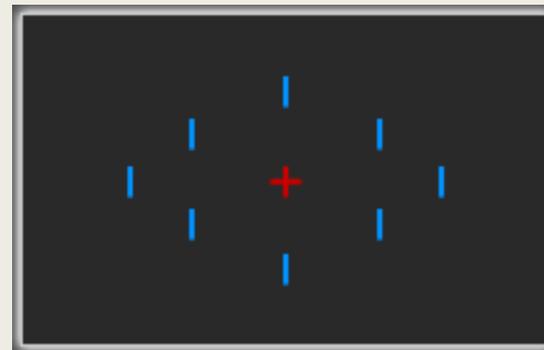
Auto Focus Points

Number & Type of Auto Focus Points

- The robustness and flexibility of autofocus is primarily a result of the number, position and type of autofocus points made available by a given camera model. High-end dSLR cameras can have 45 or more autofocus points, where as other cameras can have as few as one central AF point. Two example layouts of autofocus sensors are shown below:



High end dSLR



Entry-midrange

Manual Focus Mode

- Manually focusing the camera is perhaps the most frustrating barrier between good and great photography.
- Achieving perfect focus requires using the distance measurements on the lens barrel and even perhaps measuring the distance from the lens to the subject with a tape measure; high-end photographers shoot products this way, and so do fine art photographers who are using medium format cameras. This will give you the most accurate focus point. What if you can't take a tape measure up to a subject? Well, you have to rely on your internal sense of sharpness and know the critical focus zone that you have at the specified aperture.
- There is a diopter adjustment on most DSLRs (it's right next to the viewfinder) that lets you make minute adjustments to the focusing capacity based upon any irregularities in your individual eyesight.
- You can also use the Depth of Field preview button to help determine focus, but this is a more advanced technique. Manual focus is important when you focus on a non-traditional subject, for example, a subject that is in the background when the foreground is busy and dominating.

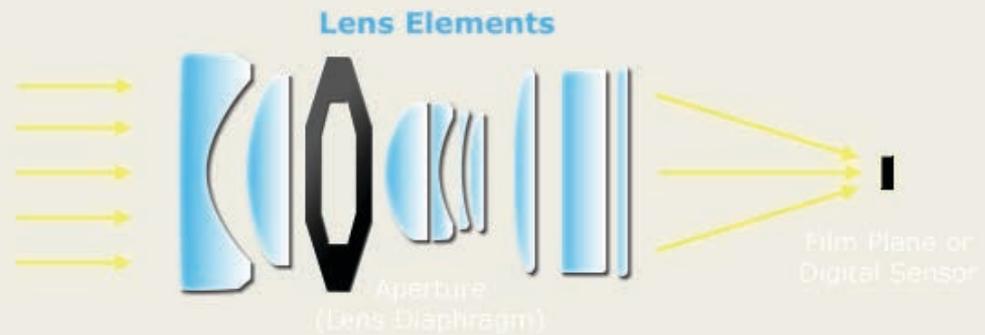
Drive mode

Continuous shooting



SET OK

Drive Modes



LENSES

Aperture is the opening inside a camera lens. The size of the opening determines the amount of light passes through onto the film inside the camera when the shutter opens during an exposure process.



The size of the aperture is indicated by its f-stop or f-number, i.e. f22 (f/22), 16 (f/16), f/11, f/8.0, f/5.6, f/4.0, f/2.8, f/2.0, f/1.8 etc. The larger the f-stop is, the smaller the aperture is, and the slower shutter speed is required to properly expose the film.

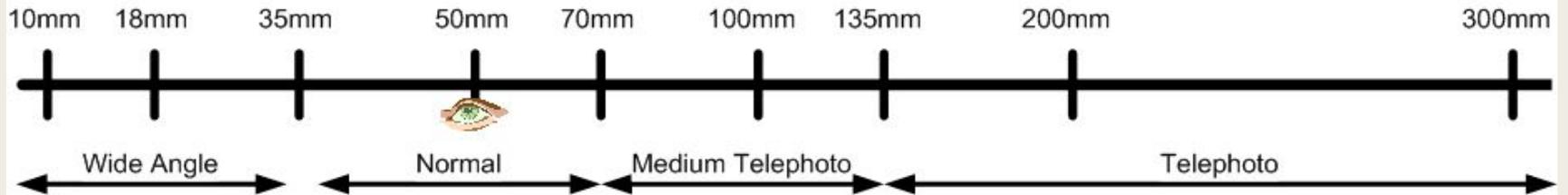
Focal Length

Focal length is the measurement (in millimeters) from the optical center of a camera lens to the camera's sensor.

The optical center is also known as the focal point. For all lenses (including primes) the focal length changes depending on what the lens is focusing on. For example a 50mm lens when focusing to infinity will have a focal length of 50mm, but when focusing on an object 1 meter away the focal length needs to be moved 2.6mm further away from the camera sensor to be in focus. Thus what you thought was a 50mm image is actually a 52mm image.

Lens Focal Length*	Terminology	Typical Photography
Less than 21 mm	Extreme Wide Angle	Architecture
21-35 mm	Wide Angle	Landscape
35-70 mm	Normal	Street & Documentary
70-135 mm	Medium Telephoto	Portraiture
135-300+ mm	Telephoto	Sports, Bird & Wildlife

Focal length



18mm



50mm



100mm



200mm



300mm

Suitable for:

Architecture,
Landscape

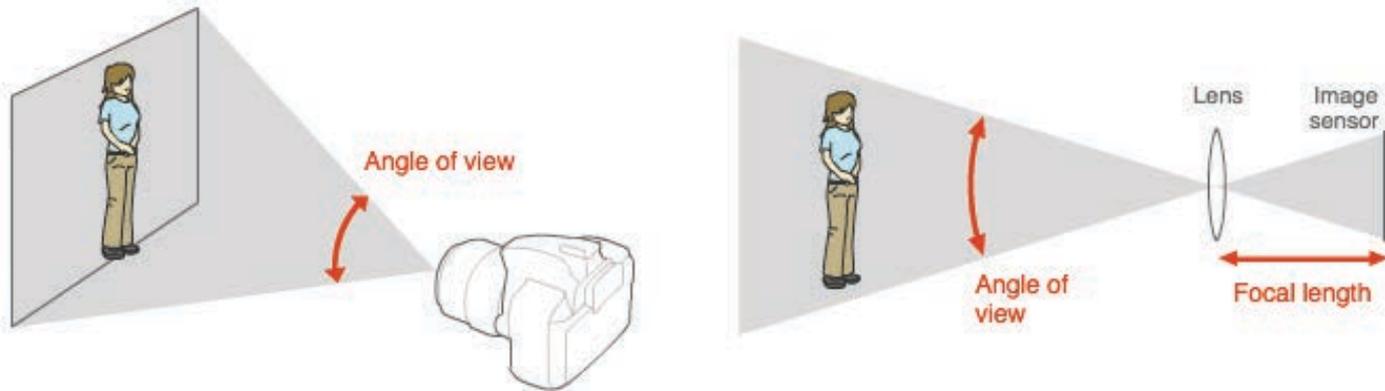
Street,
Documentary

Portraiture

Sports, Birds, Wildlife

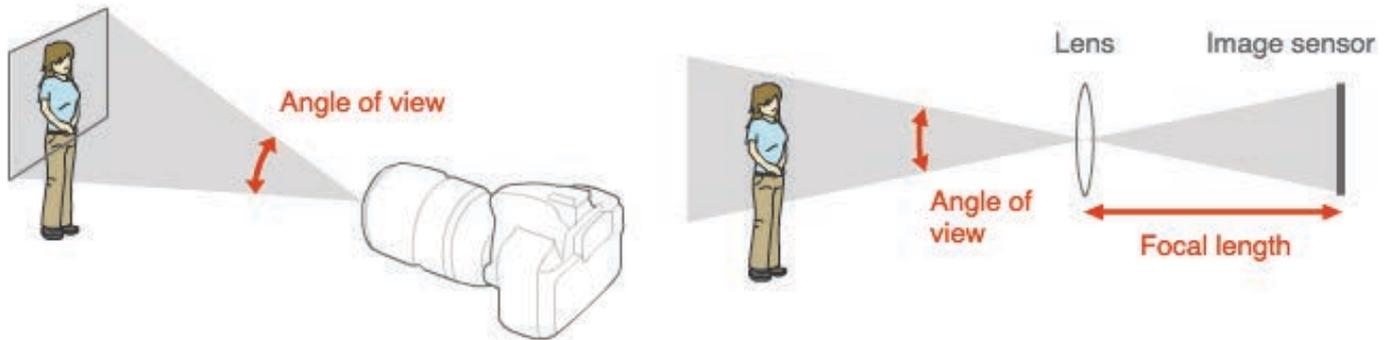
Wide Angle Lenses

| Lens with a short focal length (wide angle of view)



Long Lenses

Lens with a long focal length (small picture angle)



Picture angle



Focal length: 12 mm



Focal length: 24 mm



Focal length: 50 mm



Focal length: 70 mm

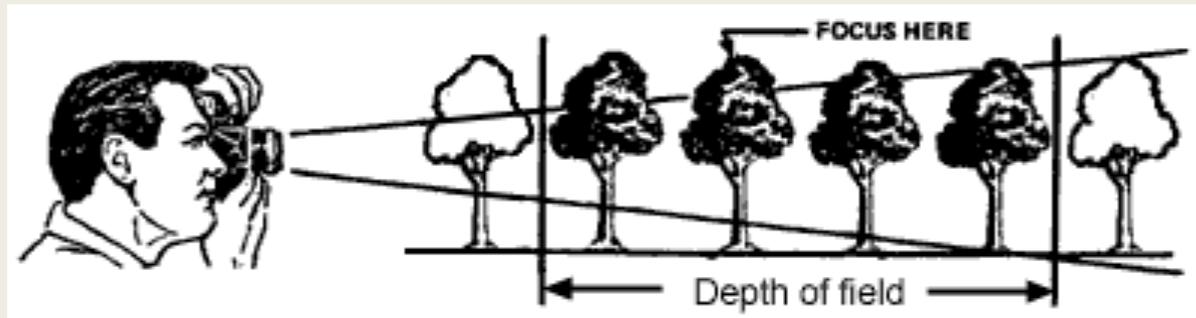


Focal length: 135 mm



Focal length: 200 mm

Control over the sharp and unsharp parts of the image can be of considerable importance for the success of a photograph. Traditionally, *the depth of field* (DOF) is a great source of confusion among photographers. To blur or not to blur, that is the question. The latter is a matter of DOF, the former not per se.



Depth of field is defined as the range of object distances within which objects are imaged with acceptable sharpness.



200mm



85mm



50mm

**All
lenses
at f/2**



***Sharp in focus**



***Sharp in focus**



***Sharp in focus**

Zoom Vs. Prime

Lenses with focal lengths that can change are called zoom lenses and those that remain fixed are called prime lenses.

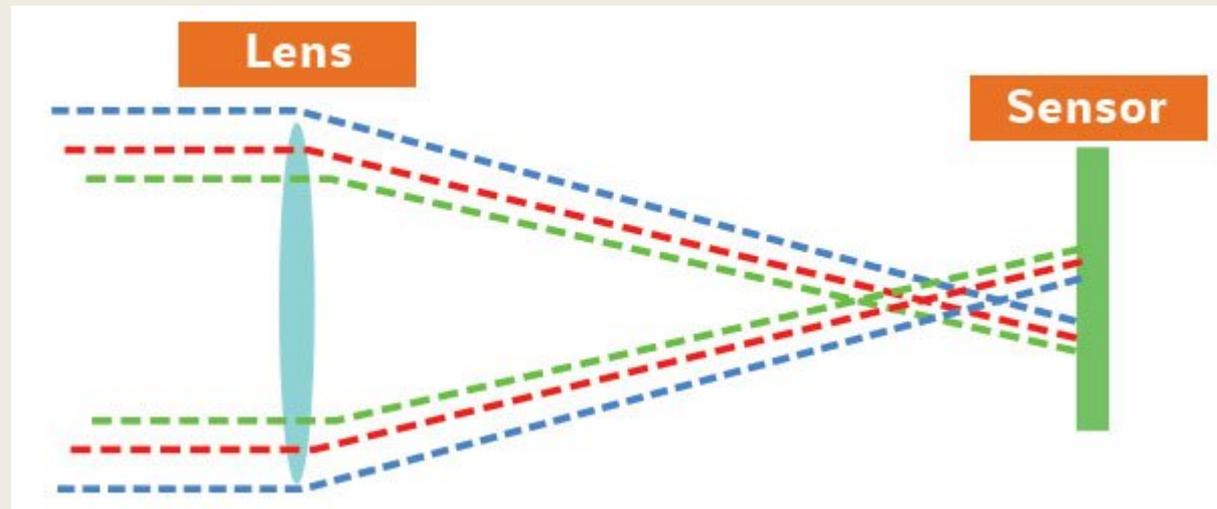
When comparing equally priced prime and zoom lenses, prime lenses usually will produce a better image. This is because zoom lenses require many moving parts that hinder light's ability to move through the lens. Professional photographers do use zoom lenses for their work (like the Canon 70-200mm), but it's more typical for high-end productions to use prime lenses, as they let in more light. Lenses that come with a camera (kit lenses) are usually zoom lenses.

Wide angle vs. Normal



Chromatic Aberration

Chromatic aberration (also known as color fringing or dispersion) is a common problem in lenses which occurs when colors are incorrectly refracted (bent) by the lens, resulting in a mismatch at the focal point where the colors do not combine as they should.



How to reduce it...

22 16 11 8 5.6 4 2.8 2 1.8 1.4

Stop down on your aperture



Try using a prime lens

Try and center frame your subject-
Sharpest part of the lens.

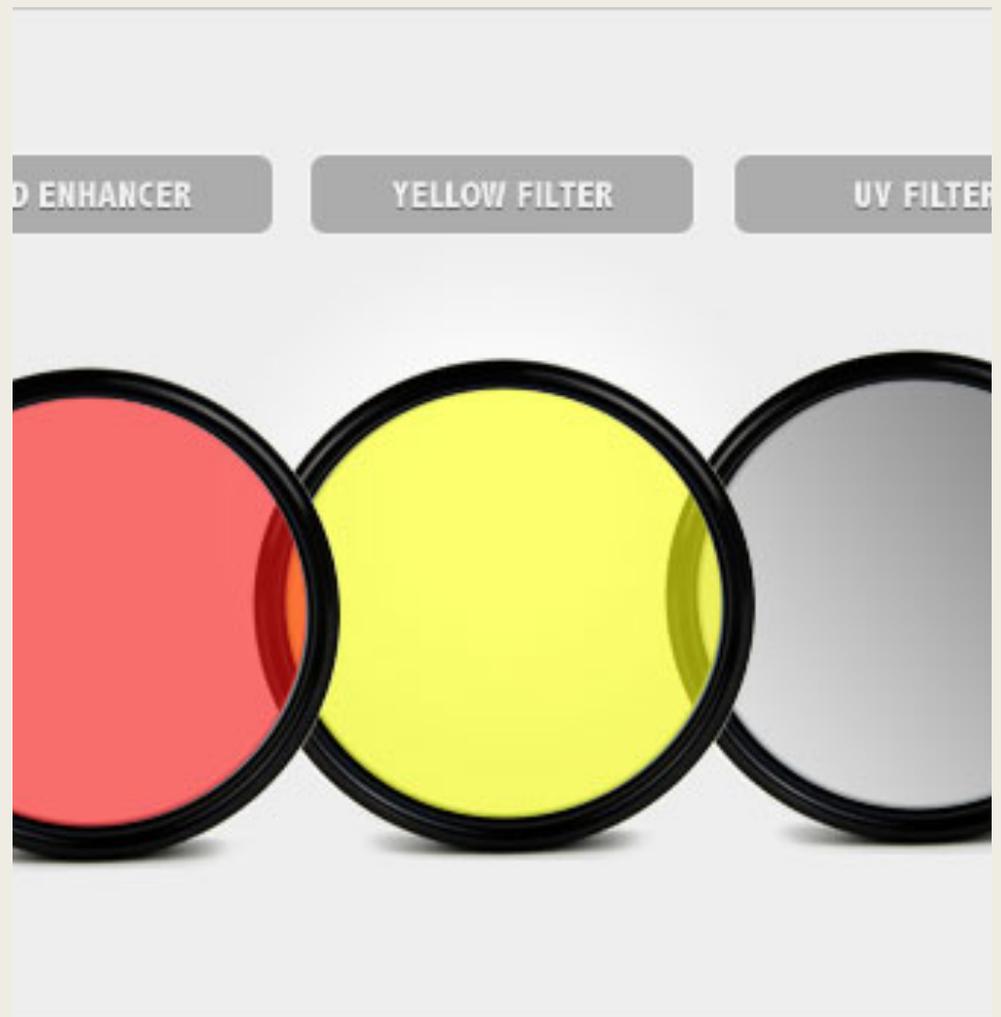
The image features two large, thick black L-shaped corner brackets. One is positioned in the top-left corner, and the other is in the bottom-right corner, framing the central text.

LENS FILTERS

Filters change the dynamics of light entering the lens and usually require you to alter your exposure to compensate for this fact.

Screw In Filters

Fit directly onto your lens, the threads at the edge of the lens barrel lock this filter onto the lens. Easy to put on and take off.



Slot In Filters

A filter holder is placed on the lens adapter ring and the filters are dropped into the holder.



UV Filter / Skylight Filter

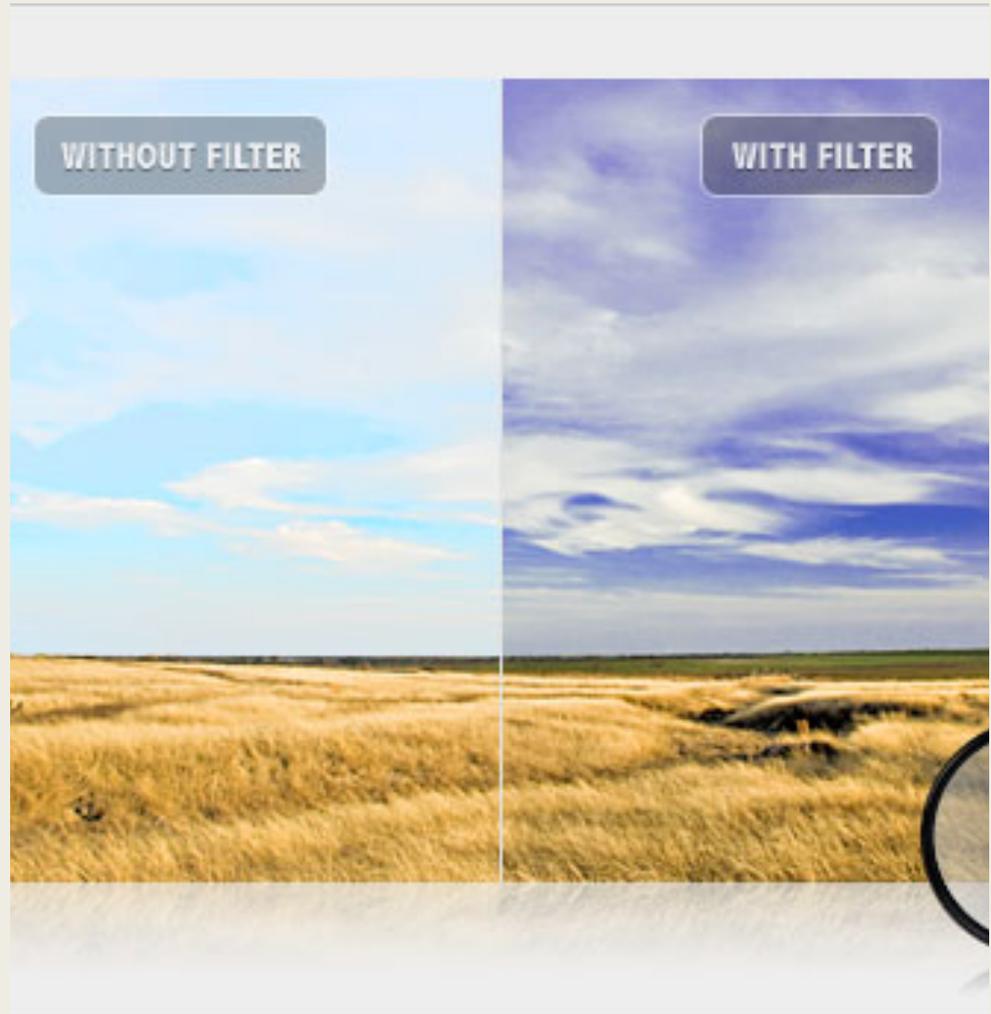
Ultra violet filters are transparent filters that block ultra-violet light, in order to reduce the haziness that is noticeably apparent in some daylight photography.

Good as a lens protector as they do not affect the majority of visible light. There are some stronger UV filters that cut the atmospheric haze.



Polarizing Filter

This filter is used to darken overly light skies as it increases the contrast between clouds and the sky. Typical function of a polarizer is to remove reflection from water and glass



POLARIZING FILTER



Color Balance Filters

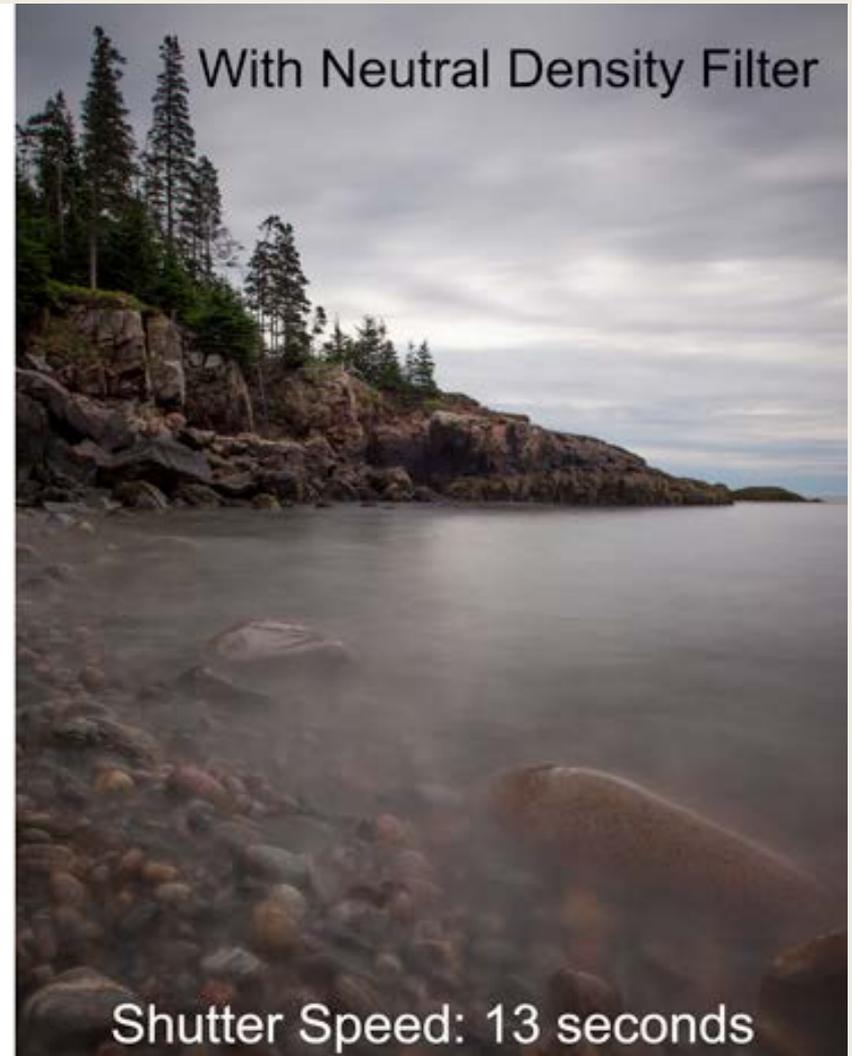
Visible light is made up of a multiple color spectrum. In photography you have to make a choice to capture images with the camera's white balance set to record proper color for each temperature. You can use color balance filters to compensate for various differences in the photographed color of light.



Neutral Density Filter

This filter uniformly reduces the amount of light entering the lens. The ND filter is helpful when the contrast between highlights and shadow is too great to get a quality exposure. Also enables greater motion blurring and image detail allowing large aperture and or a slow shutter speed to be used.







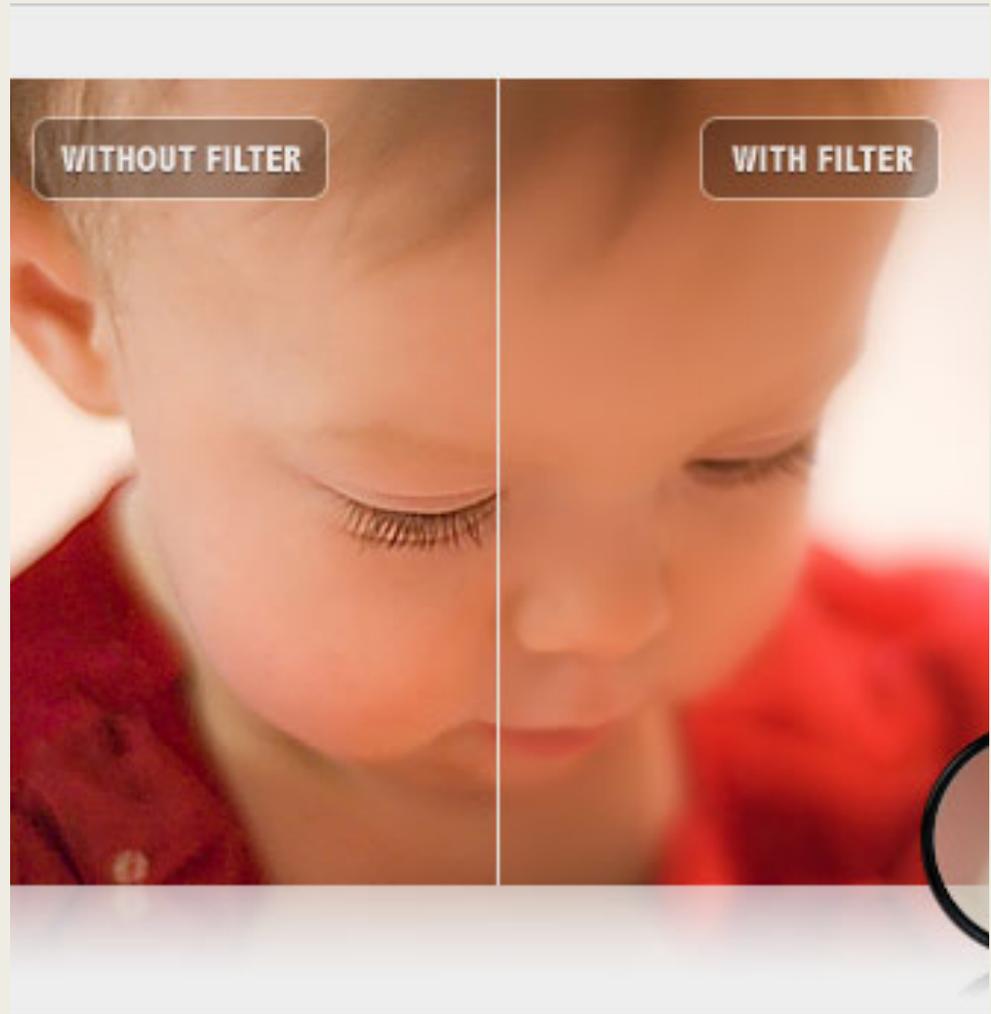
circular Pol-Filter
1/30sec f/8,0 ISO100 22mm



circular Pol-Filter + 1000x ND-Filter
57sec f/8,0 ISO100 22mm

Soft Focus Filter

These filters do exactly that, they reduce the sharpness of an image but only to an extent that is barely noticeable.



Star Filter

These filters do exactly that, they create star shapes around lights..



Filters for B&W Photography

There are specific filters for B&W photography that lighten similar colors and darken opposite colors, enhancing the monochromatic look. Red, orange, yellow, green and blue filters- landscape photographers like red filters to add drama.



Camera Simulator

<http://www.canonoutsideofauto.ca/play/>

Auto Exposure BRACKETING

