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# Photography

Stop using the wrong Aperture

## Terminology

Photography:
The word photography comes from two old Greek words “phos” meaning light and “graph” meaning to draw. So photograph literally means to draw with light, or a drawing made with light. So photography is the art of drawing with light.
Aperture:
The variable opening in the lens through which light passes to the film or digital sensor. Measured in f-stops.
Bracketing:
Taking a series of images at different exposures or EV. You may see a setting on your camera that says AEB (auto exposure bracketing). This is often used when creating HDR images or in difficult lighting situations where you may want to have a range of exposures from light to dark.
Bulb:
The “B” setting on your camera where the shutter remains opened as long as the button or cable release (remote trigger) is pressed.
DSLR:
Digital single-lens reflex camera. Any digital camera with interchangeable lenses where the image is viewed using a mirror and prism, and the image is taken directly through that lens. What you see in your viewfinder is what the lens sees.
EV:
Exposure Value is a number that represents the various different combinations of aperture and shutter speed that can create the same exposure effect.
Exposure compensation:
Modifying the shutter speed or aperture from the camera’s recommended exposure to create a certain effect (over or underexposing) – usually used in the Shutter Priority or Aperture Priority modes. Represented by a little +/- button on your camera. Your camera reads light bouncing off your subject and is designed to expose for medium grey. So when photographing a subject that is lighter or darker than 18% grey, you can use this setting to tell the camera the proper exposure (- or + respectfully)
Exposure:
The total amount of light reaching the digital sensor. It is controlled by setting the aperture, shutter speed and ISO. Discover how these 3 elements work together in our article on the Exposure Triangle.
F-stop – is a measure of the aperture opening in the lens defined by dividing the focal length of the lens by the aperture diameter. Sequence of f-stops are multiples of the square root of 2 (1.414…): 1, 1.4, 2, 2.8, 4, 5.6, 8, 11, 16, 22, etc. Even though these numbers are rather cryptic, just remember that each step is double the amount of light. Know that and it’s half the battle.
ISO:
Stands for International Standards Organization and represents the sensitivity of your camera’s digital sensor to light. The lower the number (ISO 100), the less sensitive, the higher the number (ISO 3200) the more sensitive. A higher ISO allows you to shoot in low light conditions.

Shutter speed:
The amount of time the shutter is opened during an exposure. The shutter speed controls motion. Use a fast speed (like 1/2000th of a second) to freeze motion, or a slow one (1/4 of a second or longer) to blur moving objects.
Zoom lens:
Any lens that has variable focal lengths such as a 24-70mm or 18-55mm. You zoom in or out by rotating the barrel of the lens.
Prime or fixed lens:
Any lens that does not zoom and is a set focal length such as a nifty 50mm lens. Read our introduction to Prime Lenses.
Macro lens:
One that focuses very close to the subject allowing for 1:1 reproduction size of the object or larger.
“Normal” lens:
Generally, a 50mm lens (on a full-frame sensor camera) is considered to be a “normal” lens because it is closest to what the human eye sees. If you have a cropped sensor that will be closer to 35mm.
Telephoto lens:
Simply stated a telephoto lens is one that is longer than a normal lens, eg., 70-300mm. The dictionary says: a lens with a longer focal length than standard, giving a narrow field of view and a magnified image. Super telephoto is usually 300mm and longer lenses.
Wide-angle lens:
The simple answer is a lens that shows a wider field of view than a normal lens, which allows more to be fit into the frame. Depending on the degree of wide-angle there may also be edge distortion (super wide-angle), and if you get wide enough the image will become a circle (fish-eye).
Tilt shift lens:
A lens that attempts to recreate the movements available when using a view camera. Being able to tilt the front lens element allows for the realignment of the plane of focus. Shift allows adjusting the placement of the subject within the frame without angling the camera, thus keep parallel lines from converging. This is a popular lens for architectural and landscape photographers and is becoming more widely used by portrait photographers for creating a unique stylized look.
Camera resolution:
Expressed in megapixels is the dimensions your camera’s sensor is capable of capturing. For example, Canon’s new 6D has a resolution of 5472 x 3648 which equals 19,961,856, which they’ve rounded off to 20 megapixels. This is not the only factor in image quality, but generally the large the number, the larger prints you can produce from it without loss of quality.
File format jpg versus RAW:
Most DSLR’s have the ability to shoot both formats. If you choose JPG, the camera will shoot a RAW file, process it using the picture style you’ve selected in your menu, save it as a JPG and discard the RAW version. If shot in RAW the resulting file will be larger, carry more information (but the same pixel resolution, see above), and require software to process. It gives you the photographer more control over the final look of your image.
Full frame vs cropped sensor:
A full-frame sensor is roughly the size as the “old” 35mm frame of film. Lenses are made to create a circle of light just large enough to cover that area (covering power). In a cropped sensor camera the physical size of the sensor is smaller so it only captures a portion of the entire image the lens is projecting, effectively cropping part of the image out. Common crop factors are 1.5 or 1.6x so if you put on a 50mm lens it is more like a 75mm with a 1.5x crop factor.
Camera modes:
Manual: full manual the user is setting the ISO, shutter speed, and aperture.
Shutter priority (Tv on a Canon or S on a Nikon): the user is selecting ISO and shutter speed, the camera is then choosing the aperture to make a correct exposure.

Aperture priority (Av for Canon users, A for Nikon): the photographer selects the ISO and aperture and the camera picks the shutter speed.
Vignette:
A reduction of an image's brightness or saturation toward the edge of the frame caused by the camera settings or lens limitations.

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