

Photography Vocabulary Definitions

(underlined words are on Basic Photography Quiz)

APERTURE - A circle-shaped opening in a lens through which light passes to strike the image sensor or the film. The aperture is usually created by an adjustable diaphragm, enabling the aperture to be made uniformly wider or narrower, thus letting in more or less light. The size of the aperture is expressed as an f-number, like f/8 or f/11. Aperture also affects depth of field.

APERTURE PRIORITY - A function or shooting mode of a semi-automatic camera that permits the photographer to preset the aperture and allow the camera to automatically determine the correct shutter speed. You select the aperture setting you want and the camera then automatically calculates the appropriate corresponding shutter speed for proper exposure. It's like a fully automatic camera except you control the size of the aperture.

BMP - Bitmap, The extension for an uncompressed image file format created by Microsoft, mainly used in Windows-based applications.

BRACKET or BRACKETING - Refers to taking a series of pictures, at least three, of the same subject with varying exposures. (1) the main exposure, which is presumed to be correct, but may not be; (2) an overexposure, generally of one or two stops difference from the main exposure, and (3) an underexposure of one or two stops difference from the main exposure. The theory behind exposure bracketing is that the photographer is not certain that the main exposure is best for the subject matter, and the subsequent different exposures insures that at least one of the images will be acceptably exposed. Sometimes, though, the photographer may simply want to see the effects of different exposures of a scene. The term "bracket" is analogous with grammatical brackets or parentheses, where they are located on either end of a phrase. "Bracketed" exposures fall on either side of the exposure that is presumed to be correct.

CAMERA SHAKE – Motion blur caused by handholding a camera at too low of a shutter speed. To avoid it, use a minimum shutter speed that matches the lens focal length, such as 1/60 for a 55mm lens or 1/200 for a 200mm lens.

DEPTH OF FIELD - The range of distance in a scene that appears to be in focus and will be reproduced as being acceptably sharp in an image. Depth of field is controlled by the lens aperture, and extends for a distance in front of and behind the point on which the lens is focused. A small aperture produces more depth of field, a large aperture produces less depth of field.

DIGITAL ZOOM - Zoom effect in some digital cameras that is not true optical zoom, but is instead an enlargement of the information from the center of the CCD or CMOS (image sensor). This type of zoom actually just crops into the photo, reducing the file size and quality.

DNG – Digital Negative, a patented, open, non-free lossless raw image format written by Adobe, used for digital photography. All Adobe photo manipulation software, such as Adobe Photoshop and Adobe Lightroom, supports DNG.

DSLR - Digital single lens reflex. A camera format, allows you to attach different lenses to it.

DYNAMIC RANGE - The range between the lightest and darkest areas of an image. Also known as Tonal Range. A picture containing very bright areas and very dark areas has a "wide" dynamic range. In a black and white image, dynamic range refers to the various shades of gray between solid black and absolute white.

EXPOSURE - (1) Exposure occurs when light is permitted to strike a digital camera's image sensor or a traditional camera's film - i.e. when the sensor or film is exposed to light. (2) Exposure is the total amount of light striking the sensor/film or other photographic material. (3) Also refers to a combination of ISO, shutter speed and aperture used in exposing the sensor/film in a camera. Aperture and shutter speed combinations are referred to as exposure settings. For every scene, a wide range of shutter speed, aperture, and ISO settings will result in a photo of the correct brightness. The proper exposure for a photo is about balancing those three settings so the photo looks good, depending on the goal of the photographer.

FSTOP - the number that corresponds to your camera's lens aperture. Also known as an f number. A smaller number equals a larger aperture, a larger number equals a smaller aperture.

FISHEYE - Describes an extreme wide-angle lens that has an angle of view exceeding 100 degrees - sometimes more than 180 - and that renders a scene as highly distorted. 16 mm lens is a common fisheye.

FOCUS - 1) The position at which rays of light from a lens converge to form a clear and sharply defined image on a focal plane. 2) The action of adjusting the lens to form a clear and sharply defined image of the subject.

FOCAL LENGTH - The basic description of a photographic lens, usually represented in millimeters (mm). The longer the focal length, the narrower the angle of view and the higher the magnification. The shorter the focal length, the wider the angle of view and the lower the magnification.

GIGABYTE - this refers to one billion bytes of memory.

HISTOGRAM - a bar chart graph that shows all of the tones in a digital image. A photographer can use a histogram to understand and manipulate exposure. Many digital cameras have the ability to show the photographer a histogram of an image taken. Most image editing applications can create a histogram for an image. A well-exposed photograph will appear as a bell curve, with lower values at the dark and light ends. If the image contains a deep shadow area, there will be high values at the dark end of the graph indicating loss of shadow detail. If there is a white area in an image, there will be high values at the light end, implying loss of highlight detail. If there is nothing shown at the dark and light ends, the photo lacks contrast.

HOT SHOE - An accessory holder on a camera that has an electrical contact so that a flash unit can be triggered to go off. A small, portable flash that has a contact on its "foot" can be connected to a hot shoe, which will cause the flash to fire when you press the shutter release.

IMAGE STABILIZATION - often referred to as "IS" and also known as "Vibration reduction" or "VR". A feature in some lenses and camera bodies that minimizes the effect of camera shake at slow shutter speeds, helping to prevent image blur. Optical IS, the preferred method, employs sensors that detect camera motion and compensate for its effects by moving lens elements or by moving the camera's image sensor. Digital IS employs software. You may come across the term "Anti-shake," which is not image stabilization technology, but instead increases a camera's ISO sensitivity to provide a faster shutter speed.

ISO - the numerical exposure index indicating the light sensitivity of a film's emulsion or a camera's sensor, as in the system adopted by the International Standardization Organization. ISO also affects digital noise and is the first setting you make on your camera.

JPEG - An acronym for Joint Photographic Experts Group that describes an image file format standard in which the size of the file is reduced by compressing it in camera. A JPEG image file name carries the extension .jpg. People refer to an image in JPEG format as a "JPEG," pronounced "jay-peg". This is the default format used by most digital cameras, and lets you specify both image size and compression. The smallest size is best for web and email, and the largest for prints. Less compression yields better images so you can make larger prints, but require more storage space. Compression always results in some data loss to the file.

LIGHT METER - An instrument used to measure the amount of light on a subject. The measurement is usually expressed in shutter speed and aperture combinations that will render an acceptable exposure. A light meter can be within a camera itself, or a separate piece of equipment.

MACRO PHOTOGRAPHY - Photography of a subject where the image is recorded the same or larger than actual size.

MEGABYTE - A million bytes, abbreviated as MB, Mb and sometimes Mbyte. It refers to 1,048,576 bytes.

MEGAPIXEL - refers to a million pixels, and is used in describing the number of pixels contained in a digital device's image sensor.

NOISE - The appearance of specks or grains on a digital photo, caused by using a high ISO, especially in low light.

NORMAL LENS - Refers to the standard focal length lens on a camera. A normal lens sees about the same angle of view as the human eye. A normal lens is one whose focal length is the diagonal of the sensor of the camera. The sensor size is commonly known as the format. A full frame DSLR sensor is 36mm by 24mm. A cropped or APS-C sensor is typically 22.7 mm by 15.1 mm in size. So a normal lens can be 35 mm or 50 mm, but 50 mm is most commonly perceived as normal.

OPTICAL ZOOM - A true zoom effect unlike a digital camera's digital zoom. Optical zoom changes the focal length of a lens.

PIXEL - Abbreviation for "picture element", a pixel is a small square of colored light that forms a digital image. It is the smallest unit in a digital image. Think of a pixel as a single small tile in a large mosaic.

PIXELATED - to cause a photo or graphic to break up into pixels by over-enlarging the image beyond its resolution.

PNG - Pronounced "ping," stands for "Portable Network Graphic" format. It is characterized by its ability to compress image files without a big quality reduction. PNG was developed to replace GIF and JPEG formats on the internet.

PSD - Photoshop Document, is the default format that Photoshop uses for saving data. This file type fully supports all features that Photoshop provides, like layers, layer masks, adjustment layers, channels, paths, etc. It allows the user to work with and save a photo's individual layers. PSD files are the best choice for master files and for archiving for safe-keeping. If you've done any editing work on an image and there's a chance you'll need to come back to it again at some point in the future, save your work as a Photoshop PSD file. There is no loss in image quality no matter how many times you re-open and re-save a PSD, and all adjustments and layers can be saved as part of the file, allowing you to go back at any time and make changes to the image or continue working from where you left off. Files sizes get larger with each additional layer.

RAW – this file format does not compress the photos at all and leaves it unprocessed, resulting in a larger file size with more image data, than jpeg photos. Photos are not processed in camera but require processing in a photo-editing program like Photoshop, in which files can be viewed, edited and converted to other formats.

RESOLUTION - For a digital image, it refers to the number of pixels that fit into a given area, commonly measured in digital photography as pixels per inch (ppi). For a print, the number of dots per inch (dpi). 300ppi, at a specific size, is recommended for professional high quality prints.

SHUTTER - a device that allows light to pass thru a camera for a determined period of time, exposing a digital sensor to light in order to capture a permanent image of a scene.

SHUTTER LAG - Using a digital camera, the delay that occurs between pressing the shutter release button and the actual moment the picture is taken.

SHUTTER PRIORITY - An exposure mode (in a camera with automatic exposure control) that permits the photographer to preset shutter speed while the camera automatically determines the aperture setting required for proper exposure.

SHUTTER RELEASE – The button on top of the camera that you press to release the shutter to make a photo.

SHUTTER SPEED - The amount of time that a camera's shutter remains open to let light onto the camera sensor. Shutter speed controls the duration of an exposure - the faster the Shutter speed, the shorter the exposure time. Shutter speed also affects motion blur or freeze. A fast shutter speed freezes motion, a slow shutter speed blurs motion.

SUNNY f16 Rule – A way to estimate correct exposure without using a light meter, by matching the ISO and shutter speed at F16. For example, on a sunny day, camera settings at ISO 100, F16, SS 1/100 produces a correctly exposed photo. Settings can then be adjusted, depending on actual amount of light and desired results.

TELEPHOTO LENS - A lens with a narrow angle of view, a longer-than-normal (55mm) focal length, provides the ability to magnify images, exhibit shallow depth of field, and compress the background. Examples of 35 mm camera telephoto lenses include 85 mm, 105 mm, 200 mm, 400 mm and 600 mm lenses.

TIFF – Tagged Image File extension. Tiff files support lossless compression to archive photos and graphics at high quality.

VIEWFINDER – The part of the camera you look through, indicating the field of view seen by the camera.

WATERMARK - A digital signature for a photograph, type on the photo to identify ownership of copyright.

WHITE BALANCE - A digital camera analyzes a scene using its white balance mode to determine areas that should be recorded as pure white. A camera adjusts the overall scene's color balance so that the areas meant to be reproduced as white in the picture will be white, thereby also adjusting all the other colors in the scene using the same color shift values, so that all color is accurately represented. A digital photographer can usually set the white balance to suit the color temperature of the light falling on the subject. Some cameras can automatically set white balance. A photo's white balance can also be adjusted with editing software such as Photoshop.

WIDE-ANGLE LENS - A lens with an angle of view that is wider than that of a normal 55mm lens, or that of the human eye. A wide-angle lens has a short focal length such as 16 to 35 mm.