

Digital Photography

Technical Definitions for Taking Photos

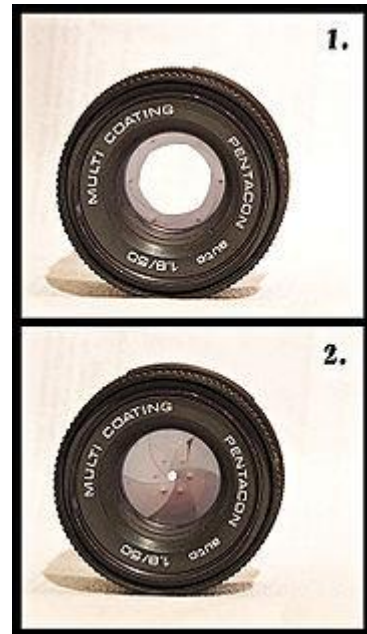
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Aperture is the hole in the lens that lets in the light.

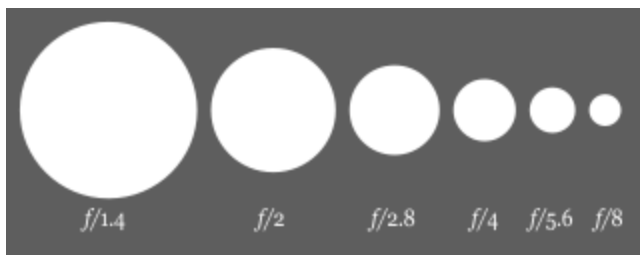
- The larger the aperture opening, the smaller the depth of field. The smaller the opening, the larger the DOF.
- The aperture is changed by changing the F-stop in the camera

1: a larger aperture opening (lower f-stop number).
2: a smaller aperture opening (higher f-stop number).



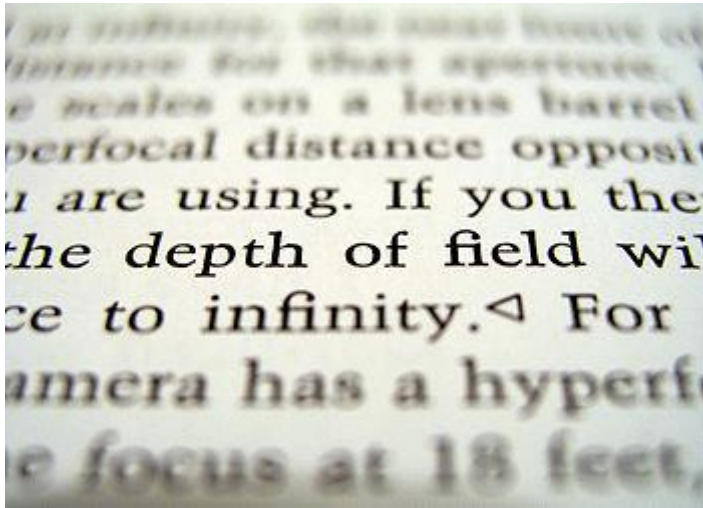
F-stop (also know as f-number) is the setting on the camera that controls the size of the aperture.

- The higher number on the camera, the smaller the opening (f2.8 is a bigger opening than f11). That is because all f-stops are actually fractions under 1/ (f2.8 is really a fraction (1/2.8))
- The higher the f-stop the larger the depth of field (f11 will give you a larger DOF than f2.8)
- Set on camera



Depth of Field How much of the image is in focus

- A smaller depth of field has less of the photo in focus. It requires a larger aperture opening and therefore a small f-stop (ex: f2.8). Requires more light to take picture
- A larger depth of field has more of the photo in focus. It requires a smaller aperture opening and therefore a larger f-stop (ex: f11). Requires less light to take picture
- DOF is controlled by the F-stop set on the camera



f/32



f/5

Shutter is the part of the camera that opens and closes to allow light onto the film.

Shutter Speed is the speed that the shutter opens to allow light onto the film.

- The faster the shutter speed, the less movement is caught. Less light is allowed onto the film, therefore more light may be needed to create proper exposure (unless it's sunny out!)
- The slower the shutter speed, the more motion is captured. More light is allowed onto the film, therefore less light may be needed to create proper exposure (unless it's shady out!)
- Shutter speeds are fractions of seconds to 1-2 seconds. However, often on the camera shutter speeds are put without the fraction (1/200 of a second is listed as 200)



One second exposure



1/30 second exposure



1/800 second exposure

Film Speed (ISO/ASA) is the amount of sensitivity the film has to light

- The more sensitive the film is to light, the less light is needed. The ISO/ASA number will be higher (for example: 1600). However, it will have more grain.
- The less sensitive the film is to light, the more light is needed. The ISO/ASA number will be lower (for example: 200). It will also be a clearer, finer image.
- The Film Speed is set by changing the ISO settings on the camera



Top: Slow film speed (finer image, less grain)

Bottom: Fast film speed (grainer image)

Exposure is the total amount of light let onto the film.

- Exposure is controlled by shutter speed, aperture and film speed
- An underexposed photo is too dark because there was not enough light
- An overexposed photo is too light because there was too much light

Bracketing Taking pictures at a variety of exposures (both over and under) to guarantee an accurate exposure.

Metering Using light meters (most cameras have them in it) to figure out what the accurate exposure is

