

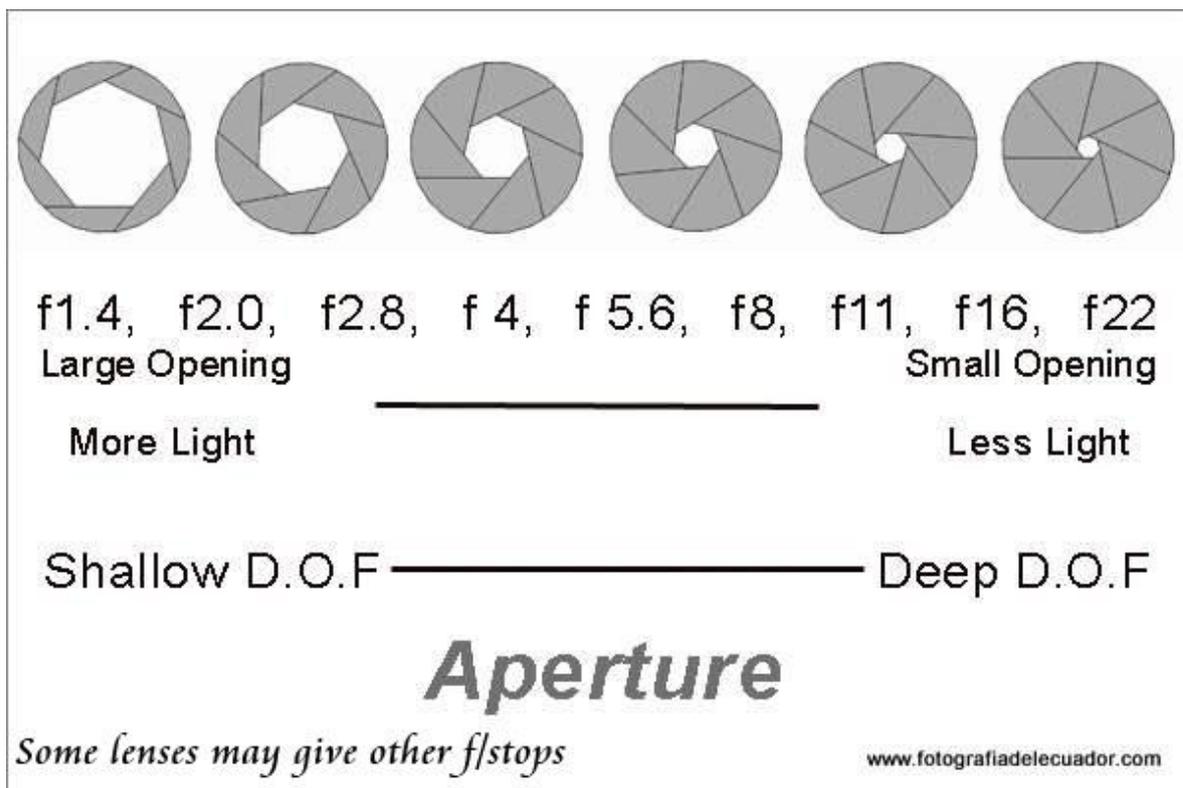


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Photography Tips and
Ecuador photo tours

Depth of Field / Aperture

Depth of field refers to the range of distance that appears acceptably sharp. It varies depending on camera type, aperture and focusing distance.

On DSLR cameras and some more advanced point and shoot camera you can have full control over the aperture. While the shutter speed controls the duration of light hitting the sensor the aperture controls the amount of light hitting the sensor. The aperture is the part of a lens that dictates how much light is let through to the sensor – if it's wide open, lots of light gets through. If it's closed down, not much light gets through. In essence, it performs the same as the pupil of an eye. If you are in a dark room, the pupil is open; sunlight, the pupil is small.



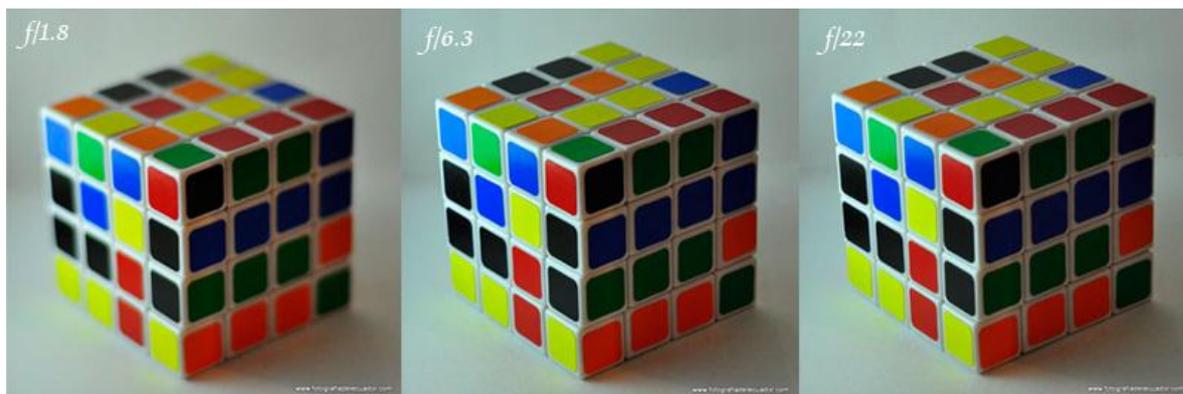
Depth of Field always extends 1/3 in front of and 2/3s behind the point of focus. No matter whether the DOF is deep or shallow, it always follows this formula. This fact becomes more valuable when you do macro photography.

Depth of Field decreases as the distance between the subject and film plane decreases. You have VERY little DOF to work with when doing macro photography and are focused just a couple of centimeters away, but you have extreme DOF when focused at a point near infinity.

Different lenses can have different apertures – for example, a cheaper lens may only open to f4.0, not letting in as much light as a more expensive lens that will open to f1.6 or more.

The depth of field does not abruptly change from sharp to unsharp, but instead occurs as a gradual transition.

All lenses have a Hyperfocal Distance (**hyperfocal distance** is a distance beyond which all objects can be brought into an “acceptable” focus) for a given f/stop. If, for example, the Hyperfocal Distance happens to be 16 feet for a particular lens/aperture combination, everything from one-half that distance (8 feet) to infinity appears to be in focus. If your lens has a DOF scale, line up the infinity symbol with the f/stop you are using and you have just set your lens to its Hyperfocal Distance for that f/stop.



Less in focus

A little more in focus

Even more in focus

Depth of Field sounds like a good thing and usually it is—but not always. If you want to produce dramatic portraits you'll want to limit.

Bokeh. In Japanese it means “fuzzy” and in photography it's used to describe the parts of a photograph that are not in focus. Anyway, some lenses are optimized to produce attractive bokeh. It is achieved by using a wide aperture.



There are also various ways of calculating DOF online. <http://www.dofmaster.com/>

Here you will find a variety of charts, downloads and online resources for DOF or hyperfocal distance.

Practice for DSLR users and bridge camera users (with manual options). Read on for those with point and shoots.

Practice: I would like you all to try this. Put your camera into Aperture mode. This varies depending on the camera. Nikon is A and Canon is Av.

-Choose the largest aperture (the largest aperture is the smallest number).

The aperture will depend on the lens you use. Those you with DSLR will have a bunch of numbers on the lens. For example AF-S NIKKOR 18-105 mm f3.5 – 5.6 G ED. Note the numbers that are underlined. These are the limits of aperture or f stop on your lens. f3.5 is the max aperture at the widest zoom (in this case 18mm) and f5.6 is the max aperture on the long end of the zoom (in this case 105mm). Some lenses can go to f1.4 and usually the macro lenses are fixed f2.8 for example.

-Find a subject, could be a person, flower, *see above picture*. What you are going to take is a subject with plenty of background. It's better if you can do this on a bright day or somewhere with plenty of light.

Take the photo with the different apertures. One with the widest, one with a middle aperture and one with the smallest aperture. Compare the differences on the computer screen.

You will see in the photo with the widest aperture the background will be blurred.

The middle aperture will be less blurred and the smallest aperture will have a sharper background.

When to use each aperture:

I am sure you have seen plenty of photos of people/portraits and the background is blurred. A wide aperture has been used.

A landscape will be an example of a small aperture. You have elements in the photo from close to far away and you want it all sharp. Here you need to use a small aperture.

You can use any lens that doesn't have a fixed f/stop. You will get different results depending on the distance from your subject. I recommend you practice, go out there with your camera and play.

Point and Shoot users.

The cameras usually have presets. (sometimes called scene) These will help you learn the basics. Place the camera on the portrait preset, then take a photo of someone/ flower as described above. Then place the camera on landscape preset and take the same photo.

The portrait preset *should* give you a setting with wide aperture and the landscape with a small aperture, review the exif data (camera settings) in the camera or on the computer to compare as above.

RECAP:

A SMALL NUMBER IS A WIDE APERTURE. Normally used for portraits.

A LARGE NUMBER IS A SMALL APERTURE. Normally used for landscapes

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