

Focus on Fundamentals

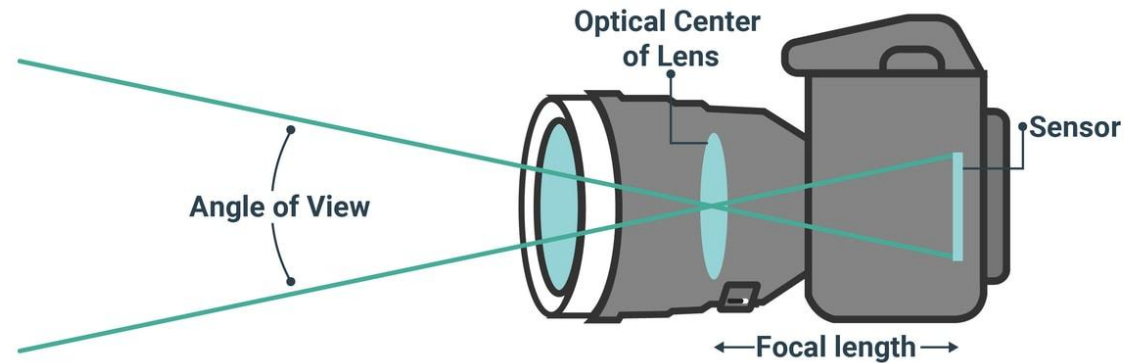
2.2

Camera
Language
Part 2

Focal Length

- Usually represented in millimeters (mm)
 - 50MM
 - 500 MM
 - 17 – 55 MM
- Is a calculation of the optical distance from the point where light rays converge to form a sharp image of an object to the digital sensor at the focal plane in the camera
- The focal length of a lens is determined when the lens is focused at infinity
- The longer the focal length, the longer the lens

WHAT IS FOCAL LENGTH IN PHOTOGRAPHY?



Focal Length is the distance between the optical center of a lens and the camera image sensor

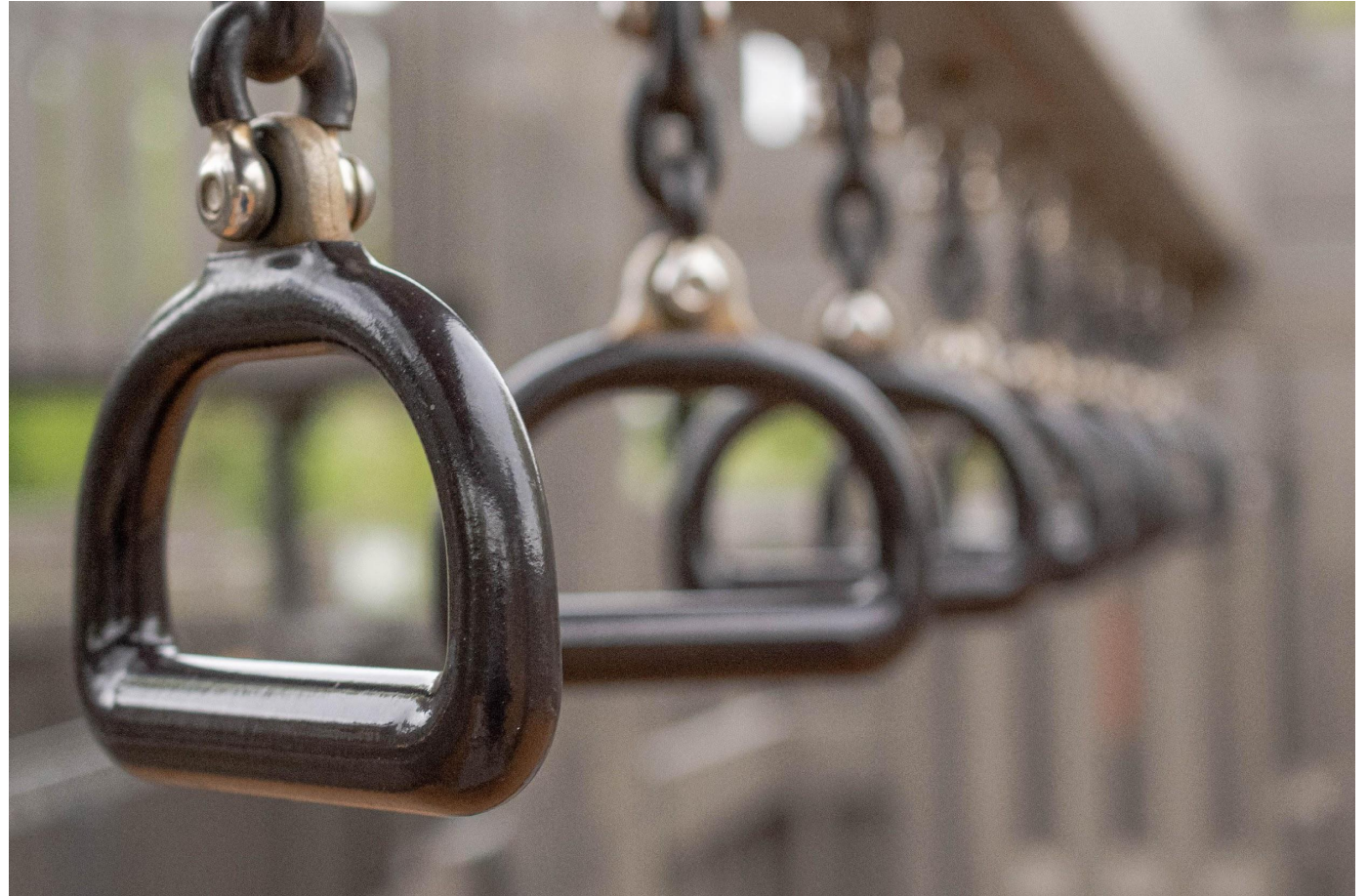
Focal length works describing each lens in terms of millimeters (lens mm)

The longer the focal length, the physically longer the lens will be

Depth of Field (DoF)

How much of the photograph is in focus

The space in the image that is relatively sharp and in focus.

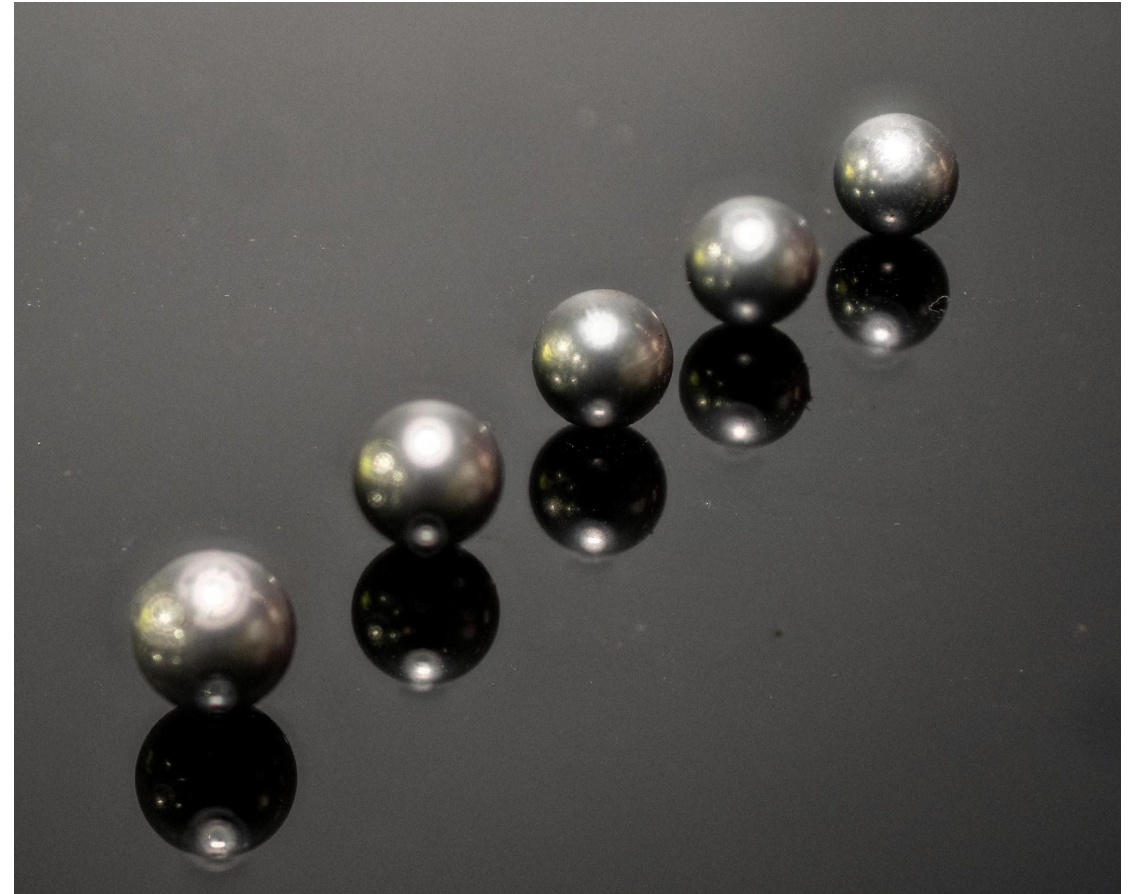


Shallow DoF

DoF Comparison



Shallow DoF

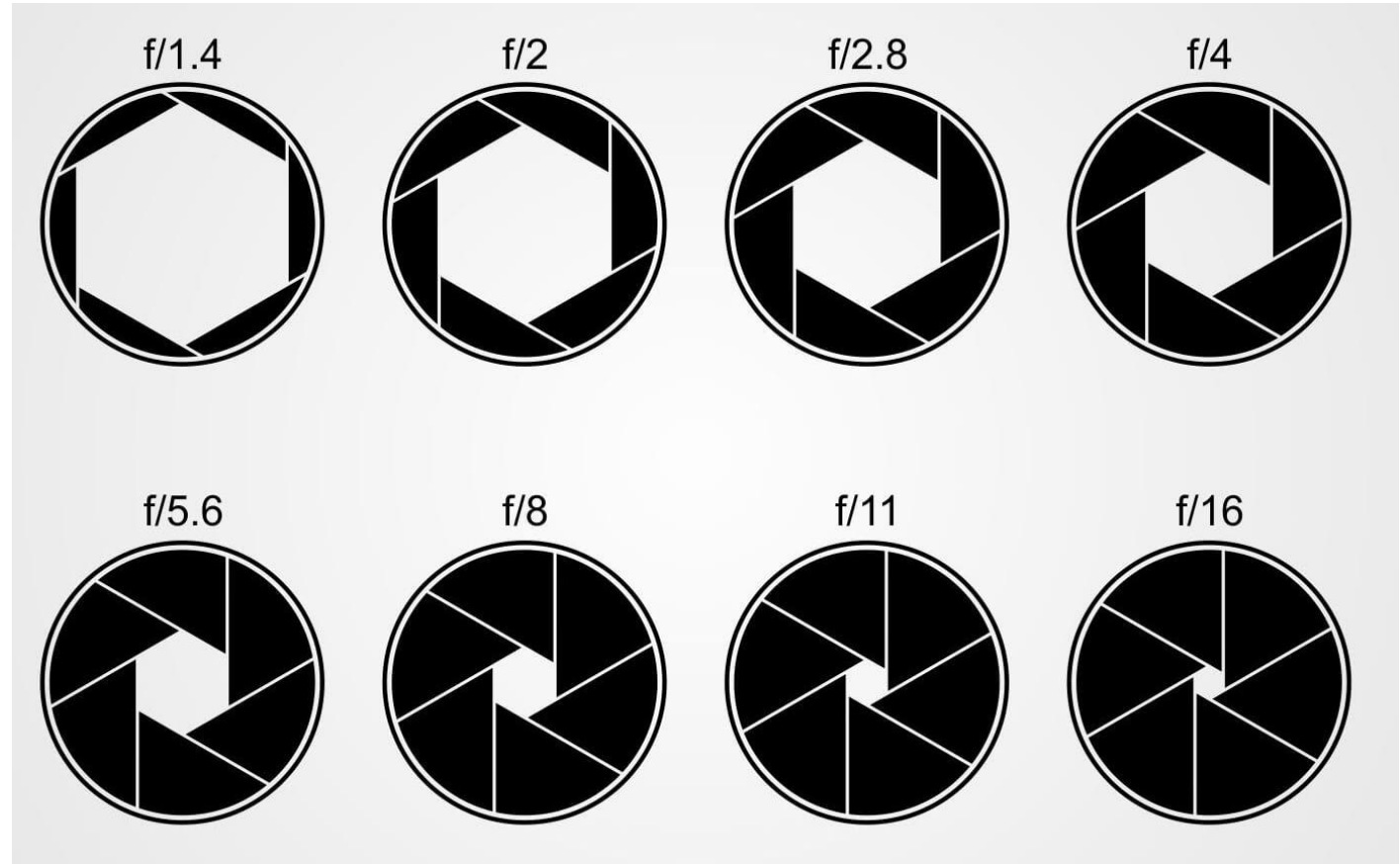


Deep DoF

Factors Controlling Depth of Field

Aperture – the opening in the lens

- Aperture is what we think of mostly when trying to control the Depth of Field.
- The larger the aperture (The Smaller F-Number), the shallower the depth of field
- The smaller the aperture (The Larger F-Number), the greater the depth of field
- Aperture Priority is a standard Mode on most cameras



APERTURE

F/1.4



F/2.0



F/2.8



F/4.0



F/5.6



F/8.0



F/11



F/16



DEPTH OF FIELD

Shallower
Depth
of field



f/2.8

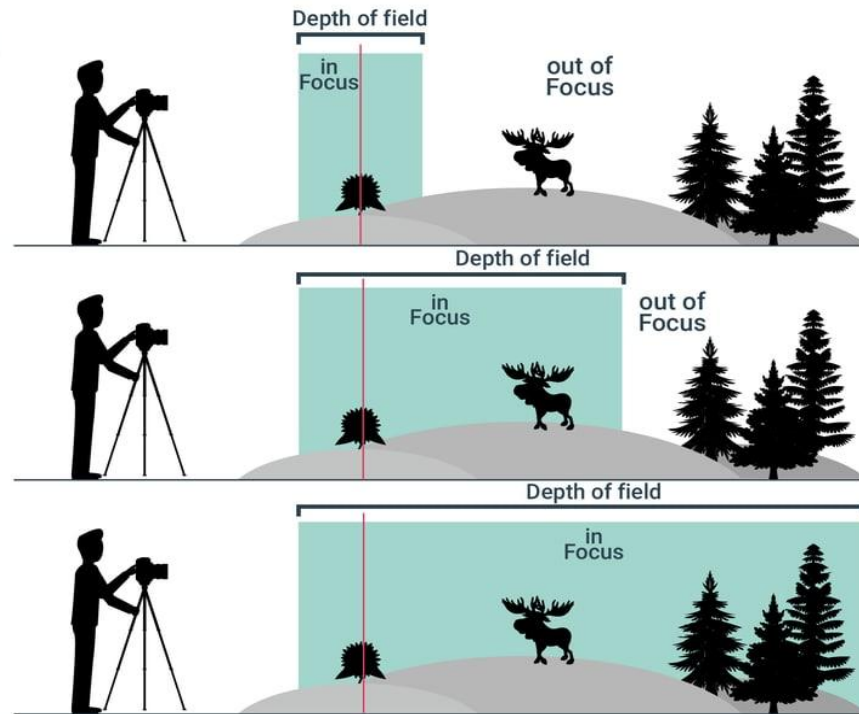


f/5.6

More Depth
of field



f/11



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Remembering F-Stops and DoF

How many F's do you want in Focus?



F1



F2



F3



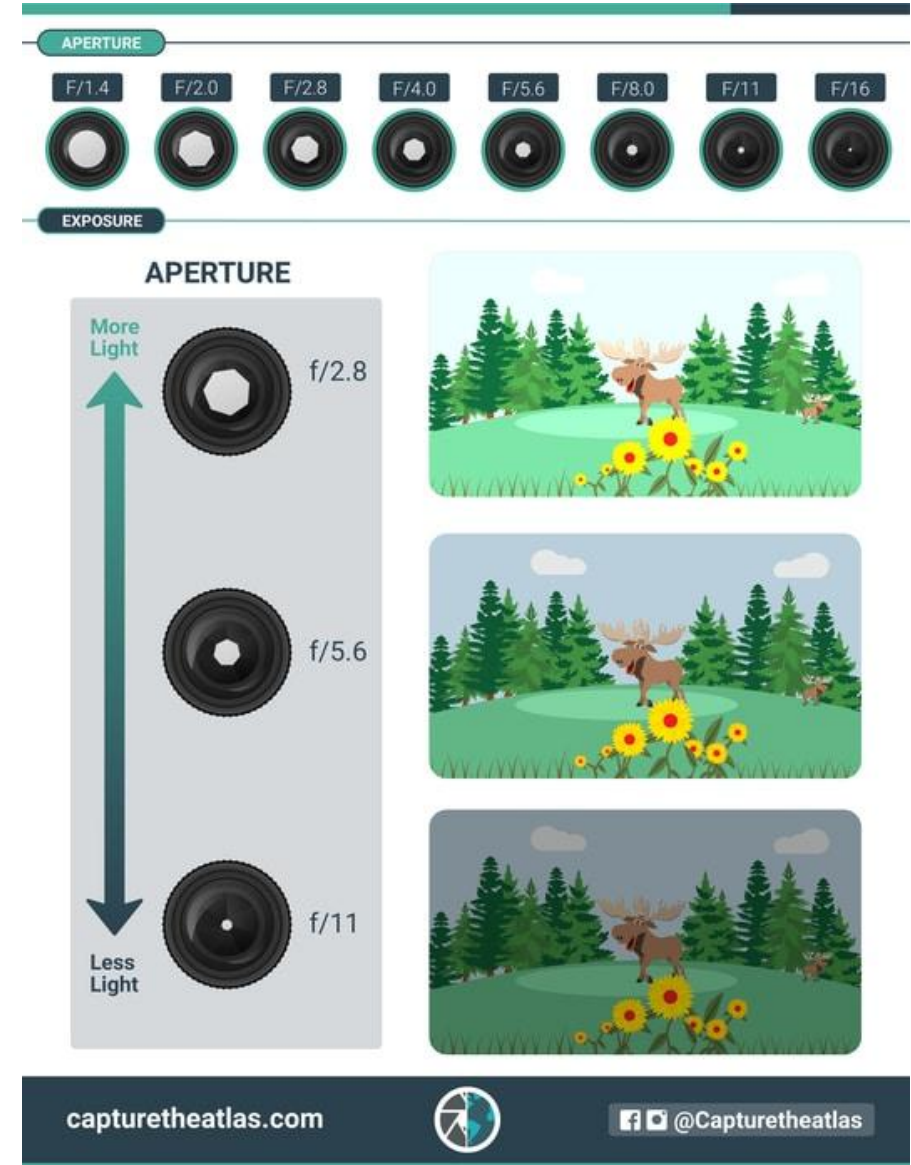
F4



F
5

Remember...

Changing the Aperture changes the available light hitting the sensor



Factors Controlling Depth of Field, cont'd

The 2nd factor is
Focal Length

- The longer the focal length, the shallower the depth of field
- The shorter the focal length, the larger the depth of field

The 3rd factor is
Distance to the subject

- The closer you are to the subject the shallower the depth of field
- The further you are from the subject, the greater the depth of field will be in the image.

Depth of Field Recap

If you need a	Shallow DoF	Deep DoF
Aperture	Larger Aperture (F2.8) Large opening in the lens	Smaller Aperture (F22) Small opening in the lens
Focal Length	Longer Focal Length 500 MM	Shorter Focal Length 17 MM
Distance to Subject	Get Closer to the subject 12"	Get Farther from the subject 100'

Shutter Speed

Aperture

ISO

Components of the

The Exposure Triangle

That control the of amount light the Sensor is exposed to

