

Shutter Speed, Lens Aperture, Depth of Field (DOF) and ISO

If you want to control what your camera can do for you, then you need to understand the correlation between **shutter speed, lens aperture, DOF and ISO**. Using AUTO or PROGRAM will give you satisfactory images but they will be straight down the middle. By that I mean it will give you the most appropriate setting to grab an image but there is no “imagination”, such as shooting a waterfall at a slower speed in order to achieve a creamy affect, or having everything very sharp and in focus in low light.

ISO

This stands for “International Organization of Standards.” It is a world wide federation of national standards bodies from some 140 countries. It is a voluntary, non treaty organization founded in 1946, responsible for creating international manufacturing standards for a great number of products, including photographic goods, in many countries.

To photographers this means they can rely on a Fuji or a Kodak film, rated at 100 ISO or a Digital camera set to 100 ISO each giving the same reaction to light, all other things being equal. Basically it is **Quality Control**.

ISO settings will affect the sensor or the film’s speed, ie recording light. The **higher** the ISO the more easily the camera can record quite **dark** scenes without the need to go to **time exposure**. However it also affects the amount of grain or noise which can be detrimental to your image. Some images do well with a grainy appearance but others do not. **Exposure** is defined as the total amount of light falling on a photosensitive medium usually while taking an image.

Shutter speed. This refers to the length of time that your camera shutter is open to allow an image to be recorded. It is usually measured in seconds or parts thereof but can go for hours if your battery holds out.

Lens Aperture. This refers to the size of **opening** of the iris of your lens, wider to let in more light and narrower to let in less light. Aperture is referred to in” f stops”. **An f- number is a numerical expression relative to the aperture of the lens at different stops**

Shutter speed and lens aperture work hand in hand to give you an image. If the balance between the two is correct, the exposure of your image will be acceptable

If the balance is incorrect, your image may be too dark, too light or perhaps blurred where you wanted sharpness and detail.

Depth of Field (DOF) affects how much of your image is in focus.

DOF is controlled by the opening up or shutting down of the aperture of your lens f stop.

The bigger the aperture (opening), the narrower the DOF, conversely the smaller the aperture (opening) the greater the DOF.

The **smaller** the f number, the **larger** the aperture, therefore **more** light gets in, and less time is required to imprint an image on film or digital image sensor. Therefore to achieve the correct exposure the shutter speed should be faster, and you will find that there is **less** in sharp focus.

Conversely.

The **larger** the f number, the **smaller** the aperture, therefore **less** light gets in and more time is required to imprint an image on film or digital image sensor. The shutter speed should be slower to achieve the correct exposure , also there will be more in sharp focus.

The simple way to make use of DEPTH OF FIELD

1. for **all** the image to be in focus use a **small** aperture ie a **large** f stop eg f 22
2. for **selective** focus use a **large** aperture ie a **small** f stop eg f2.8

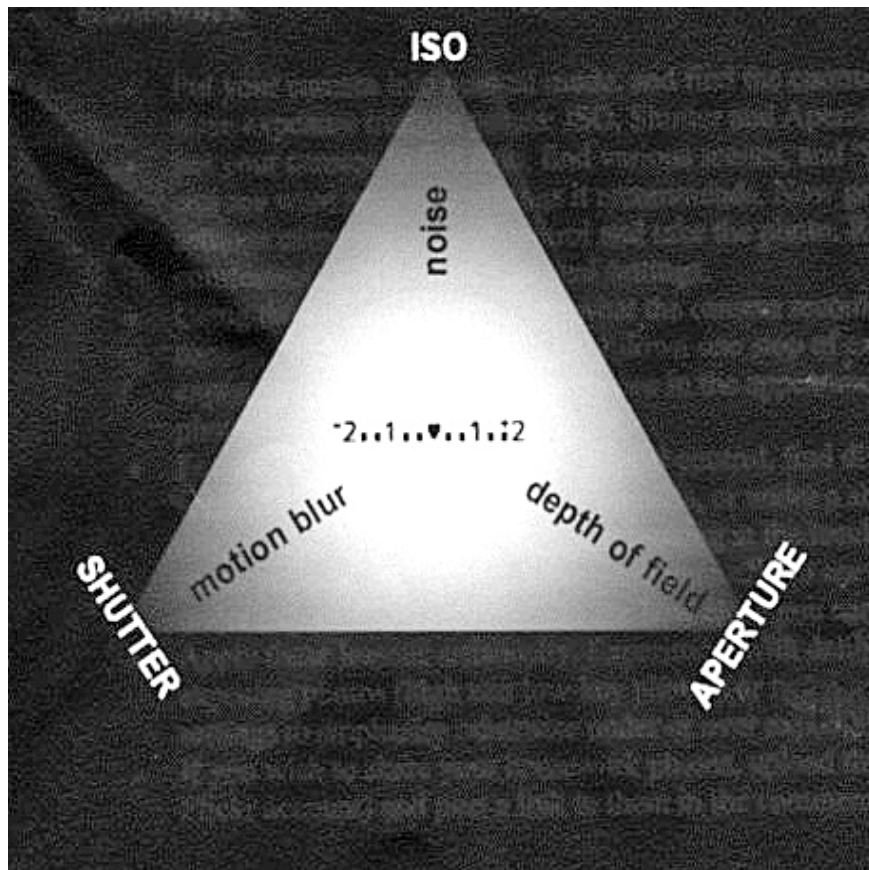
In between the narrowest and the widest f stops there will be varying depths of field, you choose what suits you..

You will require a tripod so that you do not get camera shake. **A tripod is valuable for every shot!**

It may sound daunting but once you have a handle on these things, and **practice, practice, practice**, it will all be straight forward and useful!

Text Fran Cross

TRIANGLE WHICH SHOWS WHAT CONTROLS WHAT AND INDICATING THAT THEY WORK HAND IN HAND



Thanks to Wikipedia