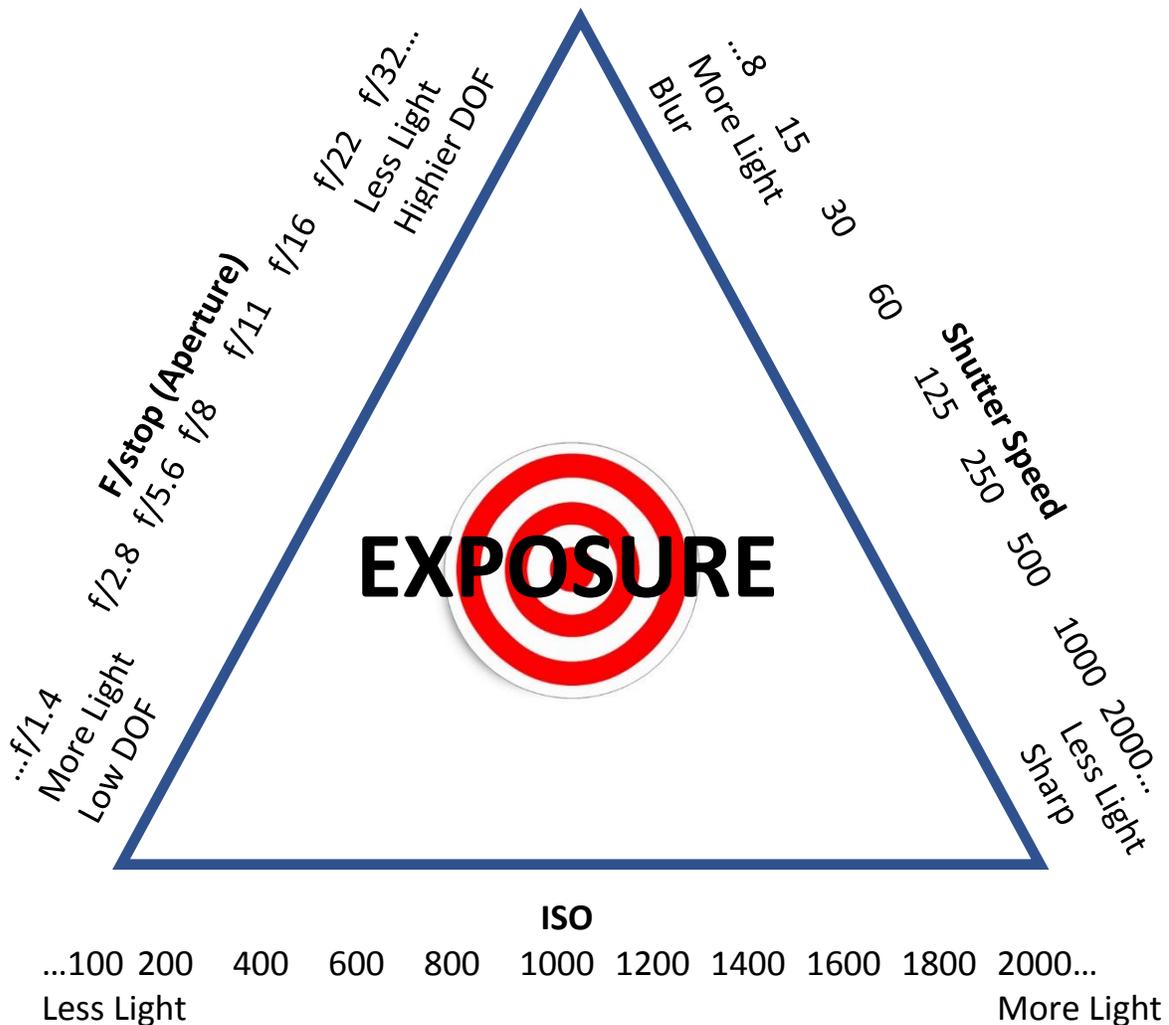


# The Exposure Triangle

By Marc F Alter



Many times, the essence of capturing a good photograph is getting the exposure right. As such, exposures can vary from image to image depending on the amount of light that is available at the time you take your picture. Exposure consists of three main elements; **F/stop**, **Shutter Speed** and **ISO**. These three elements are also known as **The Exposure Triangle**.

**F/stop** (also known as F-stop or Aperture) is the size of the opening in the lens' shutter that lets in light. Technically speaking, F/stop is a ratio representing the amount of light let into the camera. Similar to a fraction, this is why the F/stop is often seen with a slash (ie; f/2.8) and why the lower the number, the larger the size of the shutter opening and the more light that is let into the lens. One characteristic is each F/stop (ie; f1.4, f2.8, f/5.6, f8.0, f/11...) doubles the amount of light coming into the camera. Another characteristic of F-stop is the lower the F/stop, the lower will be the Depth of Field (DOF) while the higher the F/stop, the greater will be the DOF.

**Shutter Speed** is how fast the camera's shutter stays open. The slower the shutter speed, the greater is the amount of light let into the camera. Conversely, the faster the shutter speed, the lower is the amount of light let into the camera. Shutter Speed is typically expressed in fractions of a second. Thus 200 means your shutter will be open for 1/200<sup>th</sup> of a second while 500 means your shutter will be open



It is important to note that many times single change in one of these values represents a doubling or halving of the amount of light coming into the camera. Thus, if your camera suggests an exposure (see below), any of these sample combinations would work:

<u>ISO</u>	<u>F-Stop</u>	<u>Shutter Speed (SS)</u>	
400	f/8.0	1/200	Camera recommended Exposure
200	f/5.6	1/200	Lower ISO by 1, lower F-Stop by 1 for equal light
200	f/8.0	1/125	Lower ISO by 1, lower SS by 1 for equal light
100	f/5.6	1/125	Lower ISO by 2, lower F-Stop by 1 and lower SS by 1 for equal light

### Marc's Tips On How To Get The Perfect Exposure

1. Before going out, make sure your camera is set to your "Default Values" (this is to make sure you always know the setting of your camera when you start)
  - a. Shutter Speed = 100
  - b. F/stop = F/8.0
  - c. ISO = 100 to 400
  - d. Exposure Compensation = Off
  - e. Bracketing = Off
  - f. Exposure Metering Mode (EMM) = set accordingly (I mostly use Aperture Mode)
    - i. Auto or Program (Professional) – If you want your Camera to do most of the thinking for you (and if you do not care about the results)
    - ii. Aperture – If your priority is to control your DOF
    - iii. Shutter – If your priority is to control your Action (Time)
    - iv. Manual – If you think you can control the exposure better than your Camera's technology which cost you hundreds/thousands of dollars.
  - g. Other (Your battery is charged, you have a spare battery, you have a memory card and a spare, you have lens wipes, etc).
2. Take a test shot and evaluate the results in your viewfinder
  - i. Histogram / Blinkies (Highlight Alert). If you have any Blinkies blinking, there are some areas in your picture that are letting in too much light. You will need to compensate for this (lower your ISO, raise your F/stop, raise your Shutter Speed, add a Filter (ie; ND or VND), set your Exposure Compensation to under-expose, take Bracketed Shots, recompose, etc).
3. After making your adjustments, take another shot and then reevaluate, readjust and retake if necessary.
4. Unless very obviously bad, do not delete any images from your camera until after you have had a chance to evaluate your image on your computer (the camera's viewfinder is too small, the camera's Histogram / Blinkies are based on a compressed JPG image, etc).