

PHOTOGRAPHY BASICS

EXPOSURE: The brightness of an image as determined by a camera's settings. An image's exposure depends on three camera settings:

APERTURE SIZE (AKA F NUMBER / F STOP): Every camera lens is equipped with an expandable/collapsible opening, called an aperture, through which light travels on its way to the camera's sensor. The wider the aperture, the brighter the image. Every lens's aperture range is measured in steps on a scale like this:

f/1.4, f/2, f/2.8, f/4, f/5.6, f/8, f/11, f/16, f/22, f/32

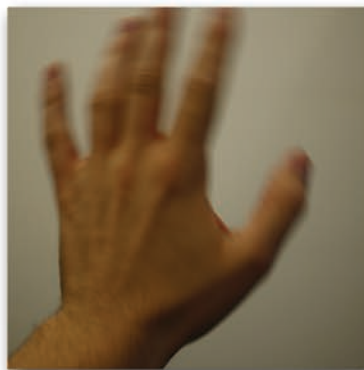
The higher the number, the smaller the aperture. SO, a lens set to a low F number will let in more light than a lens set to a high F number.

ISO: The light sensitivity of a digital camera's image sensor. The higher the sensitivity, the brighter the image (and vice versa). Raise the ISO number on your camera when shooting in low-light environments. However, be careful not to set ISO too high, as higher ISO numbers make images look grainy.

SHUTTER SPEED: The speed at which the shutter in front of the camera's image sensor opens and closes. When you take a picture on a camera, it opens the door that covers the camera's image sensor, usually for just a fraction of a second. The longer the shutter is open, the more light reaches the sensor, which results in a brighter image. However, if you are photographing an object in motion, a long shutter speed will capture motion blur, which may be undesirable (especially in sports photography or other tasks that involve photographing moving objects). Note the following example:



SS: 1/640 - ISO: 1600 - F: 1.7



SS: 1/160 - ISO 200 - F: 1.7



SS: 1/25 - ISO: 200 - F: 4.0

Each of the images above is of a hand waving very quickly. The faster the shutter speed, the clearer the image. Note that increasing the shutter speed darkens the image, so you must compensate with wider apertures and increased ISO levels.

SUMMARY: Adjust aperture, shutter speed and ISO so that you achieve an image that is properly exposed and does not result in undesirable blur.