
Definitions

Lenses: Lenses can be fixed focal length or Zoom. A Zoom lens is any lens that can be adjusted to do the job of more than one focal length, i.e. a 35 - 70 zoom incorporates all the focal lengths between 35 and 70 mms inclusive. There are 3 major divisions in lenses

Normal lens record images much as your eye sees it. Normal is 50mm with 35mm film.

Wide-angle lenses give a wider angle of view and have greater depth of field. These lenses have focal lengths shorter than normal. A 35mm, 28mm, and a 24mm are common wide-angle lenses for a 35mm camera.

Telephoto lenses bring distant subjects into view, have shorter depth of field, compress space and give a narrow angle of view. Focal lengths longer than 50mm are classified as telephoto lenses for 35 mm cameras.

Lenses are different between digital and film camera. Digital sensors are usually smaller than 35mm film. This means that while a lens says "50mm" is may be the equivalent of a 70mm lens on a film camera! You still have your wide-angle/normal/and telephoto, but you cannot get as wide with most digital cameras and your 'normal' lens will likely be around 35mm!

Film: Light sensitive material. Covered with silver molecules, the silver molecules are chemically changed when hit by light. These silver molecules are coupled with color dyes in color film. The more light contacts the film, the more dense it becomes when developed. Different films have different sensitivities to light. See ISO.

CCD: A Charge Coupled Device is one of the most common sensors in digital cameras. It takes the place of film and is made of pixels. Each of these pixels respond to light not unlike the silver molecules in film. This is then translated to an image in your computer. A camera that has 6 megapixels has 6 million pixels waiting to be hit by light. (CMOS is another type of array used in both very inexpensive and high-priced digital cameras.)

Memory Card: This pattern of pixels hit by light must be recorded on a memory card. Common cards are Memory Stick®, CompactFlash™ and SmartMedia™ . They vary in price and size.

Shutter: The shutter controls the length of time the film is exposed. The length of time that the shutter is kept open is called the shutter speed. The shutter also affects the way in which movement, both camera movement and subject movement, is recorded. Slower speeds emphasize camera and subject movement. Faster speeds "stop" camera and subject movement.

F-stop: An adjustable hole or opening in the lens. called the aperture. It controls the amount of light that reaches the film. F-stops also control depth-of-field, the range of what appears to be sharp in the picture.

ISO: Often called "film speed" is a measurement of the sensitivity of a particular film to light. On a digital camera you set an equivalent number to indicate your desired sensitivity for this photo session. The higher the ISO the greater the sensitivity to light but also generally the less detail and the more noise or grain.

Exposure: is the amount of light that is allowed to reach the film as determined by the f-stop and shutter speed. The main objective of exposure is to match the brightness of the subject with the sensitivity (ISO). This match is determined by the light meter.

Bracketing: A way to help ensure a properly exposure. First take an exposure reading of a subject with your light meter and shoot a picture at that setting, then take extra exposures of the subject at f-stops or shutter speeds on either side of the first reading to allow either more or less exposure to reach the film or CCD. These extra exposures can be made by altering the auto exposure compensation dial or by photographing in the manual mode. With negative films always bracket with more exposure. With slide films, with less. Generally speaking, jpg files are equivalent to slides in exposure forgiveness and raw files are more like negative film. More on this later.

Exposure modes: The following are the modes available to photographers to determine exposure:

- Manual (M)Photographer sets both shutter speed and aperture
- AutomaticAperture priority or Shutter priority
- Aperture priority (A).....Photographer sets aperture; camera sets shutter speed.
- Shutter priority (S)Photographer sets shutter; camera sets aperture
- Program (P)Camera sets both aperture and shutter speed (There are variations on this mode i.e. "program Hi" for shooting sports.)

Back lighting: A lighting situation in which most of the light is in back of rather than directed at the subject. With back lighting, overexpose one or two stops so that your subject is properly exposed and the background is overexposed.

Lens Hood: Low tech, but High Value! This tool will improve your contrast and your color by protecting your lens from flare. Make sure to use the right one for the lens you are using – Wide angles will be darkened on the edges (vignetting) if the lens hood is too large.