

Everything you need to know about ...

Film

1. Film is made up of many layers. Study your handout to become familiar with them.
2. The 35mm referred to is the width of the whole film, not just the image size
3. Film speed is rated in ISO (International Standards Organization) numbers, some common speeds are ISO 100 and ISO 400. ASA (American Standards Association) film speeds are interchangeable with ISO numbers, and both are often quoted.
4. As film speed increases, so too does the size of the silver halide crystals that are affected by light.
5. As silver halide crystal size increases, the time needed for proper exposure decreases. This comes at a cost however, as the faster a film is, the grainier the print is.
6. ISO numbers range from ISO 25 to about ISO 3200. If you half the film speed, you require twice as much light for a proper exposure, and vice versa.
7. Film is sold prepackaged in 12, 24, 27, and 36 exposure rolls.
8. Store film in a cool, dry place. Your fridge is excellent.
9. “Slow” film refers to film under ISO 64, “medium” speed film is around ISO 100, and fast film is anything ISO 400 or above.



Some things to remember about...

Shutter speed

1. Shutter speed usually range from 1 second to about $1/1000^{\text{th}}$ of a second in the following increments: 1, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{15}$, $\frac{1}{30}$, $\frac{1}{60}$, $\frac{1}{125}$, $\frac{1}{250}$, $\frac{1}{500}$, $\frac{1}{1000}$.
2. A shutter speed of $\frac{1}{2}$ second will let in twice as much light as a shutter speed of $\frac{1}{4}$ second, and half as much light as a 1 second exposure.
3. There will also be a “B” setting on the shutter speed selector ring. This stands for “bulb” and it means that the shutter will remain open as long as the shutter release is depressed. This allows for long exposures at night, or when a blur is desired.
4. **VERY IMPORTANT!** To avoid blurriness, you should always use a tripod for shutter speeds of $\frac{1}{30}$ second and less. A good rule of thumb to follow is to find the focal length of the lens you are using and place it under a 1. This will tell you the slowest shutter speed you can use without a tripod. For example, if I am using a 300mm lens, the slowest shutter speed I can use is $\frac{1}{300}$ of a second, which means I have to use a shutter speed of $\frac{1}{500}$ second minimum without a tripod! For a 50 mm lens it is $\frac{1}{50}$ second, (or $\frac{1}{60}$ in reality.)

Aperture!

1. Aperture is measured in f-stops. (The “f” doesn’t stand for anything, so don’t ask!)
2. The aperture refers to the diaphragm in the lens. This diaphragm can open to let more light pass, or get smaller in diameter to let very little light pass through to the film.
3. The higher the f-stop number, the smaller the opening of the diaphragm in the lens. f 22 will allow less light to pass than f 11.
4. Most 50mm lenses have a wide open aperture of f1.8 or f 2. The next stop is f 2.8, and after that f 4, then f 5.6, f 8, f11, f 16, and finally, f22. **Remember these numbers!**
5. Some lenses will have an aperture of f32 as the smallest opening of the diaphragm, and other lens will be wide open at f3.5.
6. f 2 lets in twice as much light as f2.8 (even though the numbers don’t say that), while f 11 lets in half as much light as f8. Make sense?
7. “Closing down the lens” means increasing the f stop number, while at the same time closing the diaphragm in the lens.
8. “Opening up the lens” means the opposite.
9. Aperture controls **Depth of Field**. This is perhaps its most important feature. Depth of field is the amount of the photograph that is in focus. You the photographer make the choice by choosing your aperture.
10. The higher the f-stop number, the more of the scene, and eventually the print, will be in focus. This can be used to your advantage or disadvantage, as long as you understand how it works!