EXPOSURE TRIANGLE

Shutter Speed

The shutter speed is like the blinking of an eye. Close your eyes, then open and shut them really slow and more light will be let in as opposed to blinking fast. The whole time your eye lid (a.k.a. shutter) is open, two things are happening: the light is coming in, and movement is being seen. The camera sees all of this light and movement as well, and will combine it all in a single frame. That's why some images you've taken in the past might seem blurry or too bright; because the camera's "eye" was blinking too slow.

Select your shutter speed mostly based off of the subject you're photographing. We can call it "subject speed" if it makes it easier to remember. If you're capturing a fast moving subject that you want to freeze, like a hummingbird, you'll have to choose a very high shutter speed (i.e. 1/8000). If it's a fast moving subject like a speeding car that you want to capture with a directional motion blur, you'll use a slower shutter speed (i.e. 1/60). Getting a proper exposure means that you are letting enough light through the lens to capture your subject. To achieve a proper exposure, you'll have to balance shutter speed, aperture, and ISO according to your purpose. We want to think of our settings like the thermostat of your house. We adjust the temperature settings specifically to accomodate the guest that visits us.



Using ISO is much like using a flashlight to see at night when your eyes can't see anything else. This setting is typically the last resort for a good exposure because it can have a negative impact on the final image. The higher the ISO, the more noise/grain you get.

To avoid any unwanted noise, always have your ISO set to it's lowest setting and use it after you've set your aperture and shutter speed. Typically if you're always shooting in the daylight or with a flash, the ISO will remain at it's lowest setting.

CANON OF DESIGN

Aperture

The aperture is like the iris of an eye because it dilates and contracts to control the light. Have you ever walked out of your favorite Starbucks grasping your favorite latte and been blinded by the bright environment? You're viewing the scene much like an overexposed (too bright) image. Your iris (a.k.a. aperture) didn't contract to block out the light so all you saw was white.

An easier way to understand what the aperture does to an image, aside from helping to control light, is that it also controls the blurriness (usually seen in the background). We can think of this blurriness as depth of field. The higher the aperture, the less blurriness we see in the final image. The blurriness is referred to as "bokeh" (bow-keh, Mary kay), so if you want more bokeh for an aesthetically "softer" feel, you need a smaller aperture (f/1.2–2.8). If you want to increase the things that are in focus, you'll use a higher aperture (f/11–22). All of this adjusting from soft to focused is the essence of understanding depth of field.