Flash Photography

Photography. It means writing with light. Sometimes you need to supply the light. The light becomes the brush which paints your picture. Let's take a look at some basic ways to add light to your photo.

External Flash Units

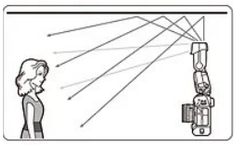
External flashes connect to your camera's hotshoe. When connecting your flash make sure it is firmly mounted on the hotshoe. The hotshoe has contact points which are used to communicate with the flash. It is vital that these points make proper contact. Only use flash units that are compatible with your camera. Using a mis-matched flash can damage your camera.

All flashes operate by emitting a burst of light which must occur while the camera shutter is open. Using a shutter speed that is too fast will result in a black bar across your photo. This maximum speed that your shutter can be set at is called the flash sync speed. Cameras that use dedicated flashes set the flash sync for you. Cameras that are fully manual usually have a highlighted speed on the shutter speed dial as a reminder.

How do you get the right exposure when using a flash? Every flash has a power rating. It is called the guide number. Guide numbers (GN) are based on the flash's ability to properly expose an object which is 10 feet away when your camera is set at ISO 100. How is this useful? You can determine your f-stop setting by dividing your guide number by the distance of your subject from the camera. Example: GN 100 / 10 feet = f10. If your GN is 50, GN50 / 10 feet = f5.

We are only concerned with finding the right f-stop. The shutter speed does not affect proper exposure of the subject being lit by the flash. Think of your flash exposure as happening at the same time as the ambient light exposure, but they are independent of each other. It is like taking two overlapping pics at the same time to form one combined image. Shutter speed does affect the area of the photo that is not illuminated by the flash. So, if you need to see what is in the background you must adjust your shutter speed to make that exposure correct. It is not always possible to balance the background (ambient light) exposure with the flash lit foreground. But there are settings on most modern flashes that help.

Many flashes have power (brightness) settings. Full, 1/2, 1/4, 1/8 etc. If your ambient light exposure is perfect and your flash is too bright, you can cut the power of the flash to equalize the exposure. If your flash does not have this option, or one similar, you can make the light from the flash travel farther before it hits the subject. The farther the light travels the more it weakens. If your flash's head tilts upwards or turns sideways you can bounce the light off the ceiling/wall. The light is forced to travel farther and therefore is less intense. This practice has other benefits as well. Light that bounces around becomes diffused. Diffused light is less harsh and hits the subject from multipleangles simultaneously.

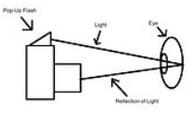


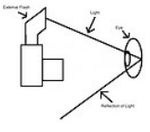
Looking at the image comparison we can see that the indirect (bounced flash) creates a more pleasing image. Why? The light is coming from multiple directions, bouncing off of walls with a large surface area. The light is being diffused (made larger) and covering a larger area. Learn more about soft lighting by reading our Portrait tips

Built in Flash (Pop up Flash)

Most modern cameras have a built-in flash. Though convenient, built-in flashes have limited capabilities and some drawbacks.

- Red Eye. It is almost a guarantee that people in your photo will have red eye if you use a built-in flash in a low-light a scene. Red Eye is caused by the flash bouncing off the retina of the eye and back into the lens. When it's dark, pupils are large and more of the retina is exposed to light. Why is it mainly a problem with built-in flashes and not external flashes? Imagine light reflecting off an eye being the same as a ball being thrown at a wall. If you throw the ball straight at the wall it will come straight back. if you throw a ball at an angle against a wall it bounces away from you. When a flash is close to the lens the light that is thrown is at a straight line into at the eye. The light comes straight back into the lens. External flashes throw the light on an angle so the light bounces away from the lens. It is important to note that using telephoto lenses increases the chances of redeye. See Figures Below.





- Built in flashes are not powerful. A GN of 12 is typical with a built in flash. That means your flash is only effective for short distances. This is practical though, because the flash uses the camera's battery.

- Bounce lighting is not an option with the camera's built in flash. The light is usually harsh. If you need to soften the light you need to place a piece of tissue paper over the flash. This will help scatter the light but it also reduces the amount of light hitting your subject.