CHUDLEIGH CAMERA CLUB

Basic Skills 1 Focus Sheet

A general look at different types of camera

Digital SLR Cameras (aka Digital Single Lens Reflex Cameras or DSLR cameras):

DSLR cameras are the most versatile and advanced type cameras available on the consumer market.

The first thing you will notice about a Digital Single Lens Reflex camera is that it is larger than any compact consumer camera and putting one in your pocket is out of the question.

One of the most important features of Digital SLR cameras is that you can change the camera lens to fit different situations. For instance you can use a fixed focal length 28mm lens for wide angle scenes, then remove that lens and put on a 200mm fixed focal length telephoto lens to pull the scene in closer. You also have the option to use a variety of zoom lenses with different zoom ranges.

The lenses for Digital SLR cameras will generally be of a better quality than those found on compact cameras which will result in better image quality.

Another big difference between Digital SLR cameras and compact cameras is the image sensor size. Digital SLR cameras have larger image sensors which will generally produce better quality images. If you are not familiar with camera sensors, please read the Digital Camera Image Sensors tutorial.

With a Digital SLR camera you can set the camera to the automatic mode and just start taking pictures. However, you also have the option of taking pictures in the full manual mode, as well as in the Aperture Priority, Shutter Priority or program modes. The most important thing to remember about using a Digital Single Lens Reflex camera is that you have more control over the way the picture will be taken as far as exposure settings.

Compact Digital Cameras:

Digital compact cameras, which are also known as Point and Shoot cameras, vary in features, price, and styles. Their smaller size and ease of use is the main appeal of these types of digital cameras.

Most basic compact cameras will fit in a pocket or small purse. All of the current compact cameras have a minimum three time (3X) zoom lens and at least 12 megapixels. With that many megapixels, great looking, quality images can be enlarged to 16 X 20 inch print size.

CHUDLEIGH CAMERA CLUB

Basic Skills 1 Focus Sheet

A general look at different types of camera

Today's digital compact cameras come with a fully automatic mode which is great for beginners or those who just want to "point and shoot" when taking pictures.

In addition to the automatic mode, digital compact cameras come equipped with a number of scene modes such as landscape, beach, sports and fireworks among others. Those scene modes make it easy to adapt to different types of picture taking situations.

Manual adjustments to camera settings like the shutter speed or lens aperture setting can't be done on a basic digital compact camera. Those functions are set automatically when you take the picture. So once again, compact cameras are made for ease of use rather than giving the photographer full control over every camera setting.

Bridge Compact Digital Cameras:

Bridge cameras, also known as Advanced Compact cameras are a step up from the Basic Compact camera.

The main difference between Bridge cameras and Basic Compact cameras is that they allow the photographer to have more control over the camera's exposure settings. Bridge cameras will have semi-automatic Aperture Priority, Shutter priority, and Program modes. Most will also have a Manual mode that will allow the photographer to have full control over the camera exposure settings.

Many Bridge cameras also have lenses with a much longer zoom range than many other cameras. For instance, instead of a three to five time zoom lens range, the zoom lens range for some Bridge cameras might be as high as thirty times (40X).

The lens on a Bridge camera is "fixed" and cannot be removed and replaced with a different one the way you can change the lens on a Digital SLR camera. Also, most Bridge cameras will have a smaller image sensor and a smaller lens than the ones found on a Digital SLR camera.

Many bridge cameras are larger than basic point and shoot cameras. Some bridge cameras are also shaped similar to Digital SLR cameras, but many are shaped like digital compact cameras. (just slightly larger).

Bridge cameras are great for photographers who want a little more control over the camera exposure settings and perhaps a longer zoom range without having to pay the purchase price of a Digital SLR camera.

A general look at aperture and shutter speed and how they affect exposure

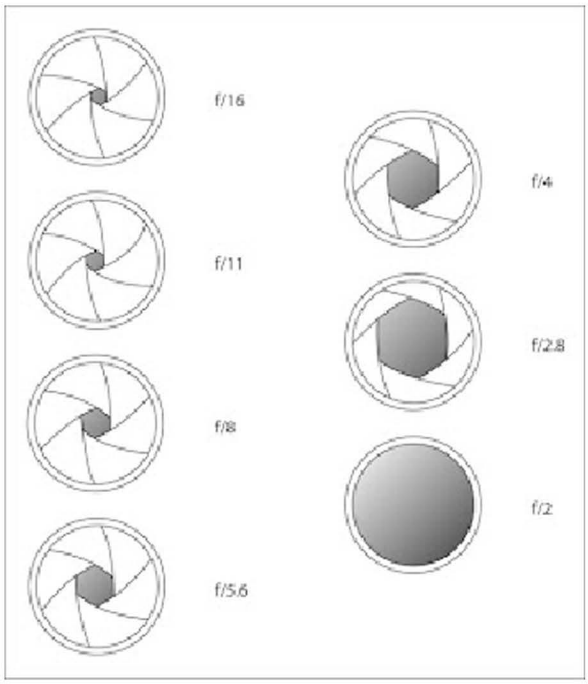
Aperture is a device to control the light goes into the camera.

Some Aperture might not look exactly like this, but the theory and the way Aperture open and close are same, for sure.
There are several option in setting the size of Aperture, and we called it a "stop". The number "f/2", "f/2.8", "f/4", "f/5.6", "f/8", "f/11" and "f/16" are the "stop" or someone called it a "f-number". Different entry level camera might have different "stop" as well. As you can see, the smaller the number, the larger the Aperture. It is mathematics, assume the "f" is 1, and the larger the denominator, the smaller the value.

CHUDLEIGH CAMERA CLUB

Basic Skills 1 Focus Sheet

A general look at different types of camera

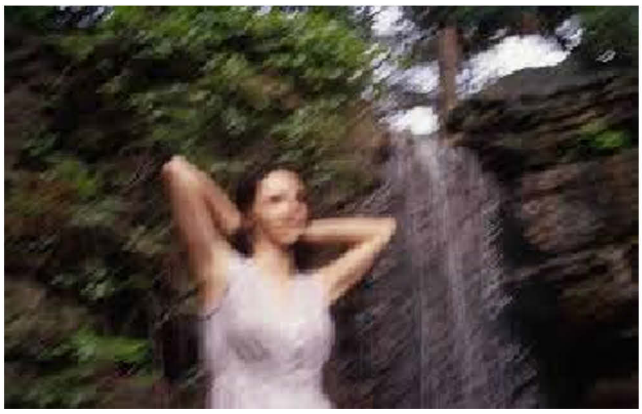


However, the larger the Aperture open, the more light goes in the camera. The smaller the Aperture open, the less light goes in the camera. Aperture is one of the factors that decide brightness of the picture. If you found your picture not bright enough, you should open the Aperture larger (if there is any "stop" available).

Shutter Speed is 'the amount of time that the shutter is open'. In film photography it was the length of time that the film was exposed to the scene you're photographing and similarly in digital photography shutter speed is the length of time that your image sensor 'sees' the scene you're attempting to capture.

Shutter speed is measured in seconds – or in most cases fractions of seconds.

The bigger the denominator the faster the speed (ie 1/1000 is much faster than 1/30).



In most cases you'll probably be using shutter speeds of 1/60th of a second or faster. This is because anything slower than this is very difficult to use without getting camera shake (similar to that on the left). Camera shake is when your camera is moving while the shutter is open and results in blur in your photos.

If you're using a slow shutter speed (anything slower than 1/60) you will need to either use a tripod or some type of image stabilization (more and more cameras are coming with this built in).

Shutter speeds available to you on your camera will usually double (approximately) with each setting. As a result you'll usually have the options for the following shutter speeds – 1/500, 1/250, 1/125, 1/60, 1/30, 1/15, 1/8 etc. This 'doubling' is handy to keep in mind as aperture settings also double the amount of light that is let in – as a result increasing shutter speed by one stop and decreasing aperture by one stop should give you similar exposure levels.

Some cameras also give you the option for very slow shutter speeds that are not fracions of seconds but are measured in seconds (for example 1 second, 10 seconds, 30 seconds etc). These are used in very low light situations, when you're going after special effects and/or when you're trying to capture a lot of movement in a shot. Some cameras also give you the option to shoot in 'B' (or 'Bulb') mode. Bulb mode lets you keep the shutter open for as long as you hold it down.

When considering what shutter speed to use in an image you should always ask yourself whether anything in your scene is moving and how you'd like to capture that movement. If there is movement in your scene you have the choice of either freezing the movement (so it looks still) or letting the moving object intentionally blur (giving it a sense of movement see pic on the left).

CHUDLEIGH CAMERA CLUB

Basic Skills 1 Focus Sheet

A general look at different types of camera

To freeze movement in an image you'll want to choose a faster shutter speed and to let the movement blur you'll want to choose a slower shutter speed. The actual speeds you should choose will vary depending upon the speed of the subject in your shot and how much you want it to be blurred. (see pic on right)

Produced by Roger Full.
29/11/2013