



Key Photography Terms: Using a Camera

<http://www.clker.com/clipart-camera-photo.html>

Aperture

Aperture refers to the size of the opening in the lens that determines the amount of light that will hit the camera sensor. A larger aperture (smaller f-number, e.g. $f/2$) has a shallow depth of field. Anything behind or in front of the main focus point will appear blurred. A smaller aperture (larger f-number, e.g. $f/11$) has a greater depth of field. Objects within a certain range behind or in front of the main focus point will also appear sharp.

Autofocus

Autofocus refers to the camera's ability to continuously focus on a moving subject, a feature normally only found on digital SLRs. It is generally used by sports or wildlife photographers to keep a moving subject in focus. The camera will continue to focus based on its own focus rules (and your settings) while the shutter release is half-pressed or fully depressed (actually taking shots).

Digital Single Lens Reflex (DSLR)

A digital single-lens reflex camera (digital SLR or DSLR) is a digital camera that uses a mechanical mirror system and pentaprism to direct light from the lens to an optical viewfinder on the back of the camera.

Depth of Field (DOF)

Depth of field (DOF) refers to the areas of the photograph both in front and behind the main focus point which remain "sharp" (in focus). Depth of field is affected by the aperture, subject distance, and focal length. A larger aperture (smaller f-number, e.g. $f/2$) has a shallow depth of field. Anything behind or in front of the main focus point will appear blurred. A smaller aperture (larger f-number, e.g. $f/11$) has a greater depth of field. Objects within a certain range behind or in front of the main focus point will also appear sharp.

Coming closer to the subject (reducing subject distance) will reduce depth of field, while moving away from the subject will increase depth of field. Lenses with shorter focal lengths

produce images with larger DOF. For instance, a 28mm lens at f/5.6 produces images with a greater depth of field than a 70mm lens at the same aperture.

Focal Length

The focal length of a lens is defined as the distance in millimetres from the optical center of the lens to the focal point, which is located on the sensor or film if the subject (at infinity) is in focus. The camera lens projects part of the scene onto the sensor or film. The field of view (FOV) is determined by the angle of view from the lens out to the scene; larger full-frame sensors have wider FOVs and can capture more of the scene. The FOV associated with a focal length is based on 35mm film photography, given the popularity of this format over other formats. Lenses with a focal length of 50mm are called “normal” because they work without reduction or magnification and create images the way we see the scene with our naked eyes (same picture angle of 46°).

Resolution

The resolution of a digital image is defined as the number of pixels it contains. A 5 megapixel image is typically 2,560 pixels wide and 1,920 pixels high and has a resolution of 4,915,200 pixels, rounded off to 5 million pixels. Sensor resolution refers to the number of effective pixels located on a DSLR sensor.



<http://www.tshirtcharity.com/Cliparts+Gallery/17633/Photographer-7.php>

Key Photography Terms: In The Studio

Three-Point Lighting

One of the most basic lighting plans is called three-point lighting. This plan uses three (and sometimes four) lights to fully model (bring out details and the three-dimensionality of) the subject's features.

The Key light

Also called a main light, the key light is usually placed to one side of the subject's face, between 30 and 60 degrees off center and a bit higher than eye level. The key light is the brightest light in the lighting plan.

The Fill light

Placed opposite the key light, the fill light fills in or softens the shadows on the opposite side of the face. The brightness of the fill light is usually between $1/3$ and $1/4$ that of the key light.

The Back light

Is placed behind the subject, out of the picture frame, and often rather higher than the Key light or Fill. The point of the back light is to provide separation from the background by highlighting the subject's shoulders and hair. It should be just bright enough to provide separation from the background, but not as bright as the key light. Sometimes this light is set just off to the side, on the fill light side. This can add edge detail to the shadowed side of your model's face.

Butterfly lighting

Butterfly lighting is another common lighting plan and has been very popular over the past decade or so. In this case, only two lights are common. The Key light is placed directly in front of the subject, often above the camera or slightly to one side, and a bit higher than is common for a three-point lighting plan. The second light is a rim light. Often a reflector is placed below the subject's face to provide fill light and soften shadows.

Accessory lights

These lights can be added to basic lighting plans to provide additional highlights or add background definition.

Background lights

Not so much a part of the portrait lighting plan, but rather designed to provide illumination for the background behind the subject, background lights can pick out details in the background, provide a halo effect by illuminating a portion of a backdrop behind the subject's head, or turn the background pure white by filling it with light.

Other lighting equipment

Most lights used in modern photography are a flash of some sort. The lighting for portraiture is typically diffused by bouncing it from the inside of an umbrella, or by using a soft box. A soft box is a fabric box, encasing a photo strobe head, one side of which is made of translucent fabric. This provides a softer lighting for portrait work and is often considered more appealing than the harsh light often cast by open strobes. Hair and background lights are usually not diffused. It is more important to control light spillage to other areas of the subject.