

Exposure

"Correct" Exposure

Photography is the recording of an image on a light sensitive medium and relies on correct exposure, which in general terms means recording the scene as you see it with your eye. (yes - we know about creative exposures but let's keep things simple for now).

So how do we achieve that correct exposure?

Exposure Metering

Back in the day hardened photographers calculated correct exposure using the "*sunny f/16 rule*" - do an internet search if you want to know more.

Thereafter separate hand held exposure meters were used to determine the intensity of the light and an appropriate combination of aperture & shutter speed according to ISO to achieve a "*correct*" exposure

Nowadays exposure meters tend to be built into most cameras.

In the most simple form an exposure meter will provide a reading that correctly exposes a subject that is "mid grey" or "mid tone" in colour. Anything else it will try to turn mid grey. As a consequence

- If you are trying to photograph a "black cat in a coal hole" the meter reading will in general naturally over expose the scene.
- If you try to photograph a snowman surrounded by snow the meter will typically under expose the scene.

In-Camera Exposure Metering Options

Most cameras nowadays have various options for how the exposure meter "reads" light levels to determine "correct" exposure; some better than others

Matrix (Nikon), Evaluative (Canon), Multi (Sony), etc: Developed as a way of accurately metering off-centre subjects. Works by dividing the viewfinder into zones each giving a separate reading that the camera analyses to calculate exposure. Some types take subject colour into account. **Possibly the best all round option to use.**

Centre Weighted: Metering is biased towards the centre of the viewfinder and works well with centrally placed subjects but not so well with off centre subjects

Spot & Partial: Similar to centre weighed but concentrated on a v small area of the viewfinder. Generally only used in v specific circumstances and therefore in the current context, on the whole best avoided.

No metering system is perfect and all have the potential to over or under expose in "difficult" lighting.

In such situations "exposure compensation" may be required

Camera Exposure Mode Options - how to control aperture, shutter speed and ISO

With exposure meters now built in to cameras as a matter of course there are a number of options available to set the appropriate aperture, shutter speed and ISO according to the meter recommendations.

"Programme" modes are where the camera selects both the aperture and shutter speed based on the exposure meter reading in accordance with predetermined criteria set by the camera manufacturer.

P mode - the simplest option and effectively "point and shoot," some refer to it jokingly as "P for professional".

Icon modes - variations on a theme of the basic programme mode where the selection of shutter speed and aperture is skewed depending on the subject being photographed

eg.

- Sports Mode - greater emphasis on a faster shutter speed
- Landscape Mode - greater emphasis on smaller aperture and therefore more depth of field
- Other subject specific modes are available 😊.

I would suggest that using Programme is the quickest and easiest way to go to get correctly exposed images **most of the time** when starting out on your photographic journey. It allows you to take plenty of pictures and concentrate on the image itself rather than techie stuff.

As you progress you'll want to start taking control, when other modes come into play:

Aperture Priority (A on most cameras or Av on Canon) - the user sets the aperture and the camera the corresponding shutter speed

Shutter Priority (S on most cameras or Tv on Canon) - the opposite to last where the user sets the shutter speed and the camera the corresponding aperture

And when you get really confident how about:

Manual Mode - the user has to set both aperture and shutter speed according to the recommendations of the built in meter or for the really worldly wise according to your own assessment of lighting levels.

Auto ISO

With all the above the user would normally set the ISO but most cameras nowadays have an Auto ISO modes where the user sets parameters (eg. a minimum shutter speed in aperture priority mode) the camera then adjusts the ISO as the light changes to maintain that shutter speed to suit the user selected aperture