

Photography

Definition: the act or process of producing images by the action of radiant energy and especially light on a sensitive surface (such as film or an optical sensor). Photography is essentially drawing with light. The process involves capturing light with a physical medium such as film, or through electronic means with a microchip, to create an image that can be stored, shared, and or reproduced.

Ambient Light

The available light that completely surrounds a subject. The light which exists in an indoor or outdoor setting and not caused by any illumination supplied by other light sources.

Angle Of View

The area of a scene that a lens covers or sees, determined by the focal length of the lens. A wide-angle lens (short focal length) includes more of the scene with a wider angle of view compared to a general or telephoto lens.

Aperture

Aperture is the opening which light passes through the lens to enter the camera. The size can be modified to control how much light reaches the sensor or film. The diameter of the aperture, also known as the F-stop, affects the exposure and depth of field.

Aperture Priority

An exposure mode on a camera that lets you set the aperture while the camera sets the shutter speed for proper exposure. If you change the aperture, or the light level changes, the shutter speed changes automatically.

Autofocus

System by which the camera lens automatically focuses the image of a selected part of the picture subject.

Backlighting

This light source is behind the subject matter and towards the camera lens. Sometimes it produces a silhouette effect so that the subject stands out vividly against the background.



Bokeh

Bokeh is an optical phenomenon that makes bright out-of-focus elements aesthetically pleasing to the eye. Using a fast lens at a wider aperture turns a busy background into a soft blurred background.

Bracketing

Bracketing is the act of capturing the same scene; however using different exposure values to make sure the entire scene is exposed correctly. Bracketing can be done manually or using the bracketing (AEB) function. In most cameras, AEB allows photographers to select the exposure compensation for the additional shots, which are automatically adjusted as you press the shutter release.

Bulb

Bulb mode is a setting that keeps the shutter open for as long as the shutter release button's pressed down. This mode allows photographers to capture longer exposures than the ones offered by the camera.

Camera Angles

Various positions of the camera (high, medium, or low; and left, right, or straight on) to the subject, each giving a different viewpoint or effect.

Composition

Image composition is how elements are positioned within a photo. Various composition rules can be used successfully within an image to guide the viewer's eye across the image towards the main subject.

Close-Up

A captured image with the subject close to the camera.

Crop factor

Crop factor is the proportion of a camera sensor size compared to a 35mm film frame or digital full-frame sensor. Different brands work with varying factors of crop. For example, Canon offers 1.3x (APS-H) and 1.6x (APS-C), while Nikon, Sony, Fuji, and Pentax use a 1.5x ratio (ASP-C). A camera's crop factor influences the effective focal length of a lens and the angle of view.

DSLR

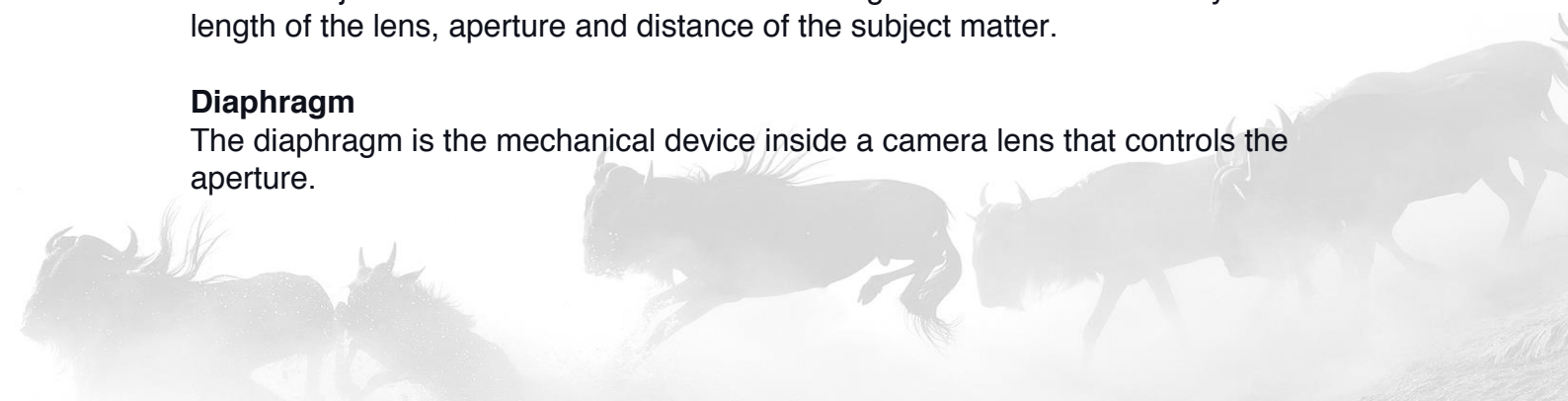
This acronym stands for Digital Single-Lens Reflex and is used to describe any camera with a flip-up mirror inside the camera body.

DOF

DOF, which stands for Depth of Field, is the distance between the closest and farthest object within the focused zone of an image. DOF is determined by the focal length of the lens, aperture and distance of the subject matter.

Diaphragm

The diaphragm is the mechanical device inside a camera lens that controls the aperture.



Dynamic Range

Dynamic range is the range of luminance of an image between its highest and lowest light intensities, usually pure white and pure black.

Exposure

Exposure is the amount of light that reaches the camera sensor. Exposure determines how bright or dark an image looks. Aperture, shutter speed, and ISO determine the exposure of an image.

Exposure Compensation

EV compensation, or exposure value compensation, allows photographers to modify the exposure on automatic and semi-automatic modes. The differences in exposure can be adjusted in steps of a $\frac{1}{3}$, $\frac{1}{2}$ or even full F-Stops.

F-Stop

The f-stop is a measurement of how much light your lens is letting in through the aperture. F-Stop, defined by dividing the lens focal length by the diameter of the opening.

File Format

The file format is the format in which your cameras saves the image, usually RAW, JPG and TIFF. Raw files contain more information compared to JPG files, which makes them more suitable for photo editing in various editing software.

Focal length

The focal length is the distance between the centre of a lens and the camera sensor. It determines the angle of view as well as the magnification of the subject. Depending on the focal length of a lens, it'll be categorised as a type of lens. Wide-angle ($<35\text{mm}$), standard ($35\text{mm} - 70\text{mm}$), medium telephoto ($70\text{mm} - 135\text{mm}$) and telephoto ($>135\text{mm}$).

Focus

When your eyes focus on an object that's close to you, the objects far away will appear blurry. The common photography term "focus" has the same meaning. Something that is in focus is sharp, while an out of focus subject isn't sharp.

FPS

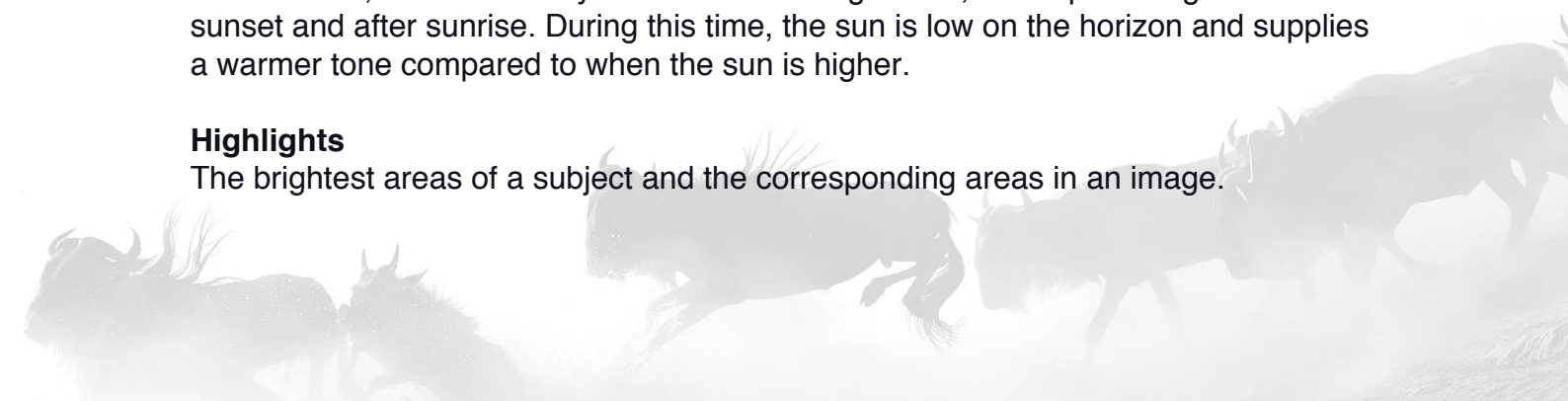
FPS stands for frames per second and determines the speed at which a camera can take photos in bursts.

Golden hour

Golden hour, also commonly referred to as 'magic hour,' is the period right before sunset and after sunrise. During this time, the sun is low on the horizon and supplies a warmer tone compared to when the sun is higher.

Highlights

The brightest areas of a subject and the corresponding areas in an image.



Histogram

The histogram is the visual representation of the luminance of an image. The left side of the graph represents the shadows, while the right side belongs to the highlights. The height of the histogram shows how many pixels there are for each specific luminance level.

ISO

ISO, International Organization for Standardization, represents the sensor's sensitivity to the light.

ISO Invariance

The short answer is that ISO invariance means that a camera will produce the exact same image quality by staying at ISO (or whatever the base ISO is on the camera) and dramatically underexposing the photo and then brightening it up again in editing software, as if you had shot the camera at the proper ISO in the first place.

JPEG

JPEG is an acronym for Joint Photographic Experts Group and the standard format in which pictures are compressed. Due to this compression, JPEG files are smaller and carry less information.

Kelvin

Kelvin is the absolute thermodynamic unit used to measure temperature colour. The scale goes from 2,000K (candlelight) to 9,000K (blue sky) and is tightly related to white balance.

Lens

One or more pieces of optical glass or similar material designed to collect and focus rays of light to form a sharp image on the digital sensor or film.

Lens Flare

Lens flare is stray light that is hitting the front element of your lens. It shows up in some images as circular spots or streaks of light.

Light meter

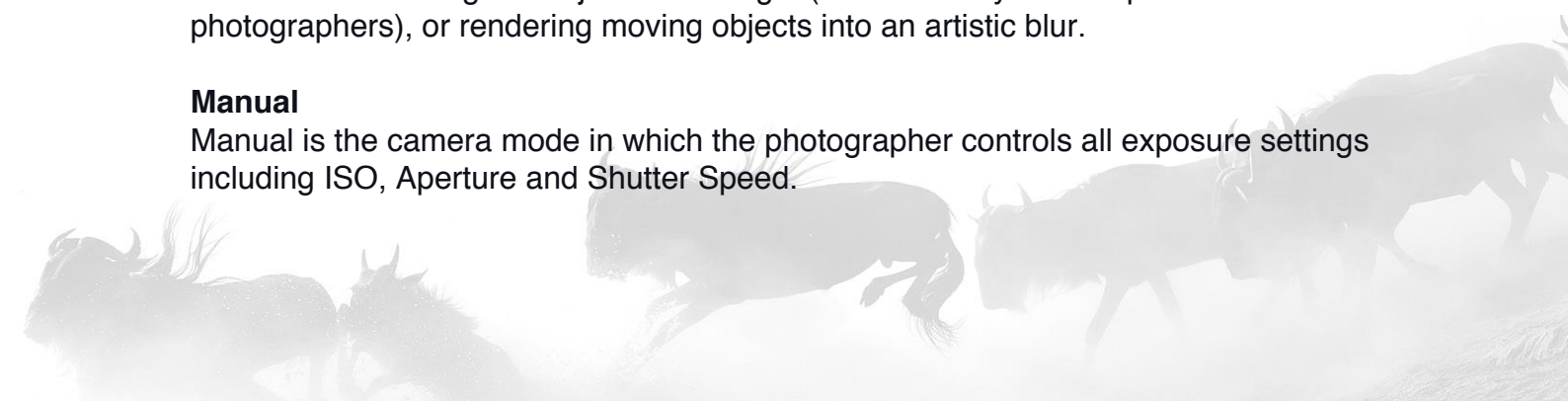
The light meter is a device that measures the scene's luminosity to determine the best exposure value. The vast majority of cameras have a built-in light meter that relies on reflective readings through the lens.

Long Exposure

Long exposure is when a camera shutter stays open for a long time. This technique is useful for shooting still objects in low light (used often by landscape photographers), or rendering moving objects into an artistic blur.

Manual

Manual is the camera mode in which the photographer controls all exposure settings including ISO, Aperture and Shutter Speed.



Metadata

Metadata, also known as EXIF, is the essential information about the image. Including image dimensions, resolution, keywords, camera settings, focal length, copyright owner, etc.

Megapixel

A picture made up of one million pixels or one million picture elements. The megapixel count of a camera indicates the number of effective megapixels compacted on a camera sensor.

Mirrorless Cameras

Inside every DSLR camera, there is a tiny mirror which reflects light from the lens up through the prism, to the viewfinder so you can compose your photos. Mirrorless cameras do not have the mirror, and thus light reflects directly on the sensor. Due to the lack of a mirror, mirrorless cameras will generally be smaller in size. A mirrorless camera captures images by switching the sensor on and off.

Noise

Noise is a visual distortion that looks like tiny coloured specs on a photo. There are two types of noise, shot noise and ambient noise.

Overexposure

Overexposure occurs when the exposure value is higher than it should be, resulting in a loss of information over highlight areas.

Panning

Moving the camera so that the image of a moving object remains in the same relative position in the viewfinder as you take a picture.

Pixel

An abbreviation for "picture element". The smallest unit of measurement for a digital image.

Program Mode

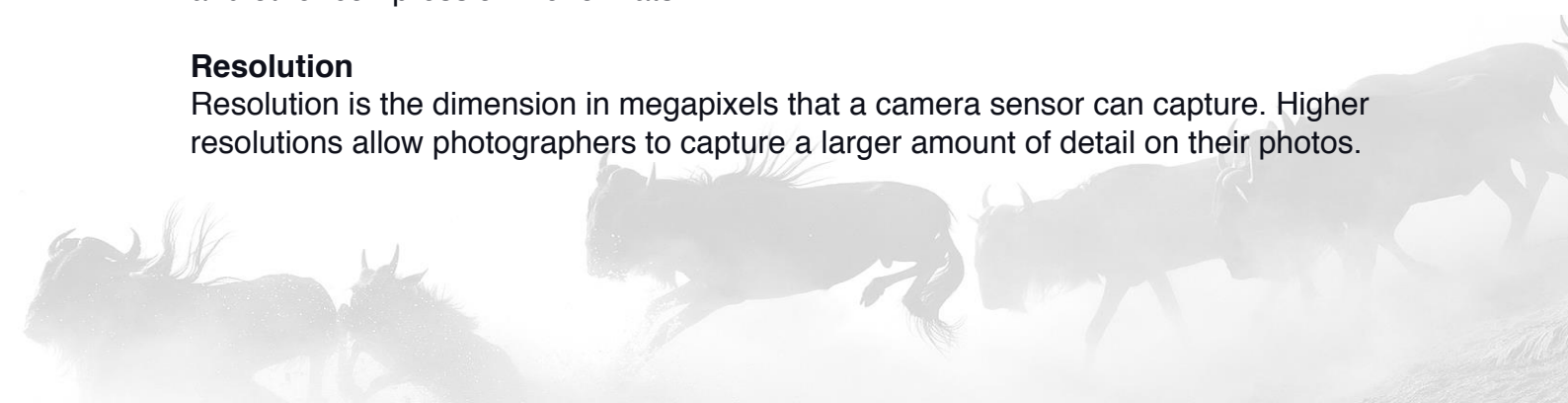
Program mode is a semi-automatic camera mode. Contrary to popular belief, it doesn't stand for "professional," but for "programmed automatic". This mode allows photographers to control a few settings, such as the use of flash, ISO, EV, and WB.

RAW

RAW is a file format that saves the image as it was captured by the sensor, with minimal processing and no compression. RAW files are much larger than JPEGs and other compression file formats.

Resolution

Resolution is the dimension in megapixels that a camera sensor can capture. Higher resolutions allow photographers to capture a larger amount of detail on their photos.



Sensor

The sensor is inside your camera body. Its sole purpose is to collect light, specifically the light coming through the lens to produce an image.

Shutter

Blades, a curtain or plate which are forms of camera shutters, cover the camera sensor and controls the time during which light reaches the camera sensor.

Shutter speed

Shutter speed is the length of time a camera sensor is exposed to light when taking a photo.

Shutter Priority

Shutter Priority is an exposure mode which allows the photographer to select the desired shutter speed; the camera sets the aperture for proper exposure. If you change the shutter speed, or the light level changes, the camera adjusts the aperture automatically.

Side Lighting

Light striking the subject from the side relative to the position of the camera.

Spray and pray

The act in which a photographer shoots as many images as possible and prays they captured something good.

Telephoto Lens

A lens that makes a subject appear bigger compared to a standard lens at the same camera-to-subject distance. A telephoto lens has a longer focal length and a narrower field of view.

Through-The-Lens Metering

Meter built into the camera determines exposure for the scene by reading light that passes through the lens during picture-taking.

Tonal range

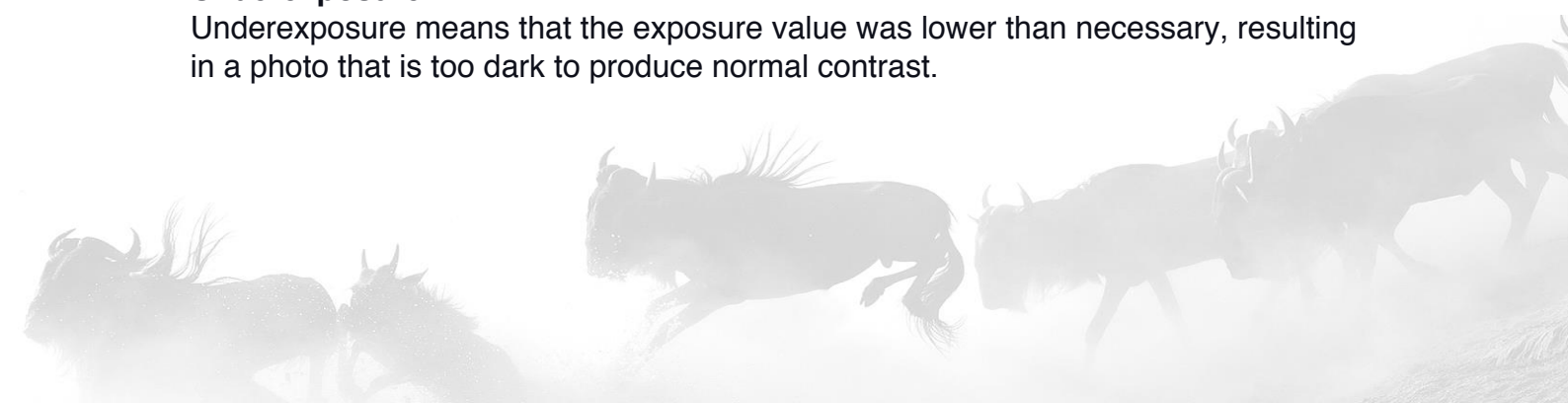
The tonal range is the total number of tones in an image, from its darkest to its brightest area. A wider tonal range allows for a greater variety of shades, which translates into more detail.

Tripod

A three-legged supporting stand used to hold the camera steady.

Underexposure

Underexposure means that the exposure value was lower than necessary, resulting in a photo that is too dark to produce normal contrast.



Viewfinder

That's the hole you look through to take the picture. Some digital cameras don't have one and just use the screen, but all DSLRs and most mirrorless cameras use them.

Vignetting

Vignetting is a common occurrence in photography in which the edges of an image appear less bright and desaturated, especially on the corners.

Wide-Angle Lens

A lens that has a shorter focal length and a wider field of view.

White balance

White balance refers to the colour balance of the light, measured in degrees kelvin.

Zoom

Zoom lenses are those whose focal length can be modified, allowing photographers to zoom in and out from the subject. This type of lenses is very popular and offers more flexibility.

