

GCSE Photography Knowledge Organiser

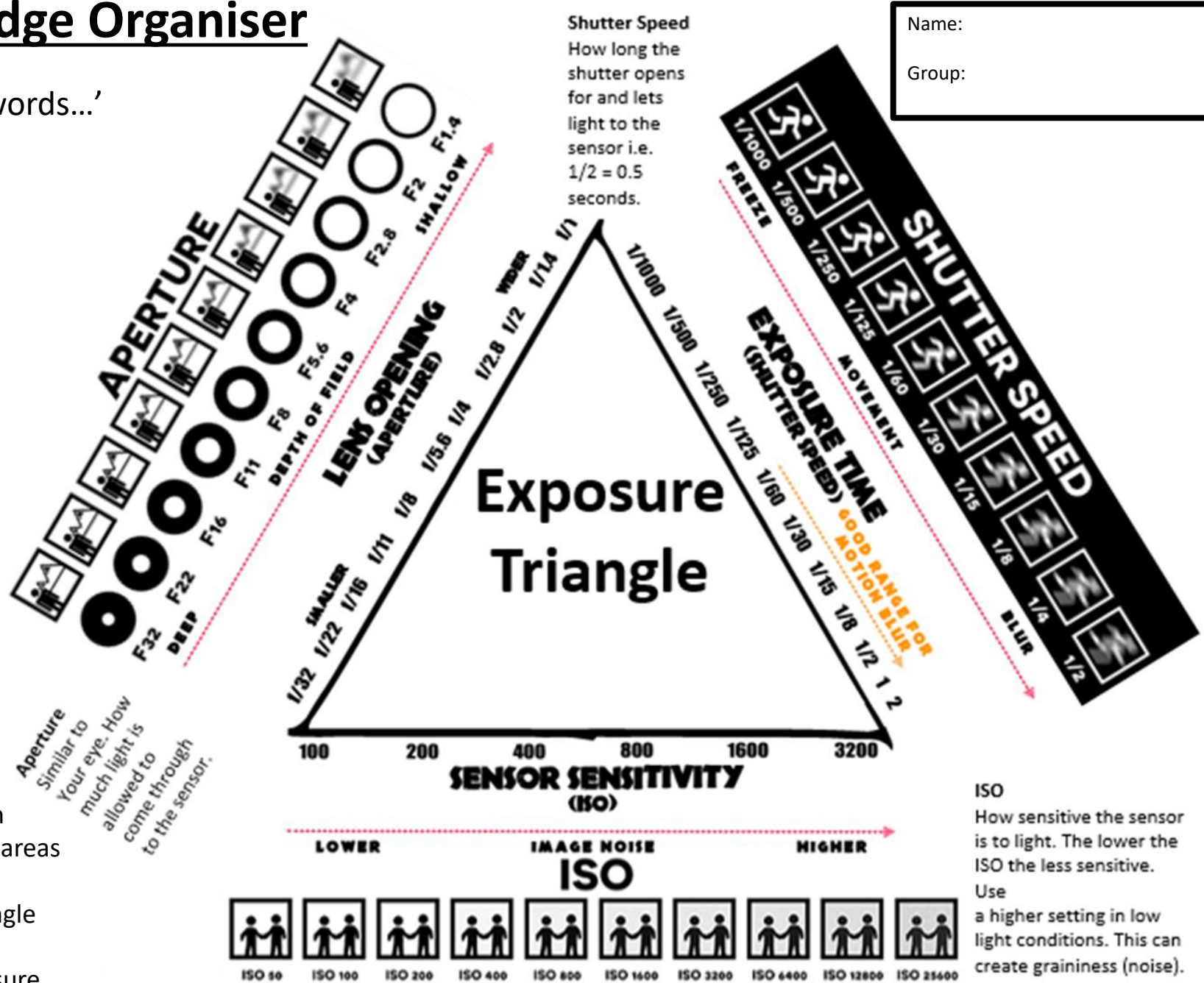
'A picture is worth a thousand words...'



Assessment Objectives – How we mark your work

AO1 Artist Research and links with your own photos
AO2 Experimentation and Editing
AO3 Own Photos and Drawings
AO4 Personal Response and overall quality

The Exposure Triangle is the relationship between the ISO, shutter speed and aperture. These three areas work together to create an actual exposure or photograph. It is referred to as the Exposure Triangle because when you adjust one element, another element **MUST** change to capture the same exposure.



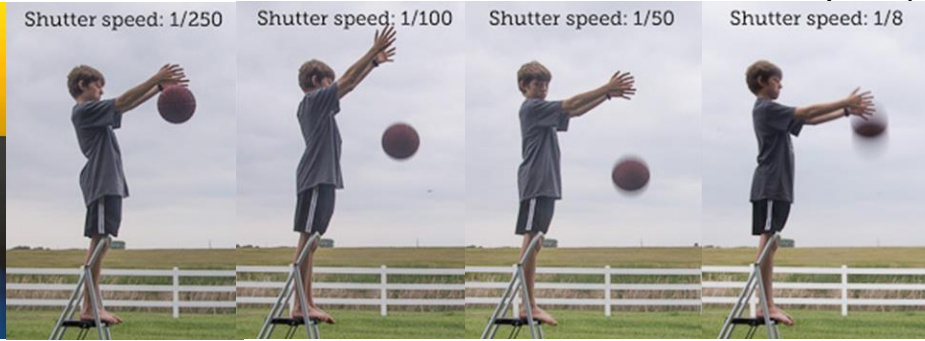
Name:

Group:

Shutter Speed is measured in fractions of a second or whole seconds. For example 1/100 (One hundredth of a second)



Fast Shutter Speed



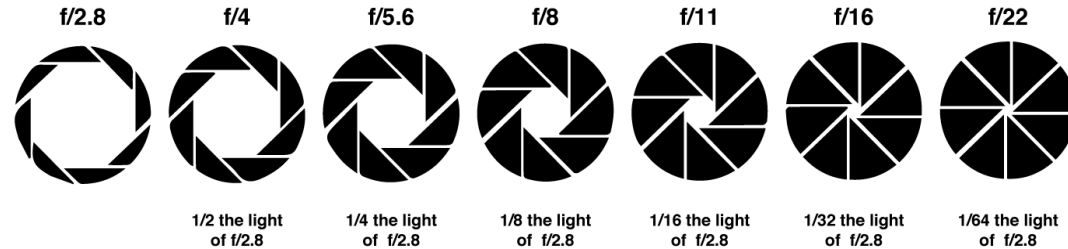
Slow Shutter Speed

Shutter Speed
How long the shutter opens for and lets light to the sensor i.e.
 $1/2 = 0.5$ seconds.

Aperture controls the size of the hole that allows light into the camera when taking a photograph. Often called F/Stop.



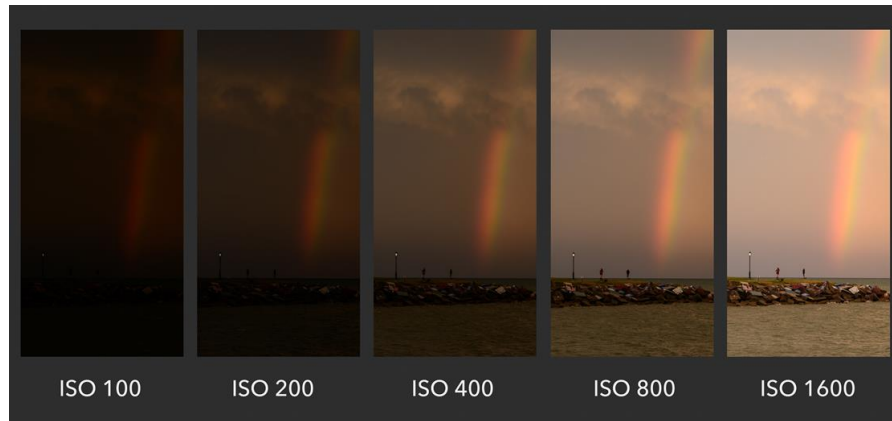
Large Aperture (f/1.4 to f/4)



Small Aperture f/11 to f/32

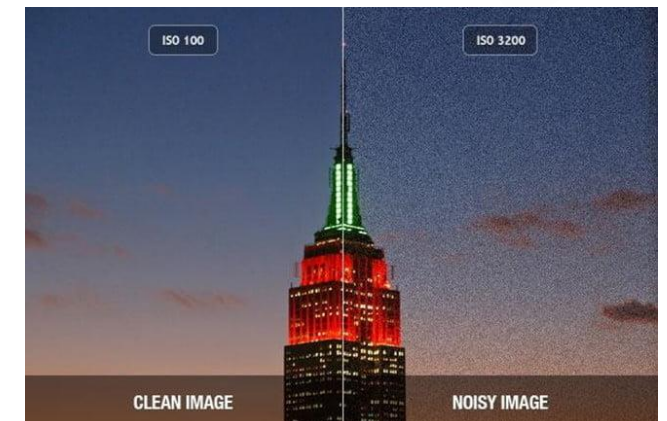
Aperture
Similar to Your eye. How much light is allowed to come through to the sensor.

ISO is a camera setting that can brighten or darken a photograph. This works by increasing or decreasing the sensor sensitivity.



Increasing the ISO can help the camera take photos in low light conditions.

However a high ISO will add noise/graininess to the photo.



DSLR

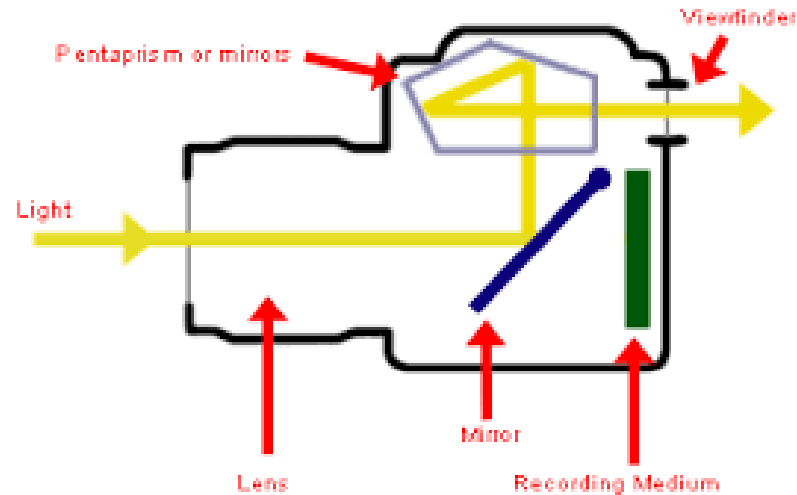
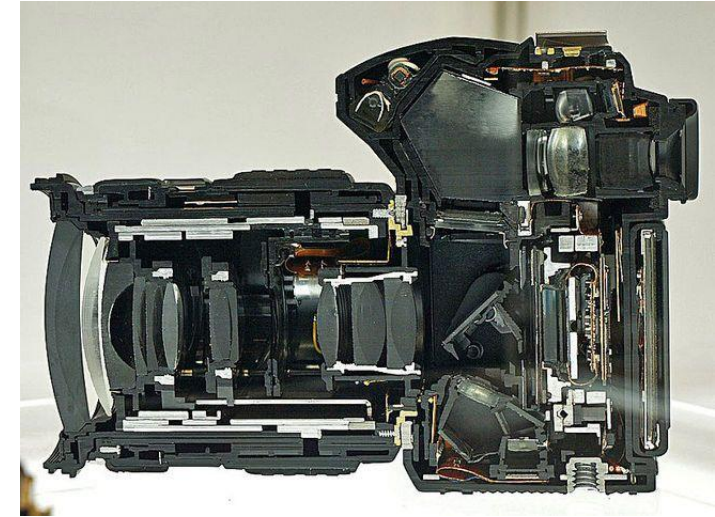
What is a DSLR Camera?

A **Digital Single Lens Reflex**, or DSLR camera, is a camera with an internal mirror and prism system. This system is used to direct the light from the lens up to the viewfinder that you look through to compose the image.

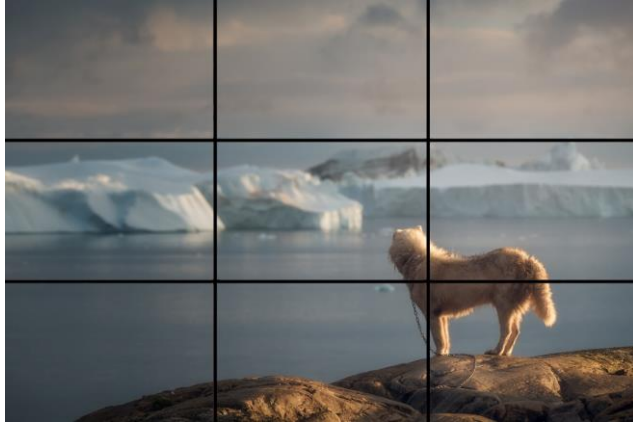
Light is collected and focused by a lens, and then captured on a digital sensor. The sensor saves that light information into an image file that you can view and edit.

The difference between a DSLR camera and other cameras is that a DSLR has this mirror and prism system which is used to send light to the viewfinder. If you take the lens off a DSLR and look inside the lens mount, you will see the mirror sitting at around a 45 degree angle. It reflects the light up towards the optical viewfinder.

When you press the shutter button, the mirror will flip up inside the camera, out of the way of the sensor. Then the light will pass onto the sensor to record the image. This is why, when you take a photo with a DSLR camera, the viewfinder goes dark when you press the shutter button. The mirror is no longer reflecting the light, and so the viewfinder goes dark.



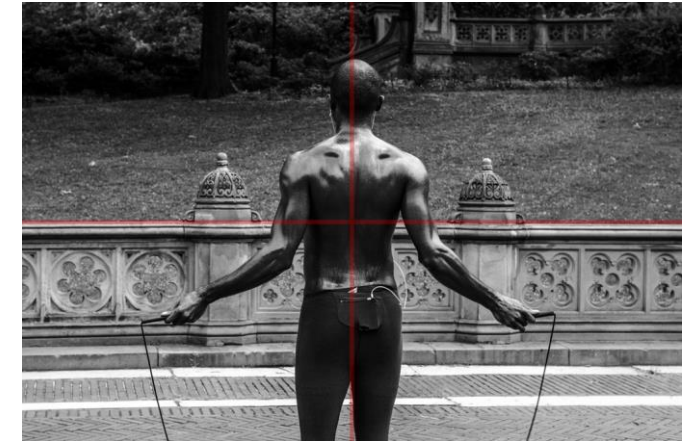
Composition



Rule of Thirds

Rule of Thirds is a type of composition in which an image is divided evenly into **thirds**, both horizontally and vertically, and the subject of the image is placed at the intersection of those dividing lines, or along one of the lines itself. It is used to create a natural feeling of balance between the subject and the background.

Centre Composition

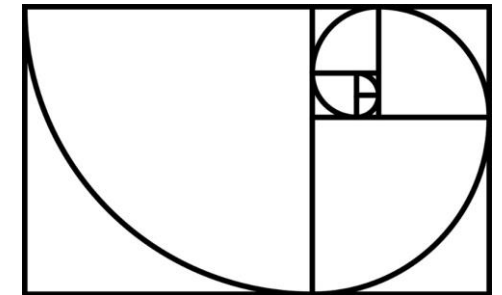


In **Centre Composition** photography the main subject is placed in the middle of the image frame. Centre composition is the most powerful way to draw attention to your main subject.



Golden Ratio

The Golden Ratio is a spiral that can be drawn based on the numbers of the Fibonacci Sequence. This can be applied to pictures when thinking about the placement of elements within the frame. The Golden Ratio has been called a more complicated Rule of Thirds and can be used to create a sense of dynamic movement within an image.



Guidelines are used here to show the different compositions, they would not be present in the final images.

Terminology



Exposure

Exposure is the amount of light captured by the camera.

Underexposed is too dark/ not enough light. **Overexposed** is too bright/ too much light.

Shallow Depth of Field

A **shallow depth of field** is the small or narrow area in an image that is in focus. Often, the background is blurred while only the subject stays in focus



Macro Photography

Macro photography is close-up photography of small subjects, including things like bugs and flowers. You can take macro pictures in a studio or outdoor environment so long as you are greatly magnifying your subject.



Photograms

A **photogram** is a photographic image made without a camera. It involves placing things on the surface of a light sensitive material and then exposing them to light. Traditionally this process has been done using photographic paper.



Light painting, painting with light, light drawing, or light art performance photography are terms that describe photographic techniques of moving a light source while taking a long exposure photograph, either to illuminate a subject or space, or to shine light at the camera to 'draw', or by moving the camera itself during exposure of light sources

Light Painting



Artist Research

Artist research is worth one quarter of your final grade.

Start by describing the work using the Formal Elements. Include the name and date of the work if you can find it

If you do not have the information, use the Exposure Triangle to make justified guesses about the camera settings used

Explain the challenges and possible planning that went in to taking the photograph.

What techniques used in this photograph are interesting to you?

What was the photographer trying to show in this image?

What kind of feeling does the images convey?

What would you change? Why?

A*/9 Photography Example Visual Analysis – GCH



Miki Asai – Visual Analysis

This photograph by Miki Asai is called Ephemeral Beauty and was uploaded on March 2nd 2013. Asai is a Japanese nature photographer based in Hokkaido. She uses a Cannon EOS Kiss X5 camera with a Cannon EF-S60mm Macro Lens. She also uses the program Lightroom 5 to edit her photographs during post processing.

I have chosen to analyse this image because I am fascinated by the repeated reflections in the water droplets. I love the simplicity of the elements that make up this picture. There are only flowers and water droplets to see, yet they combine to make an interesting image that is worth more than a second look.

I would categorise this image as an extreme close-up (otherwise known as Macro Photography). The reason for this is the level of detail shown in both the texture on the flower stems and in distorted reflection inside the water droplets. Also the way that the image has been framed excludes any horizon line or other visual elements.

I found the settings used by Asai on the website iso.500pix.com. They are; Shutter Speed 1/250, Aperture F6.3, ISO 800 and exposure compensation -0.3EV. This means that she had the shutter speed on a fast setting. I think this was to reduce the amount of blur caused by the droplets moving. As a result this lets less light into the camera and she had to avoid underexposing her image by using a flash and a fairly high ISO setting. She also used a wide Aperture of F6.3 this has helped create the shallow/narrow depth of field. This has had the effect of juxtaposing the droplets and stem in sharp focus against the blurry background. For me this produces a soft, magical feeling of unreality, give us a portal into a freshly discovered universe.

I think that the flowers seen inside the water droplets are exceptionally mesmerising. This is because reflections in curved surfaces are usually upside down. In the case of this image the flower petals are symmetrical and so you do not notice it is being reflected upside down. This has resulted in a subtle feeling that there is something not quite

right about this photograph. This would lead to most people assuming that this image had been faked using PhotoShop, as I have explained above, this is not the case.

This photograph is both symbolic of Asai’s love of the natural world and her creative exploration of reflections. Both interests combine to create beautiful, fragile micro-scale worlds that are reminiscent of the Japanese cultural obsession with miniaturisation, particularly Bonsai. Also evident is a sense of stillness and inner peace that could be linked to Zen Buddhism and Japanese rock gardens. However, these are Western preconceptions and say more about how we think the Japanese people live, and serve to distract us from enjoying Asai’s hypnotically peaceful photography.

Work in the style of the Artist

| Extended Photo Info | |
|---------------------|---------------------|
| Image | |
| Width: | 3,872 pixels |
| Height: | 2,592 pixels |
| Original Date: | 15/11/2016 12:57:42 |
| Digitized Date: | 15/11/2016 12:57:42 |
| File | |
| Name: | DSC_0003.JPG |
| Size: | 2.6 MB |
| Modified: | 15/11/2016 12:57:44 |
| Imported: | 15/11/2016 11:47:02 |
| Location | |
| Camera | |
| Make: | NIKON CORPORATION |
| Model: | NIKON D3000 |
| Software: | Ver.1.00 |
| Exposure | |
| Shutter: | 1/250 |
| Aperture: | f/5.3 |
| Max Aperture: | f/5.3 |
| Exposure Bias: | 0.00 |
| Exposure: | Manual |
| Exposure Index: | — |
| Focal Length: | 44mm |
| Distance: | — |
| Sensing: | One-chip color area |
| Light Source: | Unknown |
| Flash: | Off |
| Metering: | Pattern |
| Brightness: | — |
| ISO Speed: | 800 |



Here I have attempted (with limited success) to recreate the style of Miki Asai’s photography. I have used a school camera (Nikon D3000) with a Nikon DX 18-55mm lens. This is not a macro lens and the camera has no macro features or settings.

Above you can see from my screenshot of the Extended Photo Information that I tried to use as close settings to Asai as possible with the equipment I had. I set the camera to manual priority so that I could adjust the settings individually. Also I used only natural light with no flash or extra spotlights.

I feel that the Nikon has produced good quality image with minimal blurring. While not as detailed or as sharp as a macro lens I was able to recreate the sense of extreme close-up with judicious cropping. Also the strong natural light has washed out the colours somewhat. The image would benefit from some post processing particularly adjustments in colour temperature, saturation and white balance.

Glossary 1

DSLR - Digital Single Lens Reflex camera.

Lens - The part of a camera through which light travels onto the surface where the image is recorded.

Zoom - Changing the focal length, allowing the subject appear closer than it really is.

Macro Lens - Macro lenses are attached to the lens and allow for closer focusing distances.

Fish Eye Lens - A fisheye lens is an ultra wide-angle lens that produces strong visual distortion intended to create a wide panoramic or hemispherical image.

Tripod - In photography, a tripod is used to stabilize and elevate a camera, a flash unit, or other photographic equipment.

Flash - A flashbulb or electronic flash is used to provide momentary illumination of a dark or insufficiently lit subject.

SD Card - A memory card is an electronic storage device used for storing digital media, such as photos and videos.

Battery - Device for providing or storing electrical power to provide energy for cameras with electronic circuits, for flash-units, motor-drives and other devices.

Photograph - The word 'photo' comes from the Greek word for light, and when talking about photography it is used to describe a single image.

Exposure – The balance of the three elements of the exposure triangle to produce a high quality image

Underexposed – Too little light resulting loss of information in the dark areas

Overexposed – Too much light resulting in loss of information in the highlights

Focus - Focusing is the moving of the lens elements until the sharpest possible image is achieved.

Aperture - Aperture refers to the opening of a lens's diaphragm (Shutter) through which light passes.

F/Stop -An F/stop is a camera setting that specifies the aperture of the lens on a particular photograph

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

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

Pixel - Pixel is the smallest unit of programmable colour represented on a digital display.

Film - Photography that uses chemical processes to capture an image, typically on paper, film or a hard plate.

Dark Room - A darkroom is used to process photographic film and to make prints.

PhotoShop - Editing software used to alter digital photographs.

Edit - Photo editing is the changing of images. These images can be digital photographs, illustrations, prints, or photographs on film.

J Peg - JPEG is an acronym for Joint Photographic Experts Group and the standard form in which pictures are saved.

Filter - Photographic filters are physical objects that allow light to pass through but modify it in some way. Can also mean the application of a particular program to a digital photograph.

Adjustment – Using tools with in editing software (such as PhotoShop) to change brightness, contrast, hue and saturation.

Layer - Using tools with in editing software (such as PhotoShop) to modify or create a composite image from one or more others.

Focal Length - Focal length is the distance in millimetres between the centre of a lens and the camera sensor.

Glossary 2

Line - A line is an identifiable path created by a point moving in space.

Tone - Tone refers to the relative lightness or darkness of a colour.

Shape - A shape is a two-dimensional area.

Form - Form refers to three dimensional objects.

Colour - The definition of colour is a component of light which is separated when it is reflected off of an object.

Pattern - Pattern photography utilizes elements that are repeated. The repetition of lines, shapes, tones or colour can create interesting images.

Texture - Texture refers to the visual quality of the surface of an object.

Composition - Composition is the manner in which elements are positioned within a photo

Juxtaposition – Juxtaposition is where the photographer puts two objects close to each other and tries to attract the viewer's attention to their differences

Brightness - Brightness refers to the overall lightness or darkness of the image.

Contrast - Contrast defines the range of tonal difference between the shadows and lights of an image.

Hue - Photographers generally think of hue as referring simply to a specific colour.

Saturation - Saturation refers to the colour intensity of an image.

Monochrome – In monochrome photography, tones of a single colour are used to represent all the different colours within an image, usually tones of grey.

Sensitivity - In photography sensitivity refers to a film or digital camera sensor's sensitivity to light.

Leading Lines - Leading lines are lines that appear in a photograph that have been framed and positioned by the photographer to draw the viewer's eye towards a specific point of interest.

Emphasis – Emphasis is defined as an area or object within the artwork that draws attention and becomes a focal point.

Distortion - Distortion is generally referred, in Photography, to an optical aberration that deforms and bends physically straight lines and makes them appear curvy in images.

Duplicate - Photographic copy of original photograph, usually transparency or negative.

Bokeh - Bokeh is an optical phenomenon that makes bright out-of-focus points of light aesthetically pleasing.

Noise - Noise is a visual distortion that looks like tiny coloured specs on a photo

Shadow - A shadow is the contour created when an object or person blocks rays of light from reaching a surface.

Silhouette - A silhouette is defined as a view of an object or a scene consisting of the outline and a featureless interior.

Panoramic - A panorama is a long photograph that encompasses a wide (or tall, if working vertically) area .

Landscape - Landscape photography shows spaces within the world, sometimes vast and unending, but other times microscopic.

Portrait - Portrait photography, or portraiture, is a type of photography aimed toward capturing the personality of a person or group of people.

Interior - The skill of photographing a room, house or a commercial environment.

Exterior - Exterior photography visualizes the exterior of a building or the landscape of a particular area .

Candid - A photograph captured without creating a posed appearance.

Close Up - A camera shot taken at a very short distance from the subject, to permit a close and detailed view of an object or action.

Abstract - Is a means of depicting a visual image that does not have an immediate association with the real world.

Golden Hour - The golden hour comes with both the dawn and dusk, and refers to the first light and last light of each day .

Useful Words

Environment: All that surrounds something – habitat, home, surroundings, setting, scene, location, background.

Context: The words and phrases that surround a word, situation or idea and help to understand the meaning of the word, situation or idea – subject, theme, topic, circumstance.

Characteristic: A feature belonging to a person, place or thing – feature, attribute, element, trait, aspect, particular.

Symbolic: Used to create meaning – suggestive, meaningful, significant, distinctive, emblematic.

Material: The stuff from which a thing is or can be made – physical, substantial, real, fleshly.

Analysis: Examine something in detail – inspect, survey, scrutinise, enquire, explore, probe.

Creativity: The use of imagination or original ideas to produce something – inventiveness, innovation, individuality, artistry.

Evaluation: The making of a judgement about the value of something – consideration, appraisal, estimation, rating.

Opinion: A view formed about something – feeling, belief, viewpoint, attitude, verdict, speculation.

Justification: The action of showing something to be right or reasonable- explanation, basis, rationale, argument.

Refinement: The improvement of something by the making of small changes – revision, editing, tweaking, finishing.

Personify: Represent or embody a quality or idea in a physical form – illustrate, express, typify, epitomise, substantiate.

Discussion: The exchange of ideas – debate, conversation, consultation, review.

Critique: A detailed analysis of something – examination, review, commentary, assessment.

Research: The investigation into and study of materials and sources in order to establish facts and reach new conclusions – investigation, study,

Observe: To notice something as being important – look, view, watch, regard, perceive, detect.

Accurate: Correct in all details, such as measurement – precise, right, faultless, perfect, exact.

Develop: Grow or cause to grow and become more mature, advanced, or elaborate – evolve, advance, progress, expand.

Response: A reaction to something – reply, answer, feedback, acknowledgement, comeback

Subject: A person or a thing that is being described – theme, issue, content, motif, essence.

Describe: To make a detailed recording of – draw, portray, depict, recount, relate, narrate.

Identify: Establish who or what something is – recognise, know, pinpoint, name, find, locate.

Narrative: An account of events – story, portrayal, account, chronicle, statement.

Appropriate: Suitable in the proper situation – fitting, apt, applicable, correct.

Concept: An idea, plan or intention – notion, impression, theory, abstraction.

Quality: The standard of something as measured against other things of a similar kind; the degree of excellence of something – status, condition, excellence, feature, attribute

Represent: To show or depict – render, paint, exhibit, display.