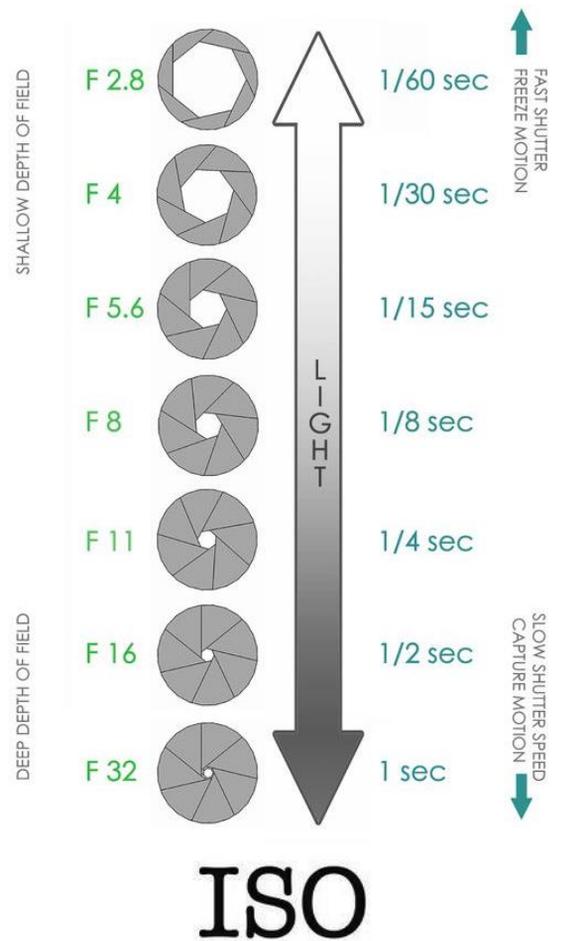
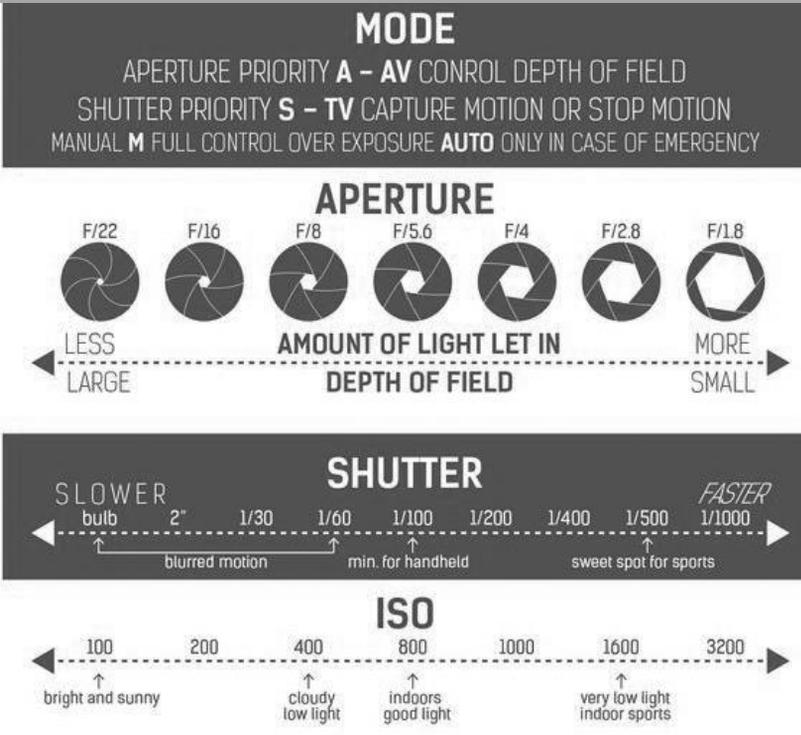


KS5 Photography Knowledge Organizer

(Gaining the correct exposure)

3 key factors:

There are 3 key areas to exposure that affect each other: ISO: How sensitive the camera is to light
 Shutter speed: How quickly the lens opens and closes. Aperture: How wide the lens opens.



Setting the correct exposure

The information on the sheet sets out how to gain the correct exposure with the camera on it's manual setting. These are the fundamental principals of photography that you must master. You will have gone through this in class but you must keep revisiting it to make sure you understand it. You will be testing on this knowledge.

IF YOUR IMAGE IS...

BLURRY...

INCREASE YOUR SHUTTER SPEED.

DARK...

DECREASE YOUR SHUTTER SPEED
 OR OPEN UP YOUR APERTURE

BRIGHT...

INCREASE YOUR SHUTTER SPEED
 OR CLOSE YOUR APERTURE

A HIGHER ISO WILL ALLOW YOU TO INCREASE YOUR SHUTTER SPEED AND STOP ACTION.

- 100 Full Sun, no shade
- 200 Lots of sun, could be in partial shade or an overcast day out in the open
- 200 Inside on a sunny day, directly by a large window
- 400 In the shade on a sunny day or under a covered area on an overcast day
- 700 Inside on a sunny or overcast day (near a window)
- 640-800 Sun is starting to set and less light
- 800 Inside, quite a distance from a window (sunny outside)
- 850-1000 Inside, quite a distance from a window (overcast day)
- 1250 Inside during the evening, light bulbs are the only source of light
- 1600 Inside a dark room where there is a light source (theatre, school production, etc)

Noise Warning

This sheet recaps exposure:

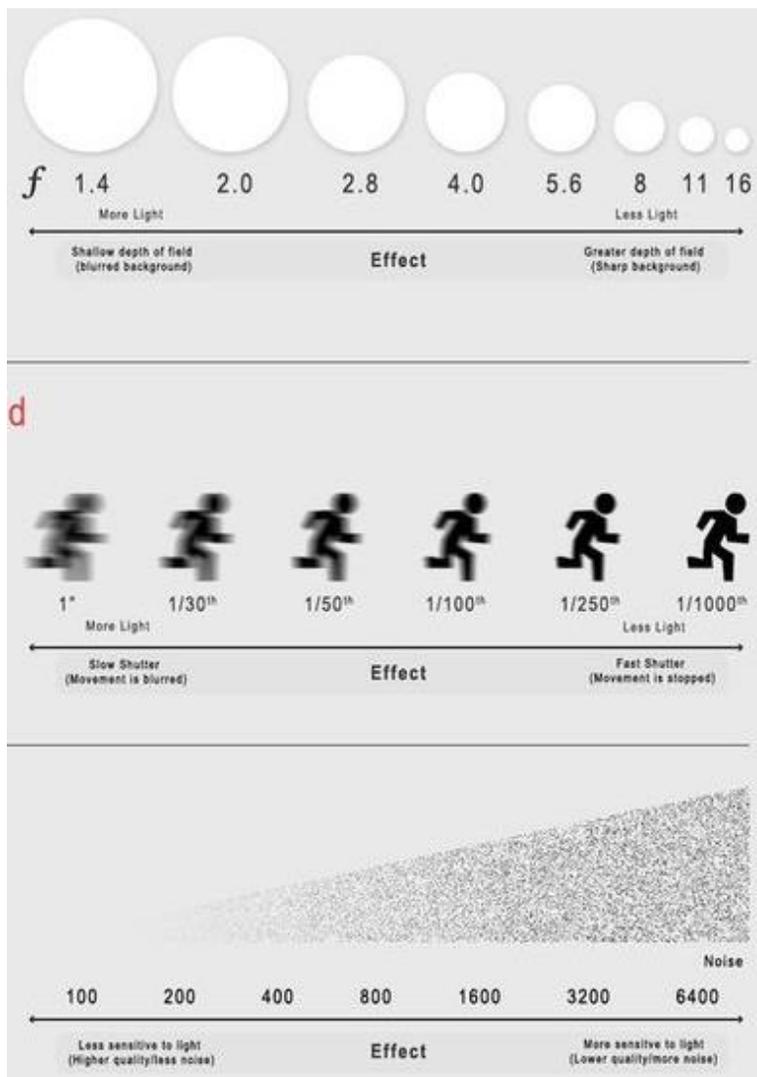
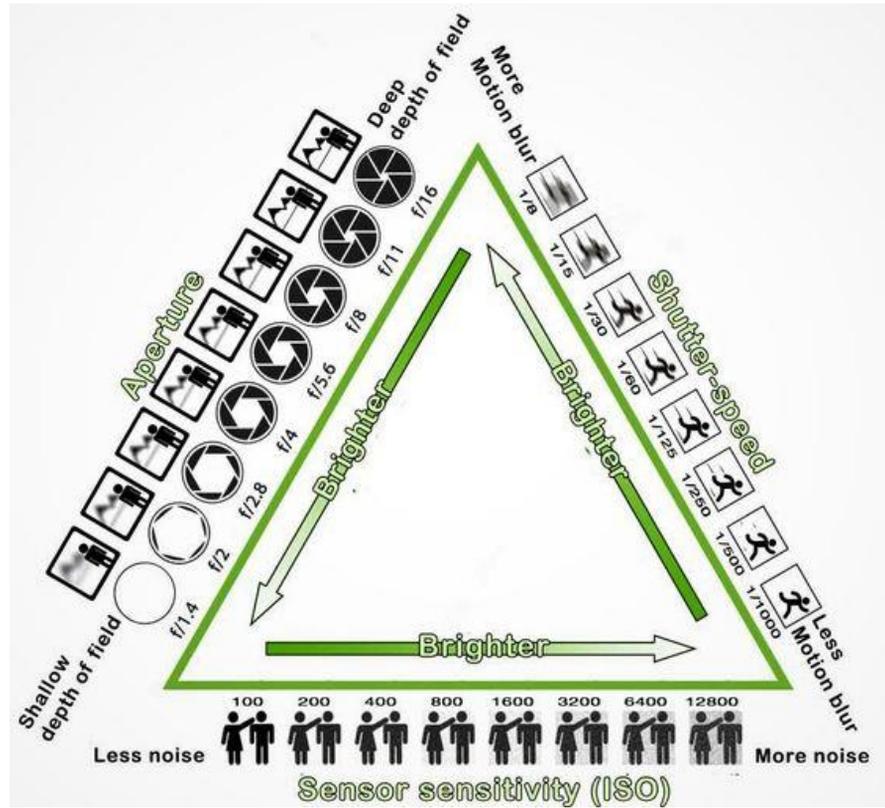
The information is presented in a slightly different way which you may find useful

This sheet recaps exposure:

- **Aperture, shutter speed** and **ISO** all affect the exposure of the camera. They control how much light enters the camera or how sensitive it is to light.
- Because lighting conditions change according to the time of day or the power of the lights you are using we have to set the camera to gain the correct exposure under a range of different conditions. To do this we change these 3 settings:
- **ISO:** How sensitive the camera is to light. The more sensitive the less light needed, the less sensitive the more light is needed. This also affects the quality of the image and how much grain there is. More sensitive more gain, less sensitive less gain.
- **Shutter speed:** The quicker the lens opens and closes the less light get in. The slower it opens and closes the more light is let in. If it's dark leave the lens open longer to let in more light.
- **Aperture:** This is how wide the lens is open. The wider the lens is open the more light comes in and vice versa. If it is dark let open the lens wider to let in more light. If it too bright close the lens so the whole is smaller.

KS5 Photography Knowledge Organizer

(Gaining the correct exposure)



EXPOSURE

BASIC TIPS FOR BETTER PHOTOS

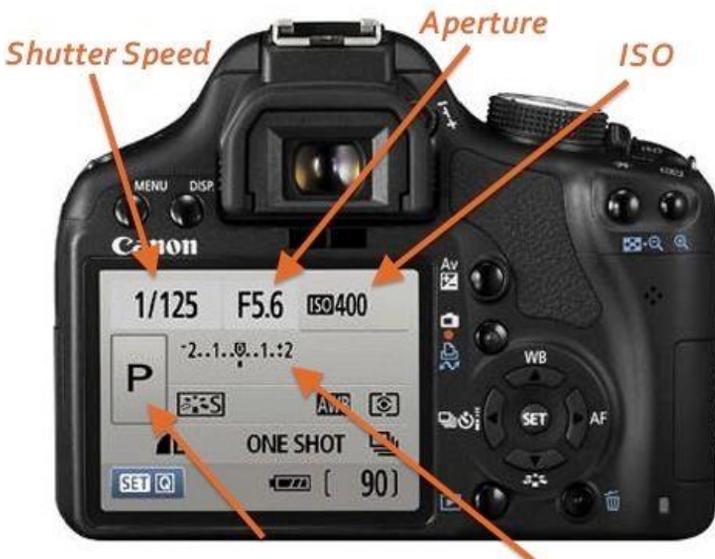
- | ISO | Shutter Speed | Aperture |
|---|--|---|
| - Measures how sensitive the camera will be to light | - How fast the shutter is opening and closing to expose light to the camera sensor | - Controls how much light enters through the lens. |
| - Digital equivalent to film speed | - Measured in fractions of seconds (2", 1/15, 1/60, 1/4000, etc) | - Measured in F/Stops (f/1.8, f/2.8, f/5.6, f/22) |
| - The lower the ISO the less sensitive to light, used when there is a lot of available light (100, 200, 400) | - Faster shutter speeds freeze action (1/250+) | - The lower the number the more light is coming through and visa-versa |
| - The higher the ISO the more sensitive to light, used when there is not a lot of available light (800, 1600, 3200) | - Slower shutter speeds slow motion (1/30 and slower) | - Also controls depth of field (how much of the photo appears to be in focus) |
| - Lower ISO means less noise (digital graininess) | - Your shutter speed should match or exceed the focal length you are at with your lens | - Shallow depth of field is where less of the photo is in focus. Is achieved by a larger aperture (smaller number like f/1.8) |
| - Higher ISO means more noise (digital graininess) | - When shutter speeds go below 1/60 sec. you need a tripod to stabilize your photo. | - Deep depth of field is where more of the photo is in focus. Is achieved by a smaller aperture (larger number like f/16) |

Shoot and Review

Digital photography has the distinct advantage over film because you can see your photo immediately. Use this to your advantage and review your photos whilst taking them. Make adjustments whilst you shoot to capture the best outcome.

KS5 Photography Knowledge Organizer

(Understanding your camera)

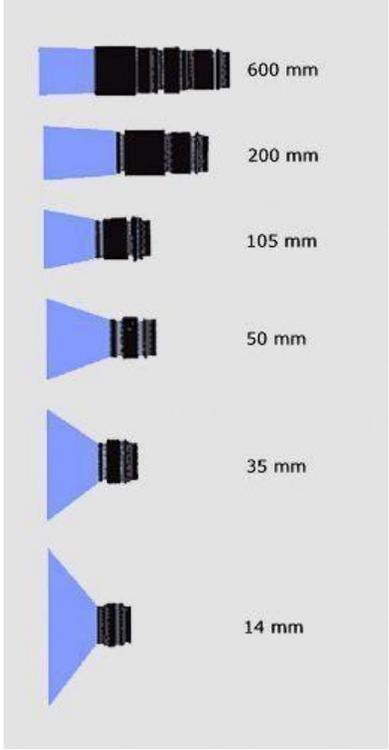


How to read your display

The diagram to the left shows you where the information regarding the camera settings / exposure settings are on your camera. You will be familiar with what these mean from the earlier sheets in your knowledge organizer.

Learn Your Camera Lens Part 1: Different Lens

This diagram explains how the type of lens we use can change the width of the shoot making it wider or narrower



This diagram explains the settings on the top of your camera. We typically use the manual setting as this gives us the most control

This diagram explains the parts of the lens

P **Programmed Auto / Program Mode**
Camera pairs aperture and shutter speed but you can change the settings

A OR Av **Aperture Priority Mode**
You set the aperture, and the camera sets the shutter speed and ISO

S OR Tv **Shutter Priority Mode**
You set the shutter speed, and the camera sets the aperture and ISO

M **Manual Mode**
You set the shutter speed, aperture, and ISO, but the camera still gives a meter reading

Night Portrait Mode
Combines flash with slow shutter speeds, but fixes other settings

Macro Mode
Sets a wide aperture to blur backgrounds

Sports Mode
Sets a fast shutter speed to freeze action

Flash Off / Auto Flash Off Mode
Fully automatic mode that ensures flash does not fire

AUTO OR [Green Box] **Full Automatic Mode**
Sets all camera settings automatically

[Person Icon] **Portrait Mode**
Sets a wide aperture to blur backgrounds, but overrides other settings

[Landscape Icon] **Landscape Mode**
Sets aperture to maximize depth of field and the built-in flash is switched off

Learn Your Camera Lens Part 2: the Lens Itself



Glossary

PHOTOGRAPHY SPEAK FOR BEGINNERS

APERTURE

CONTROLS THE AMOUNT OF LIGHT HITTING THE SENSOR. MEASURED IN F-STOPS

BOKEH

THE BLURRED PART OF AN IMAGE NOT IN FOCUS. USUALLY THE BACKGROUND

BRACKET

TAKE A SERIES OF FRAMES OF THE SAME SCENE AT DIFFERENT EXPOSURES

BULB

'B' SETTING FOR LONG EXPOSURES. KEEPING THE SHUTTER OPEN

CROP

CUT OFF PART OF A SCENE FOR BETTER COMPOSITION

DEPTH OF FIELD

DISTANCE BETWEEN NEAREST & FARTHEST SHARP OBJECTS IN A SCENE

DSLR

DIGITAL SINGLE LENS REFLEX CAMERA

EV

EXPOSURE VALUE IS THE BRIGHTNESS OF A SCENE. MEASURED IN STOPS

EXPOSURE TRIANGLE

EXPOSURE SETTINGS OF ISO, APERTURE & SHUTTER SPEED

FILE FORMAT

THE TYPE OF FILE A CAMERA USES TO SAVE AN IMAGE. TIFF, JPEG OR RAW

FLASH

CREATES A QUICK BURST OF LIGHT. ALSO KNOWN AS A SPEEDLIGHT

F-STOP

THE FOCAL RATIO. DESCRIBES THE APERTURE SETTING

GOLDEN HOUR

THE HOUR AFTER SUNRISE AND THE HOUR BEFORE SUNSET

HDR

HIGH DYNAMIC RANGE. BRACKET & COMPOSITE FOR DETAILS IN DARK & LIGHT AREAS

ISO

MEASURES THE LIGHT SENSITIVITY OF THE SENSOR

KELVIN

UNIT OF MEASUREMENT FOR COLOUR TEMPERATURE OF LIGHT SOURCES

METER

MEASURE THE LIGHT TO DETERMINE THE EXPOSURE

MODE

METHOD OF OPERATION E.G. MANUAL MODE, APERTURE OR SHUTTER PRIORITY

RESOLUTION

NUMBER OF PIXELS IN AN IMAGE. HIGH RESOLUTION = MORE IMAGE DETAIL

RULE OF THIRDS

COMPOSITION GUIDE TO CREATE INTERESTING PHOTOGRAPHS

SENSOR

CAPTURES LIGHT & CONVERTS TO AN IMAGE. DIGITAL EQUIVALENT OF FILM

SHUTTER SPEED

CONTROLS HOW LONG LIGHT HITS THE SENSOR. MEASURED IN SECONDS

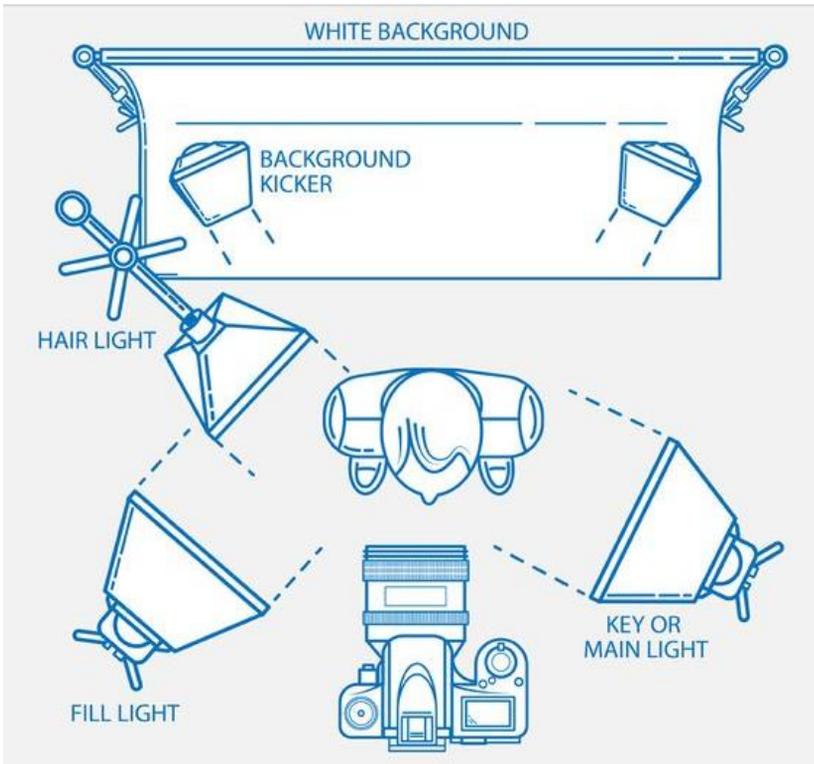
TTL

THROUGH THE LENS METERING CAN BE USED TO MEASURE REFLECTED LIGHT OUTPUT BY A FLASH

WHITE BALANCE

ADJUSTS COLOUR TEMPERATURE OF LIGHT SOURCE TO MAKE AN IMAGE WARM OR COOL

Studio Lighting Set up (5 Lights)



When shooting the studio consider the following key things:

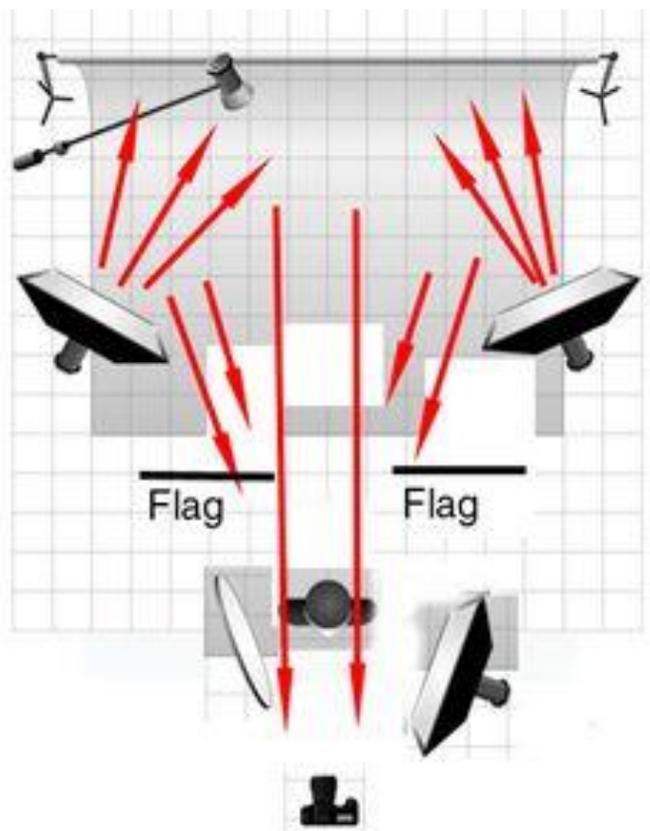
- Shutter speed the camera must be set to 1/125. Any faster and the camera won't capture the flash lights, any slower and ambient light (natural light in the room) will affect the exposure.
- Use the aperture to gain the right exposure too light close the aperture to let in less light. To bright open it up to let in more.
- You can also increase or decrease the power of the lights.
- Think about the position of the cables. Are they causing a trip hazard?
- Consider the position of the lighting. Are they pointing in the right direction to light the correct things.
- Check the power settings on the lights and make sure you have the cell button turned on. The photo cell allows the lights to communicate with each other so they all go off at the same time.

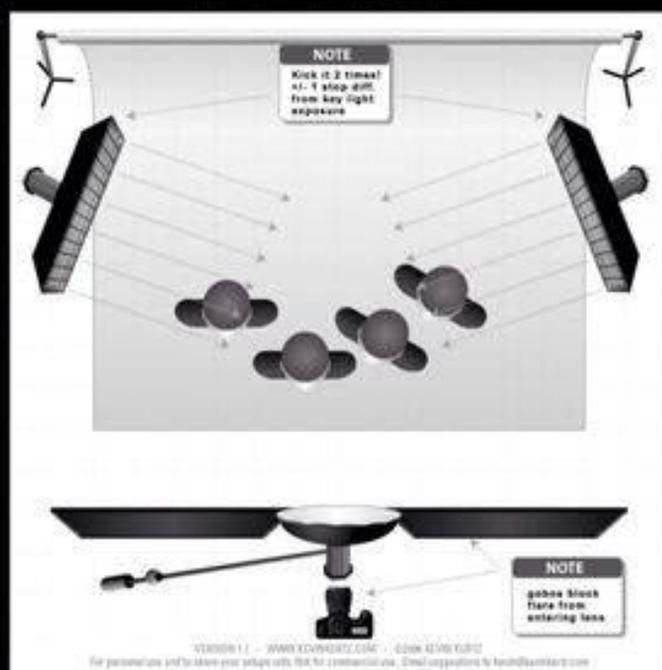
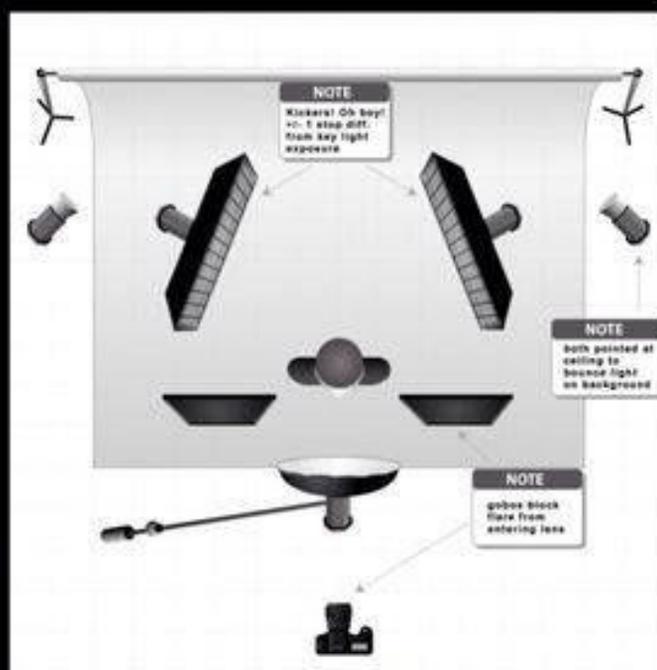
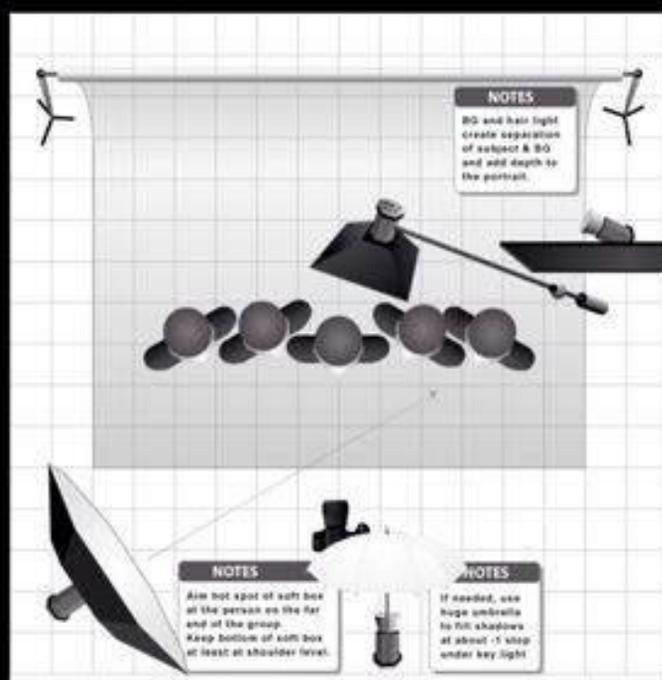
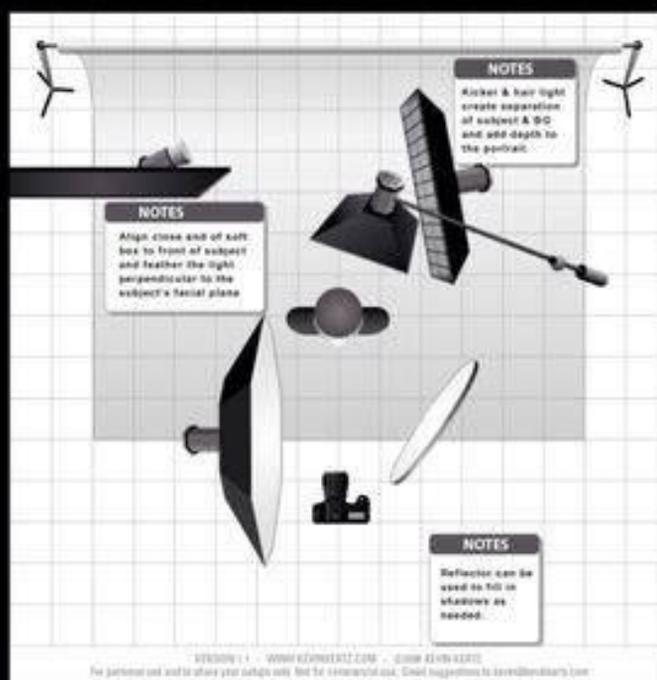
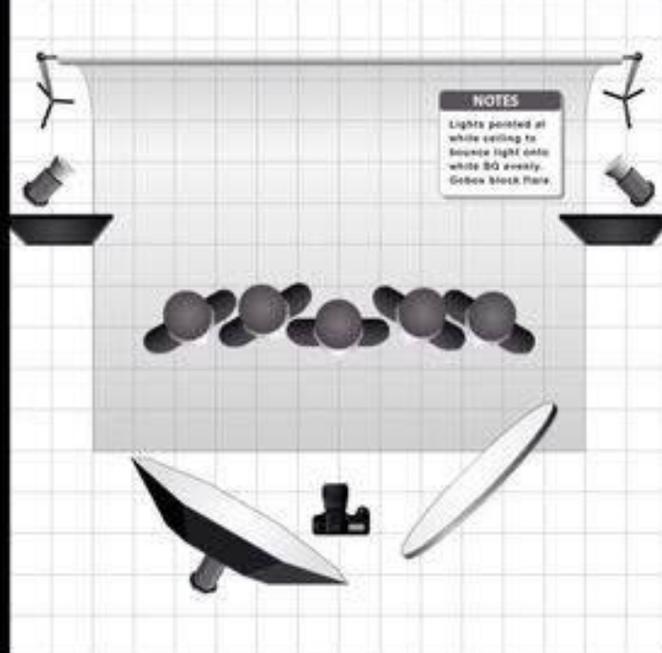
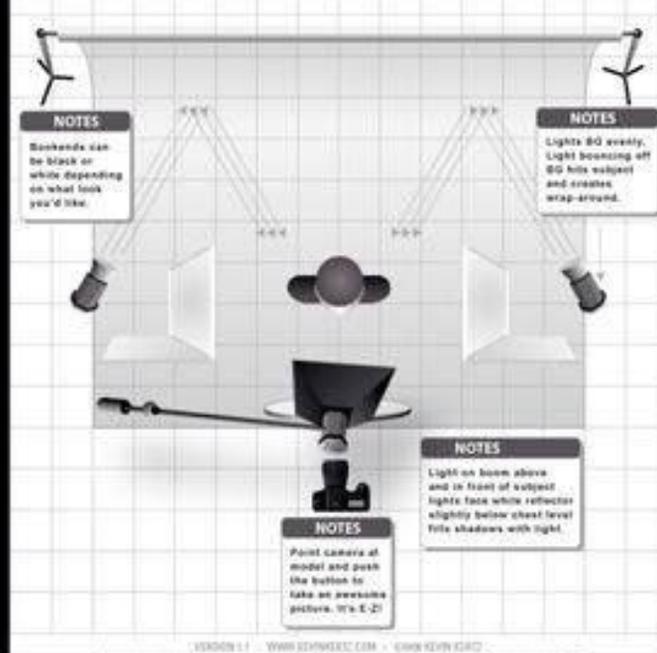
Studio lighting terminology

Flash light	These are powerful lights that deliver a very quick, very bright burst of light
Flash trigger / receiver	This is a piece of equipment that fits on the camera so that when we take a photograph a signal is sent to the light and they can fire at the right time.
Backdrop	This is the screen in the background that we photograph our models against
Tripod	This is used to hold the camera still or in a fixed position when we are taking pictures
Reflector	This is a big reflective disc used to bounce light on to the model
Umbrella	This is used to bounce the light off the flash head. It softens the light and makes it more flattering
Soft box	This fits on the flash head and again softens the light but still gives stronger more directional lighting
Backlight	This is a light positioned behind the model to give them a bright glow
Background light	This is a light positioned to light just the background behind the model
Model light / key light	This is a light / lights used to light the model
Colour gel	This is a sheet of reflective transparent film in different colours that we put over the lights to change the colour

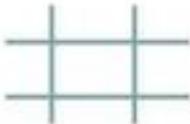
Lighting set up

- When setting up your lighting you need to think carefully about where you want to position them. In simple terms what ever you point them towards will be illuminated
- There are some examples of lighting set ups on this page.





Photography Composition - The First 19 Rules

	<p>Rule of Thirds</p> <p>Position subject on the crosshairs</p>		<p>Framing</p> <p>Frame subject with surrounding objects - buildings, people, trees</p>
	<p>Repetition</p> <p>Look for repeating objects - pile of fruit, row of poles etc</p>		<p>Leading Lines</p> <p>Road, rails, lines of lampposts, buildings etc leading to subject</p>
	<p>Negative Space</p> <p>Leave space for subject to move into</p>		<p>Colour</p> <p>Use complimentary or opposing colours in background</p>
	<p>Balancing Elements</p> <p>Balance background interest with foreground subject</p>		<p>Differential Focus</p> <p>Subject in sharp focus to guide the eye</p>
	<p>Symmetry</p> <p>Half of the image is a mirror of the other half</p>		<p>Patterns</p> <p>Look for naturally occurring & constructed patterns</p>
	<p>Depth (layers)</p> <p>Position subject in front of and behind objects to create 3D depth</p>		<p>Depth of Field</p> <p>Blur background &/or foreground to separate your subject</p>
	<p>Viewpoint</p> <p>Photograph from different angles - get low, get high</p>		<p>Triangles & Diagonals</p> <p>Look for diagonals in a scene, create triangles</p>
	<p>Fill the Frame</p> <p>Get in close and fill the frame with your subject</p>		<p>Simplicity</p> <p>Cut out distractions - get close, blur background, darken background</p>
	<p>Left to Right Rule</p> <p>Moving subjects should go from left of frame to right of frame</p>		<p>Rule of Space</p> <p>Leave space around your subject</p>
	<p>Rule of Odds</p> <p>Look for odd numbered design elements - 3 arches, 5 windows etc</p>	<p>brought to you by www.thelenslounge.com</p> 	

Learn the rules, use them, combine them. Then learn to break them for effect.

ANALYSING ARTIST'S WORK

Name, Title, Date & Image

1. INTRODUCTION

Describe the Artist. Consider the following:

- Who created the work?
- When and where the work was made?
- What themes does the artist/photographer explore & the general style of their work?
- What art movement are they affiliated with?

2. CONTEXT

Explain what influenced the Artist to create this artwork/photograph. Consider the following:

- When was it created? Describe the period/context when/where the work was made?
- What was happening in the world at that time that might have influenced the artwork?
- How does the period/context influence the work?
- What else was happening when the work was made (art, life, politics) that may have influenced the artist and their work?

3. CONTENT

Describe the photograph as though you were explaining it to someone who cannot see it.

Explain why the photographer has create the image. Consider the following:

- What type of photograph is it?
- What is the photo about/what is the subject matter?
- What can you see (foreground, middle ground, background)?
- What is the most important thing in the photo?
- Does the Title express the Theme behind the work?
- Where and when was it taken (i.e., in a studio, on location, etc)?
- Is it a real event or is it staged?

4. THE FORMAL ELEMENTS

- **Describe** what formal elements are in the artwork.
- **Explain** why the artist has used them.
- **Explain** how do these elements convey meaning or create an impact? Give examples.

Line
Tone
Colour
Form
Shape
Texture
Pattern
Space

5. PROCESS

Explain how the artwork/photograph was produced. Consider the following:

Photograph

- Is it digital or film?
- What techniques have been used?
- What settings were used?
- Is the image realistic or has it been manipulated in any way?

Artwork

- What medium/media?
- What techniques have been used?
- What size is the artwork? What (if any) impact does this have on the viewer?

6. MOOD

Describe the mood of the artwork. Consider the following:

- Does the work capture a mood, feeling or emotion?
- How would you describe the mood of the image?
- How has this been achieved?

7. CONNECTIONS

- **Compare** this work to others that may be of a similar theme or made in a similar way.
- **Review** and **relate** these works to your own project. Consider the following:
 - How does it link to your project?
 - What ideas does it give you?
 - What have you learnt from analysing this artwork/artist?

8. Emulate (for Art)

Create your own high quality practical response to the artwork using similar media

Read through to check your work carefully before submission.