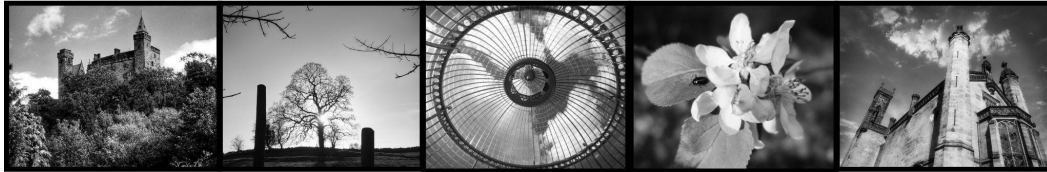


The Exposure Triangle

ALTON CAMERA CLUB

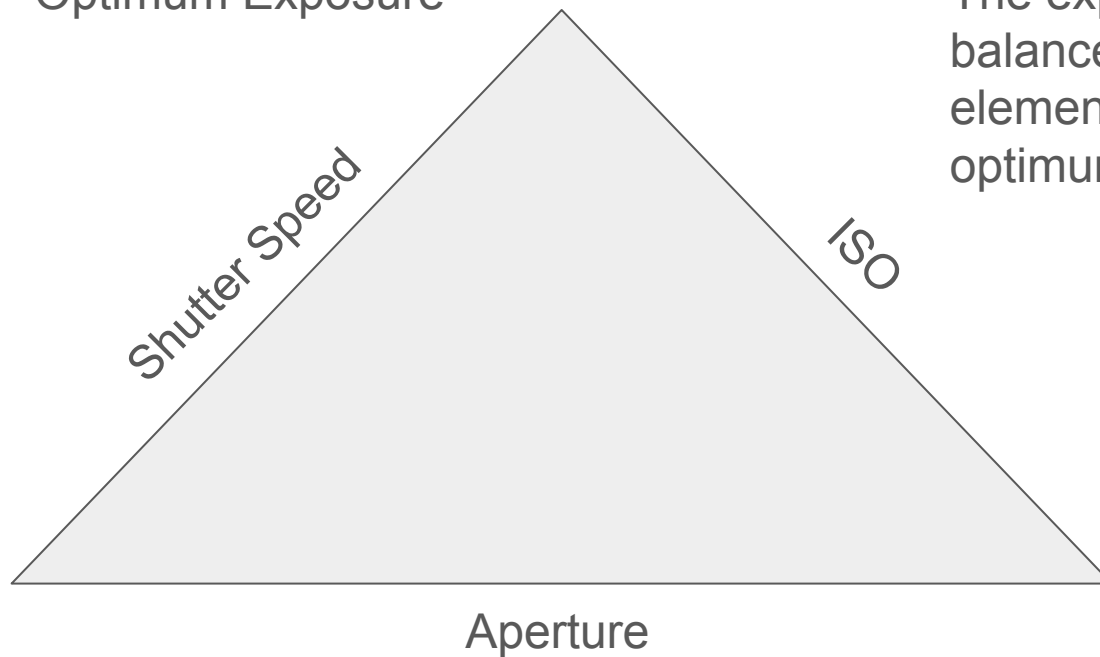
DIGITAL ● FILM ● VIDEO ● SMART PHONE ● DRONE



The Exposure Triangle

The Basics - Optimum Exposure

The exposure triangle is a balance between these 3 elements, providing an optimum exposure



The Exposure Triangle

The Elements

Aperture - depth of field (how much of the scene is in focus)

Shutter Speed - shutter open time (how much light is let in)

ISO - sensor/film sensitivity to light (effects shutter speed)

The camera meter will assess the scene (light and dark area data), and suggest optimum aperture, shutter speed, or ISO settings - dependent on the mode you're shooting in

The Exposure Triangle

The Elements

Aperture - depth of field (how much of the scene is in focus)

1.8	2.8	4	5.6	8	11	16	22
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f-stop

Smaller number = shallow depth of field

Larger number = increased depth of field

Examples;

f1.8 - 2.8 portraits

f11-16 landscape

f4 - f8 general, street

The Exposure Triangle

The Elements

Shutter Speed - shutter open time (how much light is let in)

1	2	4	8	15	30	60	125	250	500	1000
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speed - fractions of second

Smaller number - slower shutter speed
Larger number - increase shutter speed

Examples;
Slower shutter speed - night photography,
motion blur
Faster shutter speed - stop motion,
sharpness (hand held)

The Exposure Triangle

The Elements

ISO - sensor/film sensitivity to light (effects shutter speed)

25	50	100	200	400	800	1600	3200
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ISO sensitivity

Smaller numbers - lower sensitivity, requires more light/longer shutter speed

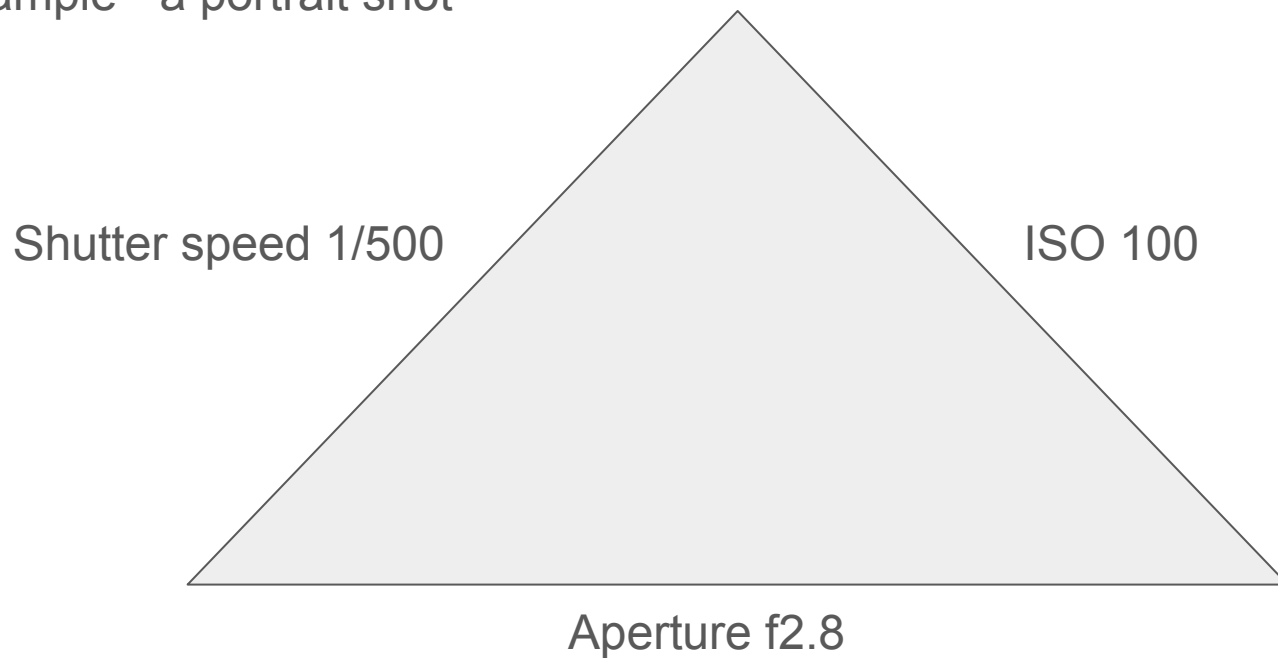
Larger numbers - higher sensitivity, requires less light/faster shutter speed

Lower ISO produces “cleaner” image, increasing ISO introduces digital noise

However, an increase in ISO allows for faster shutter speed, which can assist in sharper image or reduce camera shake when hand-held in lower light

The Exposure Triangle

Example - a portrait shot

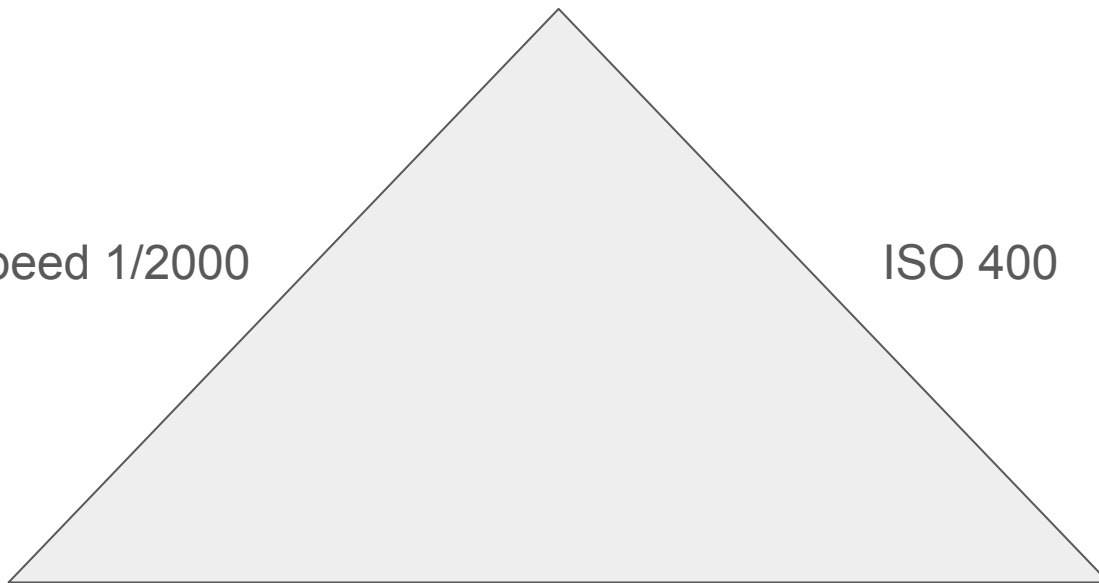


The Exposure Triangle

Example - a portrait shot

Shutter speed 1/2000

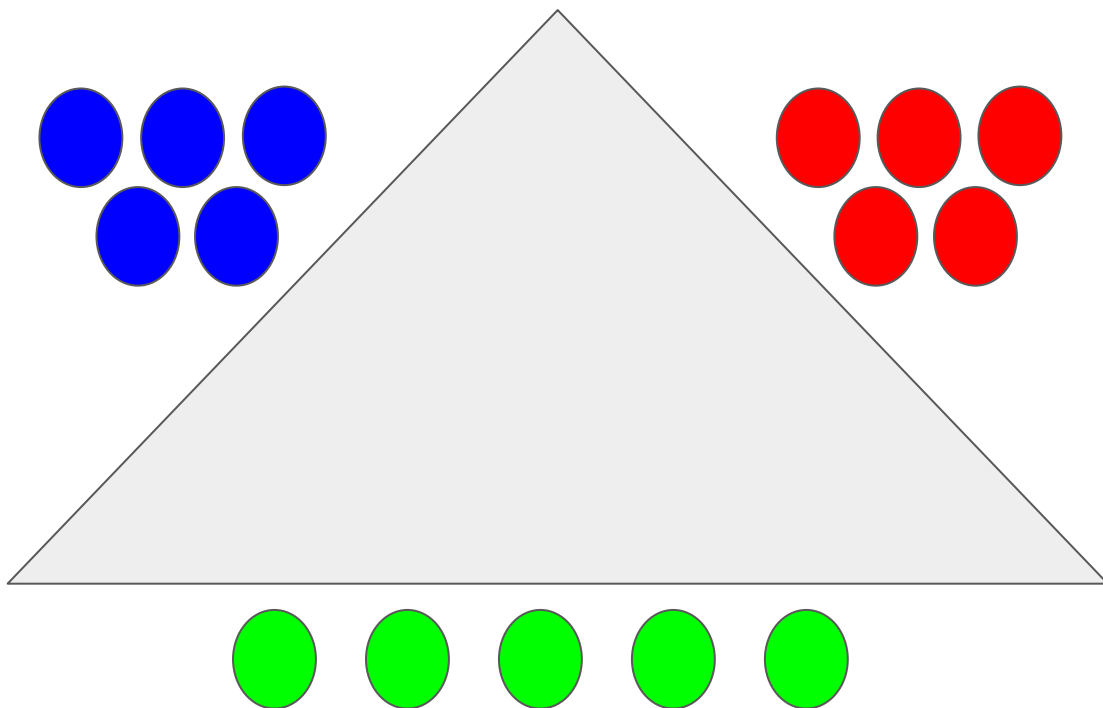
ISO 400



Aperture f2.8

The Exposure Triangle - An Analogy

The Water Triangle!



Optimal amount of water is 15 buckets

Any colour combination, but number of buckets must stay the same

Number of each colour bucket is user's choice

The Exposure Triangle

Camera modes

Manual - user selects aperture, shutter & ISO

Aperture priority - user selects aperture, camera selects shutter speed

Shutter priority - user selects shutter speed, camera selects aperture

Program - camera selects aperture, shutter speed & ISO based on selection

***Auto ISO** - if selected, camera will also select ISO in Manual, AP & SP modes

The Exposure Triangle

Why change the elements?

- Semi-auto/auto modes are a tool to capture the image
- However, the camera is metering for the user selection/light data, **NOT** the creative intention of the photographer
- The camera meter can be fooled - will always meter to 18% grey
- This will cause issue in some scenarios i.e. snowy scenes, backlit subjects
- More creative control for the photographer

The Exposure Triangle

Summary

- The exposure triangle is a balance of aperture, shutter speed and ISO
- No “perfect” settings - depends on scene, user selection, mode selection - and light!!!
- Fully automatic modes will get the photo in most cases based on selection, but understanding the elements will allow for more control and creativity
- The camera is the tool not the photographer (most of the time!!) - a better understanding of what the camera is doing will allow the photographer to follow their creative intention with confidence not hope!

The Exposure Triangle...addendum!

Sunny 16 rule

ISO 100 - 1/125 @ f16

ISO 200 - 1/500 @f16

ISO 100 - 1/500 @f11