

Introduction to Video Editing I

Queens College Art Department | Fall 2018

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Week 04: 09/22/2018

ARTS 207 - 01

Saturday 1:00 pm - 4:50 pm

IB 212

introvideo1.copperbluemedias.com

Storyboard Presentations

<https://ivefall2018.tumblr.com/>

#yourname #storyboard

The Shoot: Cinematography, Lighting and Sound

Creating meaning with technical & stylistic choices

Meaning in cinema is created through:

- Technical and Stylistic elements such as lighting, color, camera angles and movement, and sound
- Cultural Codes & Signs such as props, lifestyle portrayed and clothes are also signifiers

Dramatic Low Camera Angle



The New York
Times Building



Citizen Kane, 1941
Orson Welles

The Close-Up

When the close-up is used as payoff

<https://www.premiumbeat.com/blog/when-use-close-up-shot/>



Requiem for a Dream, 2000, Darren Aronofsky - Red Dress Scene

https://www.youtube.com/watch?v=73_9rq5d5fM

Camera Exposure:

Aperture

Shutter Speed

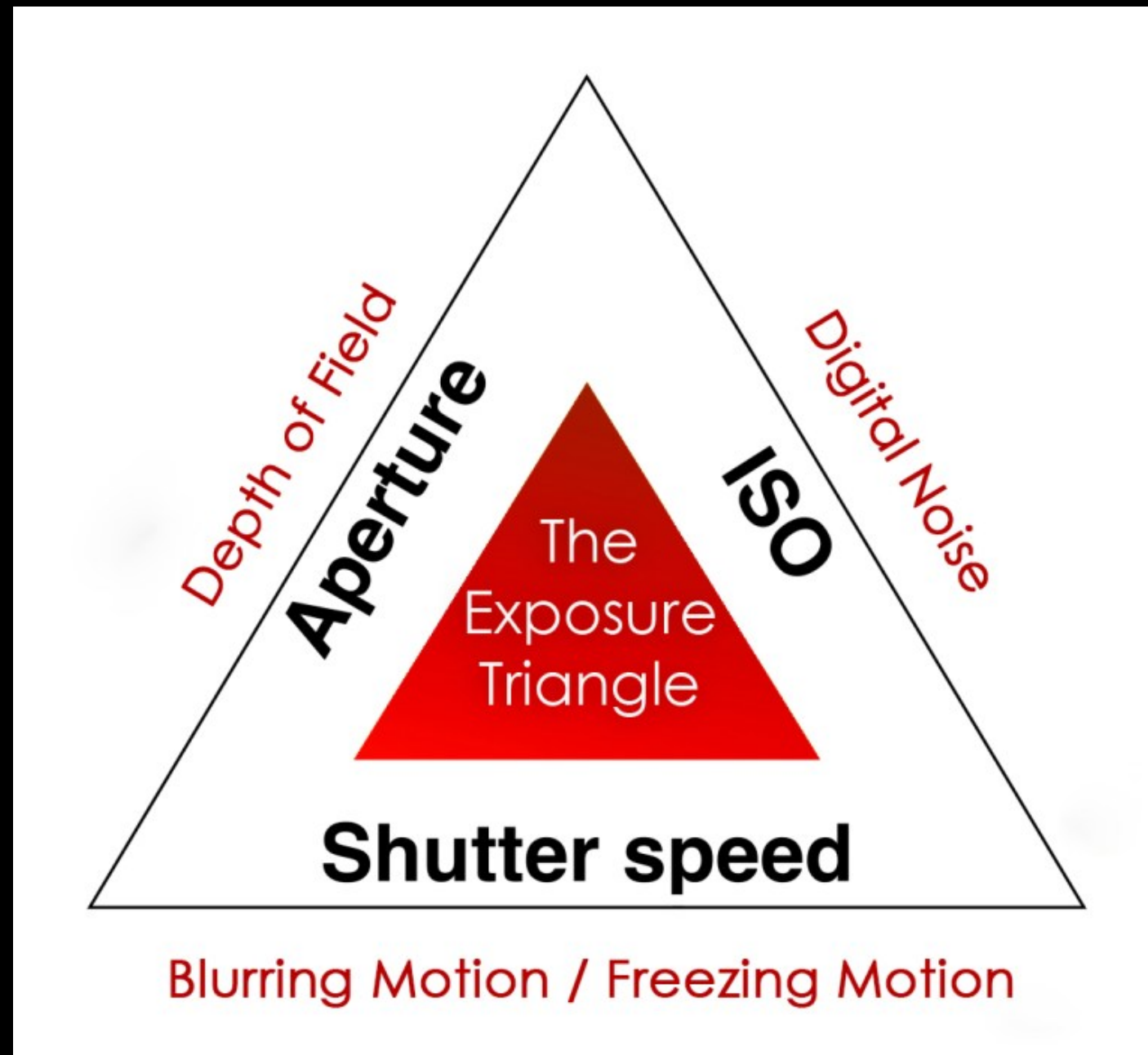
ISO

Camera Exposure

Exposure refers to the amount of light that enters the camera and hits the digital sensor. It is determined by:

- **Aperture (*fstop*)** - controls how much light enters through the lens
- **Shutter Speed** - controls how fast the shutter opens and closes to expose the camera sensor to light
- **ISO** - the speed of the film or sensitivity of the CCD sensor

Camera Exposure



Camera Aperture

Camera Aperture

Aperture controls the amount of light that enters the lens to expose the camera sensor.

Aperture is measured in *f-stops*

f/1.4, f/2, f/2.8, f/4, f/5.6, f/8, f/11, f/16, f/22

Camera Aperture

It is the size of the opening hole in the lens.



f/16



f/11



f/8



f/5.6



f/4



f/2.8



f/2.0



f/1.4

Camera Aperture

Large Aperture

Small Aperture

Low light conditions

Sunny day

More Light in ← → Less Light in



Shallow Depth of Field ← → Deep Depth of Field

Less in focus

More in focus



Depth of Field

Depth of field refers to the distance from the camera to the subject which is in focus in the frame, in front of and behind the subject.

Depth of Field is determined by:

- the **aperture** (*Fstop*)
- the type of **lens** (*telephoto or wide angle*)

Depth of Field



Aperture | Lighting Conditions

Approximate Guide

Lighting conditions	Aperture setting
	f/16
	f/11
	f/8
	f/5.6
	f/4

Camera Aperture



Shallow DOF
Large Aperture



Deep DOF
Small Aperture
Slow Shutter speed
(Long Exposure)

Shutter Speed

Shutter Speed

Shutter speed or exposure time is the length of time the film or digital sensor of the camera is exposed to light.

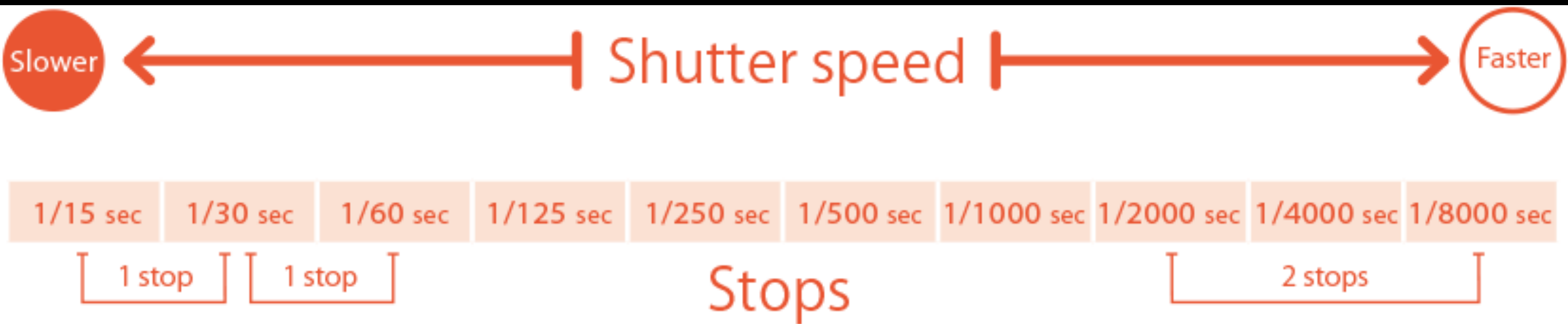
The **shutter** controls how fast the camera's shutter opens and closes to expose the sensor to light when taking a photograph.

Shutter Speed

The amount of light that reaches the film or image sensor is proportional to the exposure time.

$\frac{1}{500}$ of a second will let half
as much light in as $\frac{1}{250}$

Shutter Speed



Shutter Speed



1/500



1/250



1/125



1/60



1/30



1/15



1/8



1/4



1/2

Shutter Speed

A slow shutter speed makes a moving object blurrier.



Shutter Speed

Slow Shutter Speed



Aperture: **f/20.0**
Shutter Speed: **1/25 sec**
ISO **200**
Lens: 28-200mm @ **50mm**

Fast Shutter Speed



Aperture: **f/8**
Shutter Speed: **1/8000 sec**
ISO **1000**
Lens: 28-300mm @ **300mm**

Shutter Speed



1/250
f/8 ISO 200



1/125
f/8 ISO 200



1/60
f/8 ISO 200



1/30
f/8 ISO 200



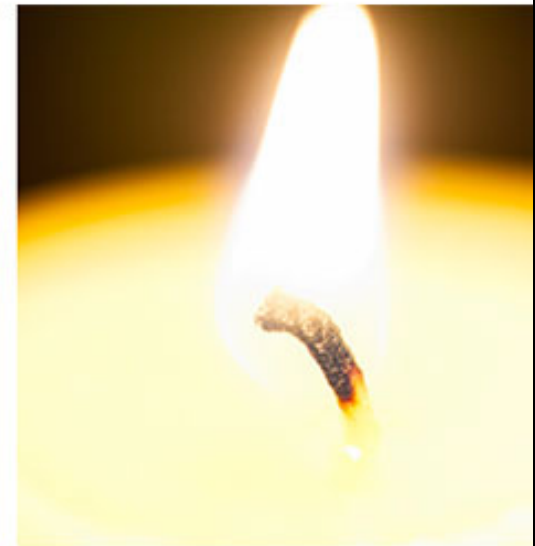
1/15
f/8 ISO 200



1/8
f/8 ISO 200



1/4
f/8 ISO 200



1/2
f/8 ISO 200

Shutter Speed



Slow Shutter Speed

Shutter Speed



Medium Shutter Speed

Shutter Speed



Fast Shutter Speed

Shutter Speed



Slow Shutter Speed

Shutter Speed



Fast Shutter Speed

Shutter Speed



JENS LYGSTAD
photography

Slow Shutter Speed

Shutter Speed



Slow Shutter Speed

Shutter Speed



Slow Shutter Speed

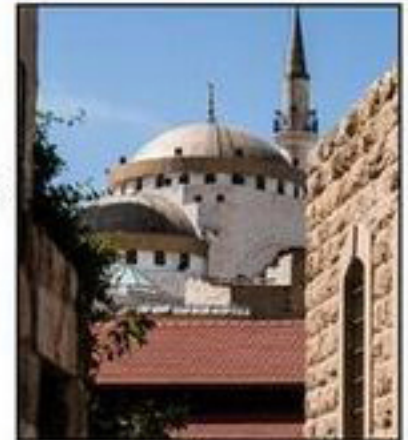
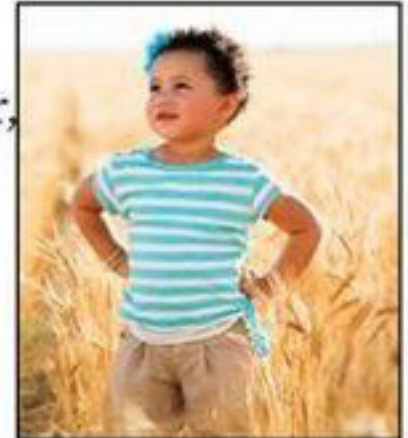
Shutter Speed



Slow Shutter Speed

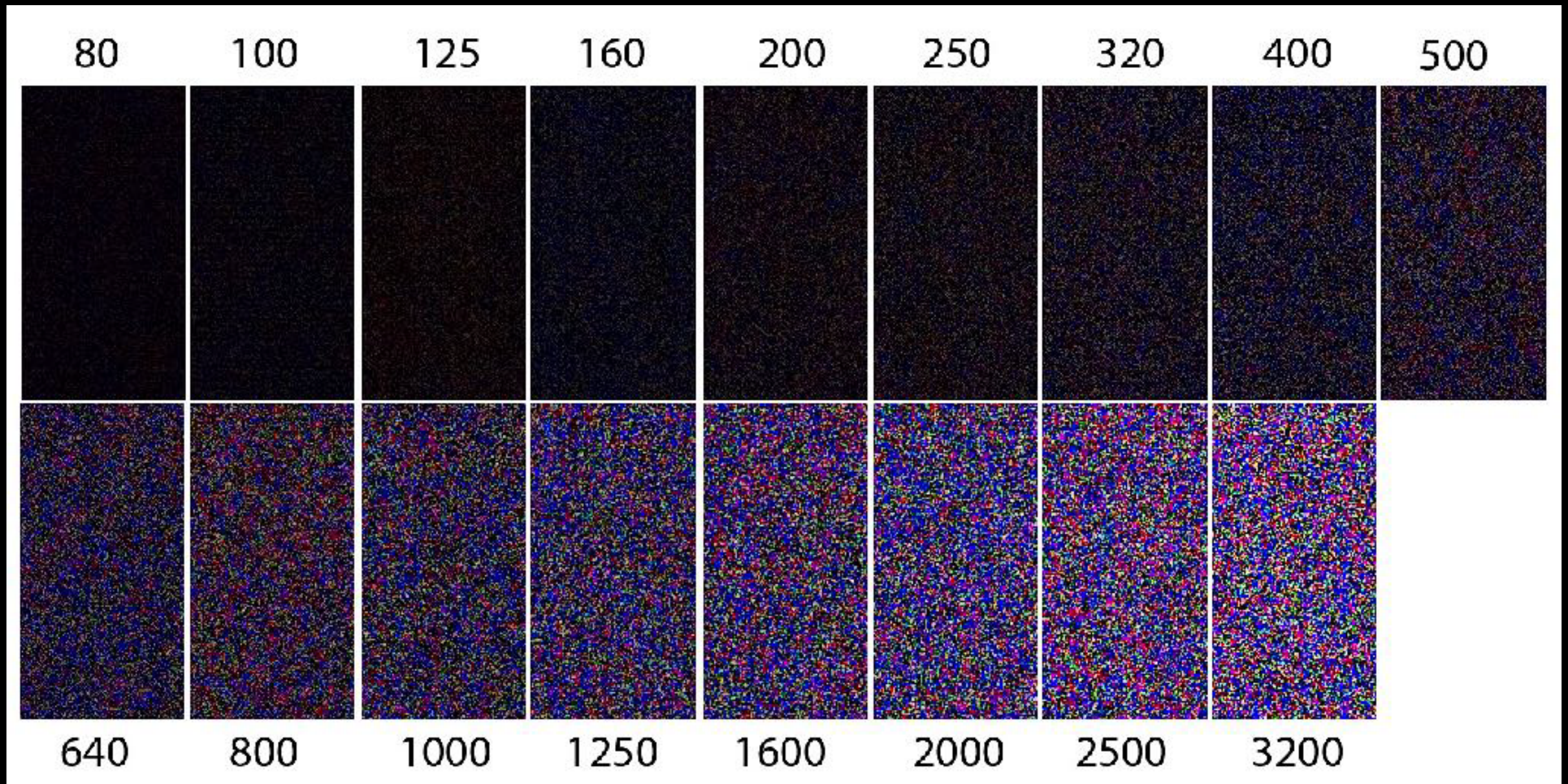
Shutter Speed & Motion

Shutter Speed	Typically Used For
1/4000 sec	freezing super fast objects
1/2000 sec	freezing cars driving fast
1/1000 sec	sports photography
1/500 sec	slow moving sports (soccer, basketball, etc)
1/250 sec	photographing kids
1/125 sec	standard photos
1/60 sec	slowest handheld shot
1/30 sec	when panning sports/cars
1/15 sec	blur objects in motion
1/8 sec	blur fast moving water
1/4 sec	panning people walking
1/2 sec	blur slow moving water
1 sec or slower	very long exposure



ISO/ASA

ISO controls the amount of amount of noise



good practice to keep ISO set to 400 & below to avoid grain

ISO

Approximate Guide

BRIGHT SUN OUTDOORS

ISO 100

BRIGHT SUN OUTDOORS

ISO 200

RAINY OR CLOUDY OUTDOORS

ISO 400

BRIGHTLY LIT ROOM

ISO 800

DIMLY LIT ROOM

ISO 1600

REALLY DARK ROOM
proceed with caution

ISO 3200+

Exposure: Shutter Speed Aperture ISO

APERTURE



SHALLOW
good for isolating subjects

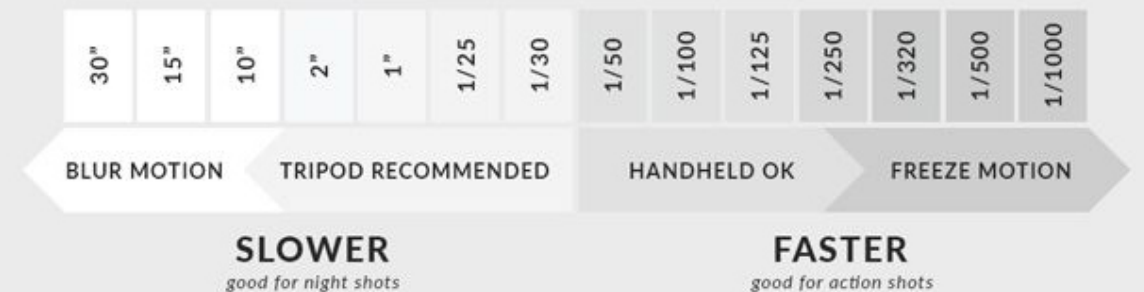


DEPTH OF FIELD
WHAT IS IN OR OUT OF FOCUS



DEEP
good for landscapes

SHUTTER SPEED



ISO

100 ... 200 ... 400 ... 640 ... 800 ... 1600 ... 3200

LOWER
good for bright or outdoor shots
LESS GRAIN

LIGHT SENSITIVITY
BASED ON FILM SPEED

HIGHER
good for lower light night shots
MORE GRAIN

EXPOSURE



Shutter Speed
Aperture
ISO

DARKER			
SHUTTER	LESS MOTION BLUR	BACKGROUND SHARP	LESS GRAINY
	1/4000	f22	100
	1/2000	f16	200
	1/1000	f11	400
	1/500	f8	500
	1/250	f5.6	640
	1/125	f4	800
	1/60	f2.8	1000
	1/30	f2	1250
	1/15	f1.4	1600
	1/8	f1	h1
	1/4		
	1/2		
MORE MOTION BLUR	BACKGROUND BLURRY	MORE GRAINY	
LIGHTER			

Camera Lenses

Camera Lenses

Types of Lenses

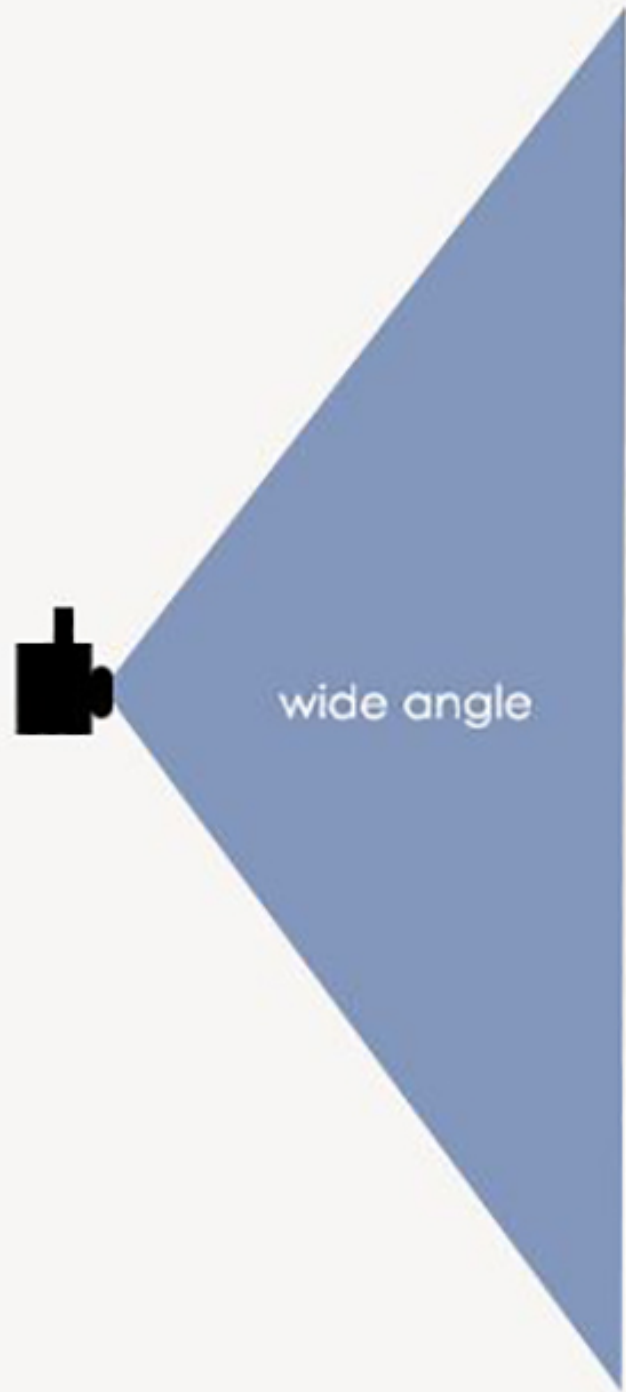


Wide angle lens
20-35mm

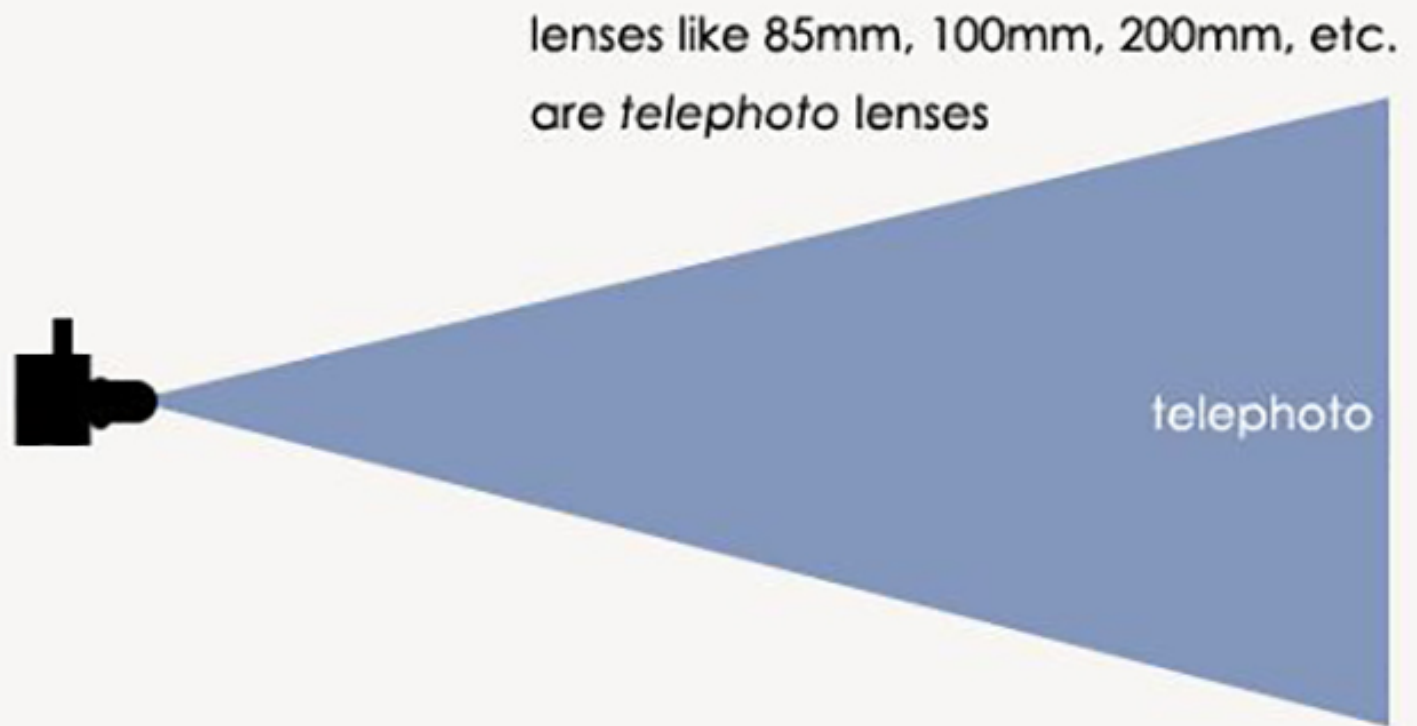
Normal lens
35-50mm

Telephoto > 50mm

Camera Lenses

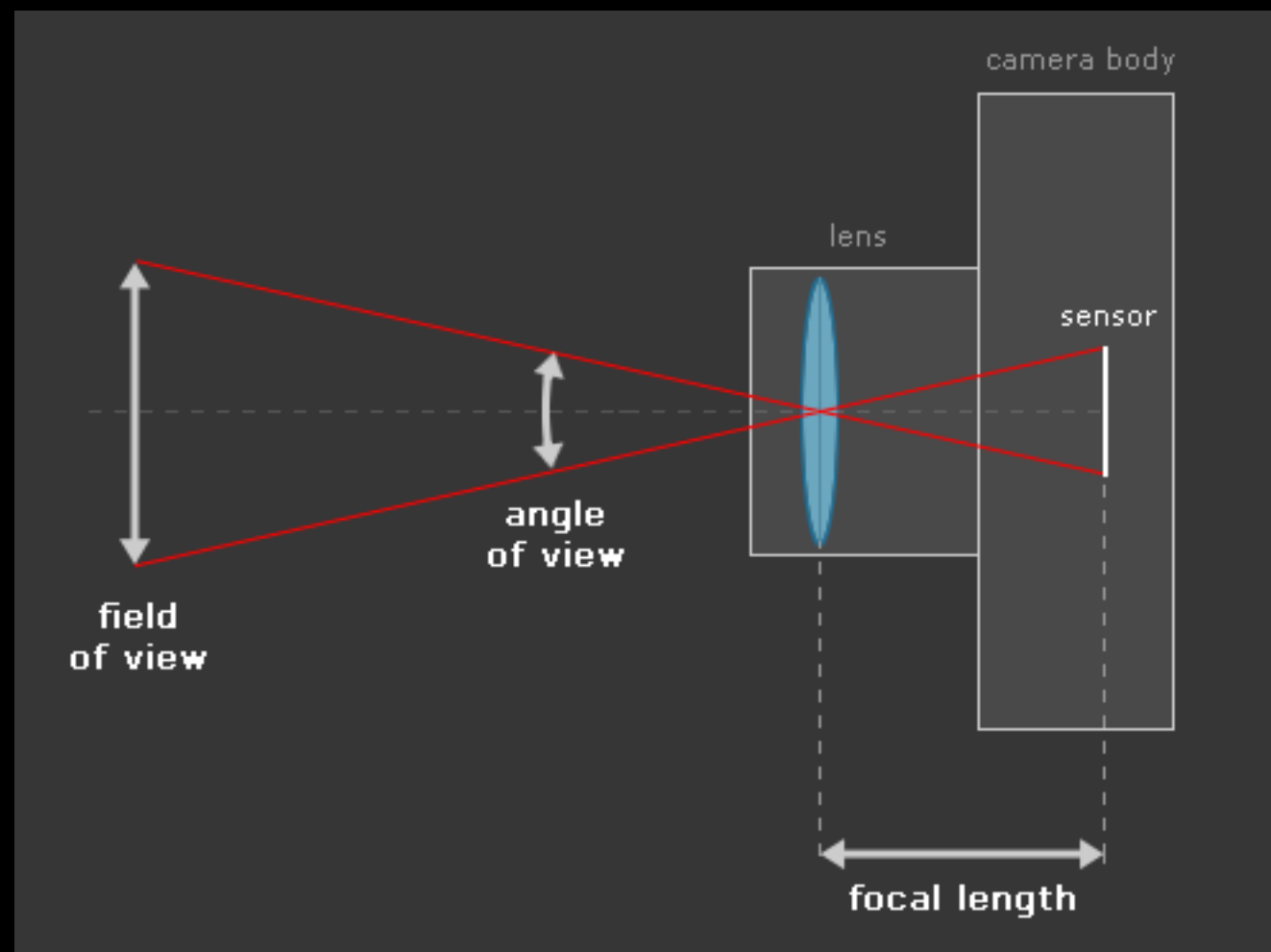


lenses like 10mm, 20mm, 24mm, 35mm, etc. are *wide angle* lenses

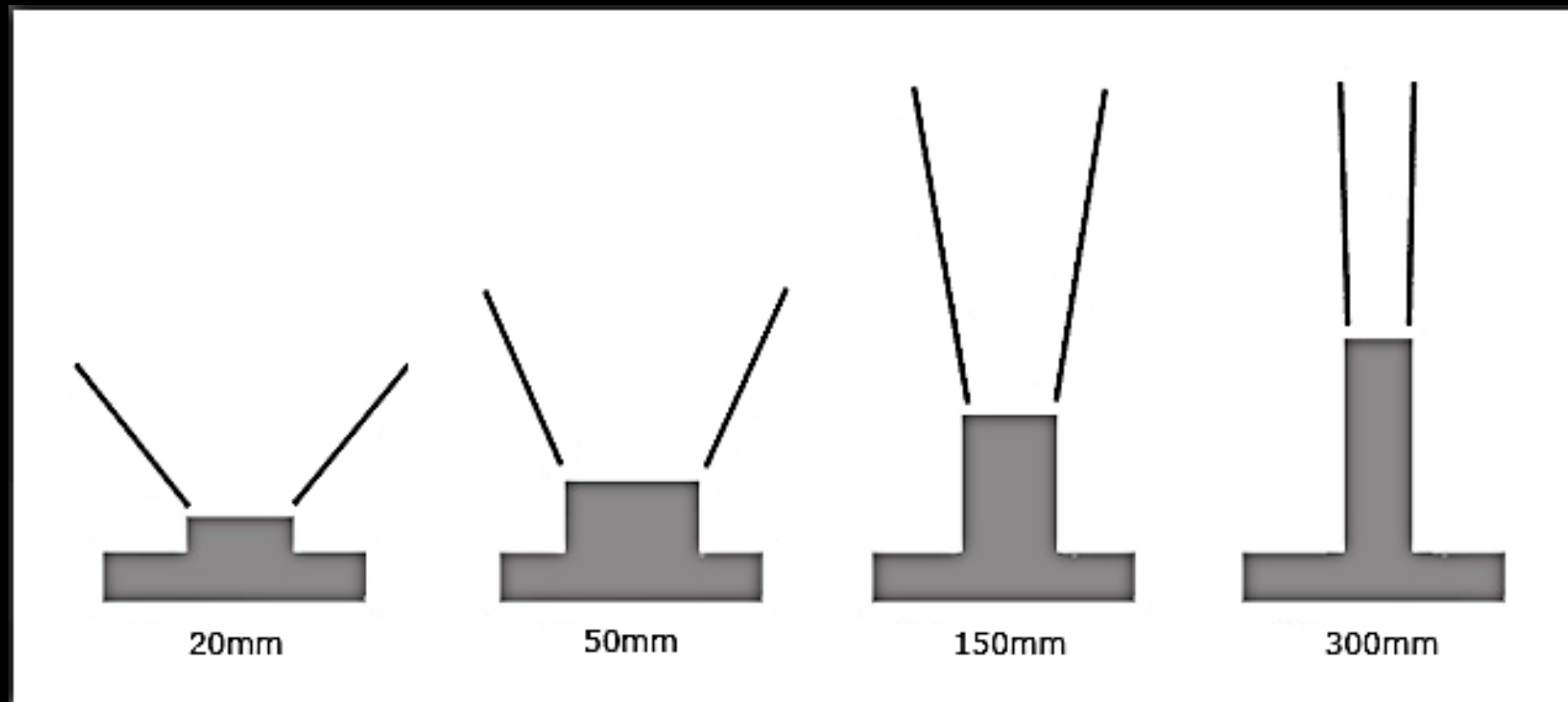


Camera Lenses – Focal Length

Focal length is the distance from the lens to the sensor inside the camera, when the lens is focused on infinity (a calculation of an optical distance) and is typically represented in millimeters (mm). It determines the **field of view** and how big objects will be within a scene (magnification). Lenses come in a variety of focal lengths. Zoom lenses have variable focal lengths.



Camera Lenses - DOF



A 20mm **wide angle** lens has a short focal length, wide angle of view and lower magnification, (which requires the camera to be closer to the subject), and has a high DOF.

A 300mm **telephoto** lens has a long focal length, narrow angle of view and higher magnification, (which requires the camera to be further away from the subject), and has low DOF.

Camera Lenses

The choice of lens affects Field of View and Depth of Field

28 mm lens



50 mm lens



70 mm lens



210 mm lens



The photos above were taken by a 35 mm camera at a fixed distance from the subject.

Camera Lenses – DOF

Do You Know How Lenses Affect *Portraits?*



*Telephoto (zoomed in)
image with blurry
background (low DOF)*

*Wide angle (zoomed out)
image with background in
focus (high DOF) and
exaggerated perspective
distorting face features.*

Camera Lenses

Telephoto

Wide angle Lens

Zoomed IN



Zoomed OUT



135mm

70mm

50mm

24mm

12mm

A telephoto (narrow angle) lens:

- has a smaller DOF keeping less of the foreground and background of the image in focus
- flattens perspective and is suitable for portraits

A wide angle lens:

- has a higher DOF with more of the image in focus
- exaggerates perspective, distorting features like the nose in a portrait but can be effective in exaggerating movement in a fight scene

Aperture | Camera Lenses | DOF

Large Aperture Low DOF



Aperture: **f/4.0**
Shutter Speed: **1/250 sec**
ISO **200**
Lens: 28-300mm @ **280mm**

Small Aperture Large DOF



Aperture: **f/16**
Shutter Speed: **1/250 sec**
ISO **200**
Lens: 28-200mm @ **35mm**

Aperture | Camera Lenses | DOF

Telephoto Low DOF



Aperture: **f/7.1**
Shutter Speed: **1/320 sec**
ISO **640**
Lens: 150-600mm @ **532mm**

Wide Angle Lens Large DOF



Aperture: **f/4.0**
Shutter Speed: **1/250 sec**
ISO **500**
Lens: 17-40mm @ **17mm**

Three-Point Lighting

Three-Point Lighting

Three point lighting is the standard lighting technique used in video. The goal of three-point lighting is to create the illusion of a three-dimensional subject in a two-dimensional image with light and shadow.

- The **Key Light**

This is the main light used on your subject

- The **Fill Light**

The purpose of this light is to fill in the shadows created by the key light, preventing them from getting too dark

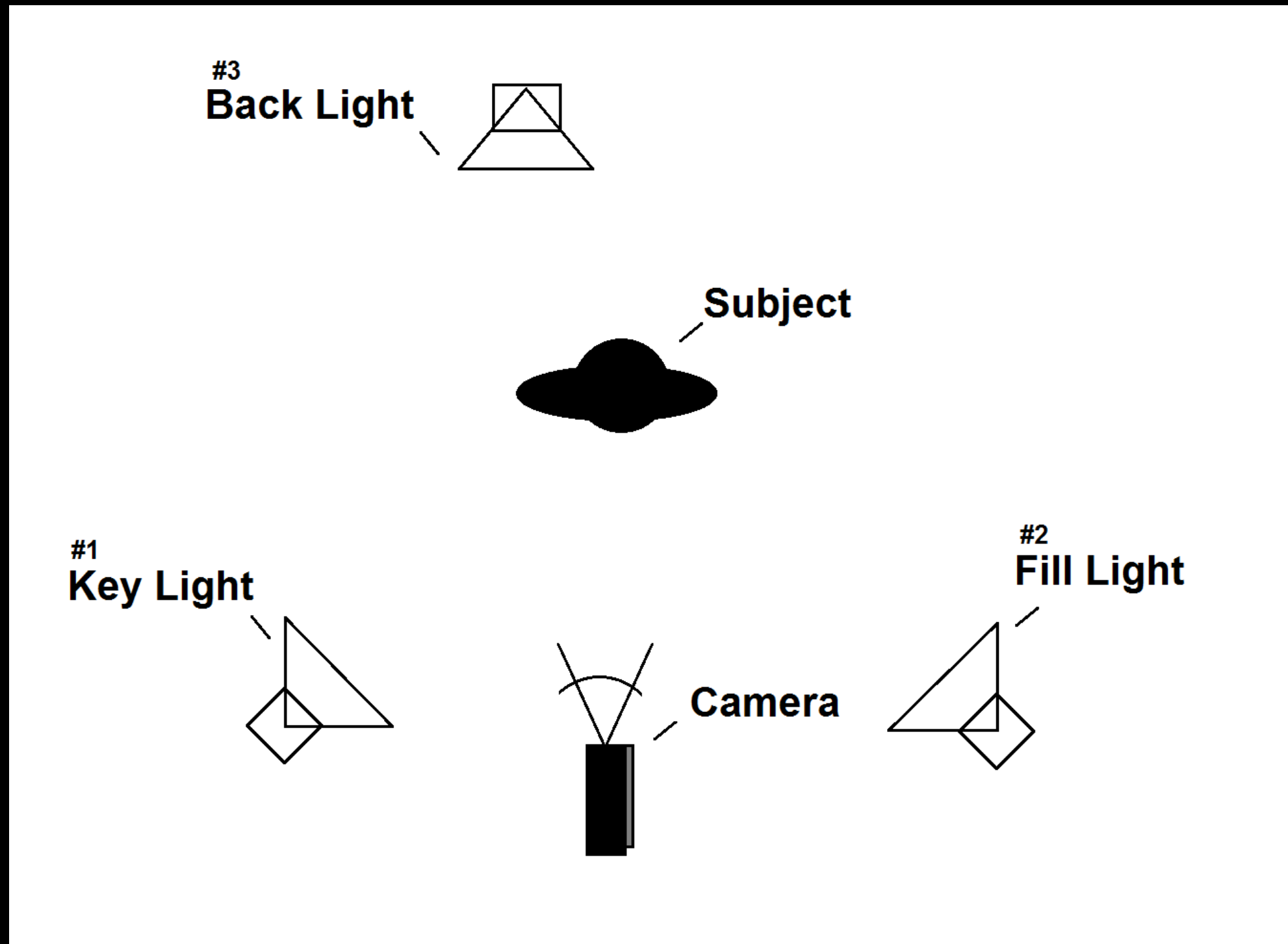
- The **Back Light**

This is used to separate the subject from the background

Four-Point Lighting

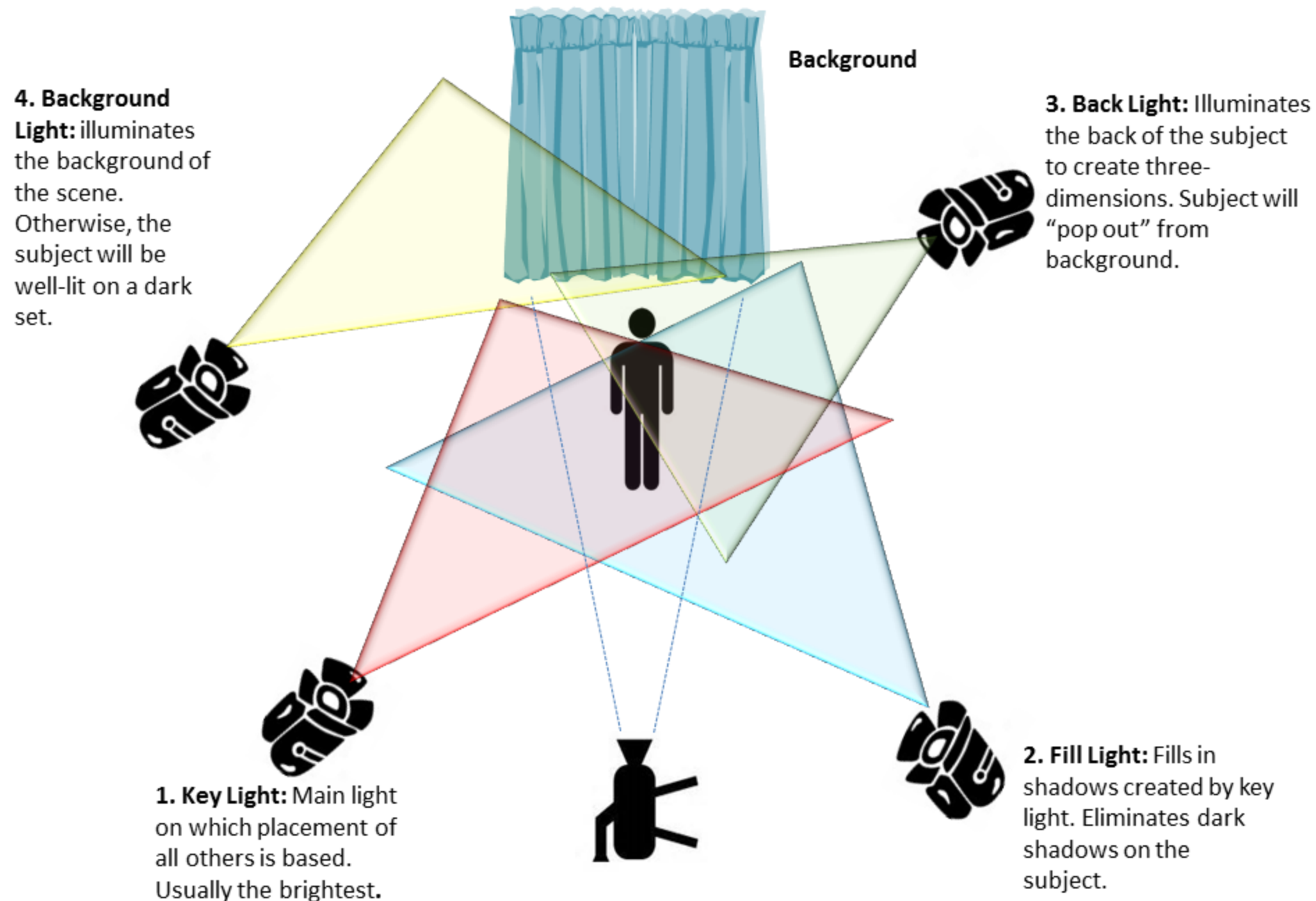


Three-Point Lighting

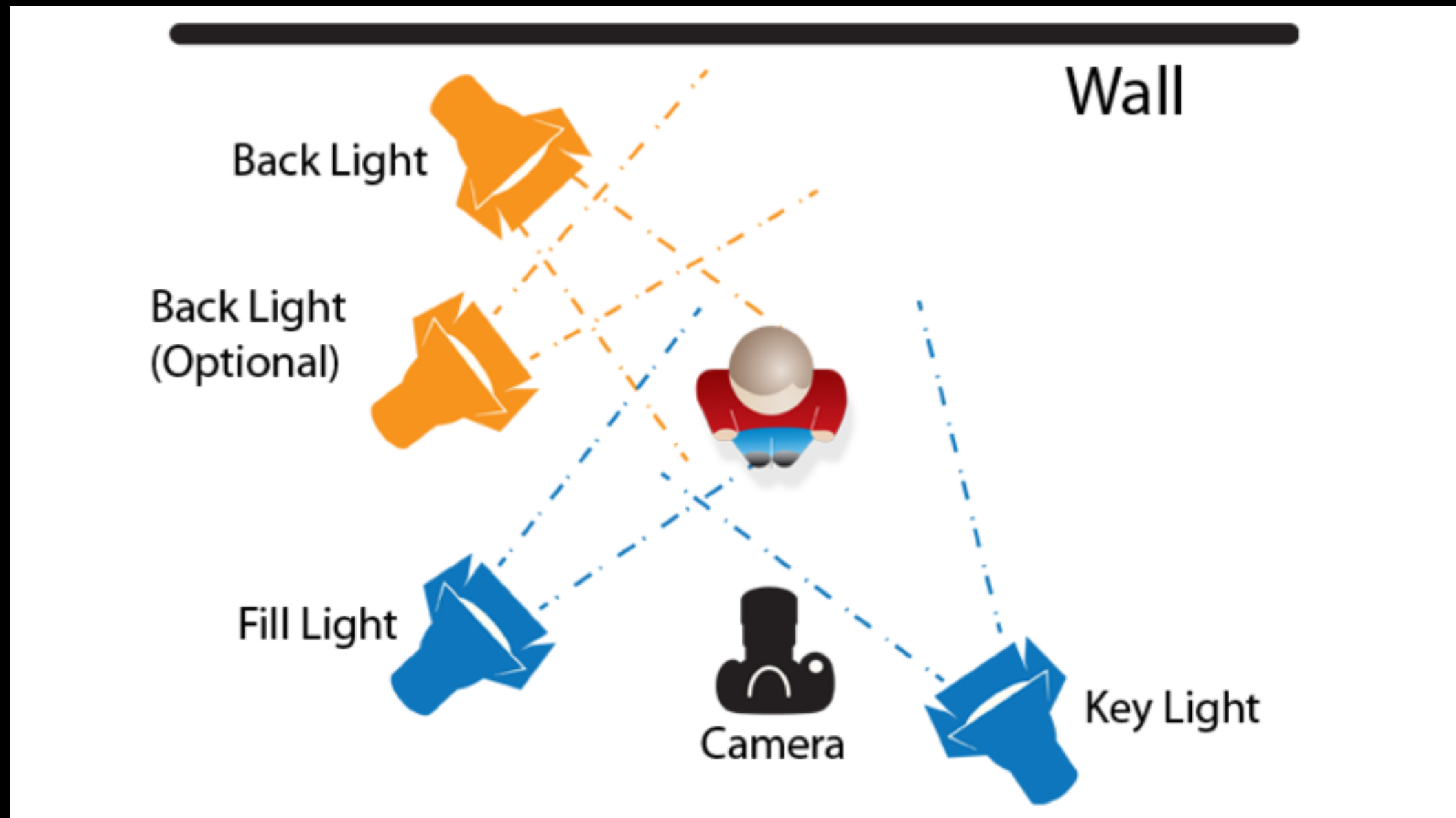


Four-Point Lighting

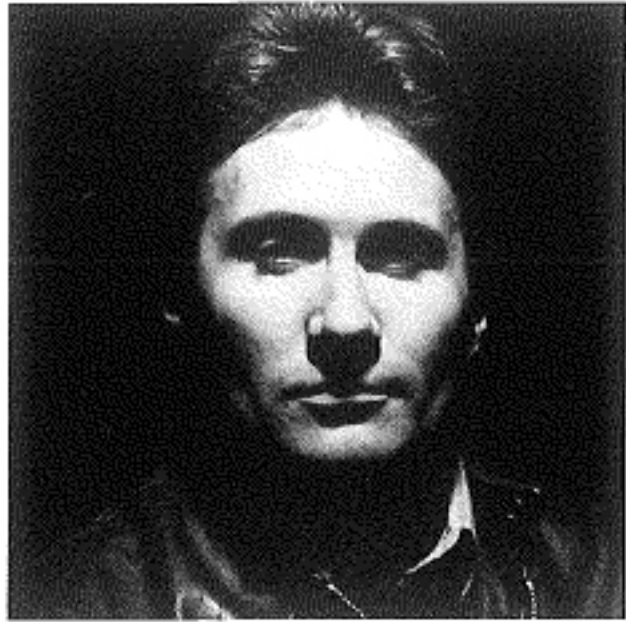
Basic 4-Point Lighting



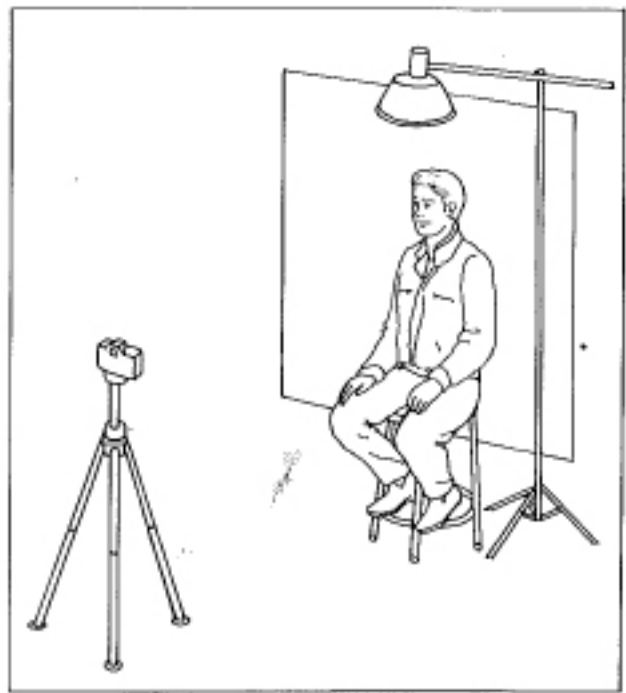
Four-Point Lighting (Green Screen)



Keylight

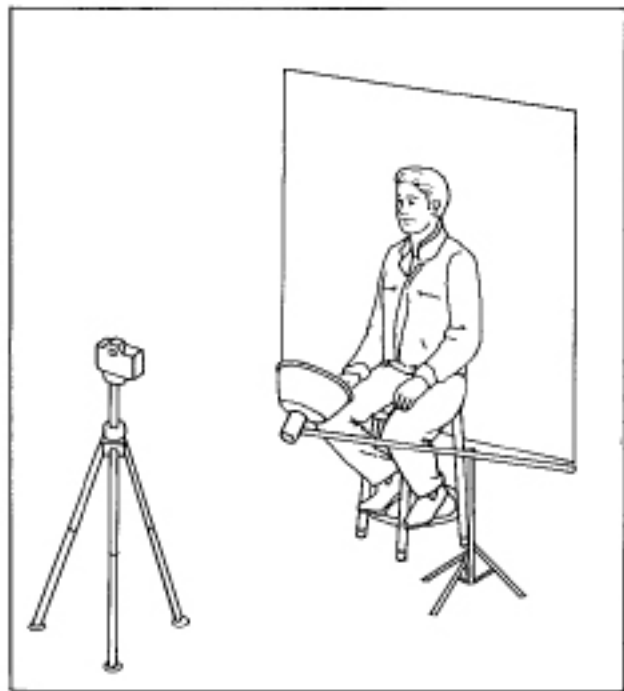


Keylight at **high elevation** creates deep shadows in the eye sockets, usually an undesirable look. However, this technique is useful to make the subject look sinister.



High Angle

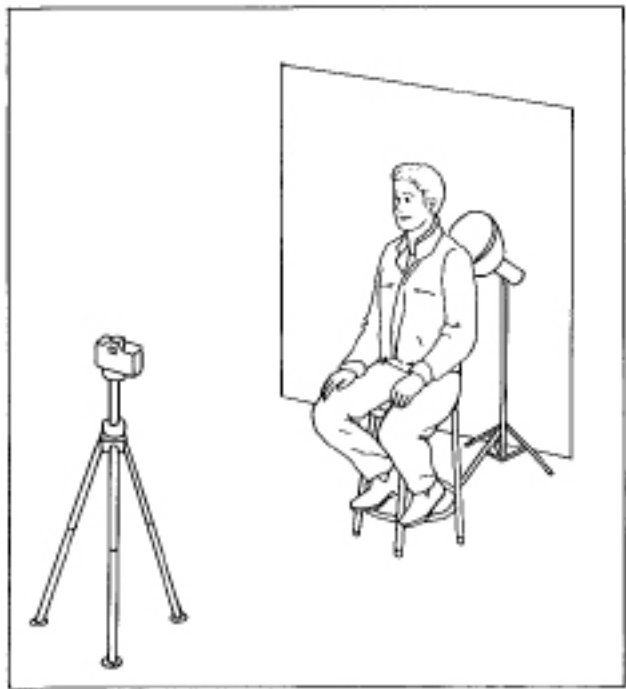
Keylight



Keylight at **low angle** lights the chin and the underside of the nose. It casts shadows in the opposite direction we're accustomed to seeing them, creating an unsettling feeling. It can be suitable for ghost stories and is highly dramatic.

Low Angle

Keylight



Silhouette

Keylight for **silhouette** places the entire subject in shadow which is commonly called a silhouette. You can intentionally use this look to create a dramatic image, to keep the subject anonymous, to de-emphasize the subject or make it mysterious.

The Fill Light

The purpose of the **fill light** is to fill in the shadows caused by the key light.

The fill light should not create a second shadow. A second shadow means the fill light is too powerful and needs to be reduced.

Reduce the fill light by:

- moving the light further from the subject
- put scrims or diffusion material over the light
- use neutral density gels to reduce light

The Back Light

Used in TV to create a glowing rim around the hair and shoulders of the subject.

Image without
Back Light



Image with
Back Light

Back Light separates subject
from the background

The Back Light



Back Light separates subject from the background

The Back Light



Back Light Photography

Lighting

Low Angle Lighting



Frankenstein, 1931, James Whales

High Angle Lighting



Godfather III, 1990, Francis Ford Coppola

Lights & Reflectors

Lights & Reflectors



Spot light used
as Key light



Fill light



Reflector

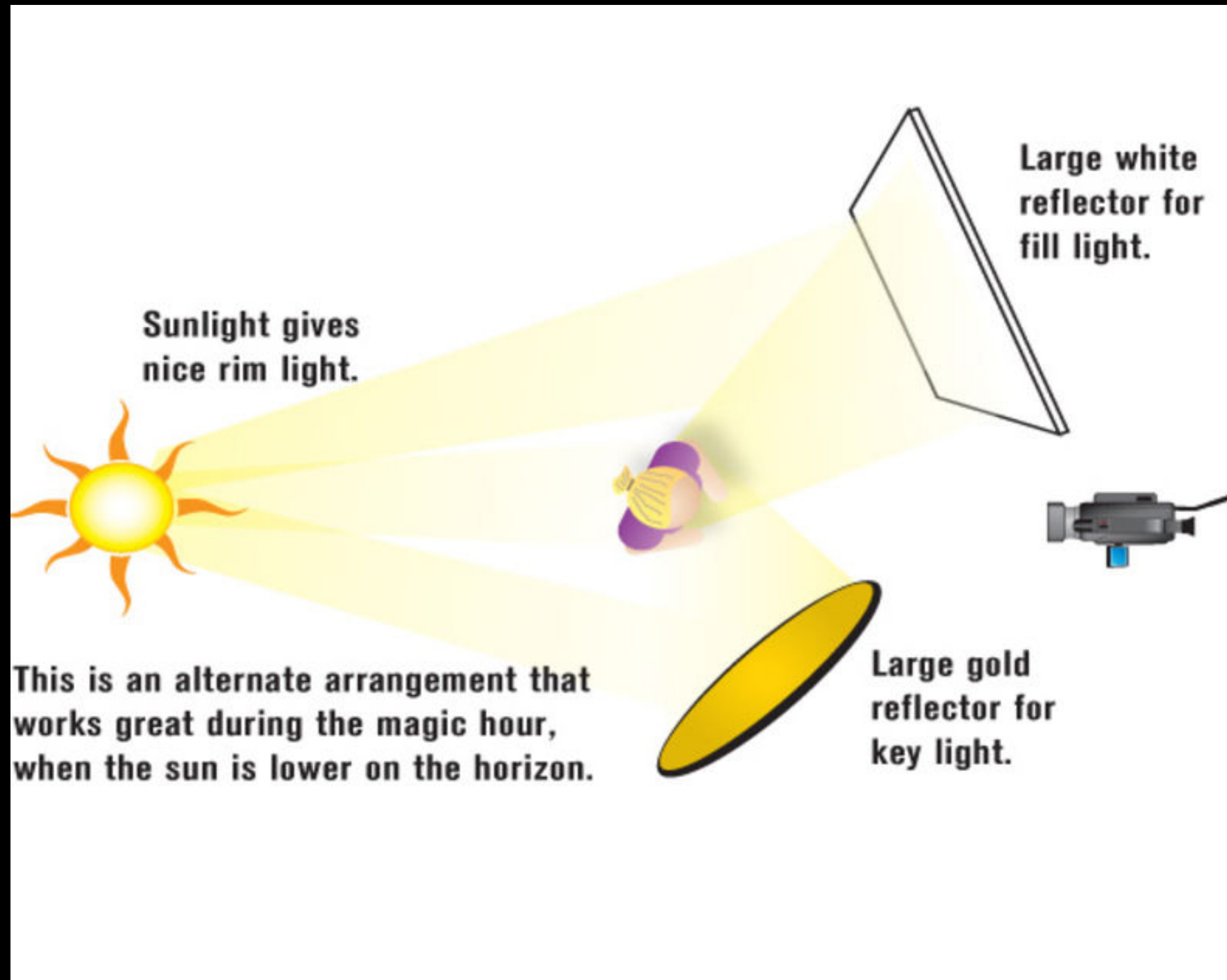


Umbrella used
as reflector

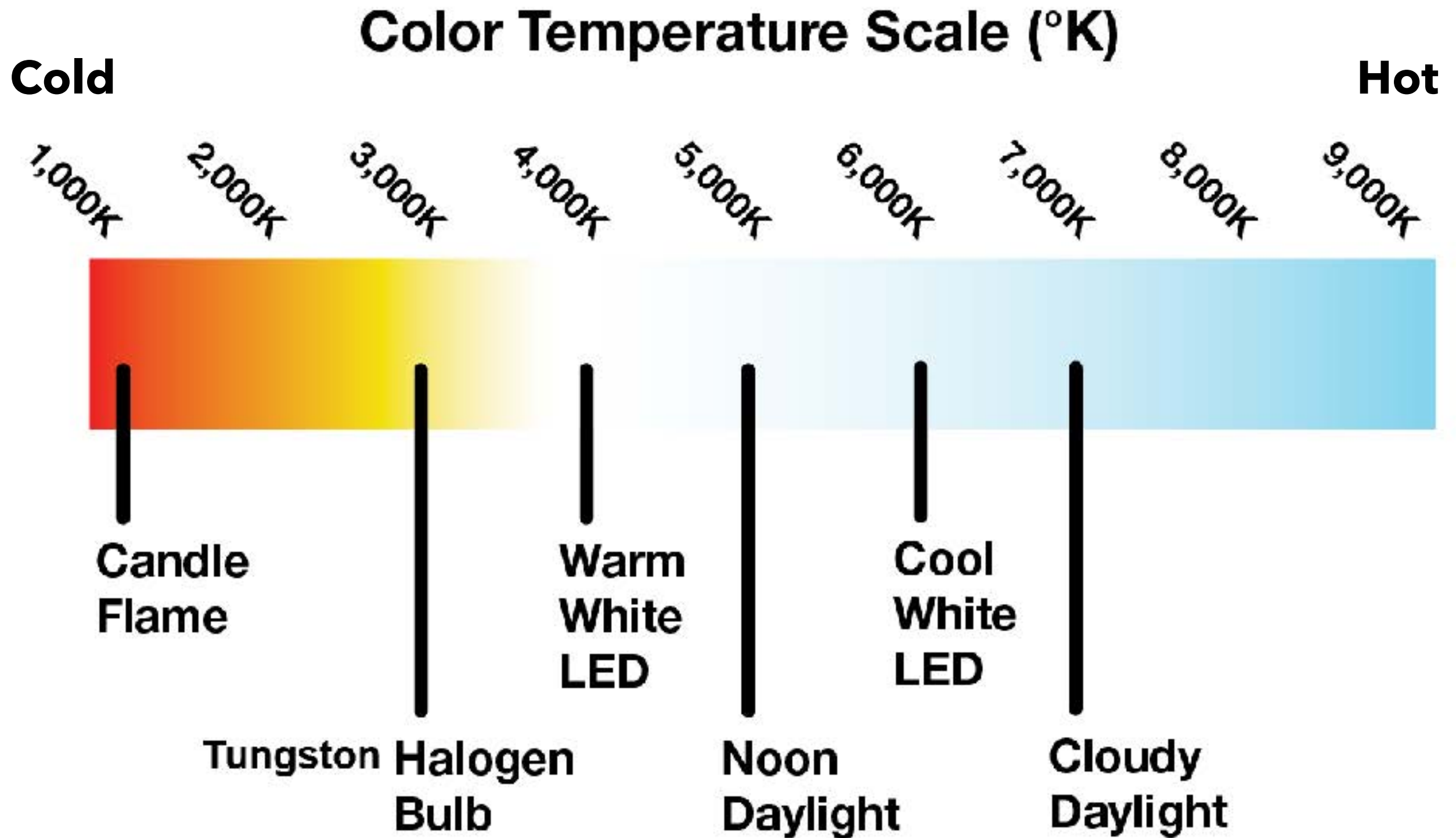
Reflectors as Lights Outdoors



Outdoor Lighting



White Balance



White Balance



Los Angeles, Early Evening
Larry Sultan, c 1984



Brian with Flinstones, NYC
Nan Goldin, 1981

Frame Rate (fps)

Frame rate is expressed in **frames per second** (fps):

- 24 frame/sec (film, ATSC, 2k, 4k, 6k)
- 25 frame/sec (PAL (Europe, Uruguay, Argentina, Australia), SECAM, DVB, ATSC)
- 29.97 ($30 \div 1.001$) frame/sec (NTSC American System (US, Canada, Mexico, Colombia, etc.), ATSC, PAL-M (Brazil))
- 30 frame/sec (ATSC)

Timecode

Timecode is a signal recorded with your video that uniquely identifies every frame of your tape using a time stamp in hours, minutes, seconds, and frames. Timecode uses the following format:

Hours : Minutes : Seconds : Frames

SMPTE timecode

01:32:15:28

Hours

Minutes

Seconds

Frames

B-roll

Secondary shots used in addition to main action shots.

B-roll shots are similar to cutaways in that they help break up the static interview shots, but B-roll plays a more major role in telling a visual documentary story.

For example, a soldier could tell us what it's like to be in combat, but when we cut in a shot of explosions and a chaotic firefight, his story is elevated.

Depth of Field



Deep Focus

Citizen Kane



Citizen Kane, 1941, Orson Welles - Deep Focus - mise en scène

https://www.youtube.com/watch?v=-r0b_XeRkG4

Citizen Kane

Citizen Kane, 1941, Orson Welles – Low angle

<https://www.youtube.com/watch?v=0vaD6LoeJbs>

Citizen Kane, 1941, Orson Welles – Camera movement

<https://www.youtube.com/watch?v=Th8cuq9tzZk>

Analysis of Citizen Kane Breakfast Scene Timing

<https://www.youtube.com/watch?v=I-4-wbqZvb8>

Project 2

Project 2 is 1-3 min with sound due week 7. The theme is "Personal Diary". This diary can be an activity or aspect of your life (for example, doing martial arts, or walking your dog where something interesting happens beyond just walking the dog, such as falling in love with another dog owner), a fantasy (winning the lottery), a dream (going to the moon) or a fear (being hacked on social media - this can be funny or nightmarish). Think about your story, stretch your imagination and get inspired. Start developing a shooting schedule according to location of shots. Bring footage to class for editing on your external drive. The final footage for editing should be 1280 x730 at 24fps.