Digital Filmmaking

Telling Stories through Technology

Composition:
Rule of Thirds

Rule of Thirds

The rule of thirds is the idea that in composing your shot, you should imagine lines dividing the image into thirds both horizontally and vertically, and align your main compositional elements along these lines.

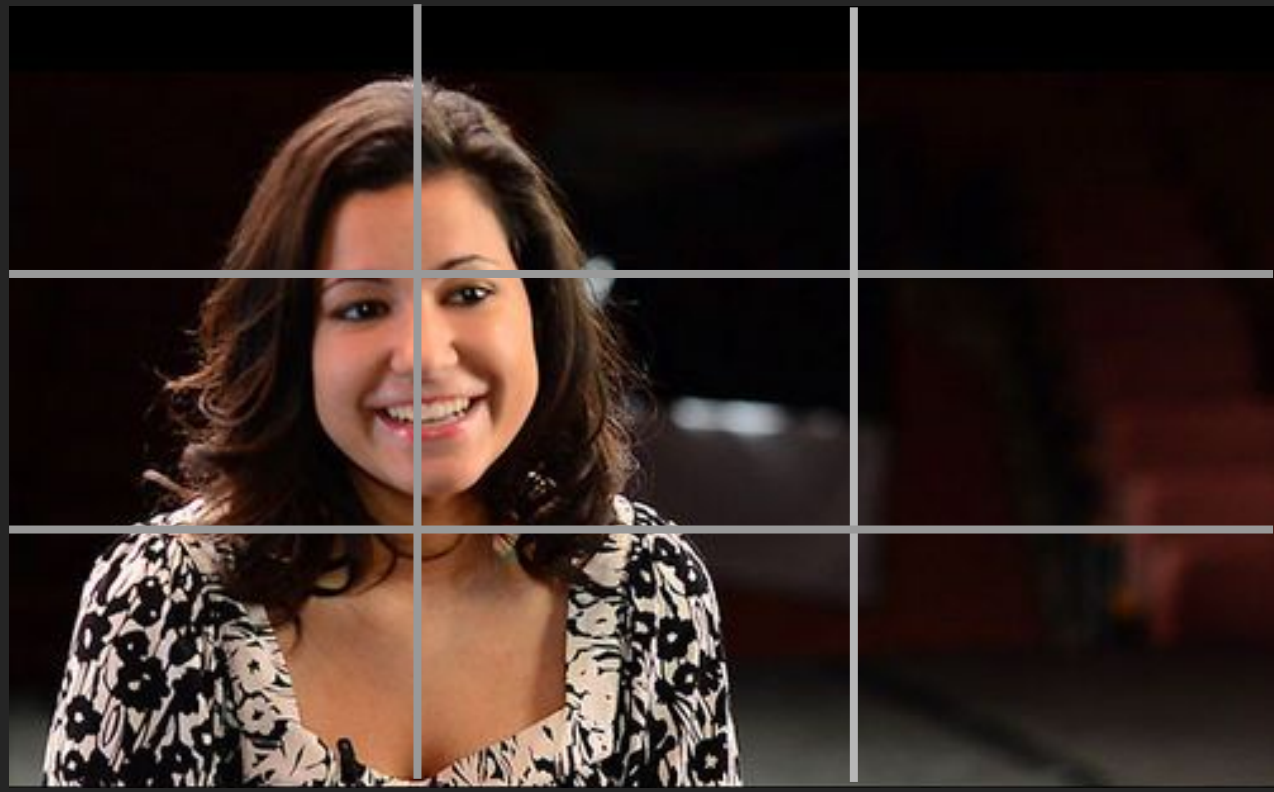
For example, in this shot, notice how the center of the flower is aligned with the left most and bottom most lines.

Rule of Thirds

This also applies in shooting human subjects.

The subject should be positioned along one of the vertical lines.

Positioning your subject dead center has an unsettling effect and should be avoided unless you want to use that effect to your advantage.



Headroom

Headroom should follow the rule of thirds as well. Here, notice how the subject's eyes are aligned with the top most divider.

Pans, Tilts, Tracking & Movement

Make sure that all your movement is deliberate.

In general, it's better to let your subjects move in and out of the frame than to follow them as they are moving.

- **Tilt**: moving the camera up and down
- **Pan**: moving the camera from side to side
- **Tracking**: moving the camera along with your subject as they move

Types of Shots

Types of Shots

Establishing shot

Very wide shot

Wide shot

Medium shot

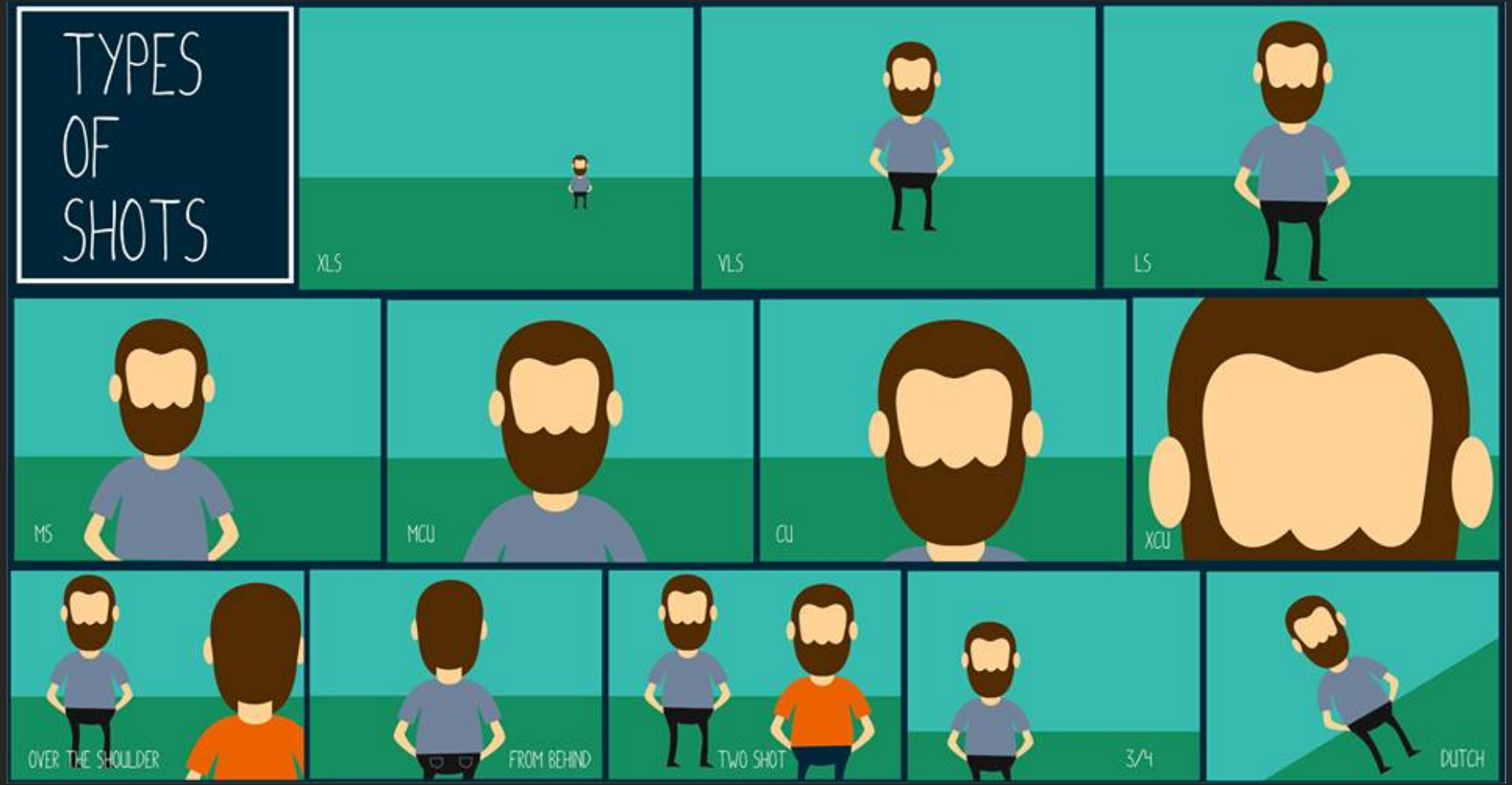
Medium close up

Close up

Extreme close up

Cutaway / POV

Two-shot


TYPES OF SHOTS
XLS
VLS
LS
MS
MCU
CU
XCU
OVER THE SHOULDER
FROM BEHIND
TWO SHOT
3/4
DUTCH

Wide Shot

Medium Shot

Over the Shoulder Shot

Dutch Angle

Shot Reverse Shot

Point of View (POV) Shot

Cutaway Shot

Tracking Shot

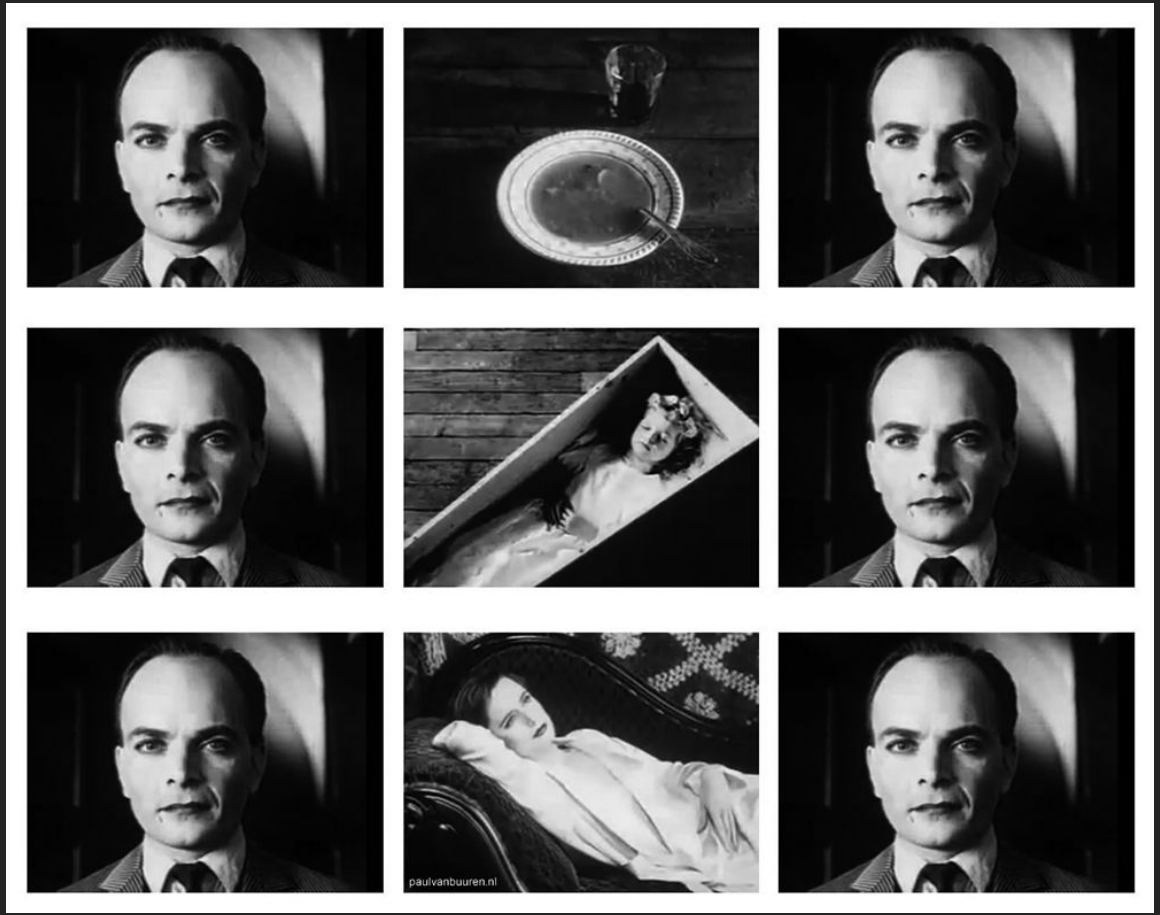
Close-up Shot

Low Angle Shot

Panning Shot

Zoom and Dolly Shots

Composing Movement



The Kuleshov Effect

STORYBOARDING

Storyboarding

Each panel in a storyboard shows the shot, the characters or scene elements within the frame, information about the scene and context as well as any dialogue or audio if it goes with the scene.

They can range from informal rough sketches with a few notes to incredibly complex and rich ones.

As a general rule, there needs to be one panel for every shot and/or line of dialogue, whether you intend to follow this exactly or not.

General rule:

One panel per shot and / or line of dialogue.

Storyboard

Storyboard for the shower scene of Psycho (1960), Alfred Hitchcock.

Note how every shot is laid out one by one.

Storyboard

The Shower Scene

Psycho (1960), Alfred Hitchcock

Storyboard

Harry Potter and the Deathly Hallows Part 2

Storyboard

No Country for Old Men (2007), Joel & Ethan Coen

Lord of The Rings - Storyboard to Film Comparison

Title: Date: Name:

Scene: Shot:

Audio:

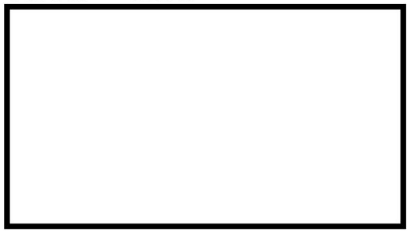
Scene: Shot:

Audio:

Scene: Shot:

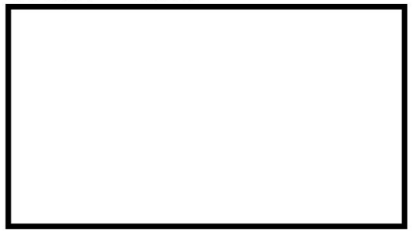
Audio:

Scene: Shot:



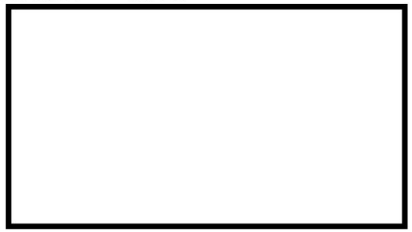
Audio:

Scene: Shot:



Audio:

Scene: Shot:



Audio:

Final Project

CHANGE: The Old & The New

In-class Exercise: Brainstorming & Storyboarding

Begin brainstorming for the final project with your teammates. Start creating storyboards for your final project.

Be prepared to share these with the rest of your classmates tomorrow.

Teams:

- Charlotte, Alan, April
- Helio, Joyce, Coco
- Jason, Lilly, Tenny, Olivia
- Luna, Kevin, Daniel, Ashley

Shooting
(with camera)

“Make every shot a usable shot.”

Make Every Shot a Usable Shot

This means don't rush!

Take the time to plan, think out, and construct.

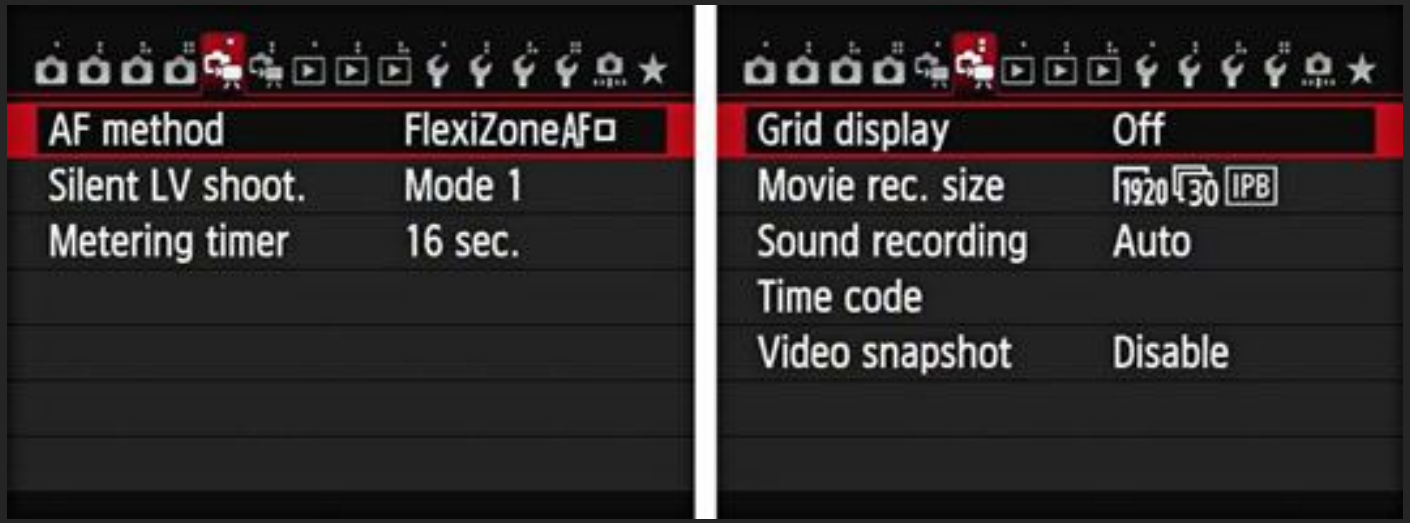
You've already done this with your storyboards, but I really want to emphasize the importance of planning in the shooting process because if you don't, you'll waste time getting a bunch of footage that you can't really use.

Most importantly,

Keep your shot STEADY!

Shooting: Basic Techniques


MENU
INFO.
START/STOP
P
ISO AUTO
-3..2..1..0..1..2..3
±0
OFF
AWB
WB
ONE SHOT
L
ISO speed
SET
Canon



Set Recording Settings in menu.

1920 x 1080, 30 frames per second
unless intentionally doing otherwise

Frame Rate

Manual Controls

Always work in manual mode (video)

Be aware of:

- ISO
- Aperture
- Shutter speed
- Focus

Make sure everything is set before you record.
6D does not allow change in mid-shoot.

Aperture, Shutter Speed & ISO

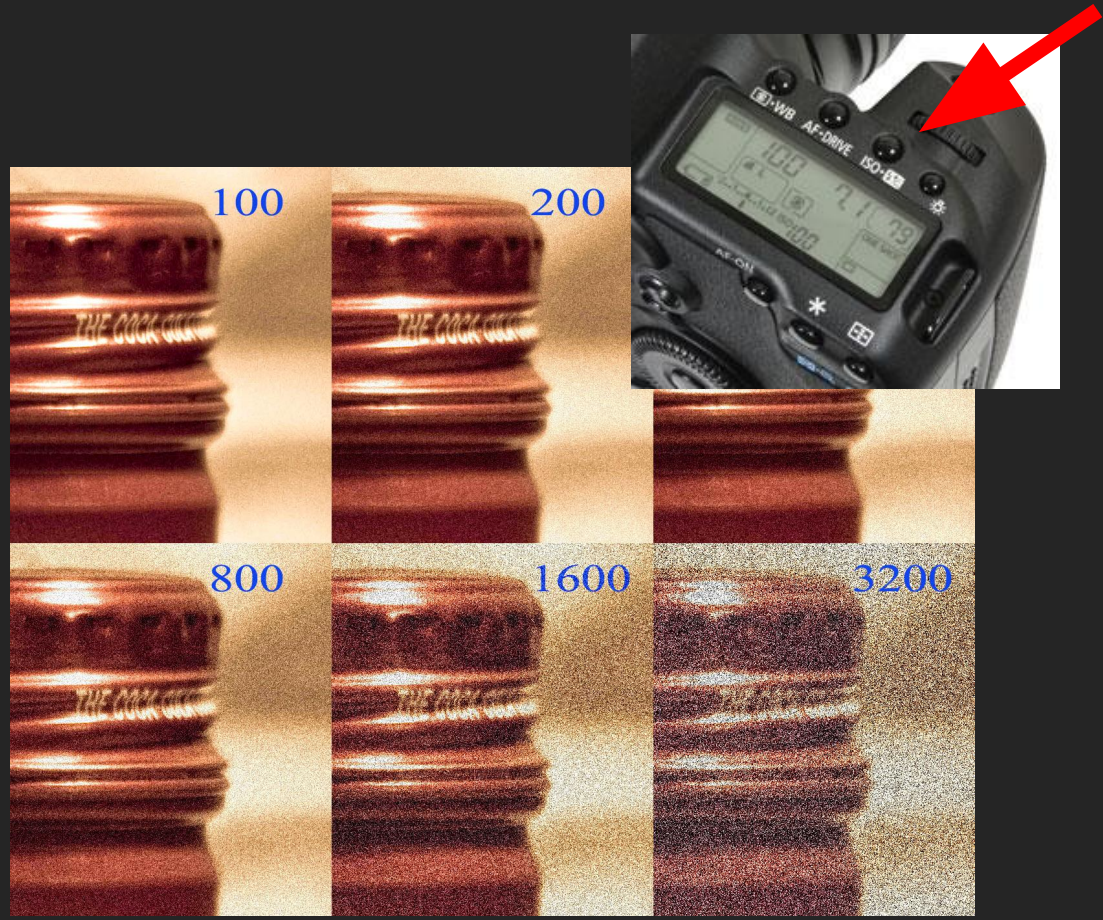
DSLR Fundamentals

ISO: Camera sensitivity to light. Higher ISO is good for darker situations. If ISO is too high, your picture will look grainy. In general, keep ISO as low as possible and below 3200. Film Speed (sensitometry)

Shutter Speed: How fast the shutter opens and closes to expose the sensor to light. Recorded in fractions of a second. A speed of 1/500 opens the shutter faster than a speed of 1/50 for example.

Aperture (F-Stop): How large the hole in the lens is to allow light through. A lower aperture will allow more light in, while a higher one closes the lens more.

ISO: how sensitive the camera is to light



ISO: how sensitive the camera is to light

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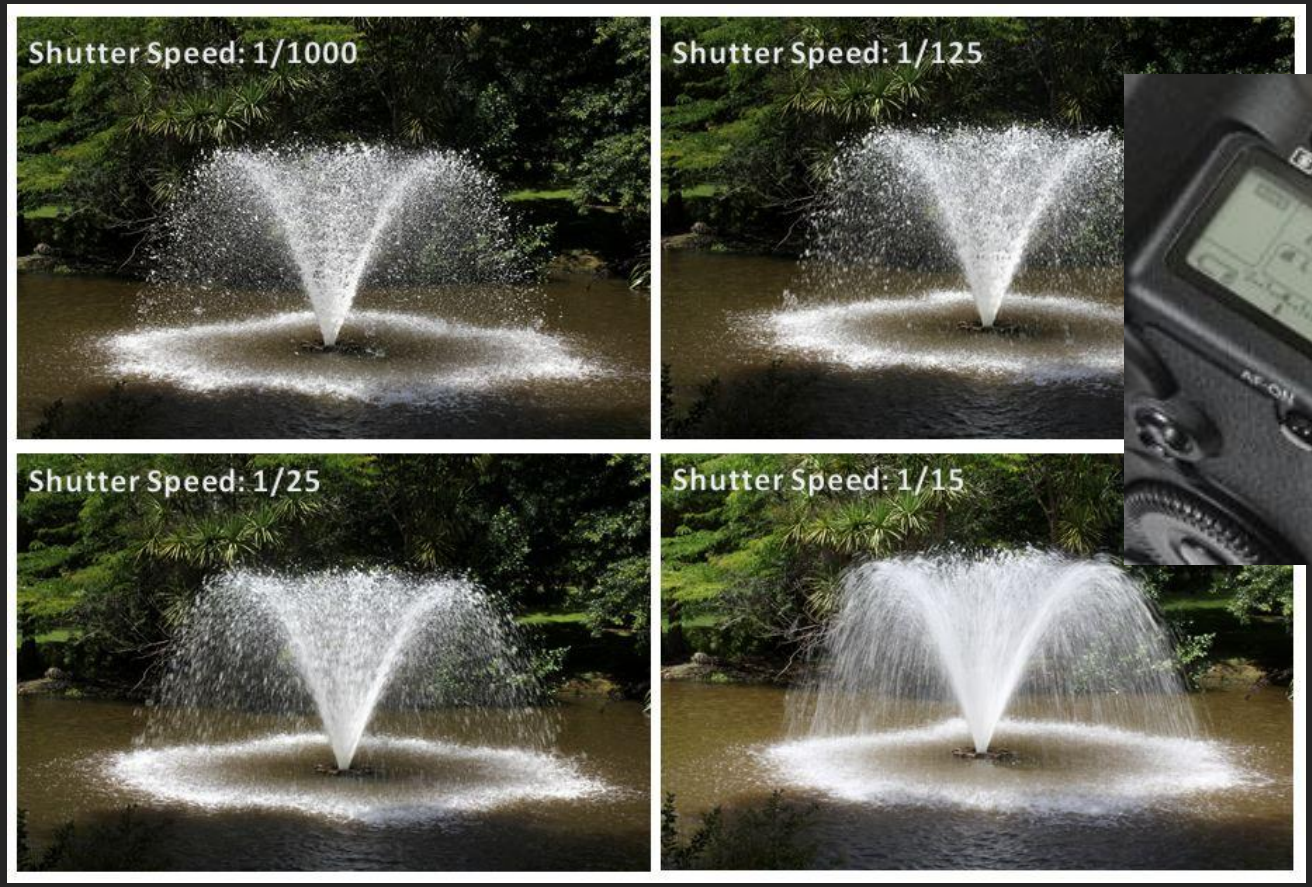
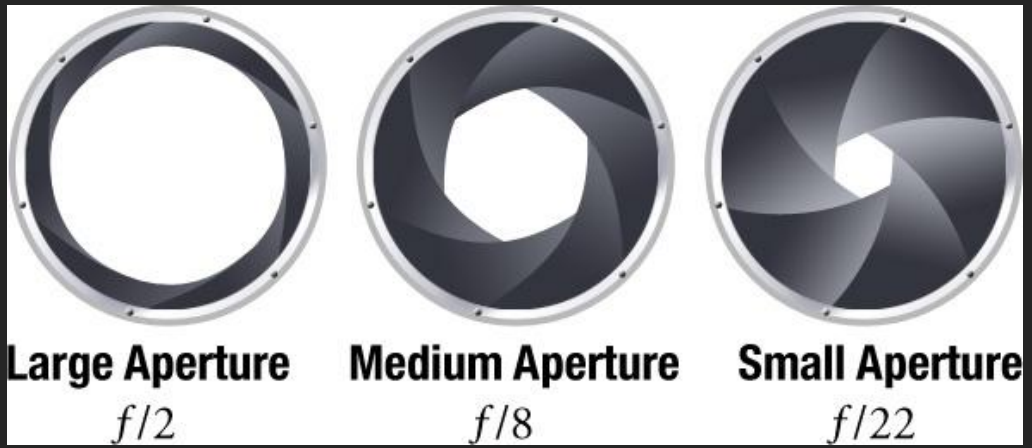


Shutter Speed: how fast the shutter is opening/closing to expose the sensor to light



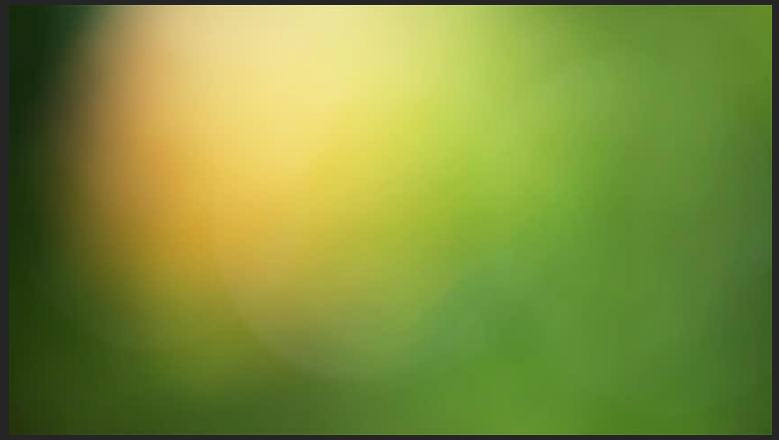
Aperture: how open the hole in the lens is to allow light through

Focus

Keep footage focused at all times

Manual focus vs. Auto focus

Focus can also be used as an artistic tool




Using focus as an artistic tool

Zooming

Make sure it is deliberate with purpose.

Avoid using it during dialogue, interviews or tracking subjects, unless you plan on cutting out this footage later.

Too much zoom is jarring and uncomfortable.

Zoom ring

Focus ring

Focusing & Zooming

White Balance

Depending on the characteristics of the light, the feeling of the colors on the subject differs. Thus, offsetting to make colors more white is called white balancing.

For example, a photo taken on a cloudy day has a blue tint and you can offset this by applying yellow to the colors.

In contrast, tungsten bulbs generally emit yellow light and by applying blue to the image the colors become more white.

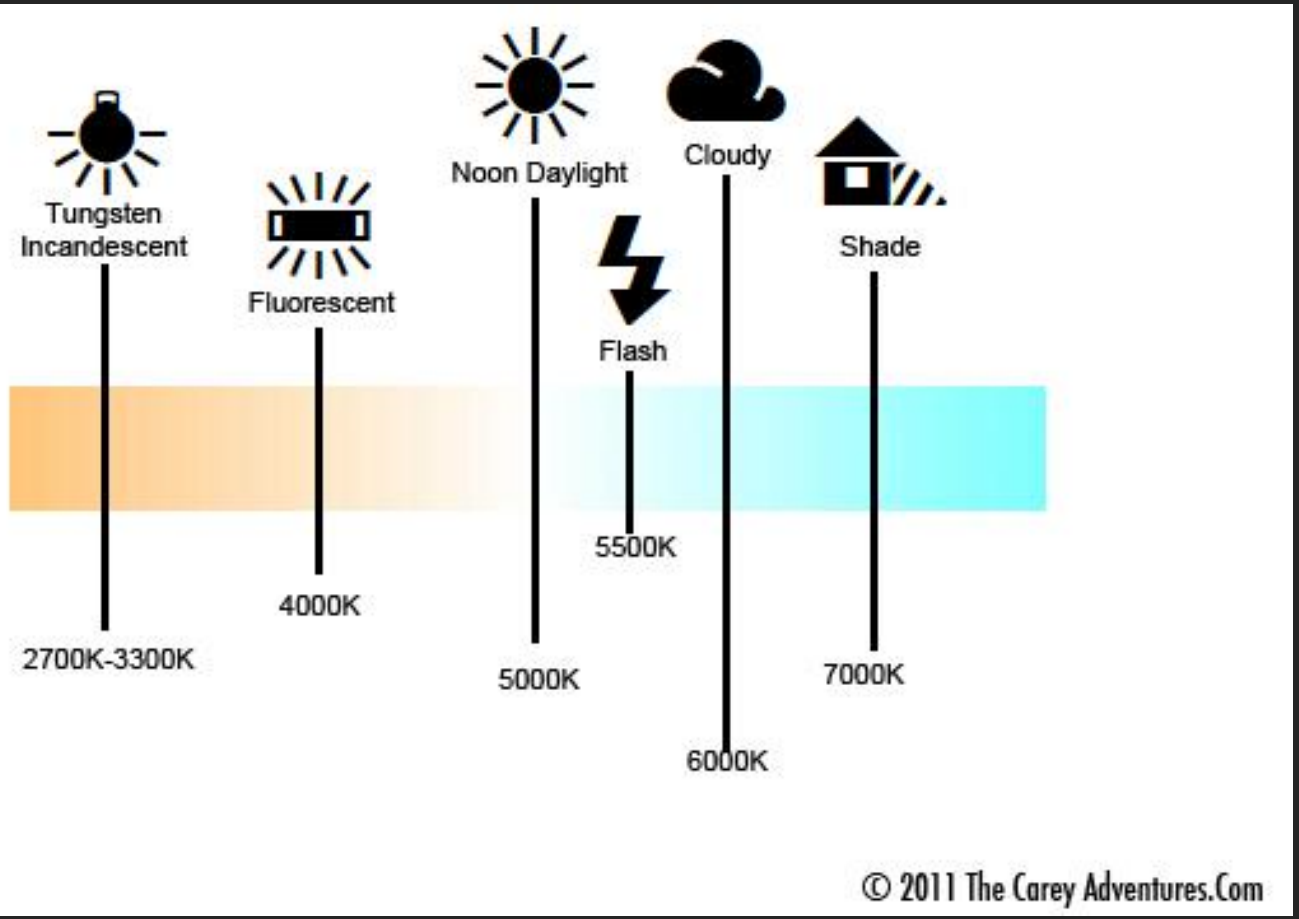
White Balance

Also known as Color Balance.

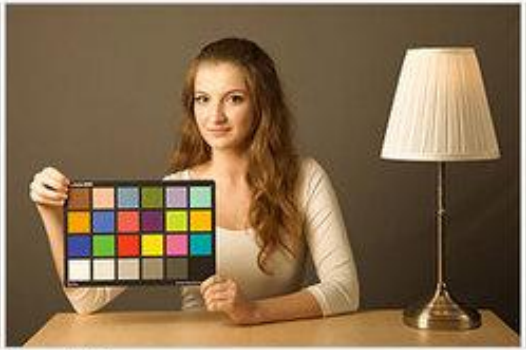
Adjusts colors by sampling the whites in your image and correcting to a true-er white.

White balance can be used intentionally to influence mood or set the tone in footage.

Adjustments can still be made in post-production, but better practice to calibrate for your shoot.


Tungsten
Incandescent
2700K-3300K
Fluorescent
4000K
Noon Daylight
5000K
Flash
5500K
Cloudy
6000K
Shade
7000K
© 2011 The Carey Adventures.Com

Neutral light

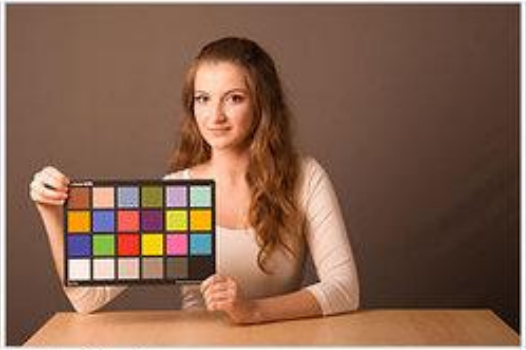


Warm light

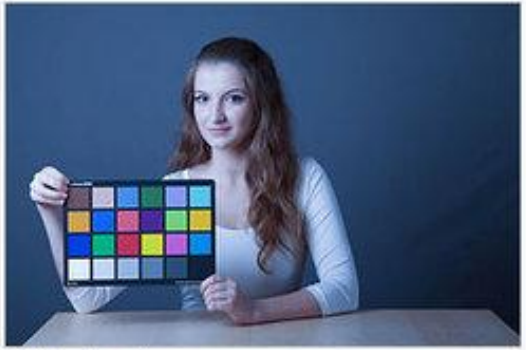
Cold light

Comparison of resulted colors as shot by the digital camera for different light qualities (color temperature): Neutral, Warm and Cold.[14]

Setting: As shot



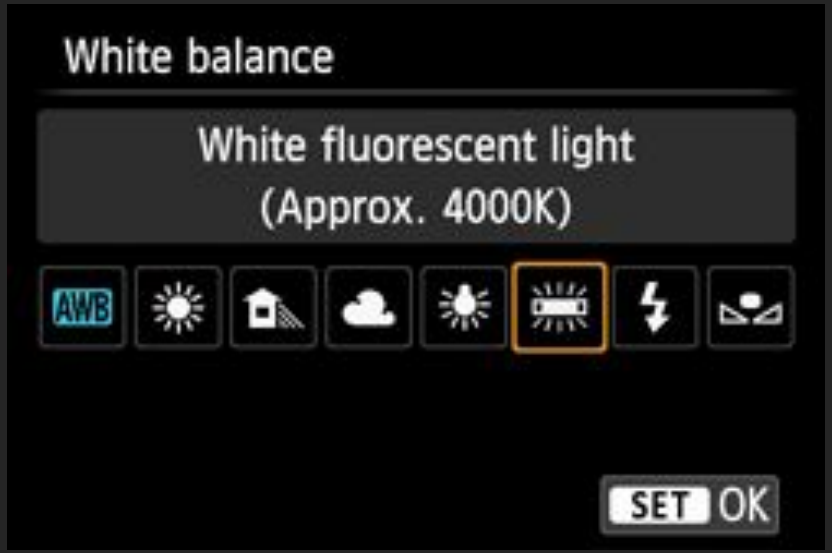
Setting: Cloudy



Setting: Tungsten

Example of different white balance settings on digital camera for Neutral light.[14]

White Balance Example



White Balance

Exposure

Exposure is the amount of light reaching the sensor.

Manually control exposure when possible using camera settings or external light.

Always use external lighting from the front, never behind (unless purposefully)

overexposure underexposure Appropriate

Lighting from behind

Lighting

LED Light Panel
Gives the whole room/area a boost of light (needs stand)

Ring Light
Light attaches to lens of camera. For giving light to profile faces.

Exposure

Exposure

Light	Aperture	Shutter Speed	ISO	Exposure
Strength of Light	**Amount of light** that the sensor(film) receives per certain time (Size of aperture hole)	**Amount of time** that the sensor(film) accepts light	**Sensitivity** of sensor(film)	Result
Daylight	f1.4	2	100	+2
Cloudy	f1.8	1 / 16	200	0
Strobe (flash) light	f16	1 / 32	400	-1
Tungsten light	f22	1 / 6400 (sec)	800	-2

Exposure

Light	Aperture	Shutter Speed	ISO	Exposure
Strength of Light	**Amount of light** that the sensor(film) receives per certain time (Size of aperture hole)	**Amount of time** that the sensor(film) accepts light	**Sensitivity** of sensor(film)	Result
Daylight	f4	1/4	100	0 (Normal Exposure)
1.0	1.0	1.0	1.0	1.0

Let's assume that with these settings you can get normal exposure.

Exposure

Light	Aperture	Shutter Speed	ISO	Exposure
Strength of Light	**Amount of light** that the sensor(film) receives per certain time (Size of aperture hole)	**Amount of time** that the sensor(film) accepts light	**Sensitivity** of sensor(film)	Result 
Daylight	f4	1/4	100	0 (Normal Exposure)
1.0 X	1.0 X	1.0 X	1.0 =	1.0

Let's assume that with these settings you can get normal exposure.

Exposure

Light	Aperture	Shutter Speed	ISO	Exposure
Strength of Light	**Amount of light** that the sensor(film) receives per certain time (Size of aperture hole)	**Amount of time** that the sensor(film) accepts light	**Sensitivity** of sensor(film)	Result -3..2..1..0..1..2.+3
Daylight	f4	1/8	100	-1 (Under Exposure)
1.0	1.0	0.5	1.0	0.5

But you want the shutter speed twice faster, then it becomes under-exposed.

Exposure

Light	Aperture	Shutter Speed	ISO	Exposure
Strength of Light	**Amount of light** that the sensor(film) receives per certain time (Size of aperture hole)	**Amount of time** that the sensor(film) accepts light	**Sensitivity** of sensor(film)	Result 
Daylight	f2.8	1/8	100	0 (Normal Exposure)
1.0	2.0	0.5	1.0	1.0

You can make the exposure normal again by adjusting the aperture.

Exposure

Light	Aperture	Shutter Speed	ISO	Exposure
Strength of Light	**Amount of light** that the sensor(film) receives per certain time (Size of aperture hole)	**Amount of time** that the sensor(film) accepts light	**Sensitivity** of sensor(film)	Result 
Daylight	f4	1/8	100	-1 (Under Exposure)
1.0	1.0	0.5	1.0	0.5

Also, you can make the exposure normal by changing other aspects, such as changing the light source or ISO setting.

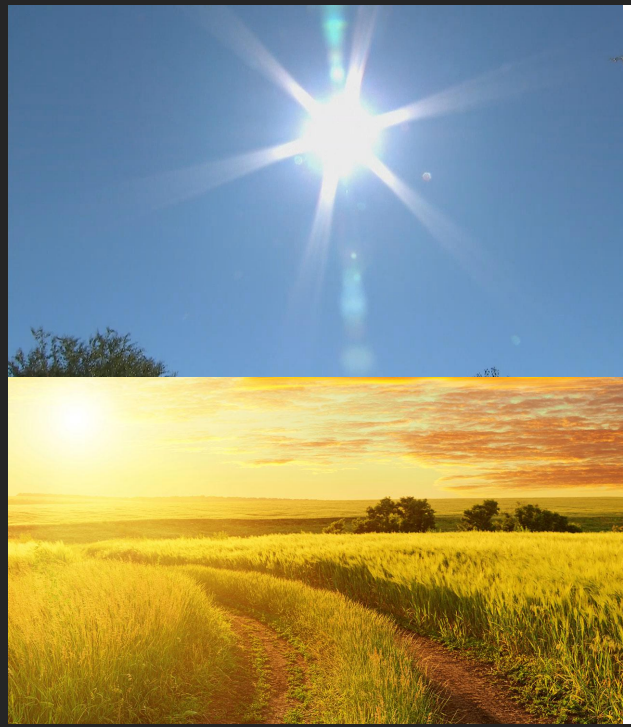
Exposure

Light	Aperture	Shutter Speed	ISO	Exposure
Strength of Light	**Amount of light** that the sensor(film) receives per certain time (Size of aperture hole)	**Amount of time** that the sensor(film) accepts light	**Sensitivity** of sensor(film)	Result 
Daylight	f4	1/8	200	0 (Normal Exposure)
1.0	1.0	0.5	2.0	1.0

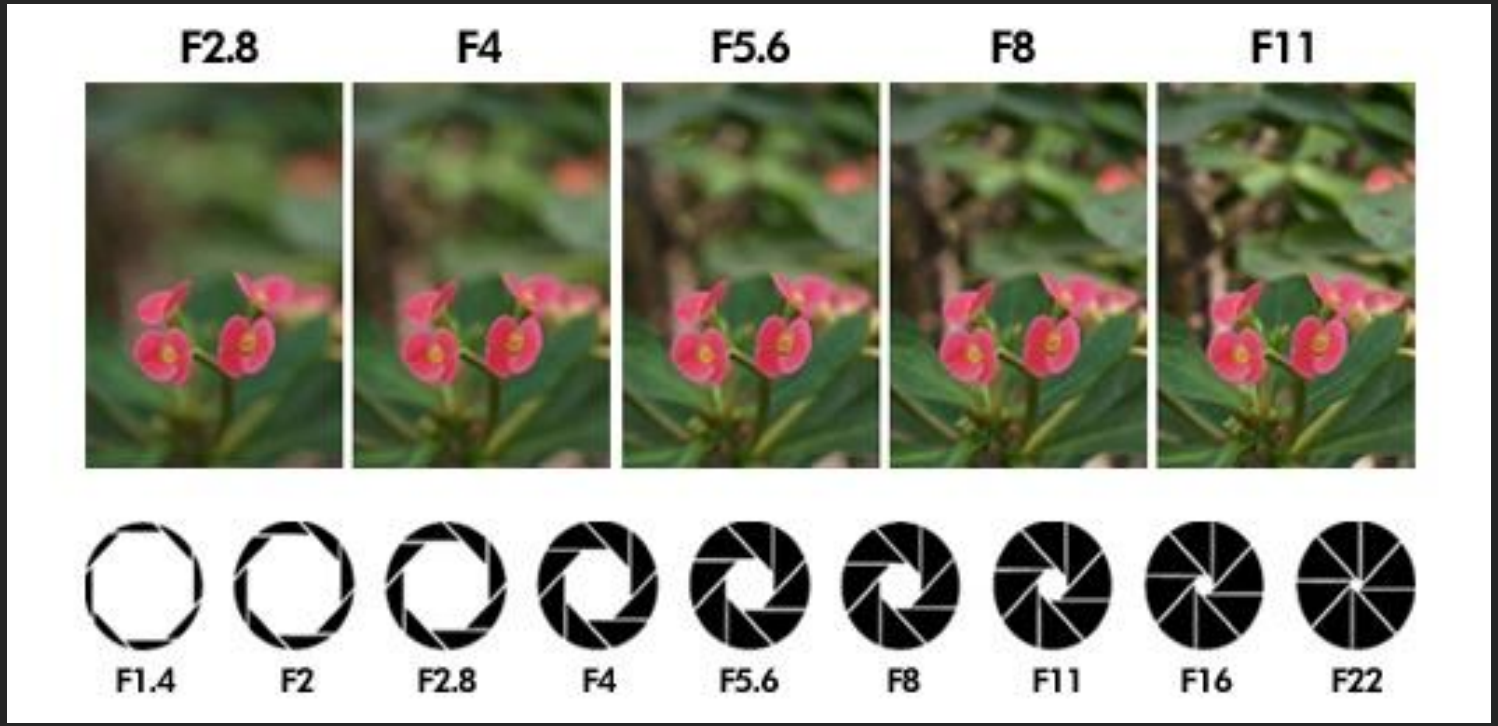
The sensitivity of the sensor can be doubled as ISO increases to 200, and you can get the normal exposure again.

Review

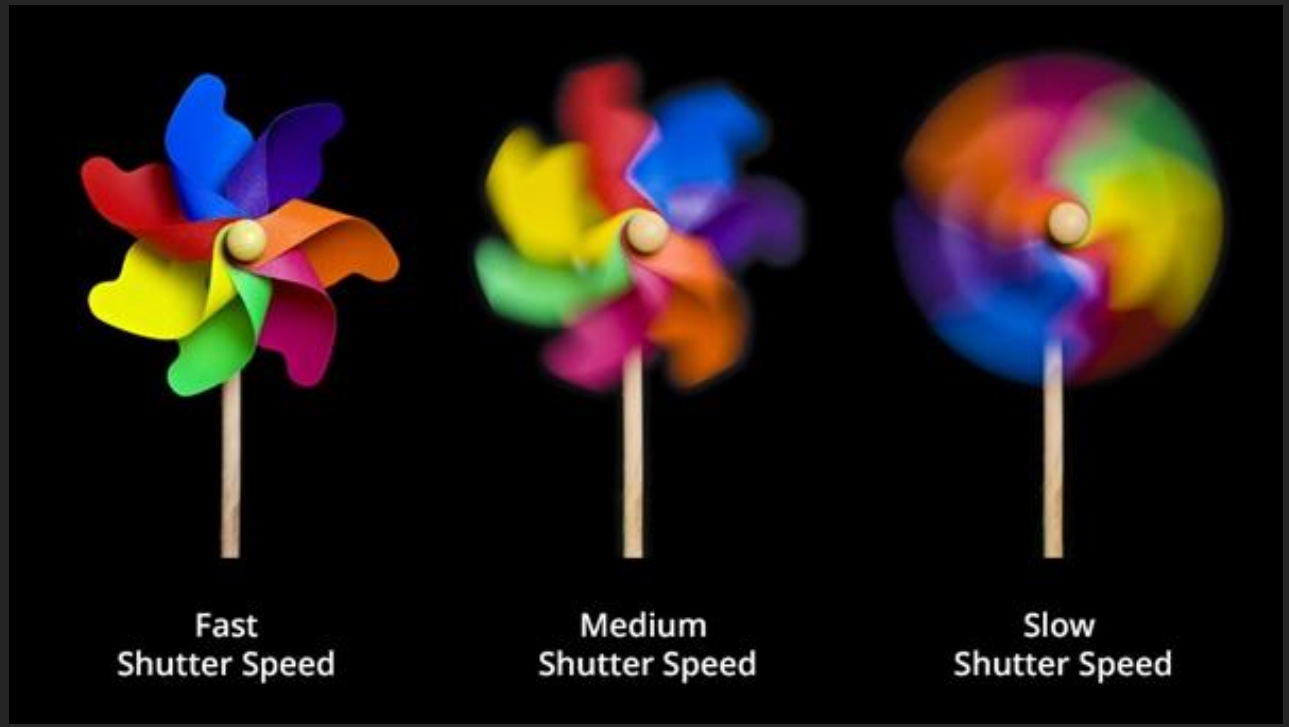
Light



Aperture



Shutter Speed



ISO

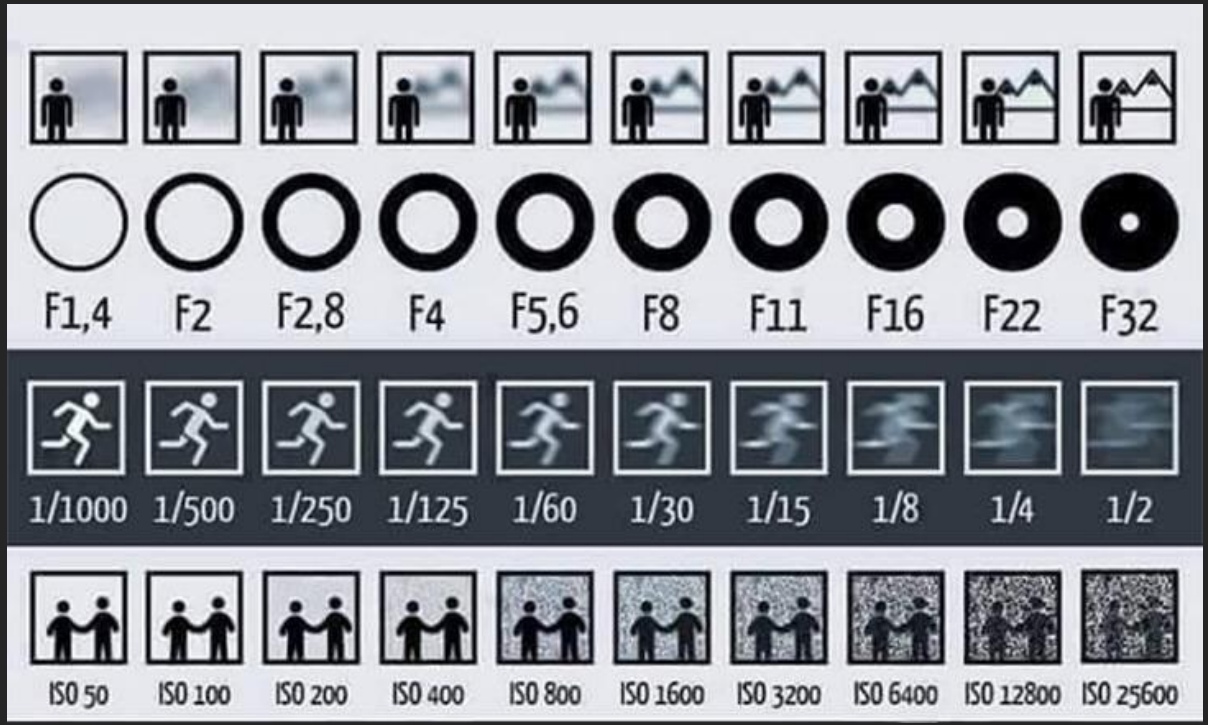

L
ISO 100
ISO 200
ISO 400
ISO 800
ISO 1600
ISO 3200
ISO 6400
H1
H2

Depth of Field (DOF)

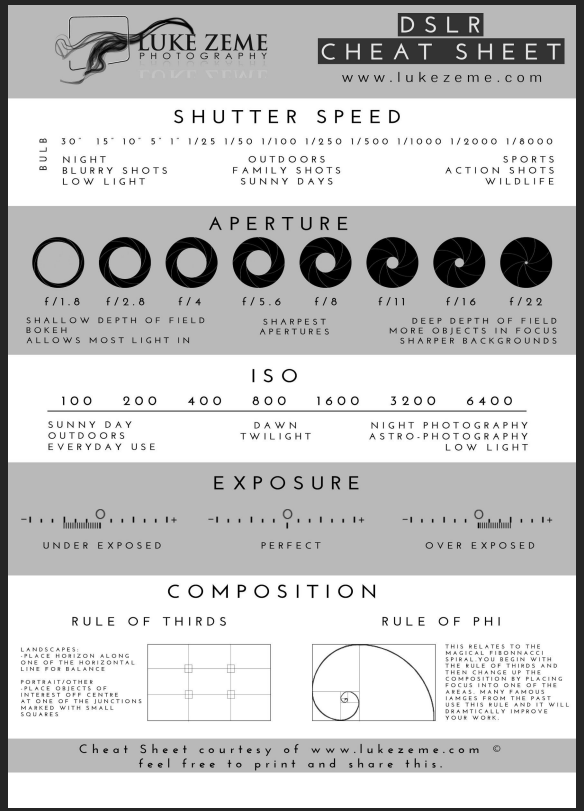
Shallow Depth of Field
Large hole(aperture), Fast shutter speed

Deep Depth of Field
Small hole(aperture), Slow shutter speed

Summary


F1,4
F2
F2,8
F4
F5,6
F8
F11
F16
F22
F32
1/1000
1/500
1/250
1/125
1/60
1/30
1/15
1/8
1/4
1/2
ISO 50
ISO 100
ISO 200
ISO 400
ISO 800
ISO 1600
ISO 3200
ISO 6400
ISO 12800
ISO 25600

Summary


LUKE ZEME
PHOTOGRAPHY
DSLR
CHEAT SHEET
www.lukezeme.com
SHUTTER SPEED
BULB 30" 15" 10" 5" 1" 1/25 1/50 1/100 1/250 1/500 1/1000 1/2000 1/8000
NIGHT
BLURRY SHOTS
LOW LIGHT
OUTDOORS
FAMILY SHOTS
SUNNY DAYS
SPORTS
ACTION SHOTS
WILDLIFE
APERTURE
f/1.8 f/2.8 f/4 f/5.6 f/8 f/11 f/16 f/22
SHALLOW DEPTH OF FIELD
BOKEH
ALLOWS MOST LIGHT IN
SHARPEST APERTURES
DEEP DEPTH OF FIELD
MORE OBJECTS IN FOCUS
SHARPER BACKGROUNDS
ISO
100 200 400 800 1600 3200 6400
SUNNY DAY
OUTDOORS
EVERYDAY USE
DAWN
TWILIGHT
NIGHT PHOTOGRAPHY
ASTRO-PHOTOGRAPHY
LOW LIGHT
EXPOSURE
UNDER EXPOSED
PERFECT
OVER EXPOSED
COMPOSITION
RULE OF THIRDS
LANDSCAPES:
-PLACE HORIZON ALONG ONE OF THE HORIZONTAL LINE FOR BALANCE
PORTRAIT/OTHER
-PLACE OBJECTS OF INTEREST OFF CENTRE AT ONE OF THE JUNCTIONS MARKED WITH SMALL SQUARES
RULE OF PHI
THIS RELATES TO THE MAGICAL FIBONNACCI SPIRAL YOU BEGIN WITH THE RULE OF THIRDS AND THEN CHANGE UP THE COMPOSITION BY PLACING FOCUS INTO ONE OF THE AREAS. MANY FAMOUS IAMGES FROM THE PAST USE THIS RULE AND IT WILL DRAMTICALLY IMPROVE YOUR WORK.
Cheat Sheet courtesy of www.lukezeme.com ©
feel free to print and share this.

In The Field

Keep a checklist that you can refer to before recording.

Use a tripod. If you must shoot handheld (not recommended when first starting), try and steady your arms on something to minimize shakiness.

Make sure you have extra of everything: batteries, memory cards, etc. Make sure there's enough space or fully charged.

TAKE NOTES! If there are multiple takes of the same thing, mark which one was the best. Write down the content of each shots. This will be helpful for post-production.

Audio

Good Audio? Bad Audio?

People will forgive mediocre or bad visuals.

They will not forgive bad audio!

Tascam DR-40 Field Recorder

Tascam recorders operate on batteries and are designed to be portable, so it is adequate to be used outdoors, such as for capturing ambient sound.

Tascam recorder saves on to an SD card, and the card is ejectable to be plugged into your computer for file transfer.

Tascam recorders have 2 internal microphones, but it is also possible to connect up to two external microphones.

Tascam DR-40 Field Recorder

MONO - one microphone

Options:
Internal Microphone
External Line 1 (= Left)

STEREO - left and right channel (2 microphones)

Options:
Internal Microphone
External Line 1 / 2 (Both Left and Right)


TASCAM
DR-40 LINEAR PCM RECORDER
00:00:00
TRACK/INPUT
1/2
3/4
HOME
PLAY
REC MODE
RECORD

Pre-recording Checklist (1)

- Format SD card
  - MENU > OTHERS > SYSTEM > QUICK FORMAT
- Check battery levels
- Check file format (16-bit 44.1hz WAV)
  - MENU > REC SETTING
- Input level at 80 (adjust if needed)
  - INPUT LEVEL buttons on the left side of Tascam
- Hold is set to "off"
  - HOLD button on the left side of Tascam

Pre-recording Checklist (2)

- Connect / Wear headphones
  - LINE OUT jack on the left side of Tascam
- Set to standby mode and check the levels
  - Press RECORD button once and see blinking light
- Record 5 -10 seconds of "room tone"
  - Room Tone: The silent state of the recording space
  - Record before and after the desired sound
  - For using as silence gaps and noise reduction

Steps of Recording with Tascam

1. Press POWER button
2. Review Settings
3. Press RECORD (standby mode)
4. CHECK LEVELS !
5. Press RECORD again
6. Press STOP to finish

Levels

Too much sound (loud) / Peaking = Distorted sound information

To Adjust:

- Move microphone physically closer
- Adjust INPUT LEVEL

Vocal Microphone

Vocal Microphone is good for recording speech or vocals. This is a standard microphone that you would see on stage, interviews and karaoke.

When you are using the vocal microphone with Tascam field recorder, please make sure that the External In (EXT IN) setting is set to MIC and Record Mode (REC MODE) is set to MONO with EXT LINE 1.

Shotgun Microphone

Shotgun Microphone is good for recording focused sounds in surroundings, both indoor and outdoor. It provides the narrow acceptance angle desirable for long-distance sound pickup, featuring sound rejection from the sides and rear of microphone.

Shotgun Microphone operates on battery or phantom power. When using with Tascam recorder, make sure that the External In (EXT IN) setting is set to MIC + PHANTOM before connecting the microphone.

Set External In (EXT IN) to MIC + PHANTOM BEFORE connecting the microphone.

Audio Recording when shooting

Use the Tascam field recorders and mics simultaneously with the DSLRs, because the audio on the DSLRs is not great.

However, DO still record audio from the DSLR, because this will help you sync things up in post production.

Audio Recording Tips

Room tone. Capture 10-20 seconds of silence in the room before or after takes.

Always have one person monitoring audio

Watch out for loud noises: airplanes, traffic, loud music. Hold off on recording until they pass (unless it's deliberate).

Clap to sync audio on camera with audio recorder!

Clap to sync audio!

For Tomorrow

Prepare to share your final project idea with the class using your storyboards.