

COURSE WORKBOOK:

Photography Masterclass: A Complete Guide to Photography



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WELCOME TO THE COURSE

SECTION: INTRODUCTION

- [Welcome to the Course](#)
- How Does a Camera Work?
- IMPORTANT: Know Your Lecture Types

Space for your personal notes:

Course goal 1:

To help you take better photos and feel comfortable using your camera.

Course goal 2:

To help you learn how to make money with your photography skills.

Course overview:

- Using your camera
- Composition
- Camera anatomy
- Focus and lighting
- Mobile photography
- Purchasing camera gear
- Photography styles
- Photo editing
- Sharing photos
- Making money

HOW DOES A CAMERA WORK?

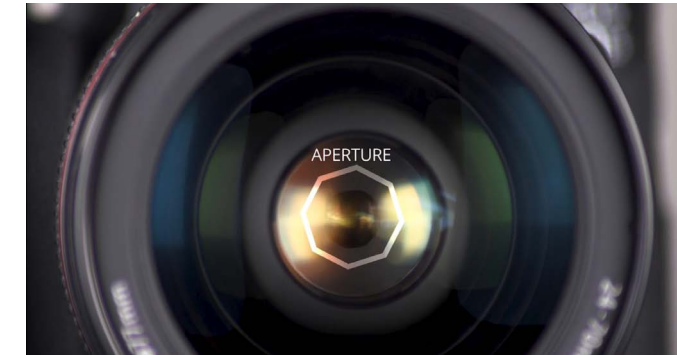
Core of photography is about capturing light.

SECTION: INTRODUCTION

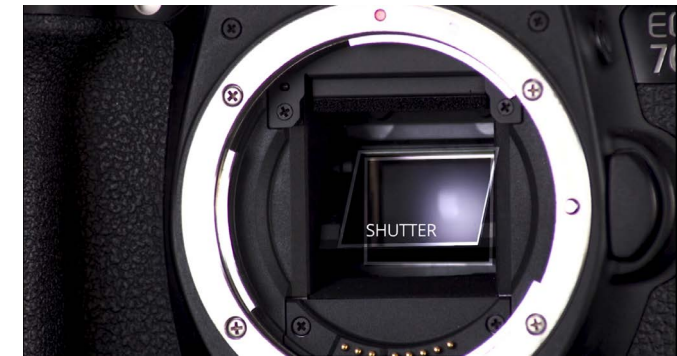
- Welcome to the Course
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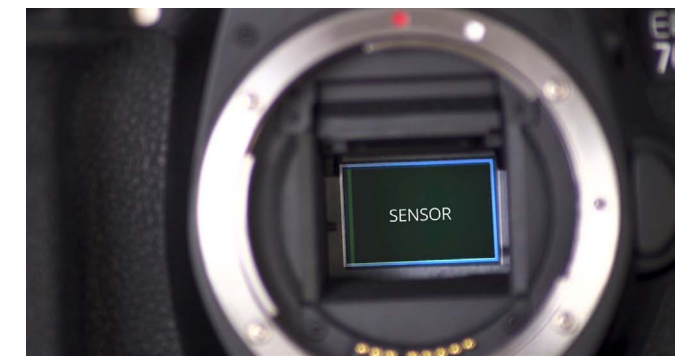
- the light goes into the camera through the lens which has an aperture inside - it opens and lets light go inside.



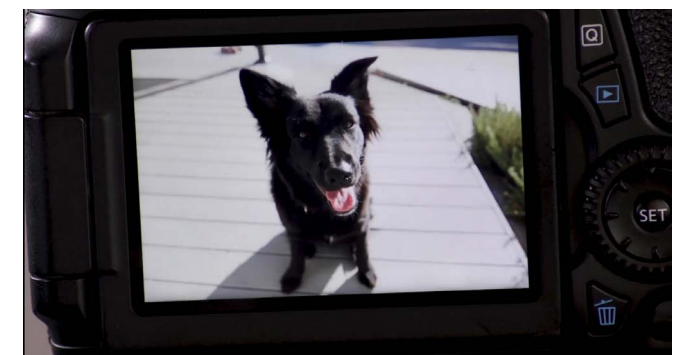
- the light passes through the camera shutter



- the light hits your camera's sensor



- there is digitally captured and saved as an image



SECTION: EXPOSURE

SECTION: EXPOSURE

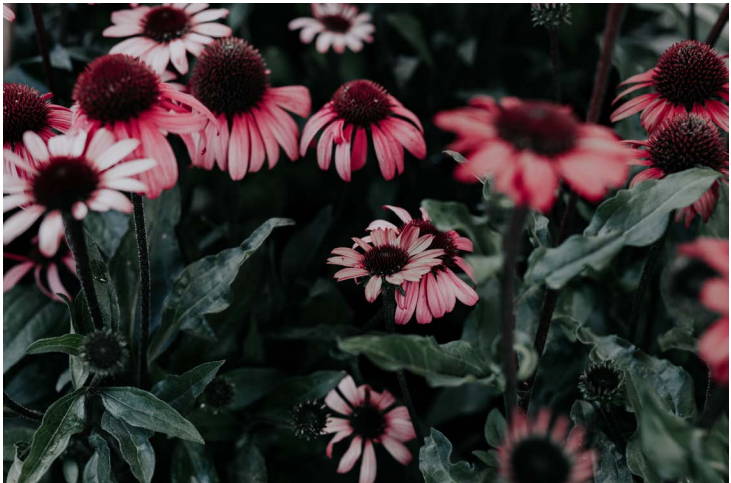
- *What is exposure?*
- What is Aperture?
- VISUAL GUIDE: Aperture Chart
- What is Shutter Speed?
- What is ISO?
- The Exposure Triangle
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- Get More Photography Resources & Tips
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- Supplemental Materials

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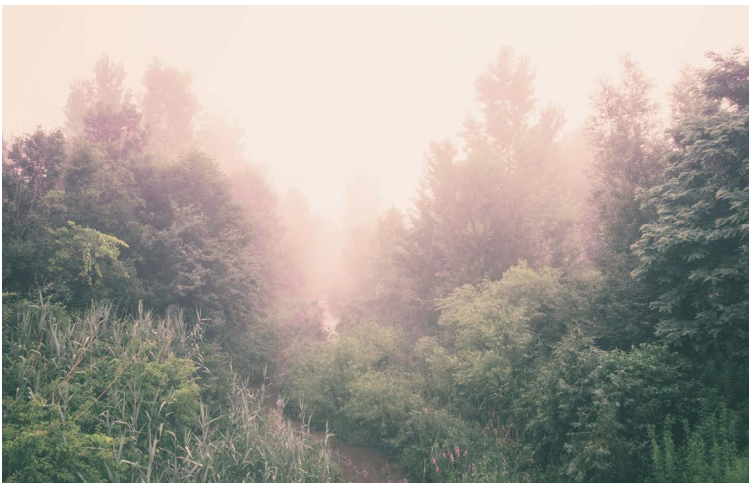
WHAT IS EXPOSURE?

Exposure is the amount of light which reaches your camera sensor or film. It is a crucial part of how bright or dark your pictures appear.

- **underexposed photo**
 - › a photo that is too dark
- **overexposed**
 - › a photo that is too bright
- **properly exposed**
 - › photo that looks natural



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EXPOSURE IS A BALANCE OF LIGHTING AND SETTINGS

YOU CAN ADJUST EXPOSURE WITH YOUR CAMERA USING:
APERTURE, SHUTTER SPEED, ISO

SECTION: EXPOSURE

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WHAT IS APERTURE?

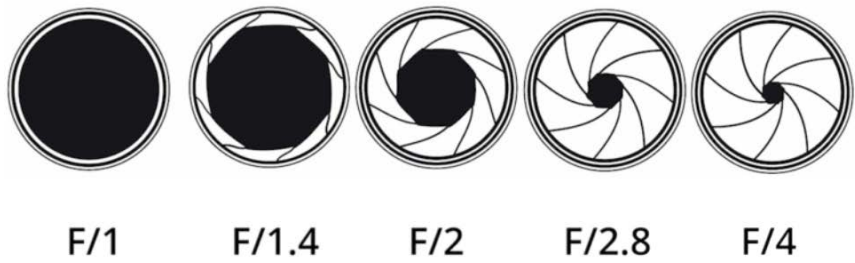
Aperture is a hole or an opening through which light travels.

- increasing (opening-up) the size of the aperture makes your image brighter
- decreasing the size of the aperture makes your image darker

The F-stop or F-number is a scale that represents the size of the aperture.

- the smaller f-number = the larger aperture
- the larger f-number = the smaller aperture

F-STOP SCALE



- not all lenses can adjust to all aperture
- adjusting the aperture depends on the camera you are using - see also section camera anatomy section

kit lens

- is the lens that usually comes with the camera when purchased
- it's aperture might not open to wider f-numbers

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WHAT IS APERTURE?



- aperture also affects other things like depth of field - see also depth of field section of the course

Depth of field is the distance between the nearest and the farthest objects that are in acceptably sharp focus in an image.

- a wide open aperture has a shallower depth of field = a smaller sliver of your scene is in focus (perfect for portraits)
- a smaller aperture has a deeper depth of field (perfect for landscape photography)

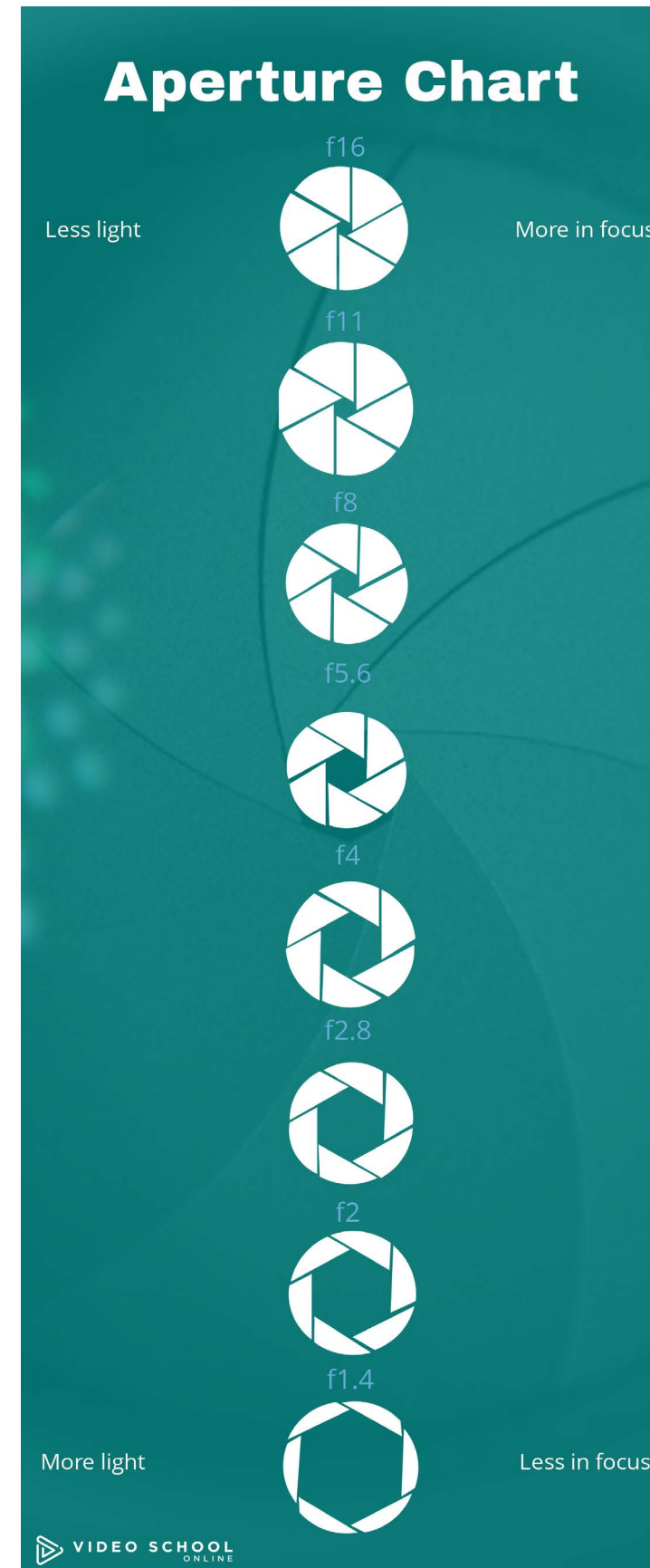


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VISUAL GUIDE: APERTURE CHART



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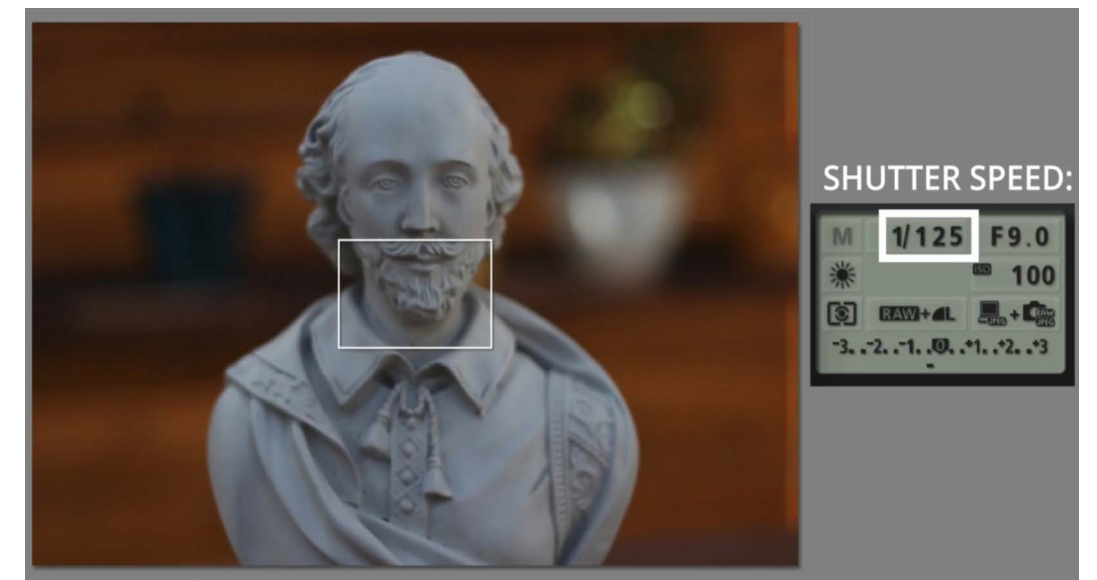
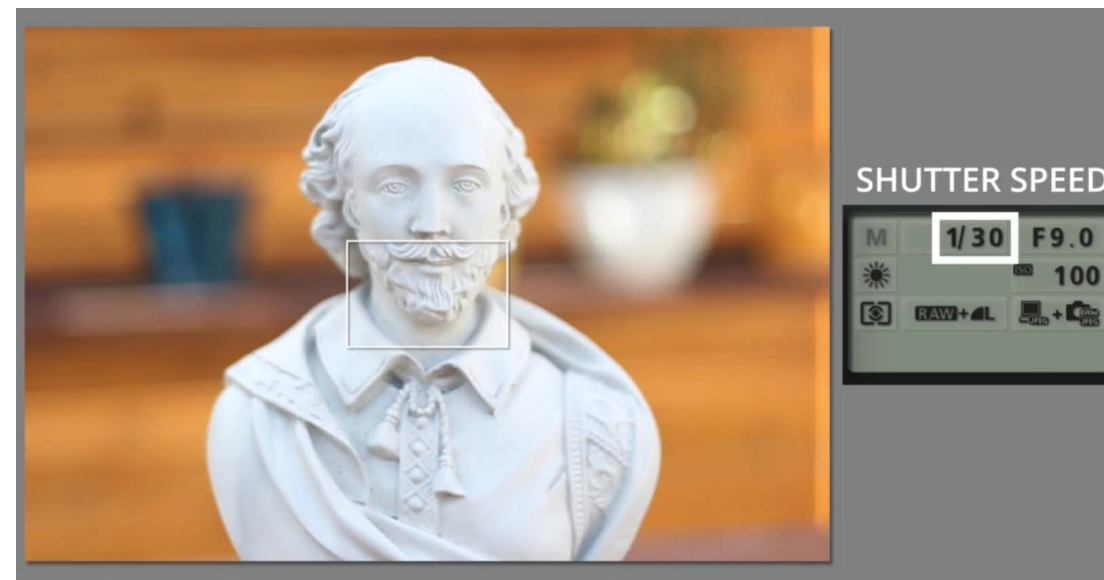
WHAT IS SHUTTER SPEED?

Shutter is a device through which the lens aperture of a camera is opened to admit light and thus expose the film (or the electronic image sensor of a digital camera). Adjustable shutters control exposure time, or the length of time during which light is admitted.

- camera only needs to capture a fraction of a second in bright light - 1/30, 1/60, 1/125, 1/8000

Shutter speed or exposure time is the length of time when the film or digital sensor inside the camera is exposed to light, also when a camera's shutter is open when taking a photograph.

- the faster shutter speed = the less light is let in
- similar to aperture, there will be a dial that adjusts the shutter speed and you have to find that for your particular camera model



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WHAT IS SHUTTER SPEED?

- camera shake comes from the movement of your hands while holding the camera
- if you are photographing a moving object, , you will need a faster shutter speed to freeze that
- use a tripod to prevent camera shake when using a longer shutter speed



@scottwebb

PHOTO TIP

A BEGINNERS GOAL: RETRY SHOOTING AT LEAST AT 1/80 OR 1/100 TO REDUCE CAMERA SHAKE

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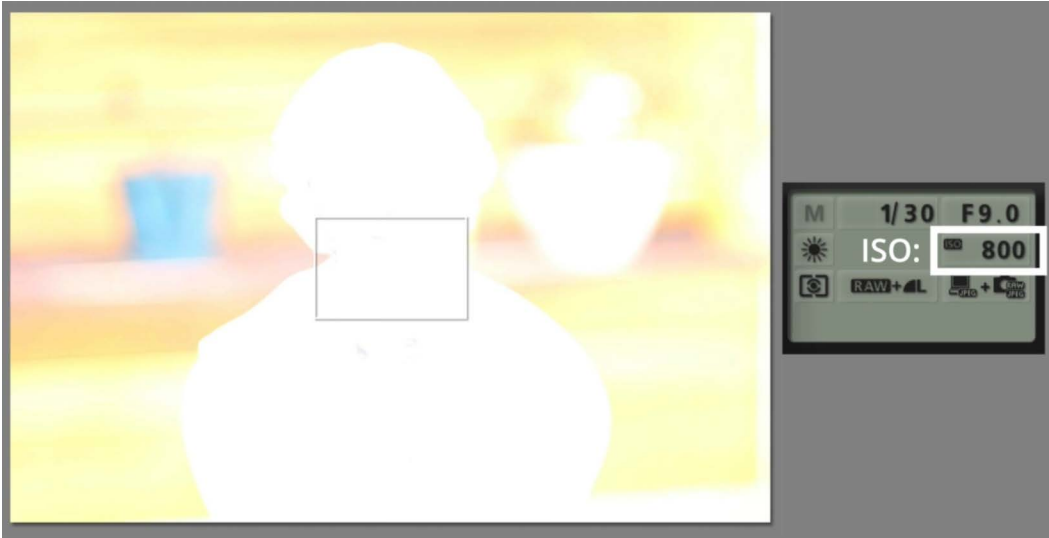
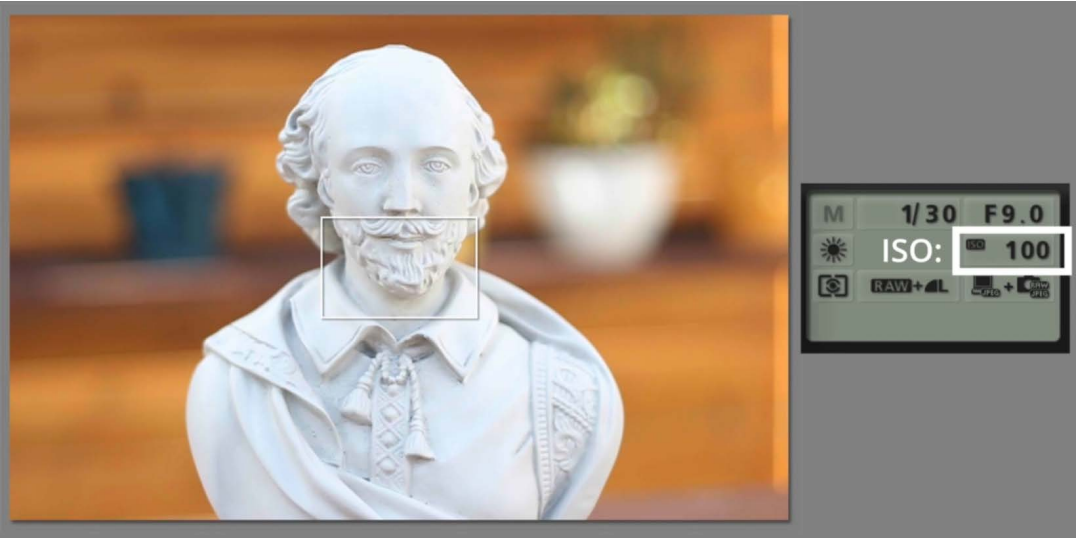
WHAT IS ISO?

ISO is the light sensitivity of either the film or imaging sensor.

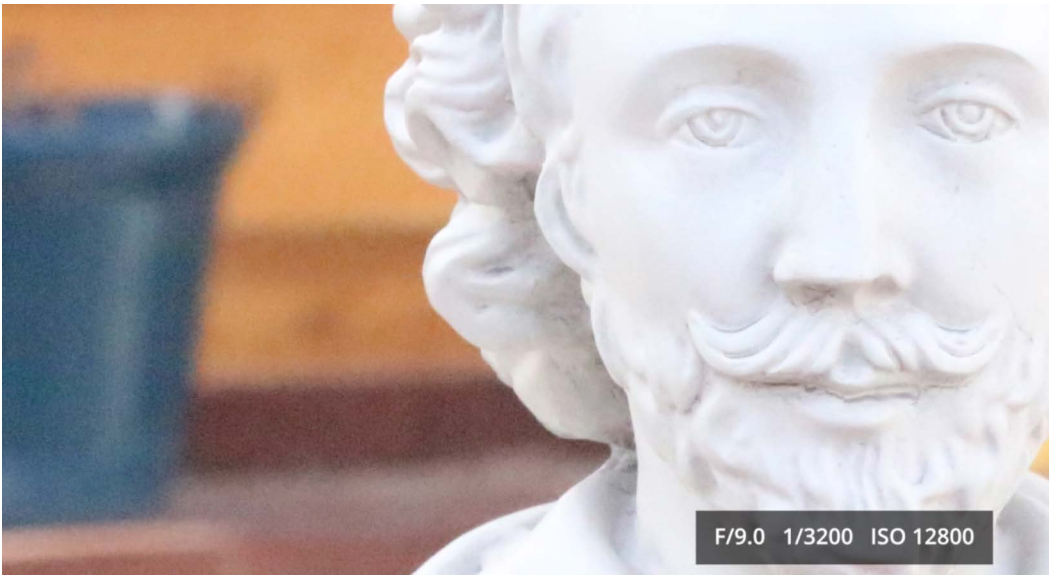
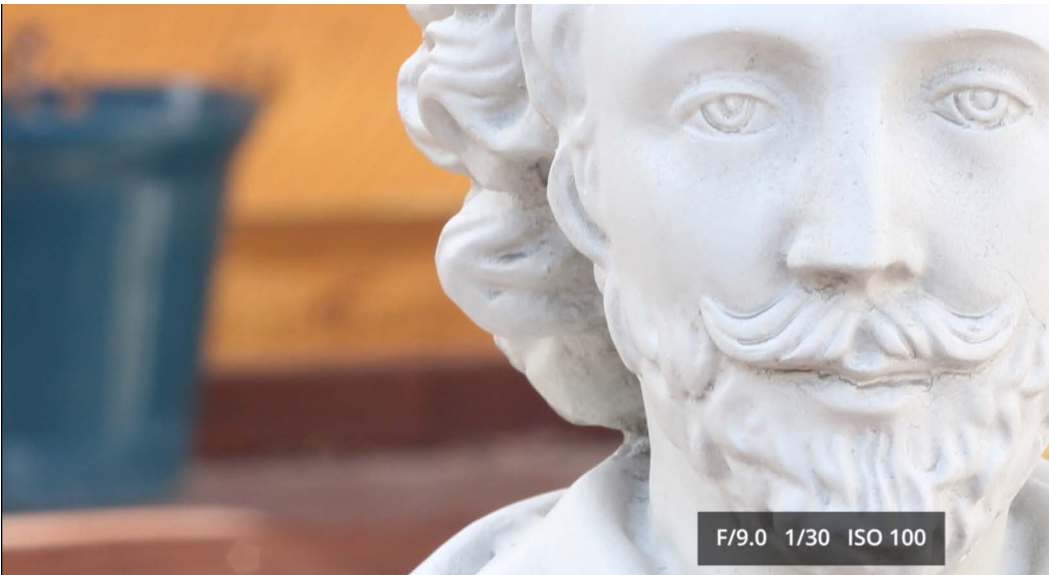
- increasing the ISO increases exposure
- decreasing ISO decreases exposure
- increasing the ISO doubles the sensitivity of your camera

ISO SCALE

100, 200, 400, 800, 1600, 3200, 6400...



- increasing the ISO too much can lead to digital noise/grain



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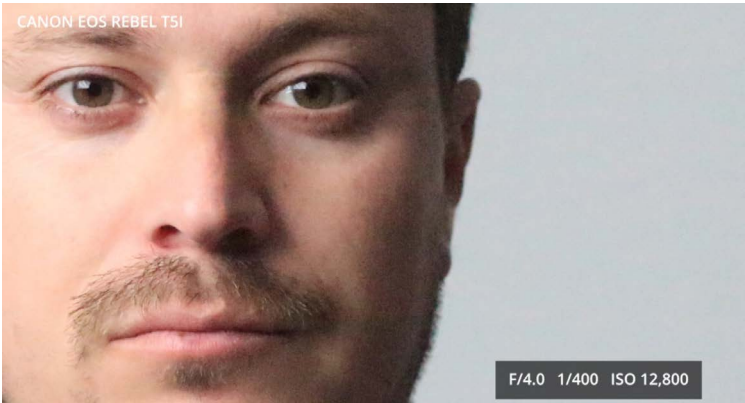
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WHAT IS ISO?

PHOTO TIP

ON MOST ENTRY-LEVEL CAMERAS, WE RECOMMEND STAYING BELOW ISO 1600

- the best reason to invest in a better camera is the ability to shoot in low-light situations without having to use artificial lighting



Base ISO is the lowest ISO setting on a particular camera that does not digitally increase exposure (mostly 100)

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WHAT IS EXPOSURE TRIANGLE?

The exposure triangle is a common way of associating the three variables that determine the exposure of a photograph: aperture, shutter speed, and ISO. One must balance all three of these to achieve a desired result, an adjustment of one requiring adjustments of at least one of the others.



f/7.1 1/250 ISO 100

1) settings starts typically with ISO 100 - during the sunny day (or base ISO)



f/4.0 1/250 ISO 100

2) too dark - opening the aperture (I would not mind shallower depth of field)



f/7.1 1/80 ISO 100

3) still too dark - dropping down the shutter speed (subject is not moving)

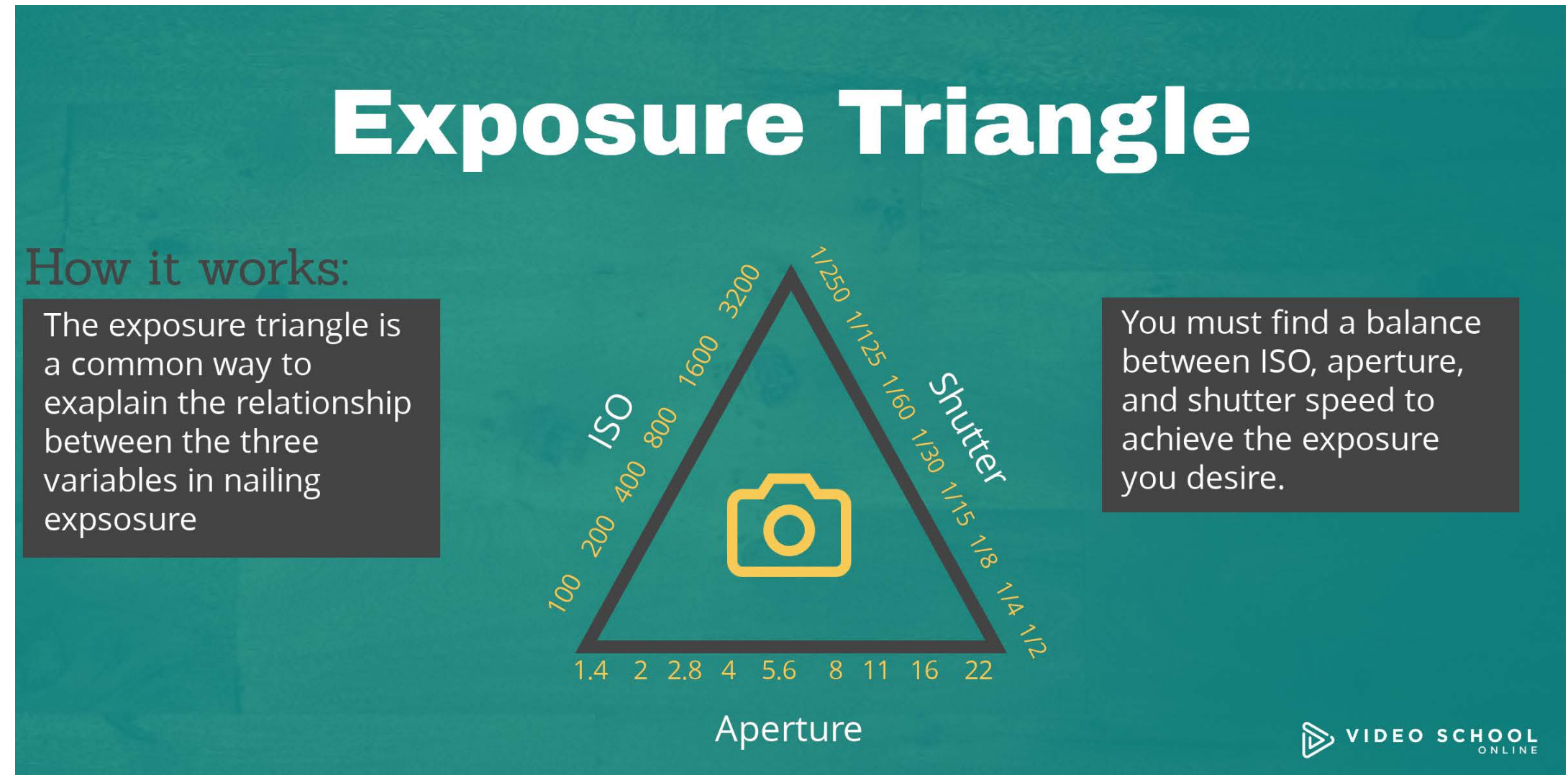
I started with my base ISO of 100, then adjusted F-stop, then shutter speed

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VISUAL GUIDE: EXPOSURE TRIANGLE




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GET MORE PHOTOGRAPHY RESOURCES &TIPS

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Start Here

Video

Photo

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Resources

LOGIN

Equipment We Use and Recommend

CAMERAS:

- [Canon C100 Mark II](#) – cinema camera
- [Sony A7S ii](#) – mirrorless
- [Sony F5](#) – professional
- [Canon 5D Mark iii](#) – professional DSLR
- [Canon 70D](#) – prosumer DSLR

LENSES:

- [Canon 24-70 L-Series](#)
- [Canon 70-200 L-Series](#)
- [Canon 50mm](#)
- [Canon 10-18mm Wide](#)
- Lens filters – I use Tiffen brand UV filters to protect his lenses.

TRIPODS+

- [Fancier Fluid Head Trinpod](#)

AUDIO EQUIPMENT:

- [Zoom H6N Recording Device](#)
- [Zoom H4N Recording Device](#)
- [Rode VideoMic Pro On-board Microphone](#)
- [Rode NTG3 Shotgun Microphone](#)
- [Sennheiser G3 Wireless Set](#)
- [Rode smartLav+ for Smartphones](#)
- [Heil PR-40 for Voice Over / Podcasting](#)
- [Pyle Boom Arm with ShockMount](#)
- [Pop Filter by Dragonpad](#)
- [Boom Pole](#)
- [C-stand & Boom Pole Holder](#)

PROFESSIONAL LIGHTING KITS:

- [Dracast 4-Light LED Kit](#) – my new kit that I love
- [Litemat Kit](#) – professional bi-color dimmable lights
- [Kino Flo 2-Light 4-bank Kit](#)

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EXPOSURE ACTIVITY

Take 3 photos in 3 different locations.

Use the manual settings on your camera to exposure properly

Do not edit these photos, just post the unedited photos to this assignment. Use the JPEG setting on your camera (not RAW) so you can easily upload your photos here on Udemy. RAW photos can’t be uploaded here.

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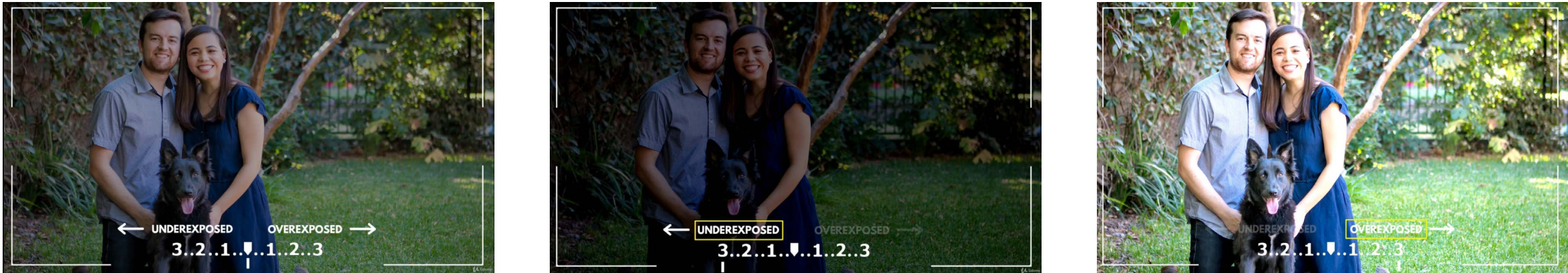
EXPOSING WITH YOUR CAMERA’S LIGHT METER

A light meter is a device used to measure the amount of light. A light meter is used to determine the proper exposure for a photograph.

- you can find it in the viewfinder of your camera, in the display near the shutter release button or on the back screen of your camera
- scale at the bottom goes from negative numbers to positive number (usually -3/+3)

PHOTO TIP

A BEGINNERS GOAL: ADJUST YOUR SETTINGS SO THE METER IS READING “0” IN THE CENTRE OF THE SCALE



- the numbers of the scale signifies how many “stops” of light are under- or over-exposed
- by changing the aperture, shutter speed and ISO you can set proper exposure (the line will move to the middle of the scale)

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ADVANCED: METERING MODES

The metering mode refers to the way in which a camera determines exposure.

- most cameras have three options (metering modes)

matrix/evaluative

- (standard setting on most DSLR and mirrorless cameras)
- the camera reads exposure from all areas of the frame



- use matrix/evaluative metering when shooting in diverse lighting situations

spot metering

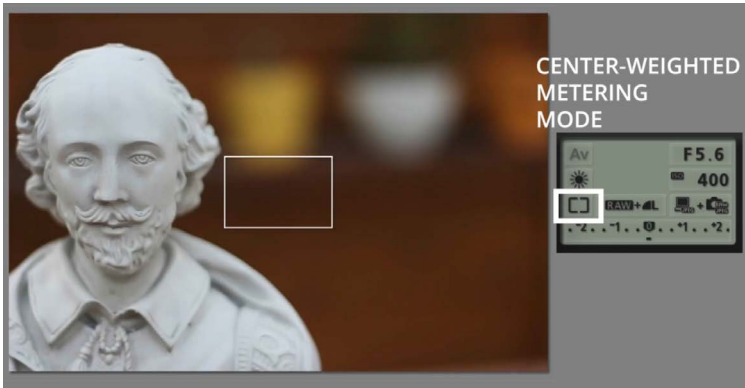
- the camera reads exposure from a single focus point



- use spot metering when photographing small subjects in a frame with contrasting light

center-weighted metering

- the camera reads exposure from the centre of your frame & the surrounding area



- use when you know the subject will be in the centre of frame

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ADVANCED: EXPOSURE COMPENSATION

Exposure compensation is used to alter exposure from the value selected by the camera, making photographs brighter or darker.

In Aperture priority mode

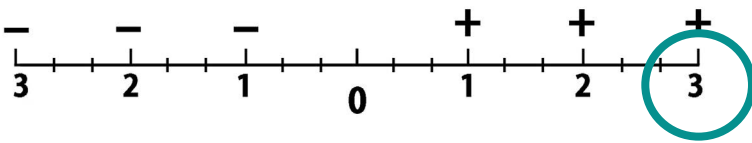
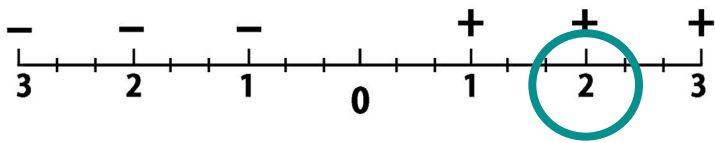
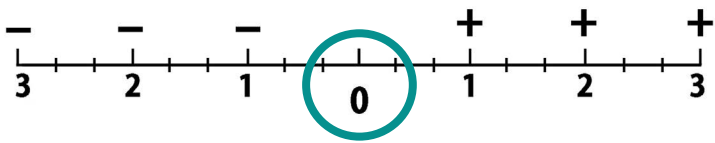
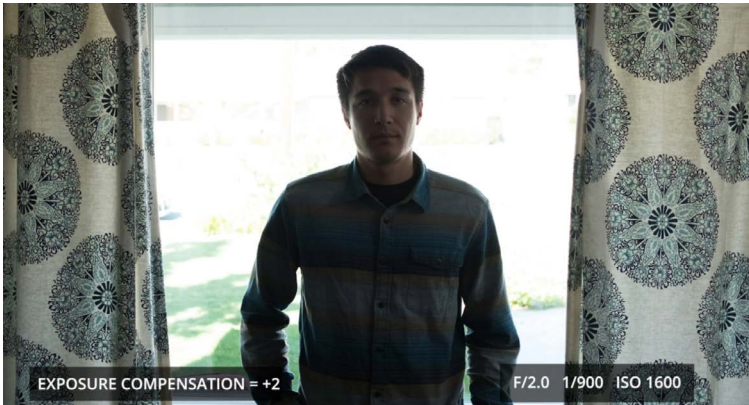
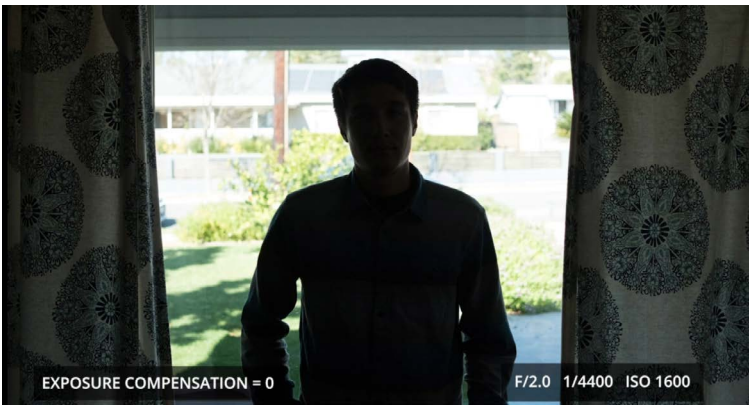
- exposure compensation changes the shutter speed

In shutter priority mode

- exposure compensation changes the aperture

- see also Camera exposure modes in this section

- example in aperture priority mode - changing exposure compensation



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CAMERA EXPOSURE MODES

!not all camera will have every type of mode

auto mode

- camera adjusts to expose properly for you
- camera sets ISO, shutter, aperture &flash settings
- use the auto mode when you don’t know how to adjust settings manually

exposure modes (PASM):

program,
aperture priority,
shutter priority,
manual

aperture priority mode

- you select aperture &ISO, camera selects shutter speed
- use aperture priority mode when you know exactly what f-stop you want to use
- Av, Ap, A...

shutter priority mode

- you select shutter speed &ISO, camera selects aperture
- use shutter priority mode when shooting sports or when you need a specific shutter for your style
- Tv, S, Sp...

program mode

- a semi-automatic mode that adjusts settings based on your other choices
- you can change either the aperture or the shutter, and it will adjust accordingly the other one
- P

manual mode

- you select shutter speed, aperture, ISO & flash
- M

- remember, you can use exposure compensation to adjust your photo’s brightness in the automatic modes
- see exposure compensation in this section

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ADVANCED: DYNAMIC RANGE

Dynamic range in photography describes the ratio between the maximum and minimum measurable light intensities (white and black, respectively).

- low dynamic range = low contrast
- high dynamic range = high contrast

HDR photography is a photo technique combining multiple exposures into one image.



@sumnerm



@mikepetrucci

- a better camera sensor generally means the ability to capture a higher dynamic range

PHOTO TIP

SHOOTING IN RAW MODE TO CAPTURE MORE INFORMATION (A HIGHER DYNAMIC RANGE) - SEE MORE IN CAMERA ANATOMIC SECTION

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ADVANCED: HDR AND BRACKETING

Exposure bracketing is taking multiple shots of the same image, in order to find the optimum single shot for the exposure.

- HDR is a post processing technique, while bracketing is the shooting technique that makes it possible.
- take two or more photos, each exposing to the highlights & the shadows
- use a tripod
- edit - see more in the editing section of the course



exposed to shadows



exposed to background



edited

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READING EXPOSURE WITH THE HISTOGRAM

The histogram is a graph that shows you the exposure of every part of your frame.

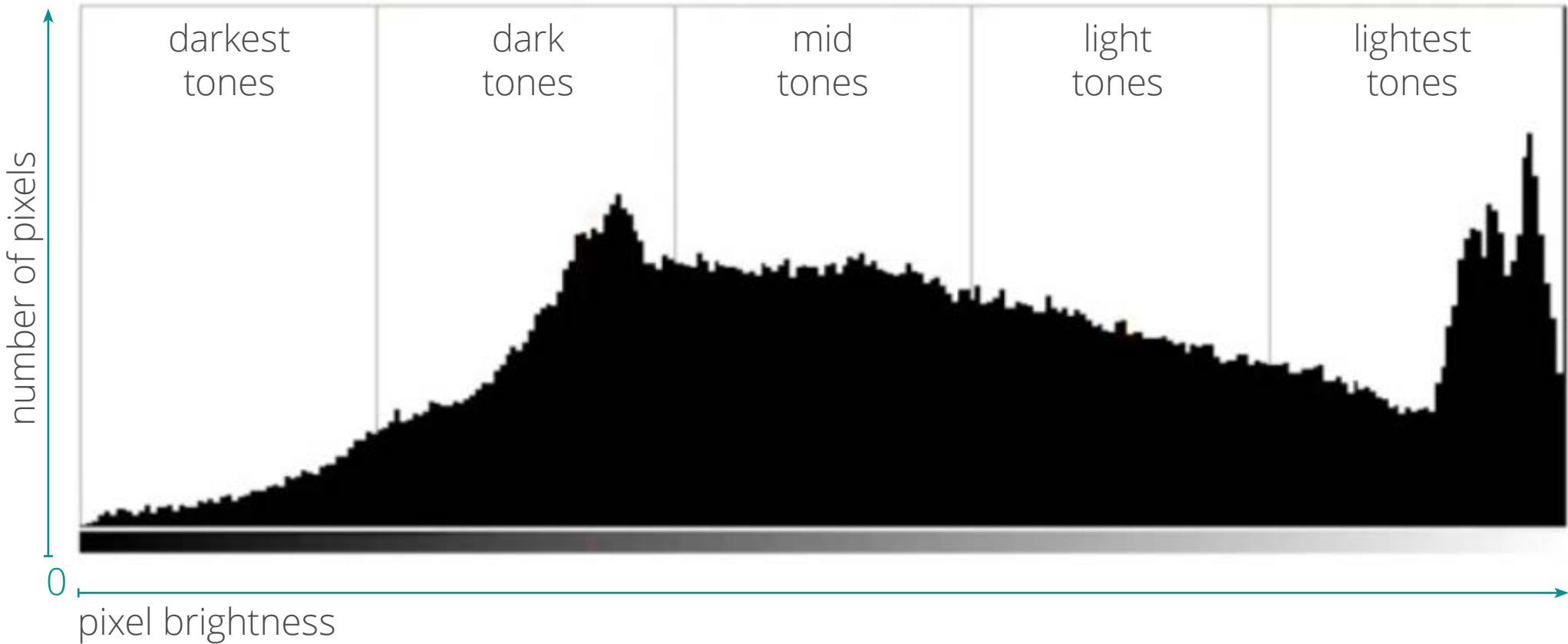


PHOTO TIP

A BEGINNERS GOAL: GET A NICE EXPOSURE BY HAVING A GOOD MEDIUM FAT GRAPH IN THE MIDDLE BETWEEN YOUR SHADOWS AND YOUR HIGHLIGHTS.

SECTION: EXPOSURE


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VISUAL GUIDE: HISTOGRAM

Histogram Explained

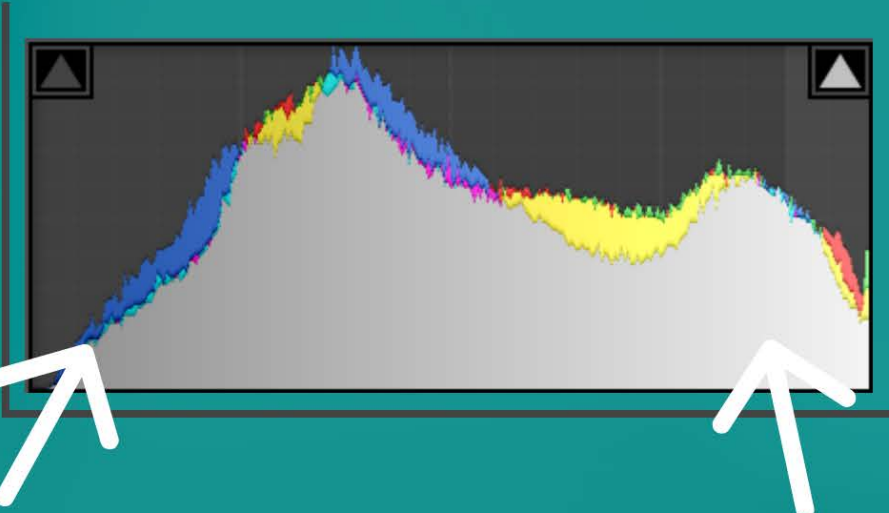

Under exposed



Over exposed



Correctly exposed



Blacks/ Shadows

Whites/ Highlights

Definition: A histogram is a graphical representation of the exposure values of your image. It can also include color and tonal values.

VIDEO SCHOOL ONLINE

SECTION: EXPOSURE

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ADVANCED: WHAT IS AN EXPOSURE STOP

A stop is a doubling or halving of the amount of light let in when taking a photo.

- increasing by 1 stop = 2x the light
- decreasing by 1 stop = 1/2 the light

example **aperture:** F/16 to F/22 = -1stop



example **shutter speed:** 1/125to 1/60 = +1stop



example **ISO:** 100 ISO to 50 ISO = -1 stop

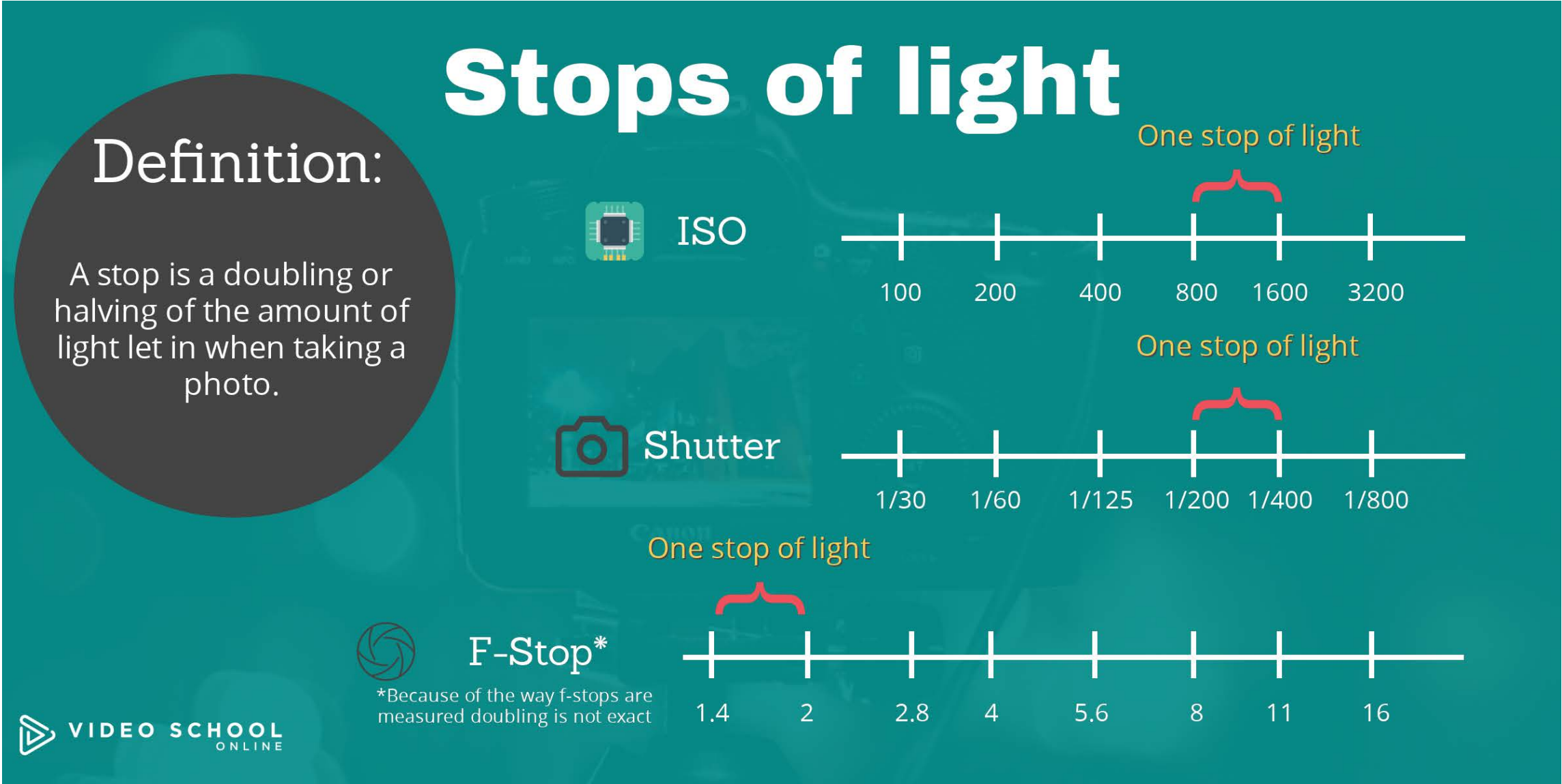


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VISUAL GUIDE: STOPS OF LIGHT



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SUPPLEMENTAL MATERIALS

Supplemental Materials

Below, you'll find links to helpful resources that further explain the concepts learned in this section about exposure.

- [Understanding Aperture](#)
- [Understanding Shutter Speed](#)
- [Understanding ISO](#)
- [The Exposure Triangle](#)
- [Depth of Field](#)
- [How to Get Creative with Underexposing and Overexposing](#)
- [Understanding Your Camera Modes](#)
- [Low Light Photography Tips](#)

SECTION: COMPOSITION

COMPOSITION

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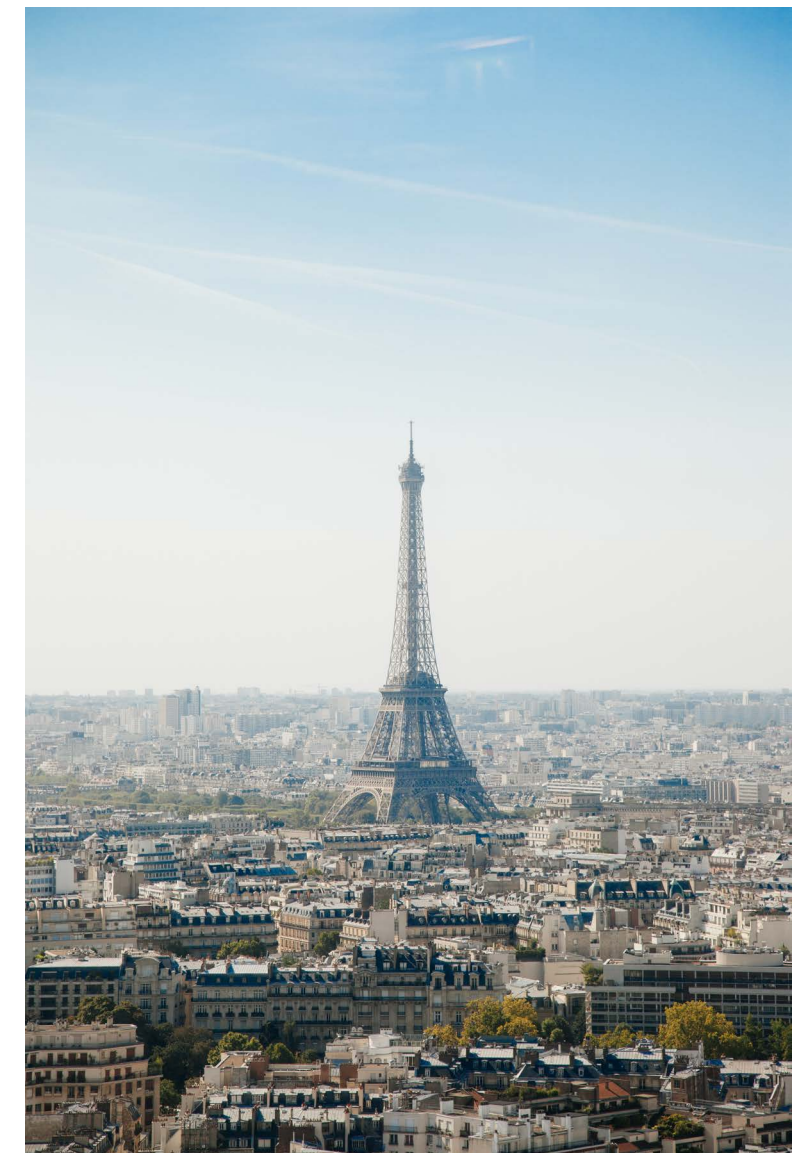
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Composition can be defined as positioning the objects in the frame. It is what guides our eyes through a photograph and gives importance to the subject in relation to the rest of the photo.

- can dramatically change how a viewer sees your photo
- influenced by angle, perspective, size, position
- rules/styles/compositional techniques



@anthonydelanoix



@nilcaste

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THE RULE OF THIRDS

The Rule of Thirds is a compositional rule that involves mentally dividing up your image using 2 horizontal lines and 2 vertical lines. You then position the important elements in your scene along those lines, or at the points where they meet. A rule of thirds grid.



- placing the horizon perfectly straight along the bottom or top line is a good rule of thumb
- can create a pleasing balance that is more natural and visually appealing for your viewer to look at

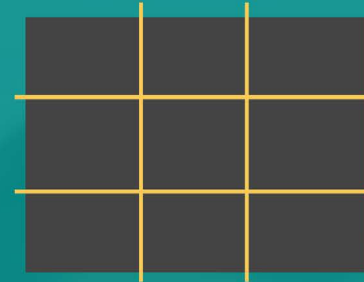
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VISUAL GUIDE: THE RULE OF THIRDS

The "Rule of Thirds"



The rule of thirds is applied by aligning a subject near the guide lines and their intersection points, placing the horizon on the top or bottom line, or allowing linear features in the image to flow from section to section.

EXAMPLES:

Portrait



Landscape



Architecture



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PRO TIP: THE GOLDEN RATIO

The Golden Ratio is a slightly more complex rule of composition than The Rule of Thirds. The rule involves mentally overlaying your image using spiral. Place your focal point to the centre of the spiral and move around your image in a more circular movement.

- “Fibonacci” spiral
- your viewer’s eye is almost always brought back to that main point in the image
- more complex and interesting images
- more dynamic composition and using the whole frame to focus on your main subject.



@knation



@jefflssantos

SECTION: COMPOSITION

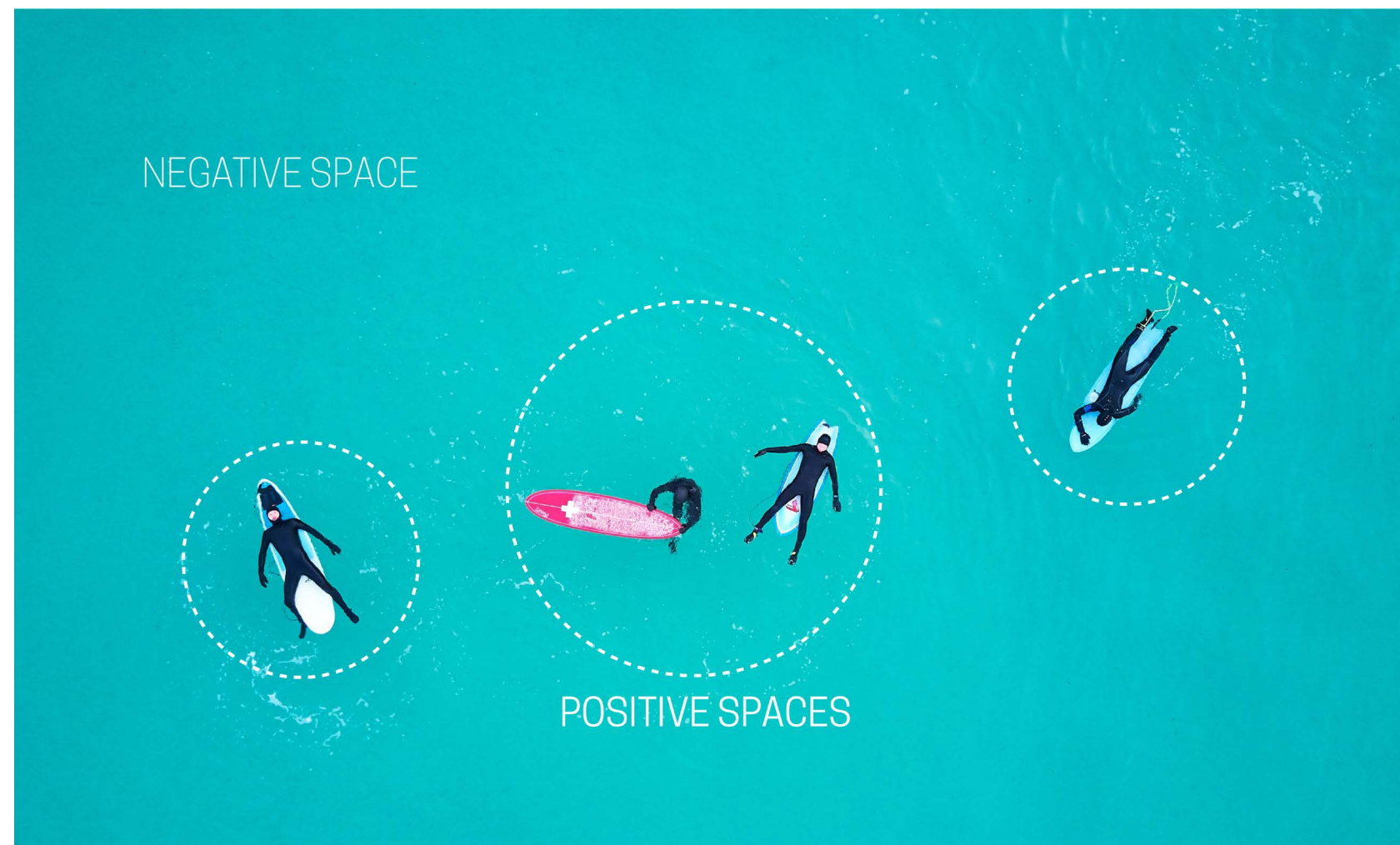
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NEGATIVE SPACE

Negative space is the area surrounding the main subject in a photograph which is left unoccupied. It is a compositional style, where a subject is without a lot of distractions and can draw attention.

- space take up by subject is a positive space
- this composition can make a subject feel small or perhaps more significant



@johnnygoerend

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LEADING LINES

Leading lines refers to a technique of composition where the viewer of your photos attention is drawn to lines that lead to the main subject of the image. A leading line paves an easy path for the eye to follow through different elements of a photo.

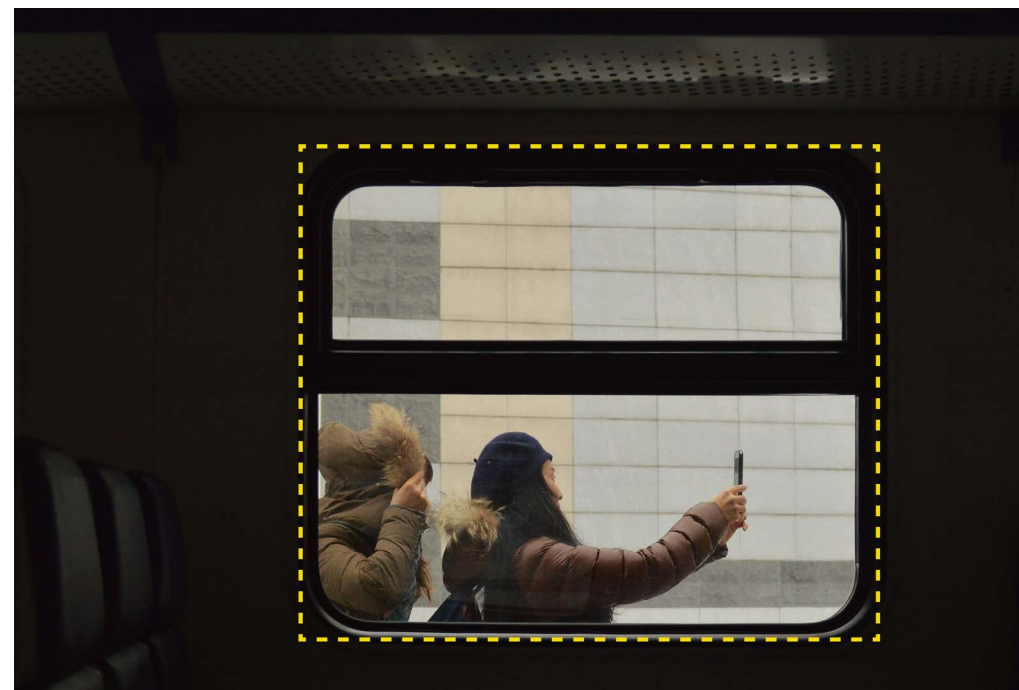
- the lines lead towards something (a subject or even just to the distant abyss)



@john_visualz

A framing object refers to anything in the scene that can be used to form a visual frame around the subject or focal point.

- could be window or door or natural lines



@lina_yatse

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Space for your personal notes:

BALANCE & SYMMETRY



@ajgarcia

Balance is a compositional technique in photography that juxtaposes images within a frame so that the objects are of equal visual weight.

- level horizons and objects that are visually balanced in the frame
- or the size and number of objects in your scene
- or colours
- it is not necessarily the right thing to do - it just creates a more visually peaceful image

Symmetry is a balance where the top and bottom or left and right side of your photo are visually similar or even identical.



@dbow22

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ASSIGNMENT: COMPOSITION ACTIVITY

Compose a subject in 3 different composition styles.

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Space for your personal notes:

PERSPECTIVE & ANGLE

Focal Length

- the distance between the camera sensor and the lens's optical centre (where light rays converge)
 - › the smaller focal length = the wider lens
 - › the higher focal length = the more telephoto lens

Lenses

- **zoom lens:**
 - › can shoot at multiple focal lengths (e.g. 24mm - 70mm)
- **prime lens:**
 - › can shoot at only one focal lengths (e.g. 55mm)
- **wide (angle) lens:**
 - › less than 35mm
 - › great for photographing wide expanses and landscapes
- **telephoto lens:**
 - › medium telephoto lens (70-300mm), super telephoto lens (300+mm)
 - › great for photographing detailed and close-up shots

Perspective in photography can be defined as the sense of depth or spatial relationships between objects in the photo, along with their dimensions with respect to the viewpoint (camera lens or the viewer).

Angle is the degree at which the camera faces the subject.

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Space for your personal notes:

PRO TIP

CHANGE UP YOUR ANGLE.
DO NOT ALWAYS SHOOT FROM EYE-LEVEL.

PERSPECTIVE & ANGLE

- **exaggerated perspective:**
 - › when close up objects appear even larger than further ones (using wide lens for photographing close objects)
- **compressed perspective:**
 - › when distant and close objects appear more similar in size (using telephoto lens)



WIDE LENS



TELEPHOTO LENS



SECTION: COMPOSITION

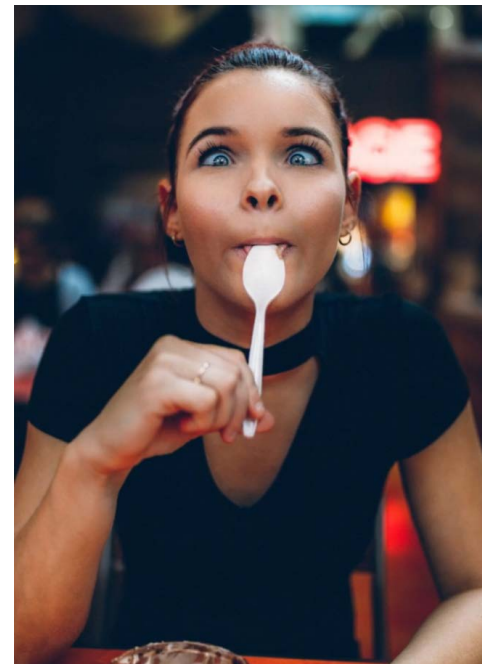
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Space for your personal notes:

BACKGROUNDS

Eliminate distractions in your background when the subject is the main focus:

- look for bright spots or distracting colours
- look for lines protruding from your subject
- make sure the horizon does not cut through your subject's head
- create separation between the subject and background
 - › by subject going walking further away from the background
 - › by dropping f-stop to get blurrier background - see also lesson about depth of field
- be aware of what the background can say about the subject
 - › different locations and textures can create different moods



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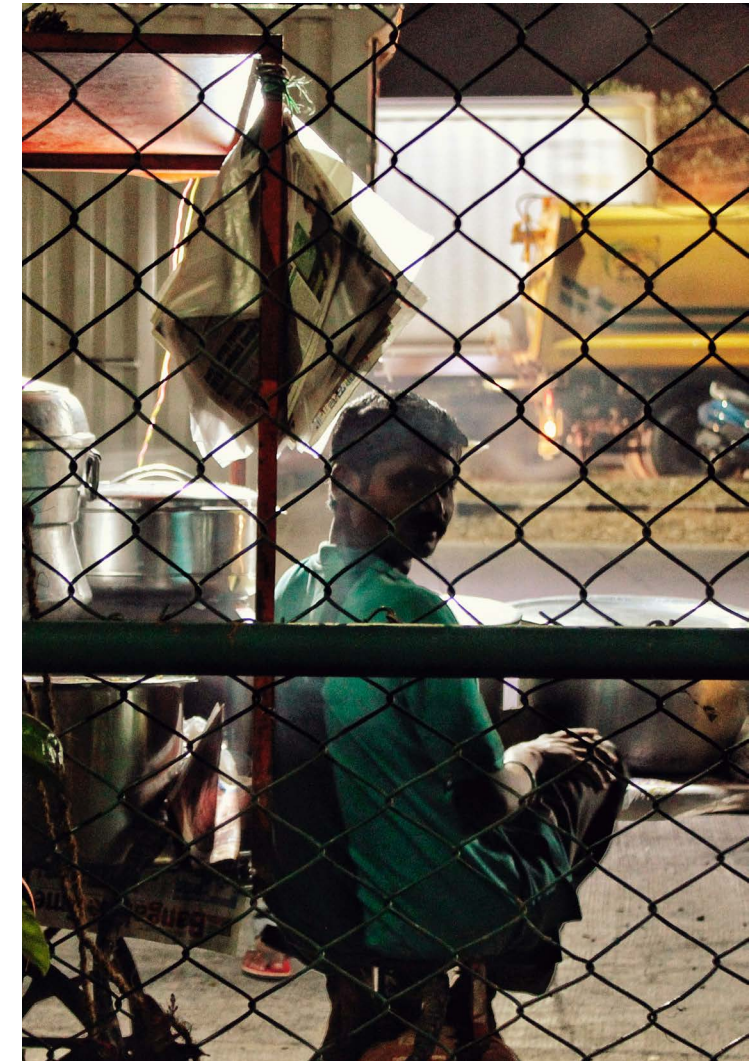
PRO TIP: CREATE DEPTH WITH LAYERING

Photos are a two-dimensional reproduction of a three-dimensional reality. By overlapping objects you help the viewer to reconstruct the three-dimensional scene in their mind. This allows them to mentally be “in” the scene, rather than just seeing a photo of it, creating a much stronger sense of depth.

- At a basic level:
 - › foreground
 - › subject
 - › background



@muresan113



@sujithdevanagari

- make sure you use the other layers to surround your subject and to draw attention to it
 - adding depth to your image will really help make your images more dynamic
- pay attention to both - background and foreground

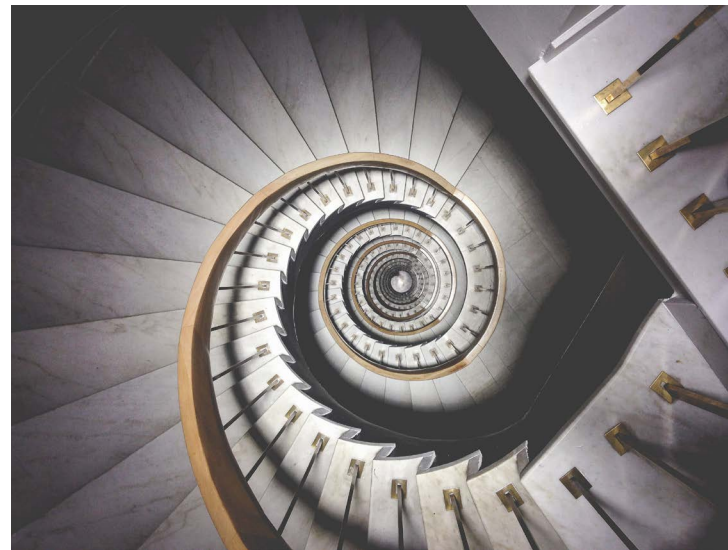
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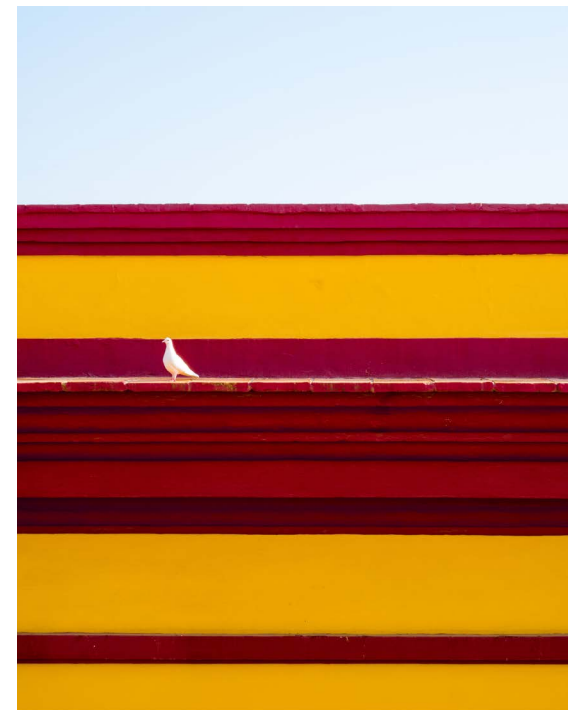
Space for your personal notes:

PRO TIP: USING SHAPES IN COMPOSITIONS

- using and paying attention to how are different shapes layered upon each other and how they fit in our frame can help us become better photographers and get more creative with images
 - you can focus your viewers eyes by using shapes
 - having less in your frame is typically more
 - shape does not have to be in focus
- by keeping it minimal, people can focus more on the specific things



@luddelorentz



@flavianhautbois



@ripato

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Space for your personal notes:

ADVANCED: SHOOTING PORTRAITS WITH A WIDE VS. TELEPHOTO LENS

- for portraits, you should consider shooting with a more telephoto lens than a wide lens
- wide angle lens distorts the features of someone's face to make them look wider
- telephoto lens also create greater depth of field with smaller aperture
- telephoto lens allows more light to come through, which is beneficial in low light scenarios



f/13 1/100 ISO 100



f/13 1/100 ISO 100

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SUPPLEMENTAL MATERIALS

Supplemental Materials

Below, you'll find links to helpful resources that further explain the concepts learned in this section about composition.

- [Photography Composition Tips for Beginners](#)
- [What is the Rule of Thirds?](#)
- [What is Crop Factor?](#)
- [9 Photo Composition Tips](#)
- [10 Top Photography Composition Rules](#)
- [Choosing a Photography Background](#)

SECTION: FOCUS AND DEPTH OF FIELD

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- *What is Depth of Field?*
- Depth of Field & Aperture
- VISUAL GUIDE: Depth of Field
- Ways to Get Shallow Depth of Field
- Manual Focus vs. Auto Focus
- Auto Focus Modes
- Tips for Shooting Fast Objects
- Assignment: Photographing Fast Objects Activity
- PRO TIP: Focusing in Low Light
- ADVANCED: Understanding Bokeh
- PRO TIP: Back Button Focus
- ADVANCED: Viewfinder Focus
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Space for your personal notes:

WHAT IS DEPTH OF FIELD?

- In this section:
- focus and depth of field
 - what is in focus
 - how it is in focus
 - what is it in focus

SECTION: FOCUS AND DEPTH OF FIELD

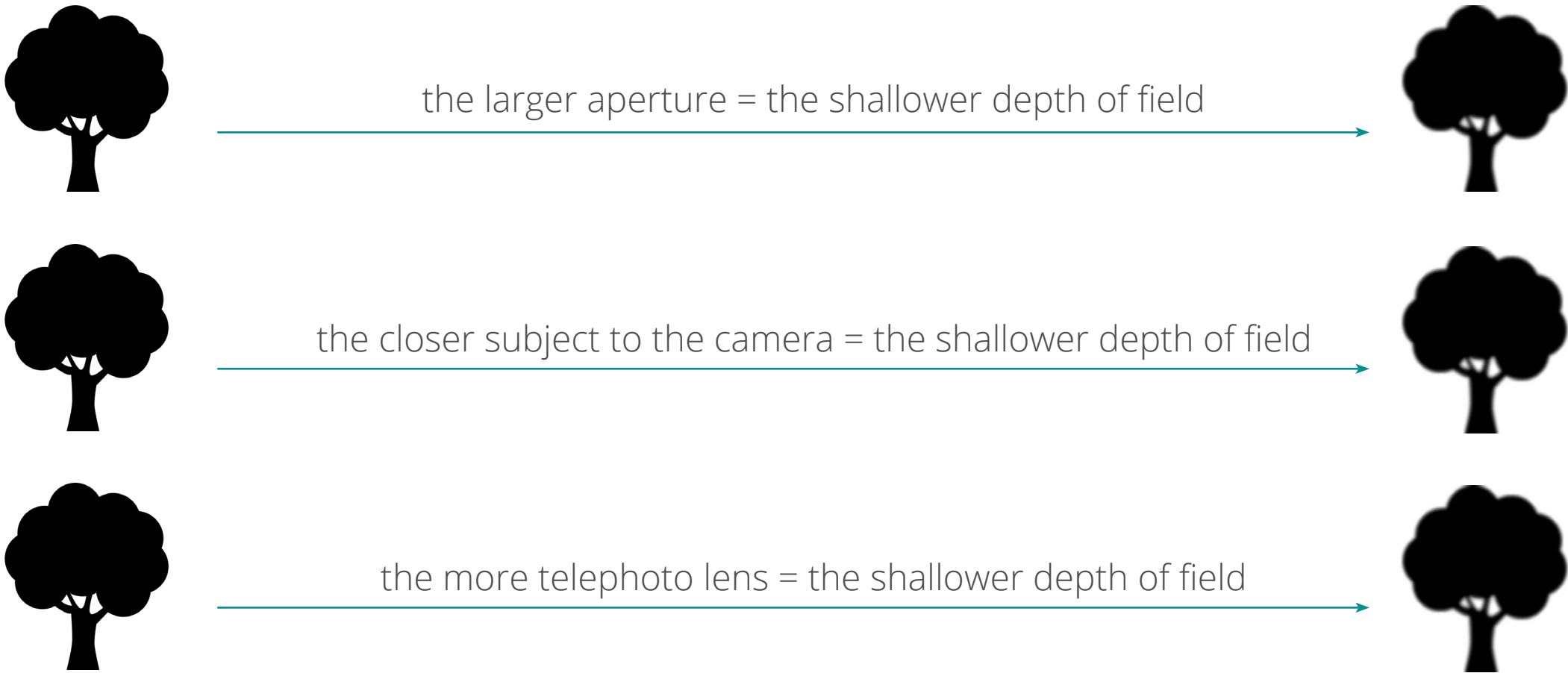
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DEPTH OF FIELD & APERTURE

Depth of field is the distance between the nearest and the farthest objects that are in acceptably sharp focus in an image.

- “shallow” depth of field
 - › small zone in focus
- “deep” depth of field
 - › large zone in focus
- 3 things that affect depth of field:
 - › aperture
 - › distance from subject
 - › focal length

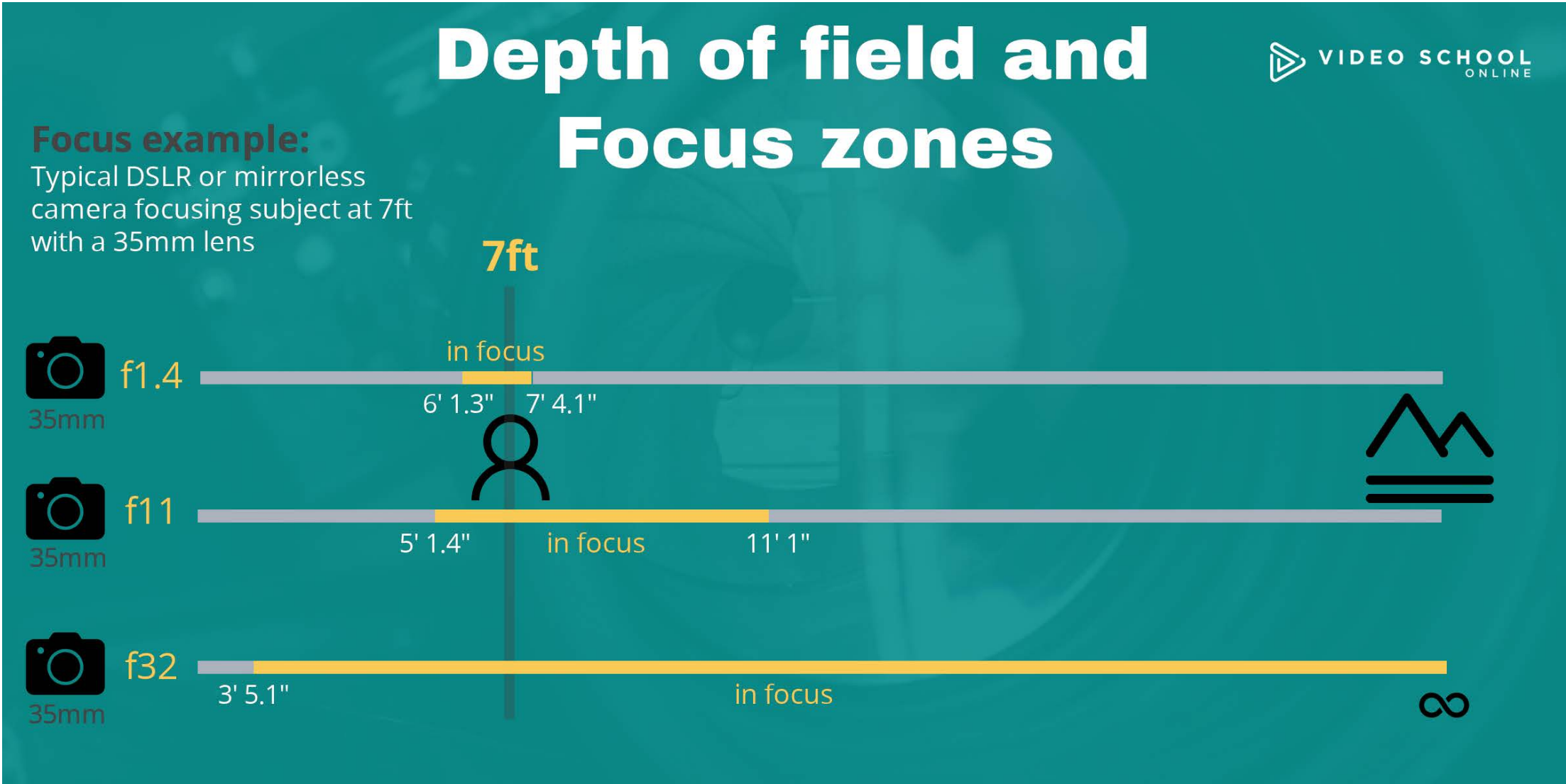


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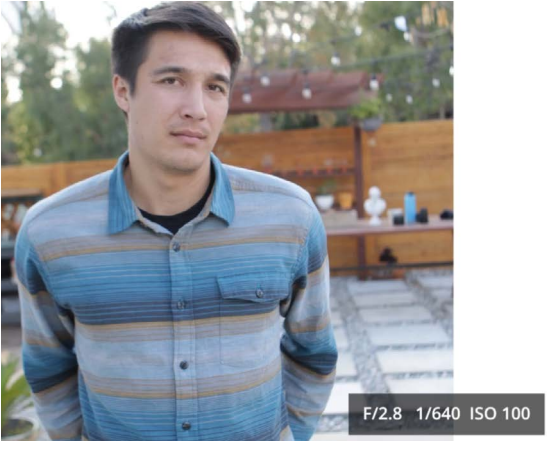
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WAYS TO GET SHALLOW DEPTH OF FIELD

1) dropping the aperture



2) moving subject further away from the background



3) zooming in



24mm



70mm

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MANUAL FOCUS VS. AUTO FOCUS

A plane of focus is the region in space with the potential to be as sharp as possible in a photo.

most lenses have a focus ring



most cameras or lenses have an option for manual and auto focus

Manual Focus

- gives greater control over the shot’s focus
- allows for greater precision when focusing

Pros:

- › allows for more precise focusing
- › better for macro and portrait shots
- › better for low-light photography

Cons:

- › slower than auto focus
- › makes action shots challenging

Auto Focus

- camera determines the sharpest focus
- faster than manual focus
- quality can vary depending on camera model

Pros:

- › it’s automatic
- › it’s faster than manual focus
- › good for shooting moving subjects
- › good for beginners

Cons:

- › can cause some shutter lag if you don’t pre-focus
- › can focus on the wrong part of your subject
- › not as precise as manual

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MANUAL FOCUS VS. AUTO FOCUS

PHOTO TIP

WHEN PHOTOGRAPHING PEOPLE, YOU TYPICALLY WANT TO FOCUS ON THEIR EYES.



example: automatic focus chose a nose as a focused part of the baby. eyes are blurred.

- choose a manual setting and focus on eyes
- increase the f-stop to have more in focus
the larger number of F-stop = the more in focus

SECTION: FOCUS AND DEPTH OF FIELD

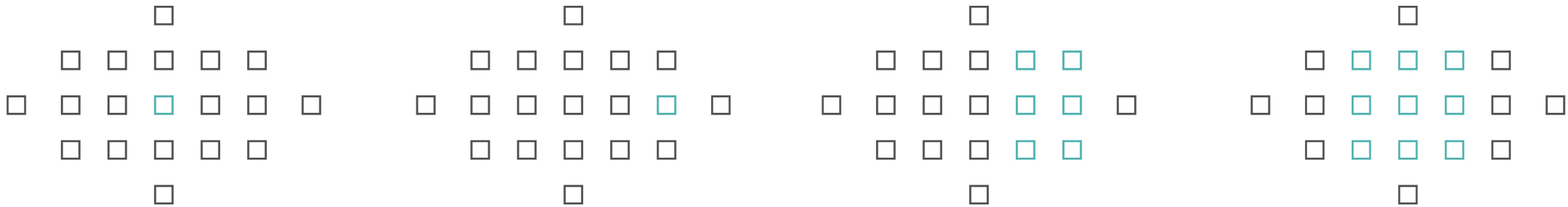
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AUTO FOCUS MODES

Focus points refer to the points within the camera's frame that the camera uses to lock onto the subject being captured.

- more focus points, generally means a quicker & better way to get sharp focus
- half-pressing the shutter release button will start the autofocus process
- the better camera the more focus points
- most cameras allow you to change which focus points are being used (use your camera manual)
 - › in most cameras, you can choose to use the point (you can choose specific one)
 - › zone (you can choose specific one)
 - › face detection



Focusing modes

- Continuous focusing mode
 - › the camera detects the subject's movements and refocuses accordingly to keep the object sharp as a track.
- One shot mode (AI-S mode)
 - › when you depress the shutter release halfway, the camera focuses on the subject just once – there's no continuous adjustment.

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TIPS FOR SHOOTING FAST OBJECTS

Capture motion in focus

- shutter priority mode (auto f-stop, auto ISO)
- holding the camera steady
- faster shutter - set up the shutter to the highest which the amount of light allows you (1/500th of a second or higher is the best)
- capturing motion with a blurry background



@davidmarcu

Capturing motion with a blurry background (panning)

- shutter priority mode (auto f-stop, auto ISO)
- move (pan) with a camera and try to follow a movement of your subject
- set up the slower shutter
- as a result, subject is sharp and background is blurry
- needs a practice



@timmosholder

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ASSIGNMENT: PHOTOGRAPHING FAST OBJECTS ACTIVITY

Take a sharp photo of a moving subject.

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PRO TIP: FOCUSING IN LOW LIGHT

Scene settings

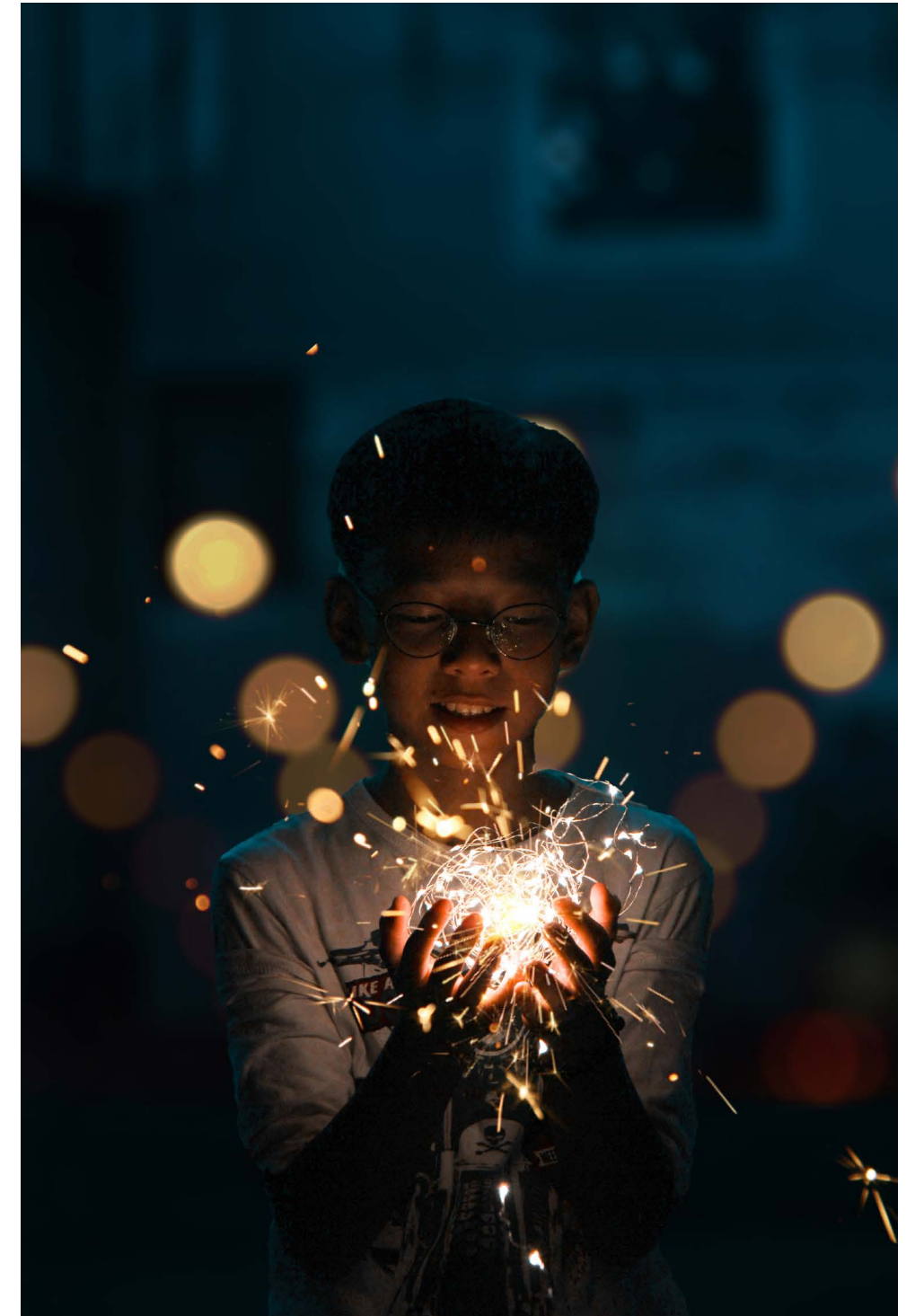
- add more light, either using a flash or moving a light closer

Camera settings

- higher ISO but not so high that it will add a bunch of digital noise (for most camera max ISO 6400)
- using a fast lens - f/2.8 is good, f /1.4 even better = depth of field very shallow = harder to focus
- decrease the shutter speed as much as possible - 1/60th can already lead to some motion blur (unsteady hands or moving subject)

Focusing

- automatic focus
 - › use a flashlight, let your camera get focus, turn off the light, snap the photo
- back-button focusing - see more later in this section
- manual focus
 - › adjusting the focus by focus ring until the frame looks crispy
- some cameras offer “peaking”
- some external flashes and even cameras have “Focus Assist”



@milomilk

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ADVANCED: UNDERSTANDING BOKEH

Bokeh is the aesthetic quality of the blur produced in the out-of-focus parts of an image produced by a lens.

- differences in lens aberrations and aperture shape cause some lens designs to blur the image in a way that is pleasing to the eye
- an aperture with more circular blades will create rounder “bokeh”
- see more about how to create bokeh later in the course



@alexiby

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PRO TIP: BACK BUTTON FOCUS

Back button focus frees up the shutter button to serve just one task: taking the photo. The photographer then uses one button at the back of the camera to set focus, and the shutter button simply takes the photo.

- **shooting a portrait with a subject** that is only making minor adjustments to their pose between photos
- fast-moving action, kids or sports photos
- situations where the AF system can get confused with what to focus on
- when you need tack-sharp images



Lexy Sawides/CNET

Full info and tutorial on how to use back button focusing [here](#).

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ADVANCED: VIEWFINDER FOCUS

Camera Diopter is intended to be used by photographers who do not have perfect vision and suffer from some form of near-sightedness or far-sightedness. It is an optical tool that adjusts your camera's viewfinder to suit your eyes.



@vincefleming



- set your camera on a tripod or stable surface
- turn on autofocus
- press the shutter release button half-way down to focus
- adjust the diopter until the viewfinder is in focus for you

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SUPPLEMENTAL MATERIALS

Supplemental Materials

Below, you'll find links to helpful resources that further explain the concepts learned in this section about depth of field and focus.

[Understanding Depth of Field](#)

[Depth of Field Simulator](#)

[How to Take Sharp Photos](#)

[Understanding Autofocus Modes](#)

[Calibrating Your Camera's Diopter](#)

[How to Pronounce Bokeh](#)

SECTION:
CAMERA ANATOMY
&
SETTINGS

SECTION: CAMERA ANATOMY & SETTINGS

- *What is Camera Anatomy?*
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- Camera Scene Modes
- File Types: RAW vs. JPEG
- Your Camera's Sensor
- VISUAL GUIDE: Camera Sensor Sizes
- Photo Resolution
- Burst Mode (Continuous Mode)
- DSLR vs. Mirrorless Cameras
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WHAT IS CAMERA ANATOMY?

You will learn about:

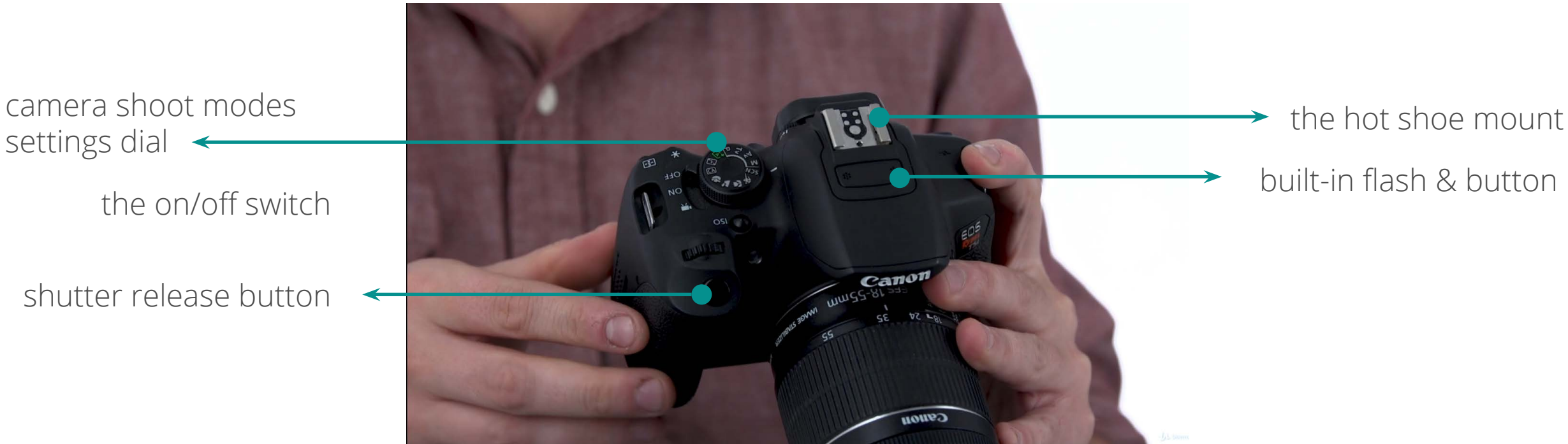
- basic camera buttons
- file types
- sensors
- resolution
- shooting modes
- !every camera is a little different
 - › information in the course are general and will give your a general sense for how most cameras work
 - › for more detailed information get to know your camera and use your camera manual

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MAIN FEATURES OF MOST CAMERAS

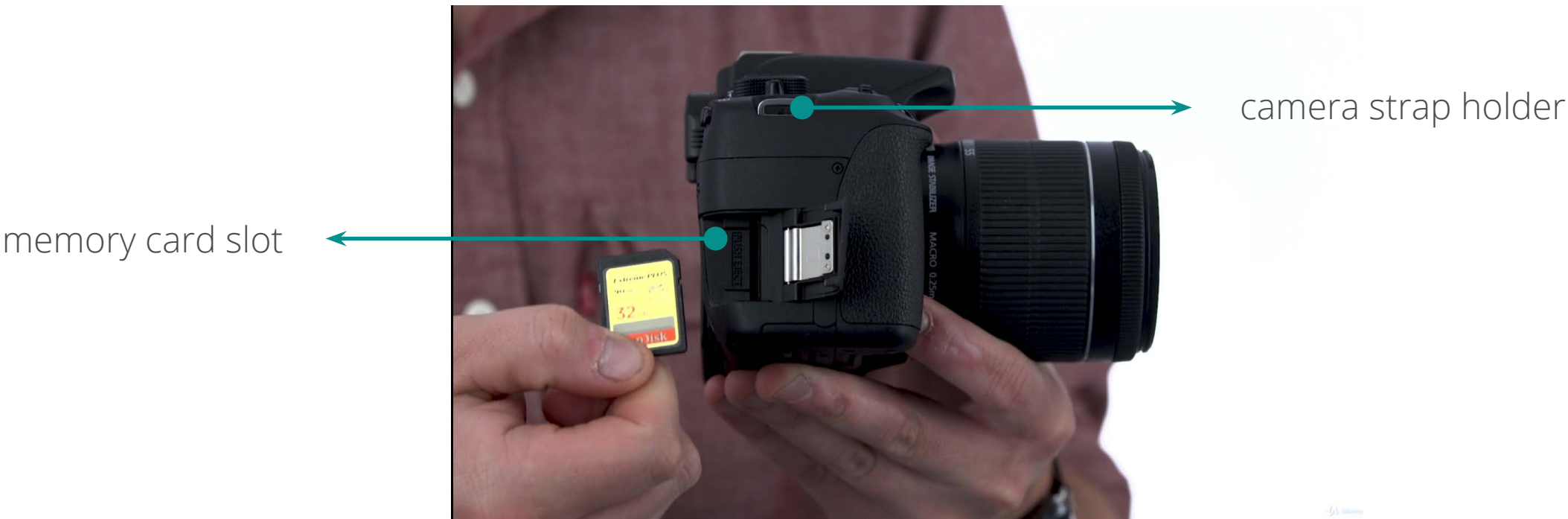
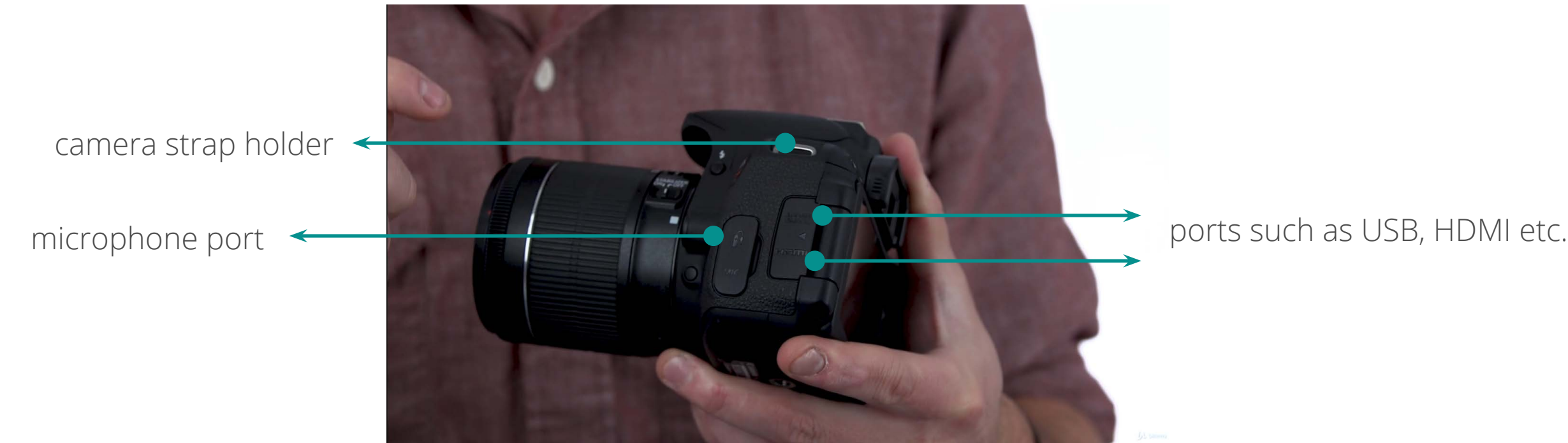


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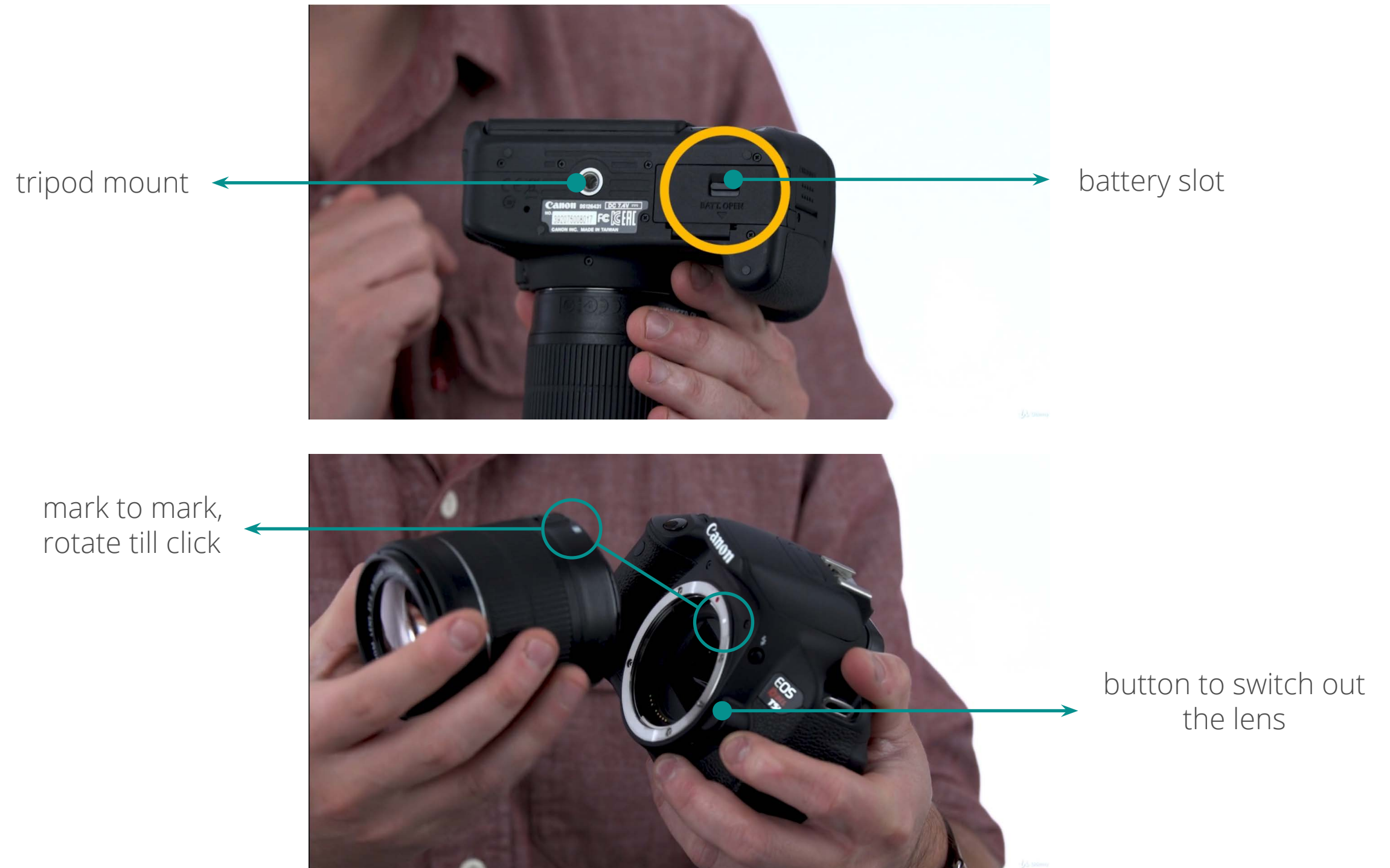


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CAMERA SCENE MODES

portrait mode

camera expects there is a subject in the foreground of the frame

- choose a shallow depth of field to keep the human subject in focus but the background blurred
- if the camera reads the scene as dark, it will add fill-in flash.
- selects a lower aperture to get a blurrier background

macro mode

- camera expects your are close to the subject
- camera will try to expose the entire frame
- usually selects a mid-range aperture and meters for the entire frame

landscape mode

- camera expects focusing to a large area
- selects a higher aperture and meters for the entire frame

fireworks

- selects a shutter speed that beautifully captures light streaks

beach & snow mode

- fast shutter speed
- high aperture
- low ISO

night mode

- high ISO
- low aperture
- low shutter speed

panoramic mode

- take multiple photo and stitch them together to create a panorama
- you have to adjust your exposure settings

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FILE TYPES: RAW VS. JPEG

- most cameras have two file types: jpeg & raw

raw image

- uncompressed
- full quality image
- large file size
- maximum amount of information
- perfect for post-production
- not changed by camera
- flat
- make sure your computer can read the format
- some cameras let you adjust the resolution of the raw photos you are capturing (L, M, S)

- › Canon raw files = .CR2
- › Nikon raw files = .NEF

jpeg image

- • compressed
- • lower quality image
- • smaller file size
- • smaller amount of information
- • perfect for instant reviewing or sharing online
- • already processed by a camera
- • better looking
- • standard file
- • most cameras let you adjust the resolution of the jpeg photos you are capturing (L, M, S)

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FILE TYPES: RAW VS. JPEG

raw



jpeg



- you can change the type of file your camera saves in the settings
- you can usually capture both raw & jpeg images at the same time

PHOTO TIP

WE RECOMMEND ALWAYS SHOOTING IN RAW IF POSSIBLE.

when shooting in raw:

- make sure you have enough memory card space.
- you can check the capacity of your SD card for particular file type chosen in your camera

shooting in jpeg

- pay attention to exposure (histogram)
- properly set your white balance
- shoot a lot of photos at once

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YOUR CAMERA'S SENSOR

An image sensor is an electronic device that converts an optical image into an electronic signal.

- each camera has a different size and type of sensor

full frame sensor

- a large sensor equivalent to a 35mm film camera
- the biggest and most expensive

cropped (aps-c)

- a bit smaller, much cheaper
- generally has less megapixels than full-frame
- used in a lot of smaller DSLR and mirrorless cameras

micro four thirds

- smaller than aps-c
- common in cameras by Olympus and Panasonic

1" or one third

- very small
- usually in point-and-shoot cameras and cell phones

- smaller sensor "crops" into the image (zooming in)
- a larger sensor usually performs better in low light situations (used by professional photographers)
- a larger sensor usually can achieve better shallow depth of field
- larger sensor = more pixels = better for printing
- APS-C cropped sensors are typically cheaper, smaller and light-weight

TAKE CARE OF YOUR SENSOR: DO NOT
CLEAN YOUR SENSOR YOURSELF,
KEEP THE PORT CAP ON AT ALL TIMES,
UNLESS A LENS IS ATTACHED TO THE
CAMERA

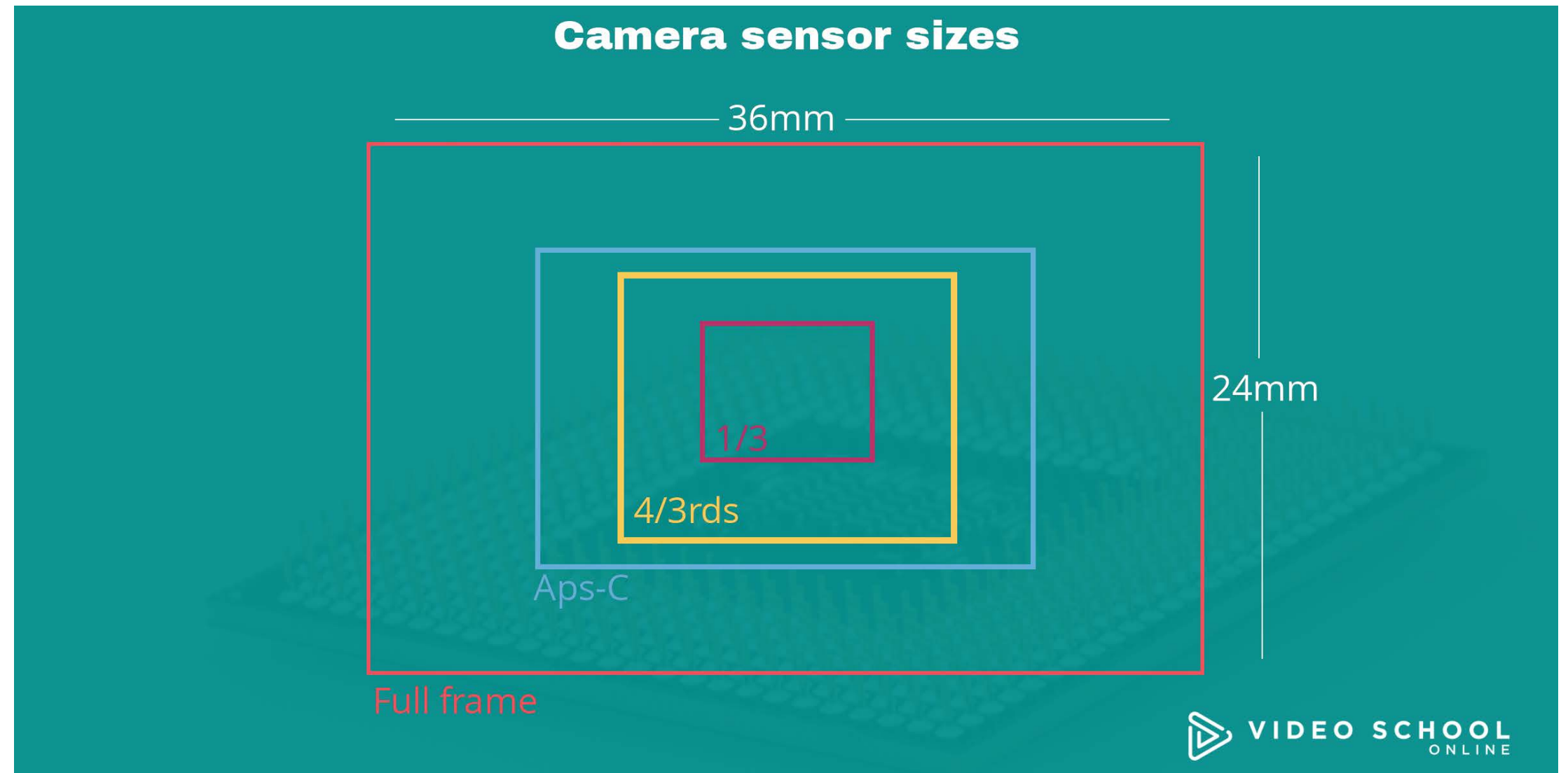


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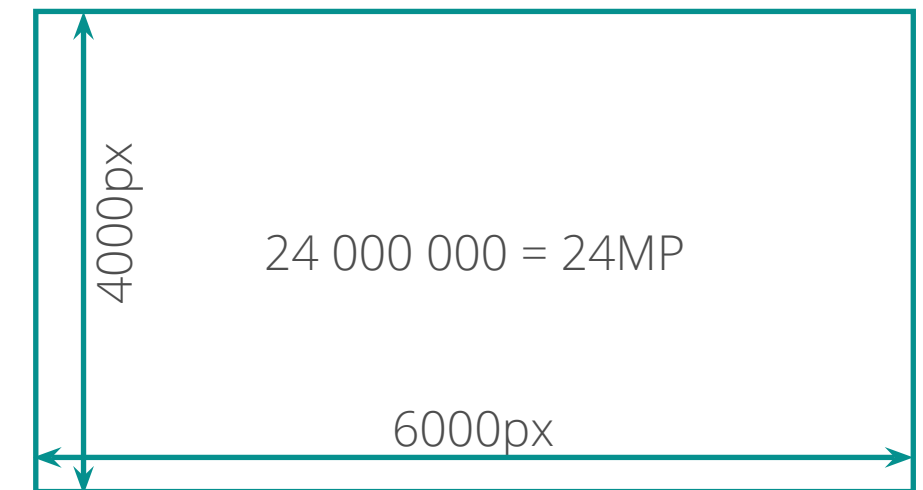
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PHOTO RESOLUTION

Resolution refers to the number of pixels in an image. Resolution is sometimes identified by the width and height of the image as well as the total number of pixels in the image

- the word “pixel” means a picture element. It is the smallest unit of information that makes up a picture.

- calculated by multiplying the width & height of a sensor in pixels
1MP = 1 MILLION PIXELS



- the more MP usually means the more details (quality)
- the bigger the quality is, the bigger the physical print you can make without seeing the pixels



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BURST MODE (CONTINUOUS MODE)

Burst mode, also called continuous shooting mode, sports mode or continuous high speed mode, is a shooting mode in still cameras. In burst mode, several photographs are captured in quick succession by either pressing the shutter button or holding it down.

- on most cameras, you can select how many photos you want to capture in a burst
 - › continuous high
 - › continuous low

Frame rate (expressed in frames per second or FPS) is the frequency (rate) at which consecutive images called frames appear on a display.

PHOTO TIP

USE A BURST MODE WHEN SHOOTING EVENTS & GROUP PHOTOS TO MAKE SURE YOU CAPTURE A GREAT SHOT.



@whtrvn

- use a high speed memory card when shooting in burst mode
- memory card speed is calculated as MB/s
- anything below circa 45 MB/s may slow downy your camera

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DSLR VS. MIRRORLESS CAMERAS

*A **DSLR (digital single-lens reflex)** camera is a digital camera that combines the optics and the mechanisms of a single-lens reflex camera with a digital imaging sensor. The mirror in a DSLR reflects the light up to the optical viewfinder.*

*A **mirrorless camera** is one that doesn't require a reflex mirror. There is no optical viewfinder. The imaging sensor is exposed to light at all times. This gives you a digital preview of your image either on the rear LCD screen or an electronic viewfinder (EVF).*



- DSLR's viewfinder allows you to see everything in real time
- DSLR's batteries are usually bigger and do last longer
- DSLRs are usually less expensive than comparable mirrorless cameras



- mirrorless camera shows you a preview of the exposure of the photo based on your settings
- mirrorless cameras are usually smaller than DSLRs

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HOW TO USE ALMOST ANY CAMERA OUT THERE!

[This website](#) has free 1-hour tutorials for many of the camera brands and models out there.

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SUPPLEMENTAL MATERIALS

Supplemental Materials

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- [What is a DSLR Camera?](#)
- [What is a Mirrorless Camera?](#)
- [What is a Micro Four Thirds Camera?](#)
- [Guide to Digital Camera Modes](#)
- [What is Crop Factor?](#)
- [RAW vs.. JPEG \(compressed\) Photos Explained](#)

**SECTION:
WHITE BALANCE
&
COLOR**

SECTION: WHITE BALANCE
AND COLOR

- *Intro to White Balance and Color*
- What is Light Temperature and White Balance?
- The Kelvin Temperature Scale
- VISUAL GUIDE: Kelvin Light Temperature Chart
- White Balance Modes & Auto White Balance
- VISUAL GUIDE: White Balance Symbol Chart
- ADVANCED: Picture Profiles and In-Camera Adjustments
- ADVANCED: Light Spectrum & Colors
- Using Color Creatively in Your Photos
- Shooting for Black and White
- Assignment: Creative Color Activity
- PRO TIP: Black and White Techniques
- ADVANCED: Set White Balance with Custom WB Mode
- Supplemental Materials

Space for your personal notes:

INTRO TO WHITE BALANCE AND COLOR

You will learn about:

- how your camera sees colors
- what white balance is
- how you can use it to add different moods into your photos
- light spectrum
- how to read the Kelvin temperature chart

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Space for your personal notes:

WHAT IS LIGHT TEMPERATURE AND WHITE BALANCE

White balance defines what the color white looks like in specific lighting conditions, which also affects the hue of all other colors.

- most of the auto-white-balance systems are extremely accurate = produce very natural look
- you can make creative choices
- by changing white balance setting, picture can look much warmer (orange) or much cooler (blue)



- similar change of style of your photo can be done by using tints setting

SECTION: WHITE BALANCE AND COLOR

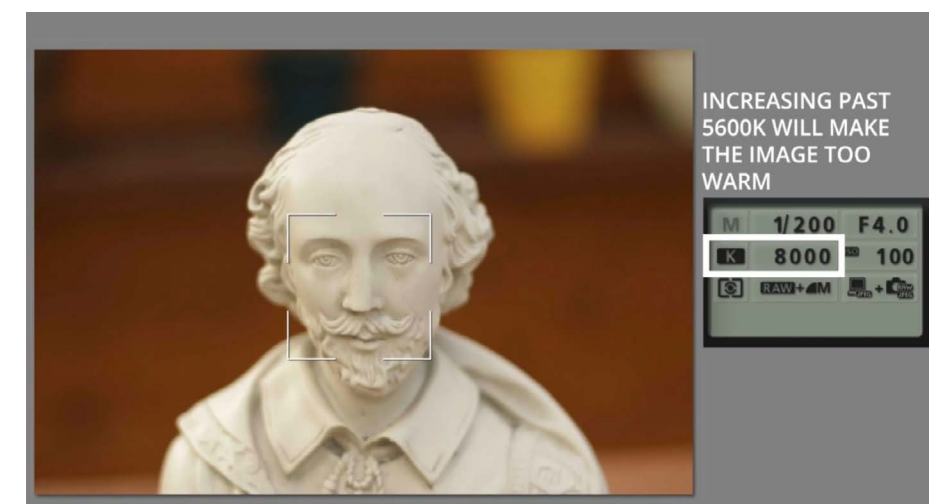
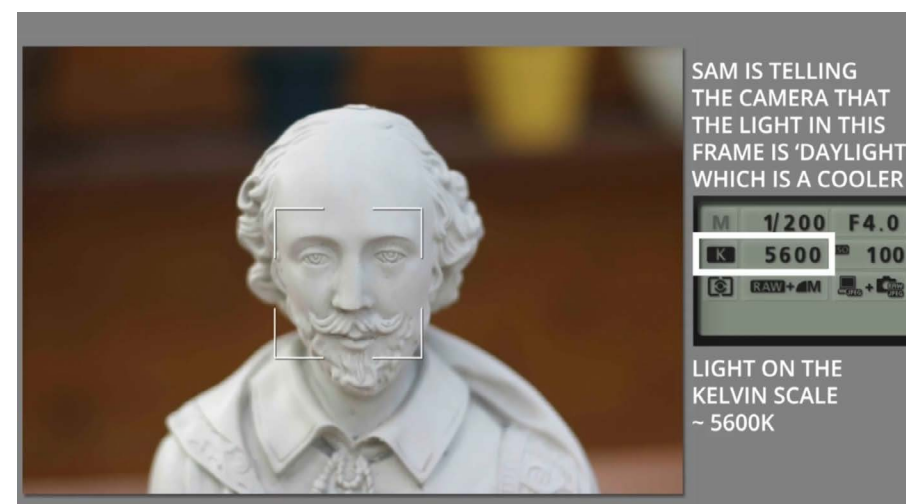
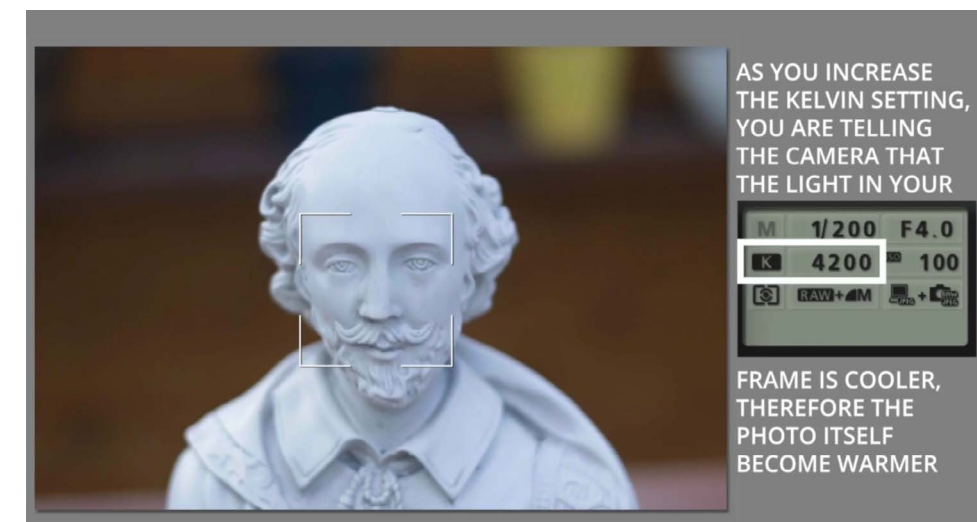
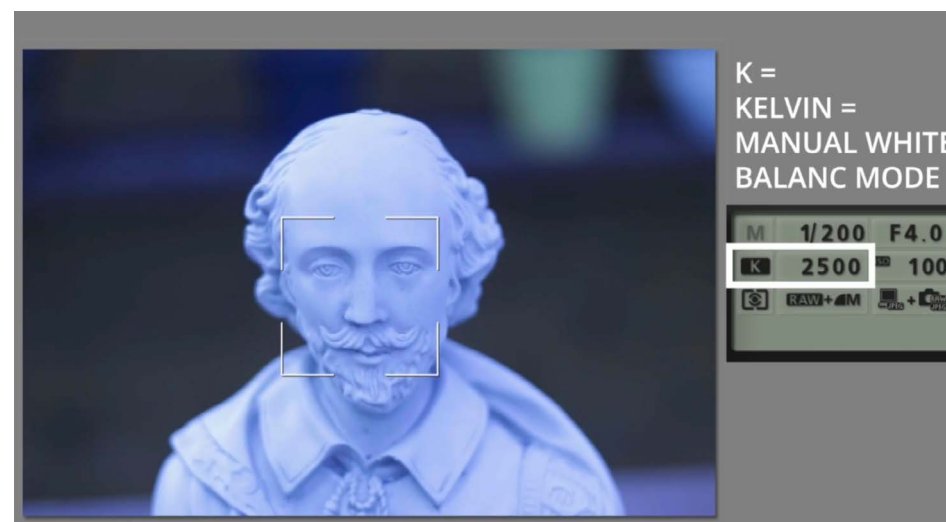
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THE KELVIN TEMPERATURE SCALE

Kelvin is simply a unit of measurement for temperature and in photography is most often used to measure the color temperature of light sources.

- it is possible to adjust manually white balance settings in your camera



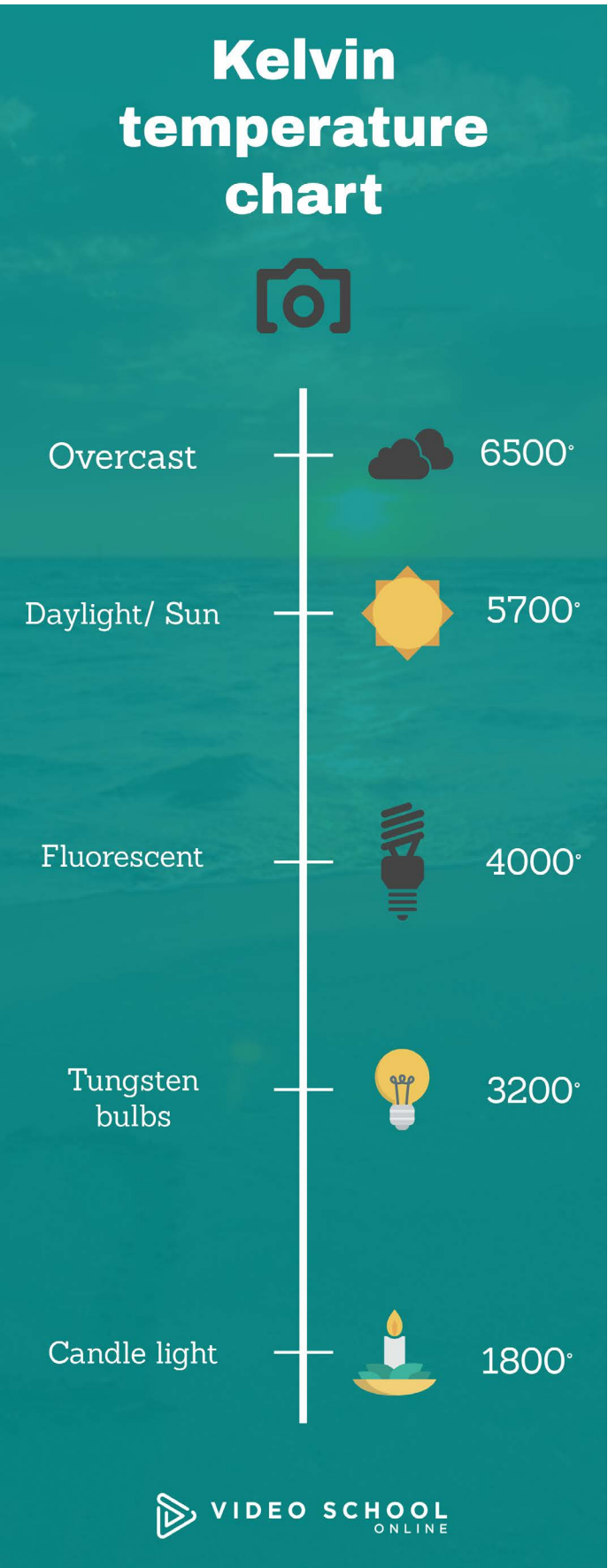
- it is important to understand how white balance settings work - especially when using multiple light sources
- and to adjusting the mood of your pictures

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VISUAL GUIDE: THE KELVIN TEMPERATURE SCALE



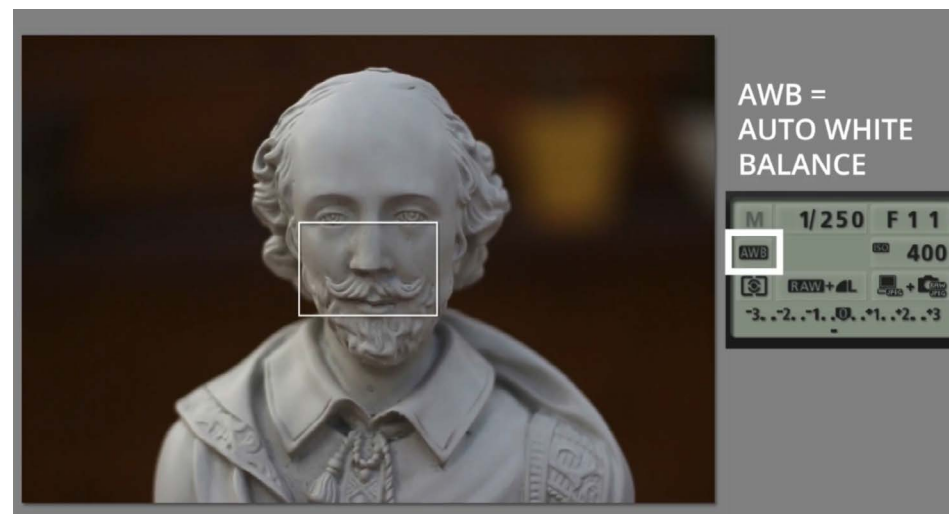
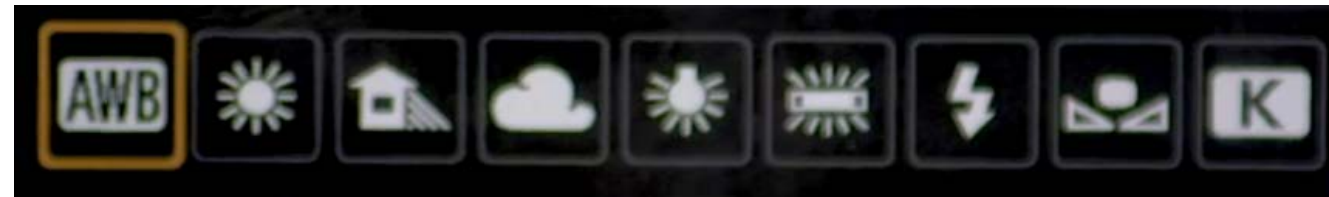
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WHITE BALANCE MODES & AUTO WHITE BALANCE

- most cameras have a pre-set white balance modes that match the most common types of light
- look for the “WB” button to adjust your white balance setting
- try different pre-settings in different situations
- try combinations of light sources - e.g. tungsten + daylight

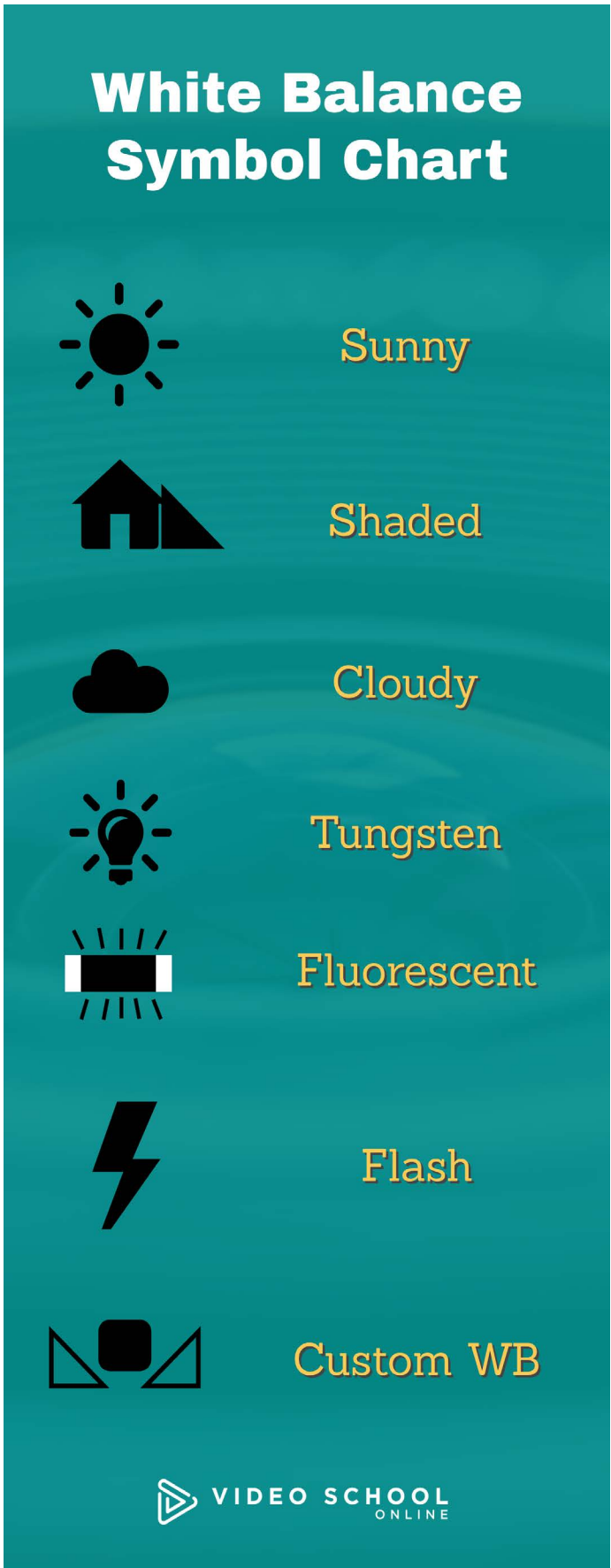


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VISUAL GUIDE: WHITE BALANCE SYMBOL CHART



SECTION: WHITE BALANCE AND COLOR

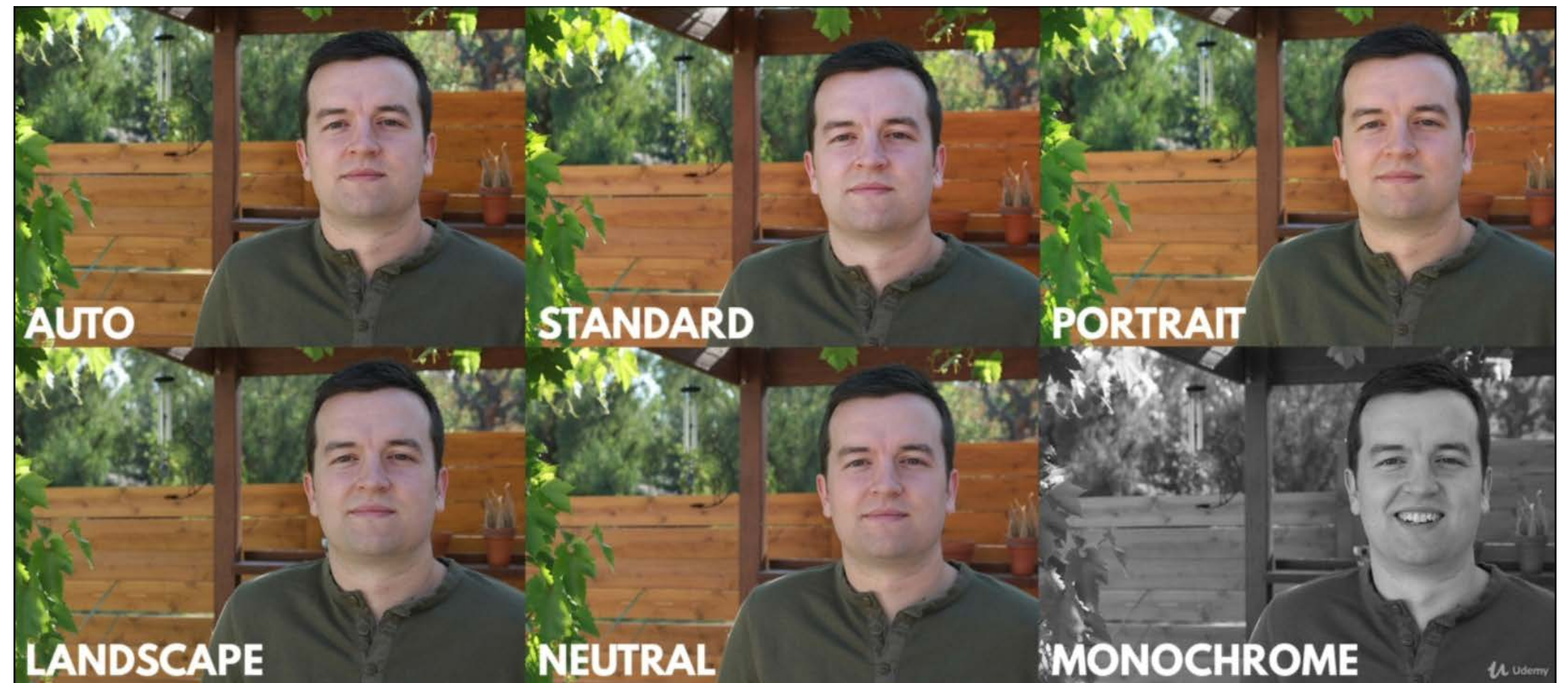
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ADVANCED: PICTURE PROFILES AND IN-CAMERA ADJUSTMENTS

Picture styles adjust how your camera adjusts contrast, saturation & sharpness, some cameras also a color tone.

- this setting is more important when shooting jpeg
- every camera can have slightly different possibilities for profile styles
- every profile style has different settings and is suitable for different situations
 - › e.g. portraits - picture is smoother, nothing too contrasty or too sharp, should be flattering
 - › e.g. landscape - a little bit more sharper, more saturated,
 - › e.g. monochrome - takes out all the saturation, enables you to shoot in black&white



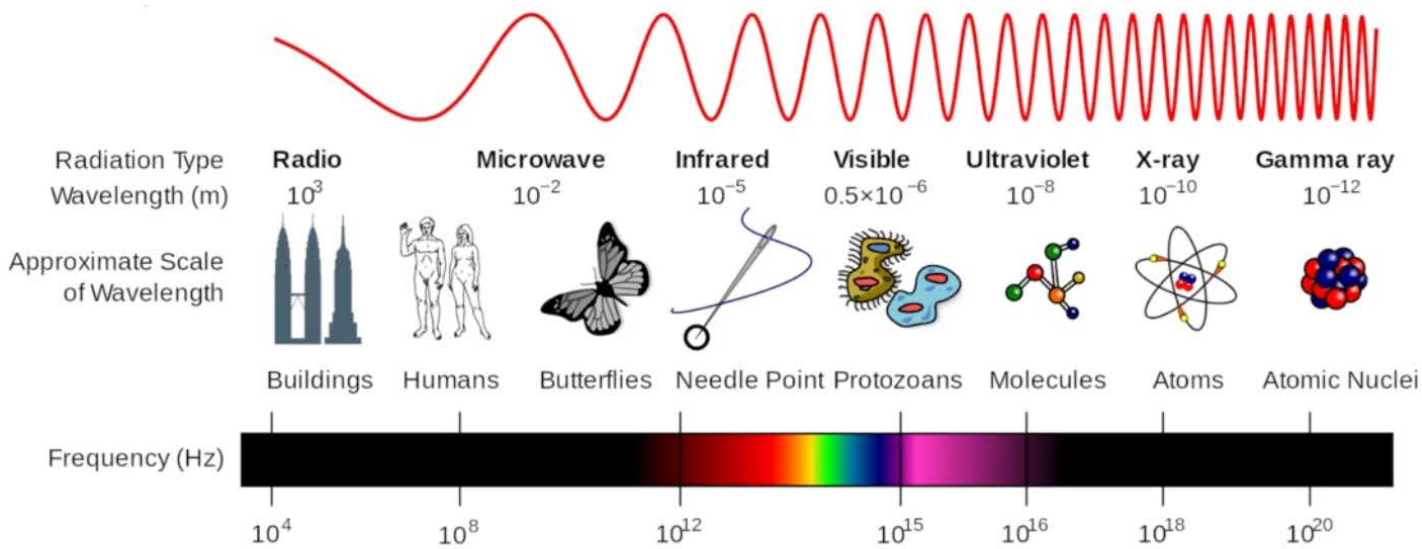
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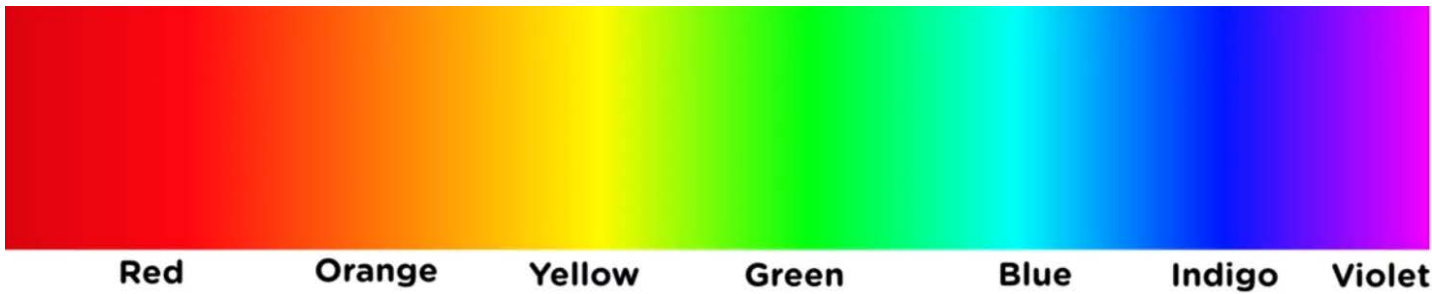
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ADVANCED: LIGHT SPECTRUM & COLORS

Color is the characteristic of human visual perception described through color categories, with names such as red, orange, yellow, green, blue, or purple. This perception of color derives from the stimulation of cone cells in the human eye by electromagnetic radiation in the visible spectrum.



- light spectrum visible for humans goes from violet to red
- understanding theory of color will help you understand why some photographs evoke certain emotions or might seem more dynamic



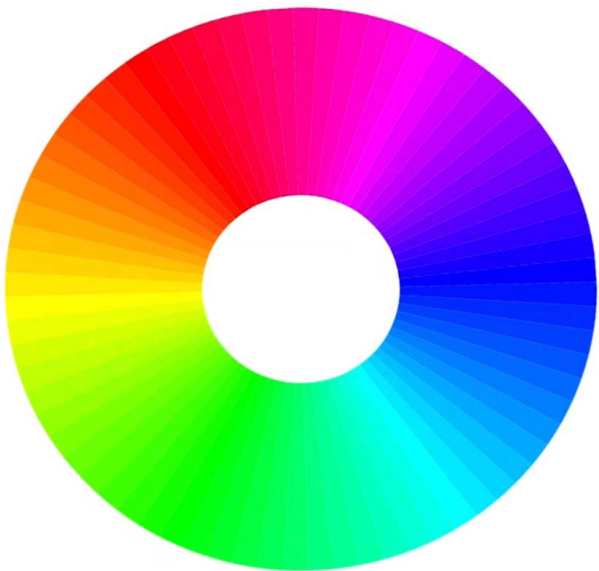
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ADVANCED: LIGHT SPECTRUM & COLORS

Hue refers to the attribute of a visible light due to which it is differentiated from or similar to the primary colors: red, green and blue.



Color value represents the lightness or darkness of a color.



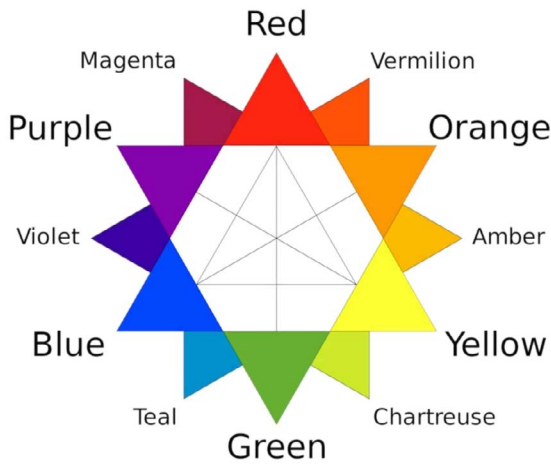
Color saturation represents a strength or weakness of a color.

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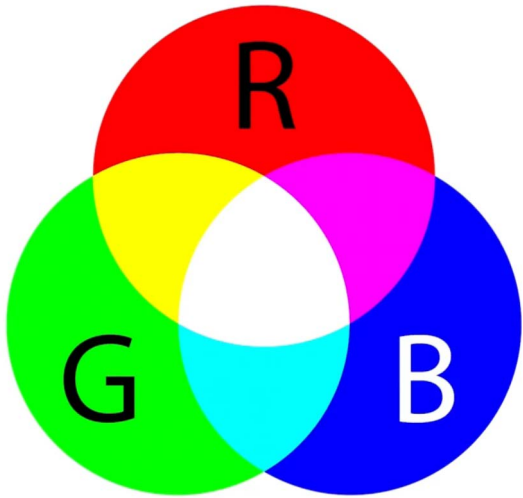
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USING COLOR CREATIVELY IN YOUR PHOTOS

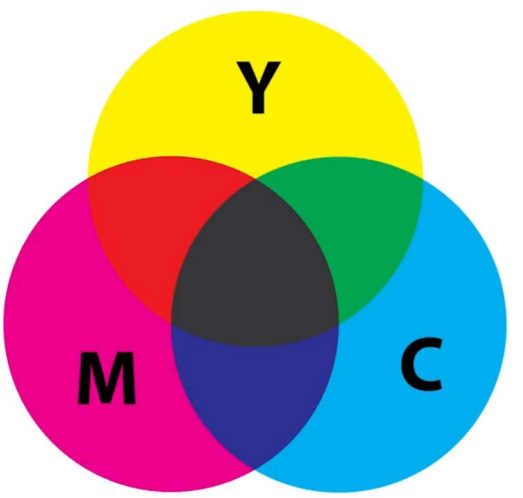


complimentary colors

- opposite to one another on a color wheel
- typically create more dynamic image



RGB: red, green, blue



CMYk: cyan, magenta, yellow

- typically warmer images will be more peaceful and calming, while warms images more energizing
- most colors will pop when surrounding by white
- dark backgrounds will typically blend in better with cooler colors, while warmer colors will stand out of them

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SHOOTING FOR BLACK AND WHITE

- black and white photography can be easily done just by dropping the saturation or popping on a filter
- but great B&W photo also needs a good exposure, contrast, highlights, shadows, etc.
- the idea behind the b&w photography is that you are less distracted by colors and look at the content and details, such as textures, contrast, lighting, etc.
- noise is an issue, but is much nicer than in colour photos



@deffyal



@ladinofotograph



@ria_alfana

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ASSIGNMENT: CREATIVE COLORS ACTIVITY

Take a photo using color creatively.

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PRO TIP: BLACK AND WHITE TECHNIQUES

b&w photo:

- finding a good composition
- good lighting of every part of the picture
- thinking about highlights and shadows
- thinking about contrast in the picture without colors
- focusing on textures
- focusing on the lines throughout the frame
- editing highlights and shadows
- editing white point and black point
- adjusting the white balance
- adjusting color saturations



PHOTO TIP

COPY SOME OF YOUR IMAGES, EDIT ONE IN COLOR AND THE OTHER IN B&W. NOTICE HOW YOU APPROACH BOTH. WHAT CHANGES IN YOUR EDITS AND ULTIMATELY HOW DIFFERENT THE TWO PHOTOS FEEL.

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ADVANCED: SET WHITE BALANCE WITH CUSTOM WB MODE

PHOTO TIP

USE CUSTOM WHITE BALANCE WITH A VERY UNIQUE & CONTROLLED LIGHTING SETUP

- most of the camera have custom white balance setting
- useful for photo-shooting in a consistent lighting setup
- it is different for different cameras (use your camera manual)
- one of the options can be taking a reference photo
- you take a picture of a white card and set it as a reference photo
- or to do custom white balance in live
- your point to a section and set it as a reference point

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SUPPLEMENTAL MATERIALS

Supplemental Materials

Below, you'll find links to helpful resources that further explain the concepts learned in this section about white balance and color.

- [Understanding White Balance](#)
- [Kelvin Temperature Scale](#)
- [How to Compose Black and White Photographs](#)
- [Ansel Adams Gallery](#)

SECTION: LIGHTING & FLASH

SECTION: LIGHTING & FLASH
PHOTOGRAPHY

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Space for your personal notes:

WHAT IS LIGHTING?

Photography is capturing light at a particular time & place.

You will learn:

- things to consider: intensity, quality, direction
- soft vs. hard light
- natural vs. artificial light
- on-board & external flashes
- hot lights

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SHOOTING IN NATURAL LIGHT

- Natural light is any light that you are not adding to the frame artificially
- the goal of the lighting: to help you properly expose a subject, or to highlight a specific part of the frame
- journalistic & event photography often depends on natural lighting
- shooting during a cloudy day creates soft lighting without harsh shadows
- shooting in the early morning light or near the sunset will allow results in softer light that has a beautiful warm glory to it

Golden hour is the time after sunrise & before sunset that provides warm, soft light.

Different positions of the sun when shooting portraits (aperture priority mode):



sun in the face



shade



diffused

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SHOOTING IN NATURAL LIGHT



sun in the back



flexfill / golden



flexfill / silver



flexfill / white

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USING NATURAL LIGHT FROM THE WINDOW

aperture priority f/2.8
ISO 1600



exposure compensation 0



exposure compensation -1.5



changing position to the window

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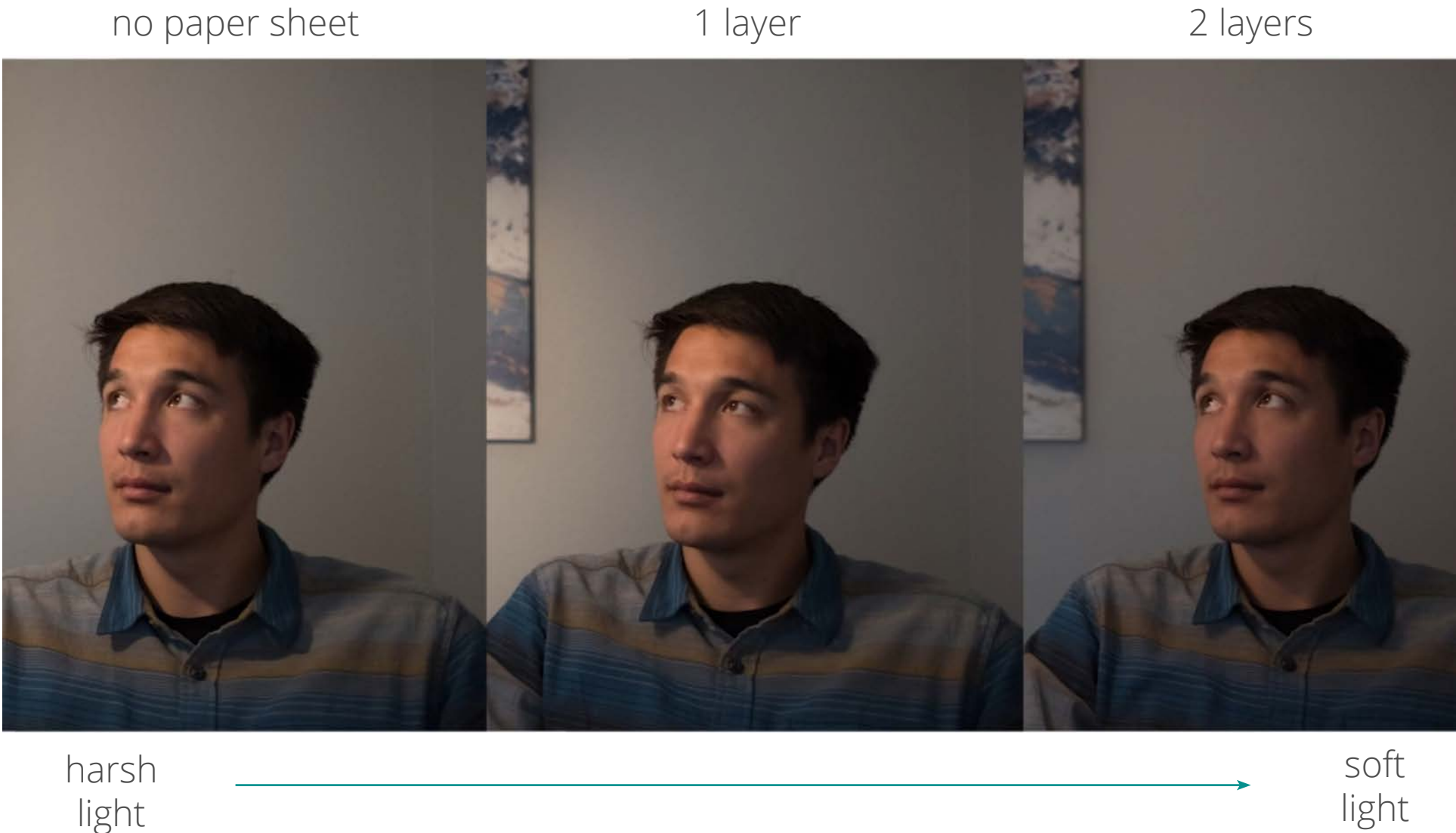
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SHOOTING IN ARTIFICIAL LIGHT

- “found” lighting = house lights, streetlight or any other man-made light bulb around you
- set up the right white balance on your camera
- as a beginners, just leave your camera on the auto white balance mode - nowadays it is excellent

PHOTO TIP

TRY DIFFUSING THE LIGHT TO MAKE IT LESS HARSH. TRY USING DIFFERENT SHEETS, CURTAINS OR PAPER TO DIFFUSE DIFFERENTLY.



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Space for your personal notes:

SHOOTING WITH YOUR CAMERA'S FLASH

- on-board flash = built-in into the camera
- check your manual how to use it on your camera

PHOTO TIP

WE RECOMMEND NOT USING THE AUTOMATIC FLASH MODE.

- only if there is no other way to expose properly!
- when increasing your ISO won't expose properly (without compromising your quality image)
- to harsh = try diffusing it



no paper sheet

2 layers

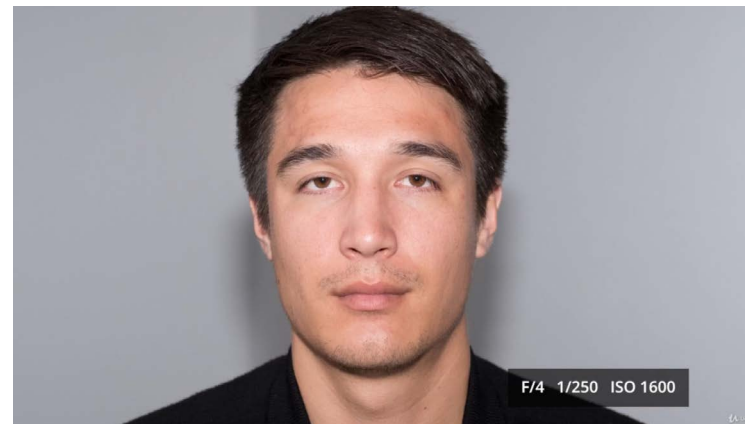
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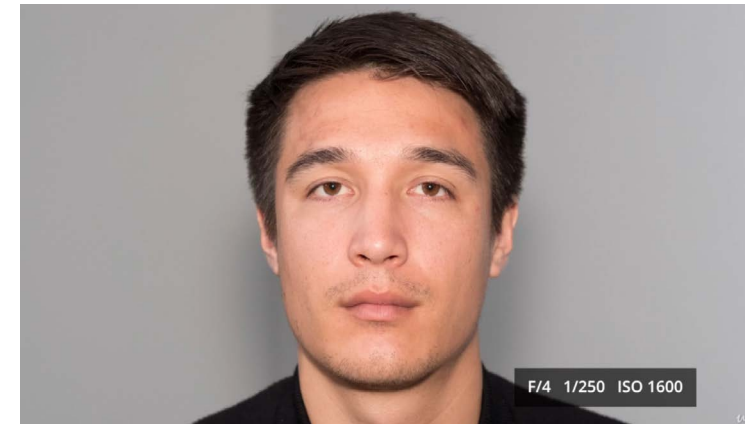
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SHOOTING WITH AN EXTERNAL FLASH

- external flash fits into the hot shoe on the top of a camera
- sync speed - the proper shutter speed when using an external flash
- flash can articulate - so you can bounce a flash off a ceiling or walls to create a softer light
- you can purchase a cloth or plastic diffusers that attach to the flash (no ceiling or walls)
- external flashes have usually a built-in bounce card



direct



direct + diffuser



bounced off the ceiling

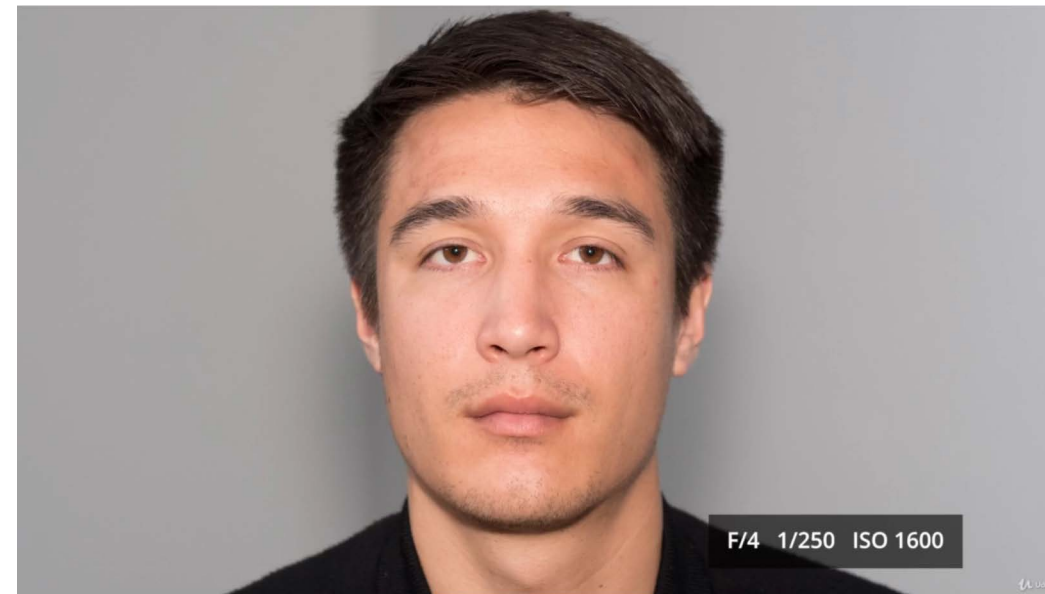
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SHOOTING WITH AN EXTERNAL FLASH

- removing the flash of the camera and moving it around (by wireless signal from camera)
- you can be really creative and it can bring a more dynamic look



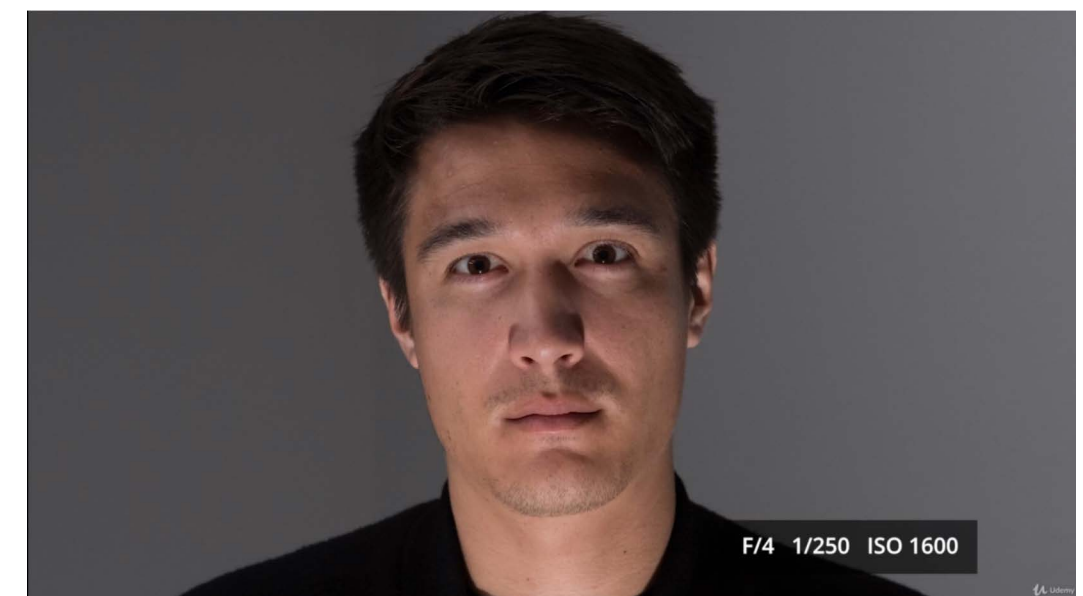
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side



back



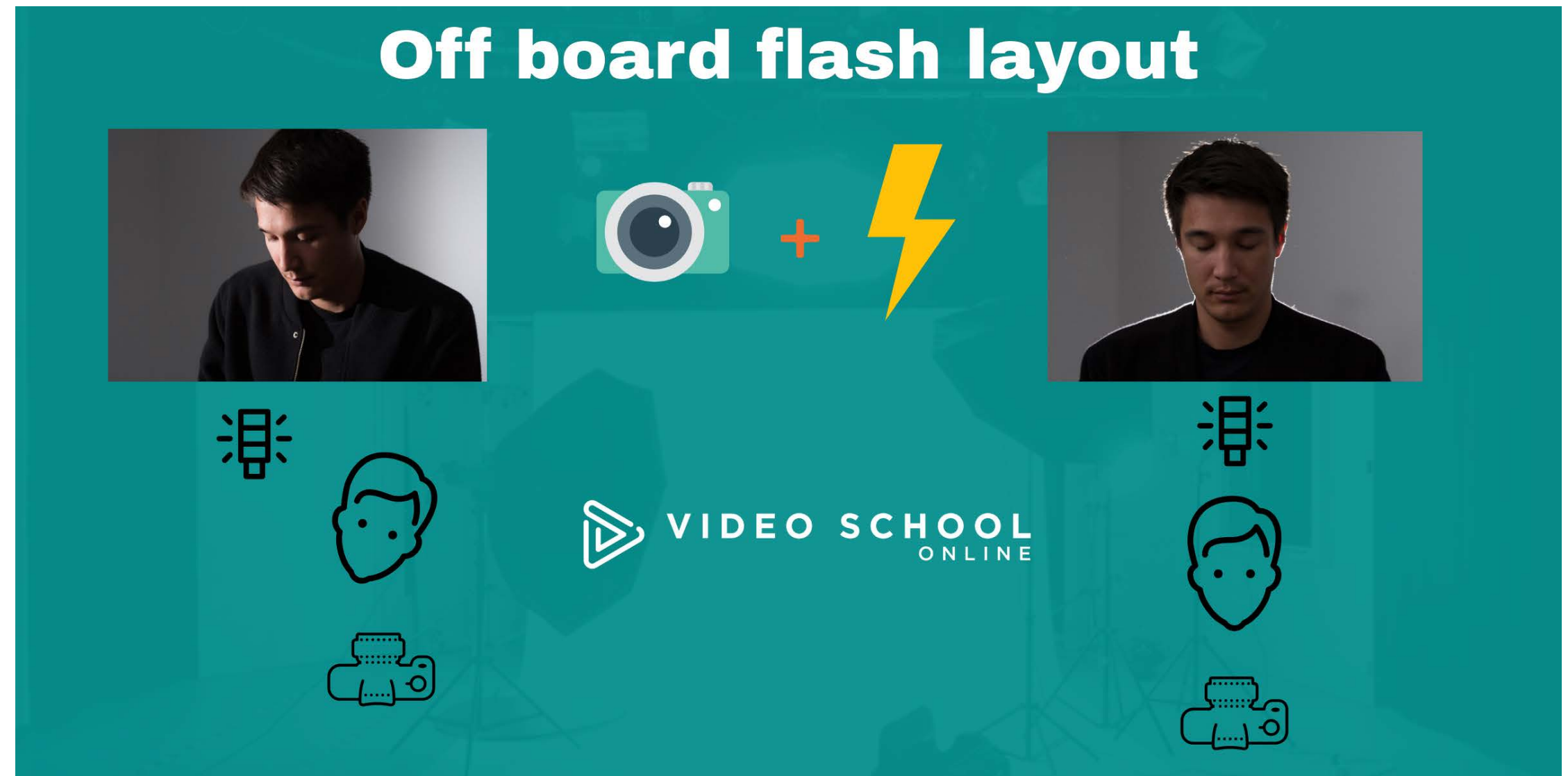
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VISUAL GUIDE: CREATIVE EXTERNAL FLASH LAYOUT



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- Assignment : Natural Lighting Activity
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Space for your personal notes:

SHOOTING WITH A FLASH OUTDOORS

- the key is to have a flash powerful enough to match the same exposure in the background
- often on-board flashes do not have enough power



F/11 1/250 ISO 400

no flash



F/11 1/250 ISO 400

flash full power



F/11 1/250 ISO 400

flash half power



F/11 1/250 ISO 400

flash + diffuser



F/11 1/250 ISO 400

remote flash

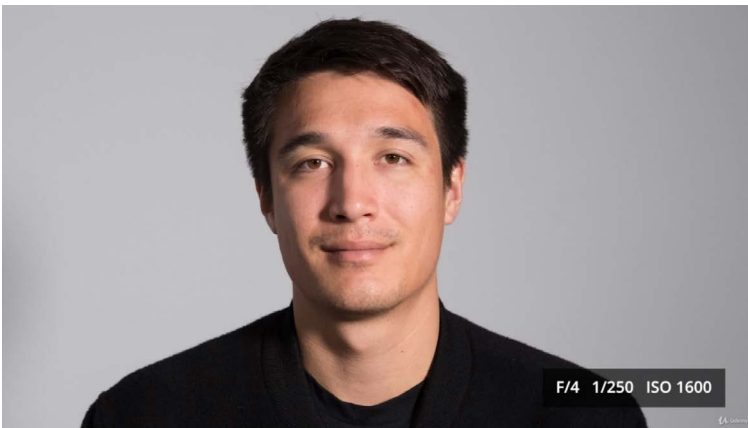
SECTION: LIGHTING & FLASH PHOTOGRAPHY

- What is Lighting?
- Shooting in Natural Light
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SHOOTING WITH A LIGHTING KIT: 3-POINT SETUP

- hot lights = lights on stands that are always on
- hot lights are great when shooting the same scene multiple times
- you can see what the lighting is doing while you set it up
- a lot of control
-
- 3-point lighting - a basic lighting setup common in portrait lighting
- key light - the main light source
- fill light - a light that fill in the shadows created by the key light
- back light - a light that creates separation between the subject & background



key light



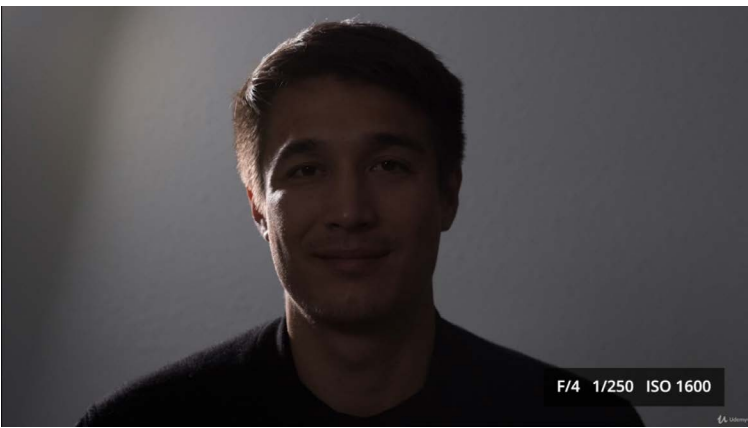
key light + fill light



3-point



fill light + back light



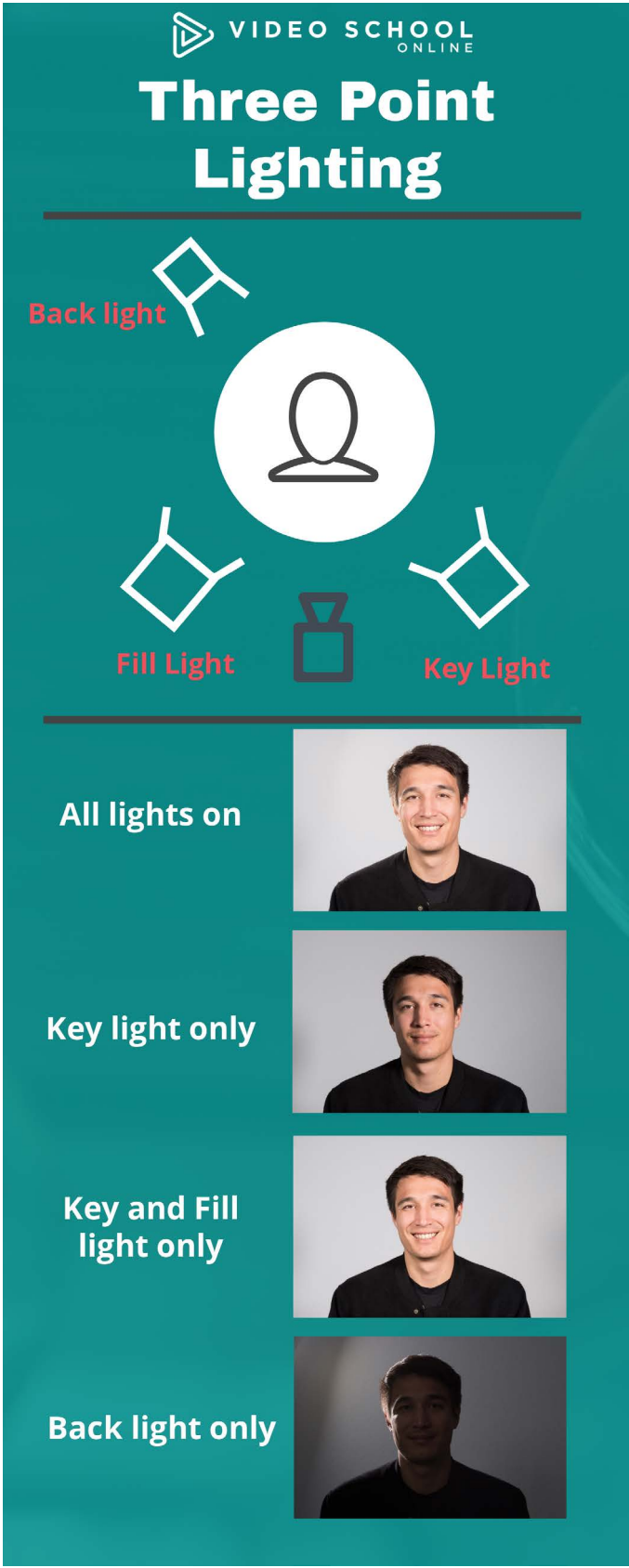
back light

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VISUAL GUIDE: 3-POINT LIGHTING SETUP



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CREATIVE LIGHTING - SILHOUETTES & THE BACK LIGHT

creative lighting = silhouettes, back lighting, flash positioning and night time long exposures

Silhouette photography

- position the subject between you and the light source & expose to the light source
- post-editing: increase the contrast and decrease the exposure of your subject

Back lighting

- separates the subject from the background
- mostly in portrait photography
- creates light rim around the subject

Off-board flash

- unlimited option
- to highlight special part of your scene or subject

Night time long exposure

- by exposing for a long time, the camera captures light streaking across the frame
- see more in section Long exposure photography

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ASSIGNMENT: NATURAL LIGHTING ACTIVITY

Take a photo indoors using natural light from a window.

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Space for your personal notes:

PRO TIP: CAPTURING BEAUTIFUL SUNSET PHOTOGRAPHS

Find a unique location:

- make sure it is the place where the sun is going to be setting
- maybe with silhouetted foreground elements
- or by having scenery that is also being illuminated

Set your camera:

- do not shoot auto!
- set up white balance
- usually low f-stop to have more in focus
- bring down ISO (around 800 - to keep taking photos as it gets darker)
- make shutter speed faster

Composition:

- tell a story
- skies will add great texture and colours
- or placing the horizon higher if you are on a cliff

Consider:

- bracketing or HDR

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PRO TIP: ARTISTIC FLARES

- flare occurs when a direct, hard light source hits the glass
- flares vary in look depending on the intensity of the light
- easy to see: moving the flashlight around your lens - moving it closer or farther = flares changes
- flashlight = one specific colour of flare
- lens = every lens has different looking flare
- aperture wide open (ideally fast lens)
- place your subject between you and back light
- move and pay attention to flare

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Space for your personal notes:

PRO TIP: GETTING RID OF GLARE IN GLASSES

- figure out from where the glare is coming from
- slightly tilt the glasses on your subject
- physically move the subject
- ask your subject to move a head slightly

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Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Here are links to additional resources to help you improve your photography lighting:

- [Natural Light Photography Inspiration](#)
- [Low Light Photography Tips](#)
- [External Flash Guide](#)
- [Setting Up Your Camera Off Camera](#)
- [How to Use a Flash Off Camera for Portraits](#)

SECTION: MOBILE PHOTOGRAPHY

SECTION: MOBILE PHOTOGRAPHY

- [Why Smartphone Photography is Awesome](#)
- Understanding Your Phone's Camera and Capabilities
- Exposing with a Smartphone
- Tips for Shooting with a Mobile Phone
- Shooting in Low Light with Your Mobile Phone
- Mobile Phone Photo Accessories
- iPhone Tutorial - Portrait Mode
- Supplemental Materials

Space for your personal notes:

WHY SMARTPHONE PHOTOGRAPHY IS AWESOME

- is always with you
- post-apps for smartphones
- instant share-ability
- can have fast aperture (f/1.8, f/2.4)
- can create images with shallow depth of field
- constantly improving very fast

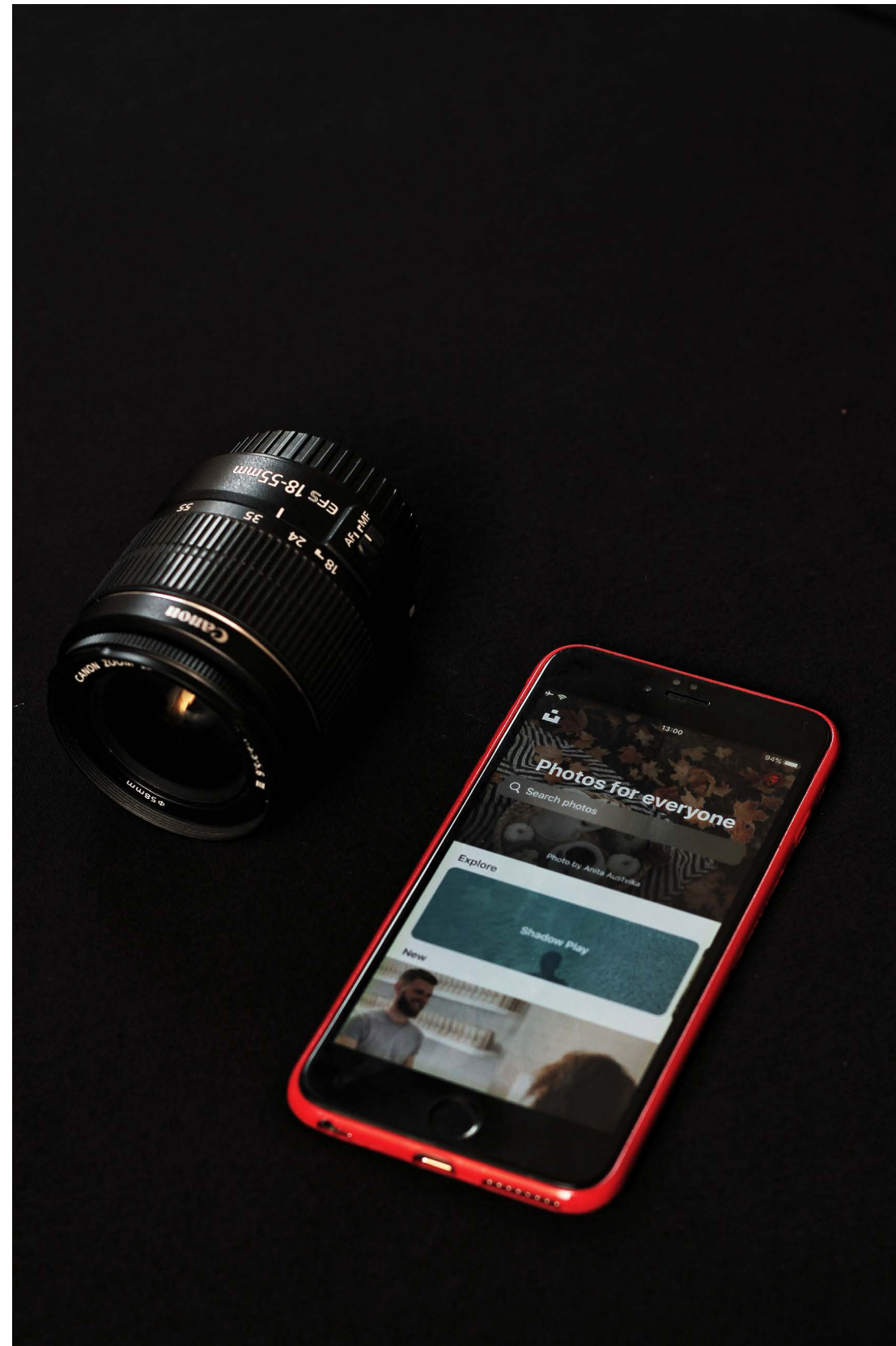


UNDERSTANDING YOUR PHONE'S CAMERA AND CAPABILITIES

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Space for your personal notes:



- mirrorless cameras
- built-in lenses
- small size
- limited to the technology of the phone
- you can still print amazing photos
- pixel quality will change depending on sensor quality
- automatic exposure or limited options of setting
- only the best can be pretty good in low-light situations

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Space for your personal notes:

EXPOSING WITH A SMARTPHONE

fully-automatic



by tapping on the screen
(pic: exposure set to clouds)



moving brightness bar up and
down changing the exposure



TIPS FOR SHOOTING WITH A MOBILE PHONE

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Space for your personal notes:

- look for good compositions - see more in composition section
- use a grid mode (check your user manual of your smartphone)
- create depth of field as much as you can
- use your portrait mode
- move closer to your subject
- underexpose by a bit to make the skies look better
- download the app for a night photography
- get a tripod for your smartphone



SHOOTING IN LOW LIGHT WITH YOUR MOBILE PHONE

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Space for your personal notes:

- use what you got
 - › the newest smartphones are pretty good in the low light situations
- use stabilization
 - › the less hand-held, the more still
- use the flash to light up a subject less than 5 ft away
 - › a little harsh, try diffusing the flash
- find light
 - › natural or/and artificial light sources
- use a long exposure app
 - › night camera lite or slow shutter cam



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Space for your personal notes:

MOBILE PHONE PHOTO ACCESSORIES

External lens

wide, macro, telephoto or even Zeiss lens

Sensor

use your phone as a screen

Small tripod

can fit in a pocket

Mobile printer

print from the phone

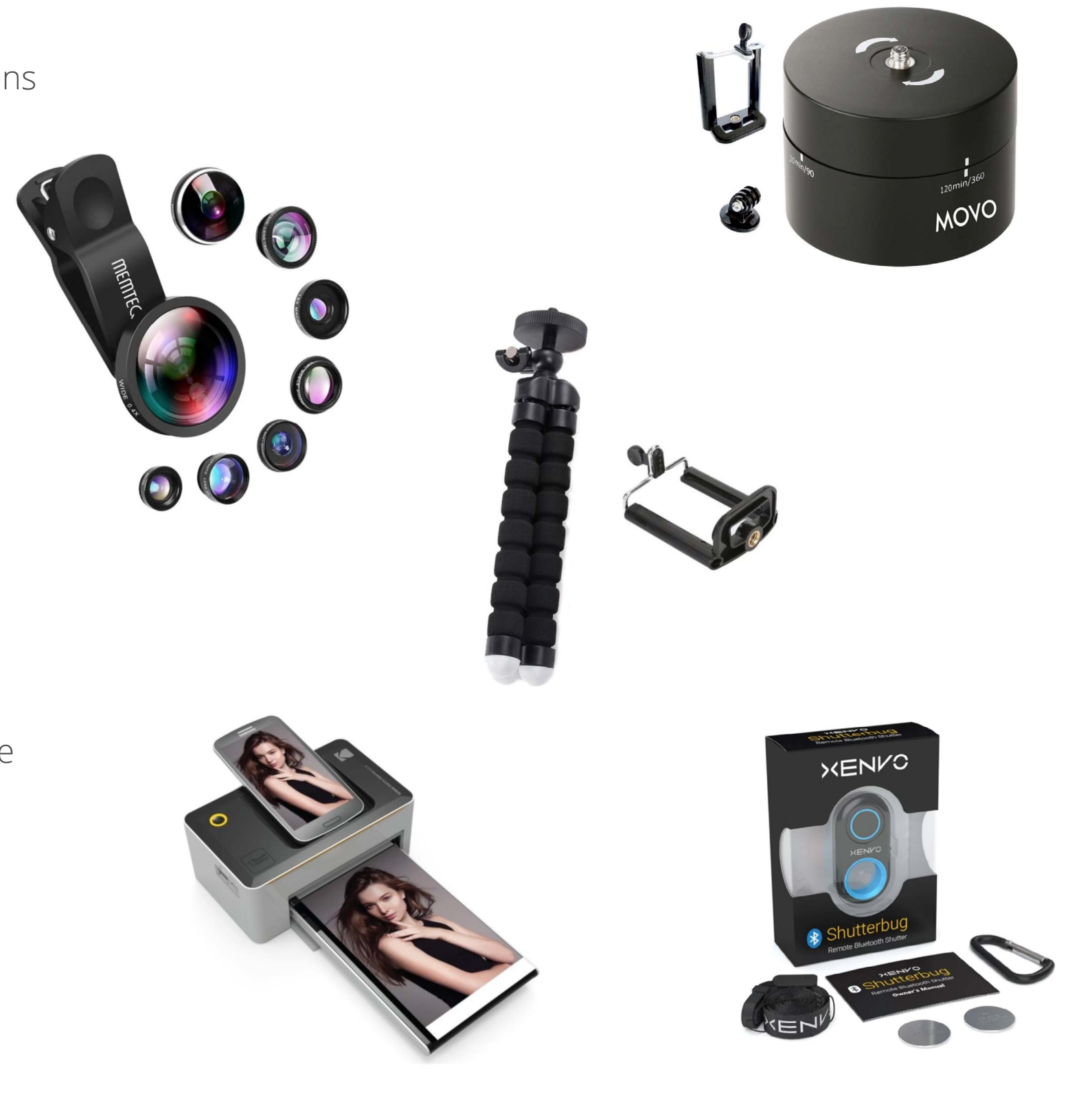
Shutter button

external bluetooth device

Selfie stick

Time-lapse spinner

grab and spin slowly to make time lapse



IPHONE TUTORIAL - PORTRAIT MODE

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Space for your personal notes:

How does that work:

- iPhone use dual lenses - telephoto and wide lens
- they work together to isolate the foreground and background
- the collected information is processed
- photos are combined into one perfect image
- foreground is perfectly sharp
- background is blurry



normal mode



portrait mode

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Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Here are some resources to help you with your mobile photography:

- 10 Creative Mobile Photography Ideas
- Simple DIY Ideas for Smartphone Photography
- Tips for Mobile Photography
- 10 Mobile Photography Tips

SECTION: EQUIPMENT CAMERAS

SECTION:
EQUIPMENT - CAMERAS

- *What Will You Learn in This Section?*
- Know Your Camera Types
- What is Your Budget?
- How and Where to Buy a Camera
- What is the Best Beginner Camera?
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Space for your personal notes:

WHAT IS CAMERA ANATOMY?

You will learn in this section:

- camera is just a tool, you are the artist
- there is not one “best” camera out there
- you will understand what the options are and you can make the decision
- you will decide what you want and need from your camera

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Space for your personal notes:

KNOW YOUR CAMERA TYPES

- DSLR, Mirrorless, point and shoots, smartphones

DSLR

- digital single lens reflex (named after their film predecessor SLRs)
- single lens = camera has one lens to capture the image
- reflex = the moving mirror inside the camera (shutter) that allows light image to go through the lens hit and bounce its way up to the viewfinder

Mirrorless

- no mirror, just a sensor
- just an electronic viewfinder

Point-and-shoot

- usually lack the viewfinder
- usually fixed lens (no possibility to change)

Mobile & smartphones cameras

- very different for every brand or model of the smartphone

usually smaller

usually cheaper

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Space for your personal notes:

WHAT IS YOUR BUDGET

what determines the price:

- the larger/better sensor
- speed of camera
- pixel count
- video capabilities
- lens system



PHOTO TIP

SMALLER BUDGET: CONSIDER BUYING A USED CAMERA BODY AND USE THAT EXTRA MONEY ON INVESTING IN BETTER LENS.

LARGER BUDGET: TRY TO TEST AND HANDLE AS MANY CAMERA SYSTEMS AS YOU CAN.

- look beyond the sticker price
- remember, you might also want to buy lenses and accessories like flashes, stabilization, batter packs & more
 - › see more in next sections

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Space for your personal notes:

HOW AND WHERE TO BUY A CAMERA

physical store

PRO: buying local allows you to test a camera before purchasing
CON: may be higher price

- do some research before going to a camera shop
- get all of your questions answered at once
- feel each camera and lens in your hand
- you can even try renting a camera

online buying

PRO: online gives you the best chance of getting a great deal
CON: you can not test it

camera websites we recommend:

- bhphotovideo.com
- adorama.com
- keh.com
- you can even rent cameras online from:
- borrowlenses.com

be careful:

- Amazon & ebay can be great places to buy camera gear, but be careful of any details & model versions - these could be fakes or may not have warranty

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Space for your personal notes:

WHAT IS THE BEST BEGINNER CAMERA?

I want to be a professional photographer:

- you can start with crop-sensor DSLR or smaller mirrorless;
- growing as a photographer you can switch to bigger mirrorless camera

As a hobby:

- small DSLR or even point-and-shoot camera might be enough

PHOTO TIP

ENTRY-LEVEL CAMERAS:
ANY CAMERA BETWEEN 300 - 1000 WILL SHOOT
SIMILARLY GREAT PHOTOS. CHOOSE THE ONE WHICH
FITS YOUR SPECIFIC NEEDS



CANON REBEL SERIES:
T3I, T4I, T5I, T6, T7...
US



CANON REBEL SERIES:
550D, 650D, 750D...
outside of the US



FUJIFILM CAMERAS:
A3, X-T10, X-T20



NIKON SERIES:
D3300, D3400, D3500, D5300, D5500, D5600...



PANASONIC LUMIX CAMERAS:
G7, G85, FS1000



SONY A-SERIES:
A5000, A6000, A6300, A6500...

- higher model numbers, usually means a better camera with more options and better quality

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VISUAL GUIDE: WHAT IS IN MY CAMERA BAG?

Whats in my camera bag?

In Will's Wedding bag

- 2x Camera (1 w/ verticle grip)
- 70-200 zoom lens (2.8)
- 24-70 zoom (2.8)
- 85mm 1.4 portrait lens
- 35mm 2.0
- Flash + remote system
- SD card holder w/ 4x 64gig SD
- 4x Batteries and charger
- Rain cover for backpack
- Dual Camera Harness



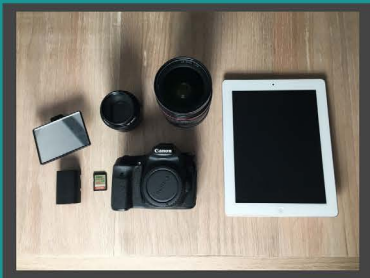
In Sam's travel bag



- Camera body w/ verticle grip
- 35mm1.2 + Close focus adapter
- Super wide 15mm f4.5
- 65mm f2
- 16-35 f2.8 zoom
- 4x Batteries and charger
- S2x 128gb SD cards
- GoPro Hero 6
- GNARBOX

In Phil's portrait shoot bag

- Camera body
- 24-70 Zoom
- 50mm f1.8
- Internal fish diffuser/ bounce
- Tablet (For client visualization)
- 1x 128gb SD card
- 1x Extra battery



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Space for your personal notes:

HOW TO BUILD YOUR CAMERA KIT

- camera body
- start with the kit lens which usually is a zoom around 18-55mm, and up to an f/4 aperture (good enough to start with)
- memory cards
- extra batteries
- camera bag (if did not come with camera)
- tripod

PHOTO TIP

ALWAYS HAVE ONE EXTRA BATTERY FULLY CHARGED



- upgrade your lenses
 - › upgrade your lens to one that opens up to a larger aperture - better for low light & shallow depth of field
 - › most brands have a pro-level 24-70mm f/2.8 zoom lens
 - › prime lens, try a 23mm, 35mm, 50 mm
 - › the “nifty fifty” is the most popular one, an inexpensive 50mm lens that opens up to a very wide aperture

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Space for your personal notes:

PHOTO CHAT: INTRODUCTION

- Photo chat is a new setup
- brings some more in-depth discussions
 - more from experience as a professional photographers

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PHOTO CHAT: BUYING A NEW CAMERA

Example of thinking when choosing a camera:

- I want a camera that is easy and fun to use - small, that you can take photos of the kids
- I already have Canon stuff (lenses) - do I want to buy a new bunch of lenses? (switching systems is a big commitment)
- Maybe I could buy a camera that could be only for nice pictures of children - maybe just one body and one prime lens (something very compact), nothing too sophisticated or:
- I do also a video - do I want to do photo and video with the same camera or I want to separate these two things and buy two? - one perfect for a photography and one perfect for a video

possible pros and cons of Fuji

- they do not really have a full-frame consumer mirrorless camera yet
- it does a good video, but not as good as Sony
- it is small and light weight
- lenses are not crazy expensive
- camera itself is not crazy expensive
- I can modify from professional camera to a nice little tiny travel camera in a second
- very comfortable layout (classic style)
- it is just fun to do photography with it

possible pros and cons of Sony

- full-frame sensors
- video!
- 42Mpx images - prints look amazing
- it's autofocus systems are one of the fastest on the market
- it does not have a classical layout, so it needs a time to get to know it
- much more expensive than Fuji (however it has a full-frame sensor)

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Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Below, you'll find links to helpful resources that further explain the concepts learned in this section about cameras.

- [Best Entry Level DSLR](#)
- [Guide to Buying a Used DSLR Camera](#)
- [What is a Micro Four Thirds Camera?](#)
- [Nikon vs. Canon vs. Sony Cameras](#)

SECTION: EQUIPMENT LENSES

**SECTION:
EQUIPMENT - LENSES**

- *What Will You Learn in This Section?*
- What is Focal Length?
- A Deeper Dive into Aperture
- Prime vs. Zoom Lenses
- ADVANCED: Prime vs. Zoom - Quality Comparison
- ADVANCED: Kit vs. Pro Lens Comparison
- Lens Stabilization
- Lens Filters
- Filter Demonstration
- PRO TIP: Chromatic Aberration
- Creative Lenses
- How to Clean Your Camera Lens
- Supplemental Materials

Space for your personal notes:

WHAT YOU WILL LEARN IN THIS SECTION?

- lens could be considered to be as important if not more important than the camera body

What you will learn:

- different types and qualities of lenses
- f-stops/ aperture
- focal lengths
- prime vs. zoom lenses
- best beginners lenses
- building a lens kit
- creative lenses (fish-eye and tilt shifts)
- lenses for different styles of photography

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Space for your personal notes:

WHAT IS FOCAL LENGTH?

The focal length of the lens is the distance between the lens and the image sensor when the subject is in focus, usually stated in millimetres (e.g., 28 mm, 50 mm, or 100 mm). In the case of zoom lenses, both the minimum and maximum focal lengths are stated, for example 18–55 mm.

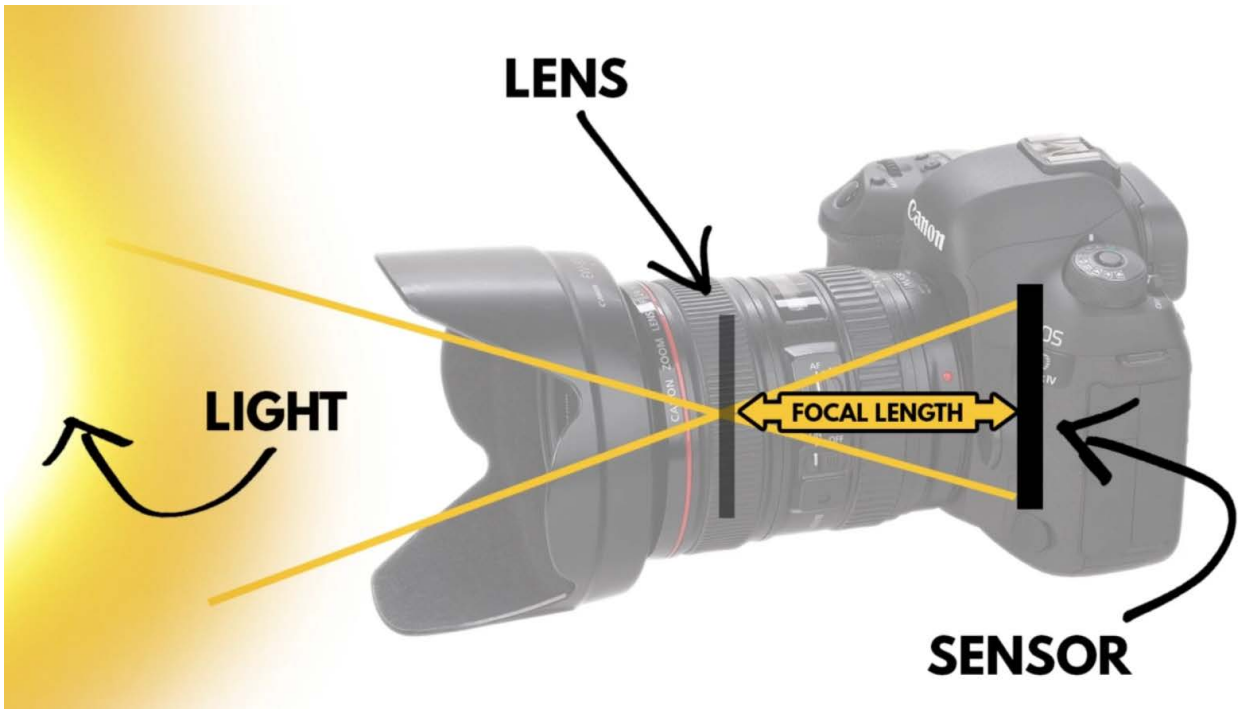


PHOTO TIP

MANY PHOTOGRAPHERS REFER TO THEIR LENSES BY THEIR FOCAL LENGTH: E.G. A 50MM IS “FIFTY”

Field of view is the area of the inspection captured on the camera’s imager. (How much you can see through your lens)

- the smaller focal length = the wider field of view
- wide lenses can start stretching an image around the edges (distortion) - usually more than 24mm
- this is because of the bend or curvature of the lens
- extreme of the curvature is a fish-eye lens - see later in this section

SECTION: EQUIPMENT - LENSES

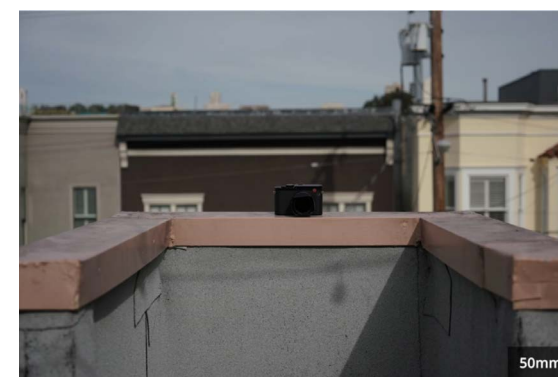
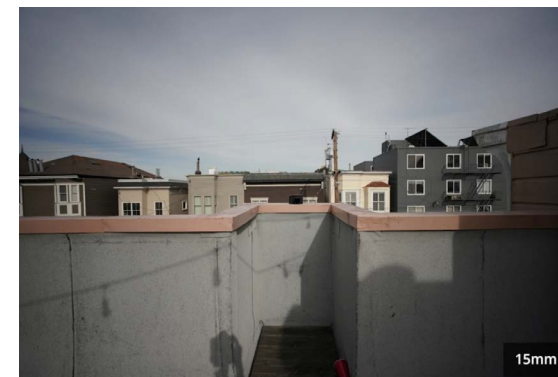
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WHAT IS FOCAL LENGTH?

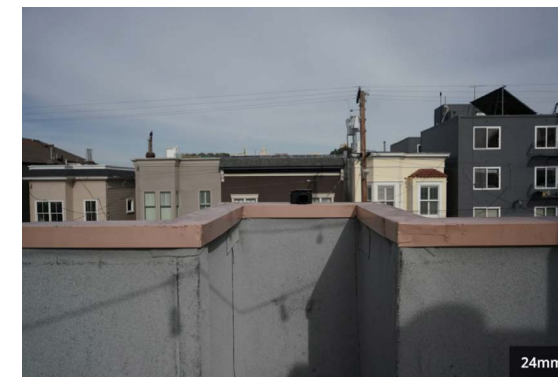
small focal length

- wide lens
- wider field of view
- less details of the object
- wider depth of field



50mm

- considered the middle focal length
- (no distortion, similar to human eye)



large focal length

- telephoto
- smaller field of view
- more details of the object
- shallower depth of field

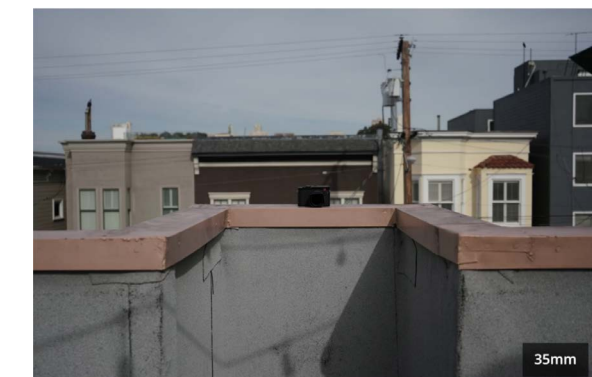


PHOTO TIP

TRY USING AN 85MM+ LENS FOR PORTRAITS

Depth of field is the distance between the nearest and the farthest objects that are in acceptably sharp focus in an image.

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Space for your personal notes:

A DEEPER DIVE INTO APERTURE

aperture = measured in f-stops



closing aperture

- higher f-stop number
- less amount of light
- shallower depth of field



opening aperture

- lower the f-stop number
- more amount of light
- wider depth of field



**GOING FROM F/8 TO F/5.6
DOUBLES THE LIGHT**

Lenses:

- some lenses have 1/2 stops between each regular f-stop
- a fast lens refers to one that can open up to a wide aperture like f/1.4 or f/2.0
- a slow lens might only open up to an f/4
- lenses with higher f/stop (e.g. f/1.4), f/2) are typically more expensive
- zoom lenses can have variable aperture as zooming in and out
- ultra telephoto lenses, 200mm+, usually do not open up wide than f/4
- most lenses shoot their “sharpest” between f/4 - f/5.6

24mm, f/1.4
wide-angle images
still a shallow depth of field

200mm, f/8
shallow depth of field
but easier to get a clear shot

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PRIME VS. ZOOM LENSES

A zoom lens is a mechanical assembly of lens elements for which the focal length can be varied as opposed to a fixed focal length lens.

zooms

- usually larger and heavier and at best open up to cca f/2.8 (f/3.5 - f/5.6 for economical zooms)
- you can get multiple compositions from one place

common zoom lenses:

16-35mm f/2.8 or f/4

24-70mm f/2.8 or f/4

24-105mm f/4

70-200 f/2.8 or f/4

prime lenses

- generally offer better quality, bokeh, and performance
- primes are usually smaller, lighter, and “faster”



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PRIME VS. ZOOM LENSES

PHOTO TIP

HOW TO BUILD A LENS KIT:

- start with a photo lens
- next, invest in a wide & telephoto lens
- consider buying a prime lens even if your zoom lens covers that focal length
- next, it depends on what kind of photography you want to do
 - › (all-around workhorse) the 24-70mm or 24-105mm f/2.8 or f/4 are great upgrades to the kit lens
 - › (portraits) prime between 50-135mm
 - › (travel & street photo) small prime lenses (35mm, f/1.2
 - › (landscapes) a wide angle lens - wider than 35mm, telephotos for details
 - › (street photography) compact prime lens
 - › (nature photography) telephoto lens that goes to 200-400+mm
- while you may upgrade a camera body, your lenses can often be used for many years
- you can purchase lens adapters that allow you to put one brand's lens on a different brand's body, but typically slow down your autofocus and take away from any weather sealing you might have

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Space for your personal notes:

PRIME VS. ZOOM - QUALITY COMPARISON



Sony 16-35mm f/2.8 ~ \$2200

- bigger
- worse aperture
- comparable quality

Voigtlander 35mm f/1.2 ~ \$800

- smaller
- better aperture
- comparable quality



SONY 35mm F/2.8



VOIGTLANDER 35mm F/2.8

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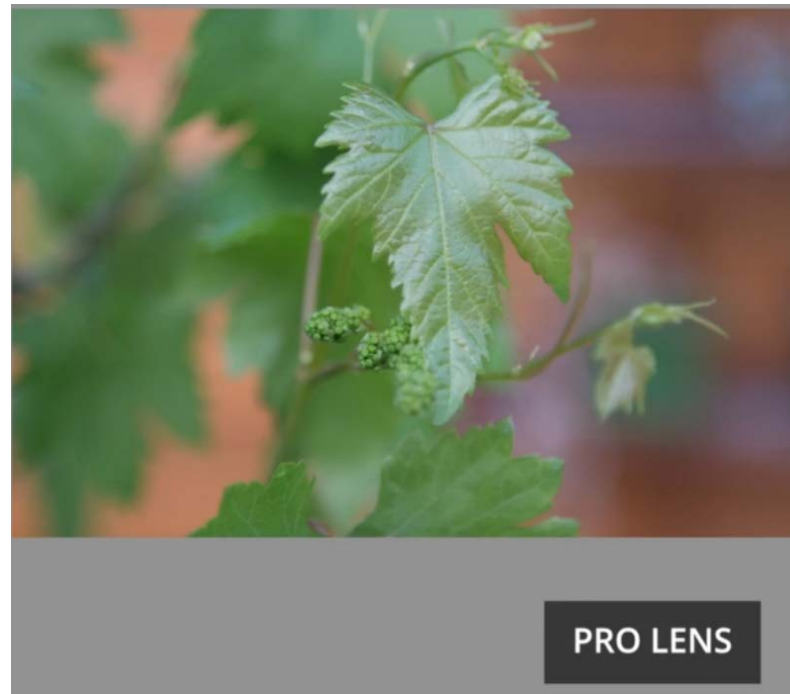
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KIT VS.. PRO LENS COMPARISON



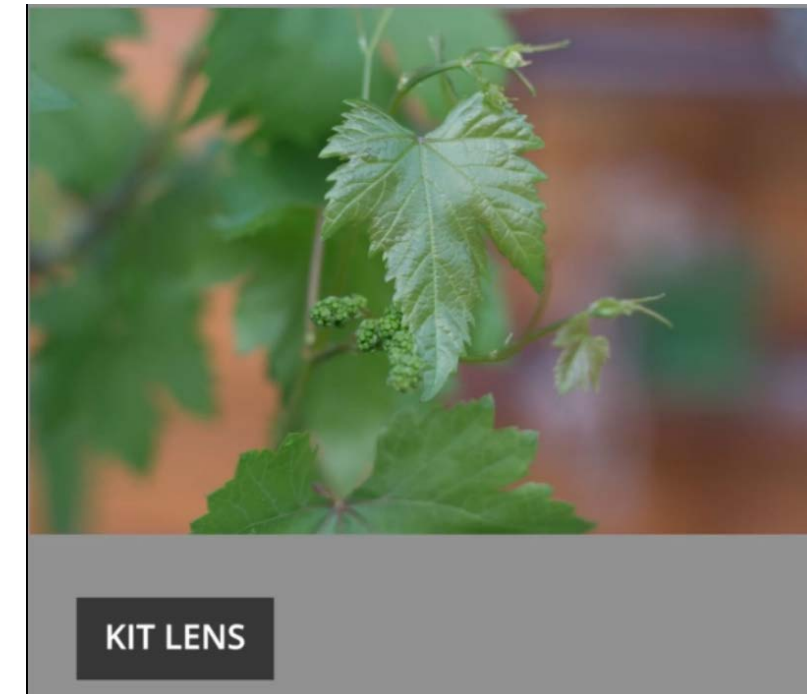
Canon 24-70 f/2.8 ~ \$1200

- much bigger
- better quality (more metal)
- pictures are a little bit crisper
- bokeh is much nicer
- f/2.8 allows a lot more light in



Canon 18-55 f/3.5-f/5.6 ~ \$200

- much smaller
- worse quality (more plastic)
- by zooming you lose f-stops



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LENS STABILIZATION

Image stabilization is a family of techniques that reduce blurring associated with the motion of a camera during exposure.

- lenses with stabilization are usually more expensive
- it is great for sports & wildlife photography
- without stabilization, an image is very shaky (especially with telephoto lens)
- with stabilization, an image is much more steady

- you can turn it on/off on the side of the lens
- turned on stabilization use a lot more battery



Nikon - VR (Vibration Reduction)
Canon - IS (Image Stabilization)
Fuji - OIS (Optical Image Stabilization)
Sony - OSS (Optical SteadyShot)
Olympus - 5-Axis Sync IS (in camera opposed to in lens)
Panasonic - MEGA or POWER OIS (Optical Image Stabilization)
Pentax - SR (Shake Reduction)

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LENS FILTERS

A filter is a camera accessory consisting of an optical filter that can be inserted into the optical path. Filters modify the images recorded. Commonly, it is a glass or plastic disk in a metal or plastic ring frame, which can be screwed into the front of or clipped onto the camera lens.

PHOTO TIP

MAKE SURE TO PURCHASE FILTERS THAT MATCH THE SIZE OF YOUR LENS.



Ømm

Do not confuse the size of your lens with the focal length.
It is possible to buy “step down rings” - adapters that allow you to place filters on multiple lens sizes, but not if your lens is larger than the filter.

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Space for your personal notes:

UV/Ultraviolet filter

- protect your lens from scratches & smudges
- do not affect the look of your photo

Polarizer Filter

- commonly used to reduce reflected light
- perfect for landscape photography

ND/Neutral Density Filters

- essentially to reduce the amount of light entering the lens
- great for long exposure photography during the day

Gradient Filters

- basically half normal glass and half filter
- number of types of gradients
- typically filter the sky

Color Correction

- changing colors in image
- either tinting the entire image or making certain colors pop more
- nature or landscape photos

Cross Screen/ Star

- transform any light source into star shape
- we recommend Tiffen, B&W and Hoya

LENS FILTERS



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Space for your personal notes:

FILTER DEMONSTRATION

UV



polarizor



neutral density



neutral density



neutral density



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Space for your personal notes:

PRO TIP: CHROMATIC ABERRATION

- or color fringing
- as the light passes through the lens, due to poor optical performance, the light is dispersed unevenly and all the colors don't land on the sensor or film plane correctly

longitudinal

- often with prime lenses wide open
- some cameras have built-in systems to reduce it
- can also be removed in a post-editing software

lateral

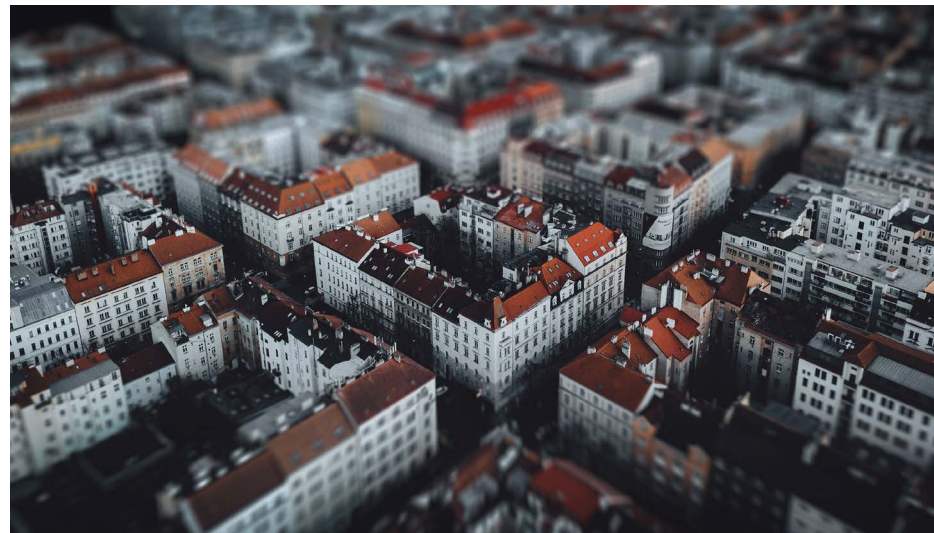
- typically occurs in lower quality, more economical lenses
- can only be removed in a post-editing software



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CREATIVE LENSES

*A **macro lens** is a dedicated camera lens that is optically optimized to handle extremely close focusing distances and can take sharp, highly detailed images of microscopic subjects.*

- these are usually also normal lenses

*A **tilt shift lens** is a lens in which the optics inside can be tilted and shifted, in relation to the image sensor. Newer lenses also rotate, allowing the lens to tilt and shift in a wide range of directions.*

- it allows to change a plane of focus, can eliminate distortion (great for architecture photography, cityscapes, etc.)
- might product a miniature effect

*A **fish-eye lens** is an ultra wide-angle lens that produces strong visual distortion intended to create a wide panoramic or hemispherical image. Fish-eye lenses achieve extremely wide angles of view.*

- much less expensive than high-end ultra wide-angle lenses that does not have any distortion
- typically a bit slower (not faster than f/2.8)

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Space for your personal notes:

HOW TO CLEAN YOUR CAMERA LENS

basic blower

- to get dust off
- blow across, not directly to the lens

microfibre cloth

- light circles around the glass

cleaner solution

- spray it on to microfibre cloth, not directly onto the lens
- light circles with wet part of cloth
- light circles with dry part of cloth

special tool: fibre pen

both sides of the glass!

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SUPPLEMENTAL MATERIALS

Supplemental Materials

Below, you'll find links to helpful resources that further explain the concepts learned in this section about lenses.

- [How to Choose Your First Lenses](#)
- [Prime vs.. Zoom Lenses](#)
- [Camera Lens Filters Explained](#)
- [Guide to Buying Used Camera Lenses](#)
- [Depth of Field Simulator](#)

SECTION: EQUIPMENT ACCESSORIES

**SECTION:
EQUIPMENT - ACCESSORIES**

- *What Will You Learn in This Section?*
- Memory Cards
- Batteries & Chargers
- Stabilization
- Flashes and Lighting
- Camera Cases and Bags
- Sam’s Favorite Camera Bags
- Hard Drives
- Supplemental Materials

Space for your personal notes:

WHAT YOU WILL LEARN IN THIS SECTION?

- all accessories for your camera kit

We will go over:

- memory cards
- batteries, chargers
- tripod
- flashes
- camera bags
- hard drive

SECTION: EQUIPMENT - ACCESSORIES

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Space for your personal notes:

MEMORY CARDS

- Check your camera's user manual to find out what kind of memory card slot it has and if there is a recommended speed

Types:

- SD card (secure digital)
 - › SDHC (secure digital high-capacity)
 - › SDXC (secure digital extended capacity)
- CF card (compact flash)
- micro SD cards (micro secure digital)



Size:

- Gigabyte = GB is a unit of measurement that each card is capable of storing
- the bigger the number, the more it can hold
- shooting in raw needs more space
- e.g. 32GB card can hold over 4000 22Mpx jpeg, but only 410 22Mpx raw photos

Speed:

- typically by class
- e.g. class 4 = write out 4 MB/s, class 10 = write at 10MB/s
- also UHS1 and UHS 2 (ultra-high speed)

Brands:

- Sandisk, Kingston, Samsung
- possible to buy also a case for cards

SECTION: EQUIPMENT - ACCESSORIES

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Space for your personal notes:

BATTERIES & CHARGERS

- most of the camera will come with at least one battery
- most of the camera will come with charger
- we recommend at least 2 batteries, or vertical grip
- if you want to charge more quicker, we recommend Watson dual charger

PHOTO TIP

WE RECOMMEND PURCHASING YOUR CAMERA BRAND'S BATTERIES. THESE WILL LAST LONGER.

A battery grip is an accessory for a camera, which allows the camera to hold multiple batteries to extend the battery life of the camera, and adds a vertical grip with an extra shutter release (and other controls) to shoot vertical photos.



- with some cameras, it also allows you to shoot more frames per second in various burst modes

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Space for your personal notes:

Tripod

- should support the weight of your camera combined with your heaviest lens

Gorillapod

- tripod with legs that can move into any position
- very compact, great for backpacking

Monopod

- one-legged tripods
- typically if you want to be mobile, but your lens is too heavy

What to consider:

- max height
- min size
- weight
 - › lighter - perfect for traveling
 - › taller - perfect for studio work
- head
 - › ball head - typically lighter and can turn camera to almost any angle (photographers)
 - › fluid heads - usually cost more (videographers)

Brands

Manfrotto, Ravelli, Zomei, Fancier, Benro, Gitzo

STABILIZATION



PHOTO TIP

WHEN PHOTOGRAPHING MODELS WITH A TRIPOD,
GET ONE THAT CAN GO AT LEAST 6FR HIGH

SECTION: EQUIPMENT - ACCESSORIES

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Space for your personal notes:

External flashes

- step up from on-board flash
- typically fit in your camera's hot shoe mount and need to be synced with your camera
- typically higher price = more features
- higher price = more angles
- some cameras can use multiples flashes at one time
- use: event photographers - wedding, concert

Diffusions for external flashes

- soften the light from flash

Strobe lights

- similar, but portable
- use: studio photography

PHOTO TIP

WE RECOMMEND INVESTING IN A FLASH THAT CAN TILT/ROTATE, AND HAS VARIOUS INTENSITIES.

FLASHES & LIGHTING



CAMERA CASES & BAGS

SECTION: EQUIPMENT - ACCESSORIES

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Space for your personal notes:

What to consider

- what are your needs?
- how much gear you need to carry?
- do you need to worry about heavy rain or snow, sand or dust?
- comfortable for long hike?
- easy to throw of your shoulder?

Backpacks

- easy to use
- comfortable for walking



Hard cases

- a bit more rugged
- not quite as easy to carry around

Satchels

- very accessible
- less gear



Hold-fast camera harness

- keep cameras accessible at all times
- great to have multiple cameras at the ready
- great for event photographers



Brands

- F-stop, Shimoda, Thinktank, Domke, Tenba, Lowepro, Pelican, Storm Cases

SAM'S FAVORITE CAMERA BAGS

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Space for your personal notes:



Donkey Satchel Bag

- over the shoulder
- very quick to access
- little zipper pockets
- side pouches
- great for events
- not secure



Thinktank Shapeshifter Backpack

- built-in pockets and pouches
- for more accessories
- big accessories fit
- laptop pocket
- great for traveling
- very secure

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Space for your personal notes:

HARD DRIVES

Hard drives

- solid-state drivers
 - › there are no moving pieces, so are more durable
 - › typically smaller and way more expensive
- disk drives
 - › much cheaper, expensive repair
- rpm - how fast the disk operate

Cloud storage

- universal access
- safe against fire, floods, etc.
- physically unbreakable
- recovery options
- slower upload
- ongoing costs

VS.

Hard drive

- backup from connected devices
- under your control
- physically breakable
- quicker upload
- limited space
- constantly changing plugs

PHOTO TIP

HAVE A SPARE BACKUP.

**SECTION:
EQUIPMENT - ACCESSORIES**

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Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Here are resources to help you with photography accessories:

- [10 Key Accessories for Photographers](#)
- [10 Essential Accessories for Your New Camera](#)
- [Best Camera Bags](#)
- [Understanding Memory Cards](#)
- [Best External Flashes for 2018](#)

SECTION: PORTRAIT PHOTOGRAPHY

SECTION: PORTRAIT PHOTOGRAPHY

- *Introduction to the Photography Scenario Sections*
- Tips for Shooting Portraits
- Download our 100+ Posing Guide
- Portrait Demonstration
- Assignment: Portrait Photography Activity
- Maternity Photo Inspiration
- Supplemental Materials

Space for your personal notes:

INTRODUCTION TO THE PHOTOGRAPHY SCENARIO SECTIONS

- better photos in a variety of different situations
- intro lessons with top tips
- demonstration lessons

SECTION: PORTRAIT PHOTOGRAPHY

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Space for your personal notes:



TIPS FOR SHOOTING PORTRAITS

Shoot at golden hour

- softer and warmer lighting
- use the sunlight as a back-light - nice glow from behind

Change up your compositions

- wide shots
- extreme close-ups
- extreme wide with lots of negative space

Clean up your background

- make sure there is nothing sticking out of subject's head
- get shallower depth of field
 - › moving subject further away from background
 - › opening up an aperture

Prepare some poses

- use our poses guide - see next in this section

Get serious

- try some serious facial expressions

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POSING GUIDE

- Download the 100+ Posing Guide



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Space for your personal notes:

PORTRAIT DEMONSTRATION



BEFORE:

- Fujifilm XT-2
- 18-55mm kit lens (pic: 23mm)
- automatic mode

AFTER:

Switch to a nicer prime lens

- (56mm on a crop sensor = cca 85mm)
- aperture f/1.4

Better background

- sun behind
- exposure compensation +1 (because subject is in a shade)
- shallower depth of field

Change up your composition

- 3 layers
- close-up

Position your subject



SECTION: PORTRAIT PHOTOGRAPHY

- Introduction to the Photography Scenario Sections
- Tips for Shooting Portraits
- Download our 100+ Posing Guide
- Portrait Demonstration
- *Assignment: Portrait Photography Activity*
- Maternity Photo Inspiration
- Supplemental Materials

Space for your personal notes:

ASSIGNMENT: PORTRAIT PHOTOGRAPHY ACTIVITY

Practice your portrait photography!

SECTION: PORTRAIT PHOTOGRAPHY

- Introduction to the Photography Scenario Sections
- Tips for Shooting Portraits
- Download our 100+ Posing Guide
- Portrait Demonstration
- Assignment: Portrait Photography Activity
- *Maternity Photo Inspiration*
- Supplemental Materials

Space for your personal notes:

MATERNITY PHOTO INSPIRATION

This chapter contains several poses and photo compositions from Phil's own maternity session while his wife was pregnant with their twins. These photos were shot by Will Carnahan. see the chapter online



SECTION: PORTRAIT PHOTOGRAPHY

- Introduction to the Photography Scenario Sections
- Tips for Shooting Portraits
- Download our 100+ Posing Guide
- Portrait Demonstration
- Assignment: Portrait Photography Activity
- Maternity Photo Inspiration
- *Supplemental Materials*

Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Below, you'll find links to helpful resources that further explain the concepts learned in this section about portrait photography.

[Posing Guide: 100+ Ideas for Couples, Women, Men, Children and Groups](#)
[6 Steps to Better Portrait Photography](#)

SECTION: LONG EXPOSURE PHOTOGRAPHY

SECTION: LONG EXPOSURE PHOTOGRAPHY

- *Tips for Shooting Long Exposures*
- Daytime Long Exposures
- Night Long Exposure Demonstration
- Assignment: Long Exposure Activity
- Supplemental Materials

Space for your personal notes:

TIPS FOR SHOOTING LONG EXPOSURES

Use a tripod

- any little motion could ruin your photo

Purchase a shutter release remote

- you eliminate touching the camera - to reduce any camera shake during a long exposure
- allows you to do custom long exposures using the bulb mode on your camera

Frame up first

- crank up ISO and use a shorter shutter speed

Look for motion

- motion is a key to good looking long exposure (cars, moving clouds, water, etc.)

Use ND (neutral density) filters

- because you cannot decrease shutter speed too much during the day without completely over exposing your photo, ND filters will cut down the light entering your lens
- ND filter cut down the light, do not affect colors

- always pay attention to your compositions, even when just trying to get the exposure right
- after shooting a long exposure, your camera will take time to process it

SECTION: LONG EXPOSURE PHOTOGRAPHY

- Tips for Shooting Long Exposures
- *Daytime Long Exposures*
- Night Long Exposure Demonstration
- Assignment: Long Exposure Activity
- Supplemental Materials

Space for your personal notes:

DAYTIME LONG EXPOSURES

- bring a tripod, test, test, test, adjust your depth of field, know your ISO limit
- be patient and have fun

Mode:

- aperture priority - if you care the most about how much is in focus
- shutter speed - if you care the most about the length of exposure

if the picture is too bright:

- decrease shutter speed (e.g. from 1" to 3")
- increase aperture (e.g. from f/11 to f/4.5)
- decrease the sensitivity of sensor (e.g. from ISO 800 to ISO 200)
- use/use higher ND filter (e.g. N10 can decrease exposure of 10 stops)

PRO TIP

FILTERS ARE VERY TOUCH SENSITIVE. DO NOT TOUCH THE FACE OF YOUR FILTERS.

PRO TIP

TRY USING A "LONG EPOSURE" OR "ND FILTER" APP TO HELP CALCULATE.

Bulb mode

- I want more than 30" shutter - but it is maximum, go to "bulb mode"
- clicking shutter release button opens the shutter, and close the shutter as you wish

if the picture is too dark:

- increase shutter speed (e.g. from 3" to 1")
- decrease aperture (e.g. from f/4.5 to f/11)
- increase the sensitivity of sensor (e.g. from ISO 200 to ISO 800)
- if used - use lower ND filter (e.g. from N10 to N4)

PRO TIP

BE AWARE THAT AUTOFOCUS MIGHT NOT WORK WELL WHEN USING ND FILTERS.

PRO TIP

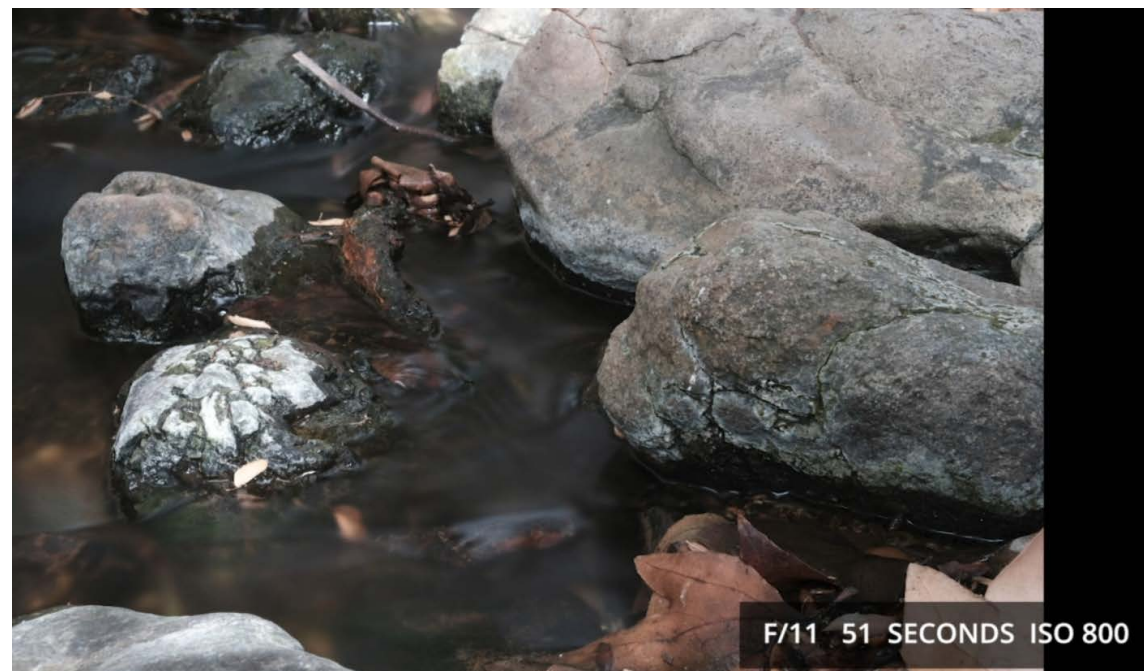
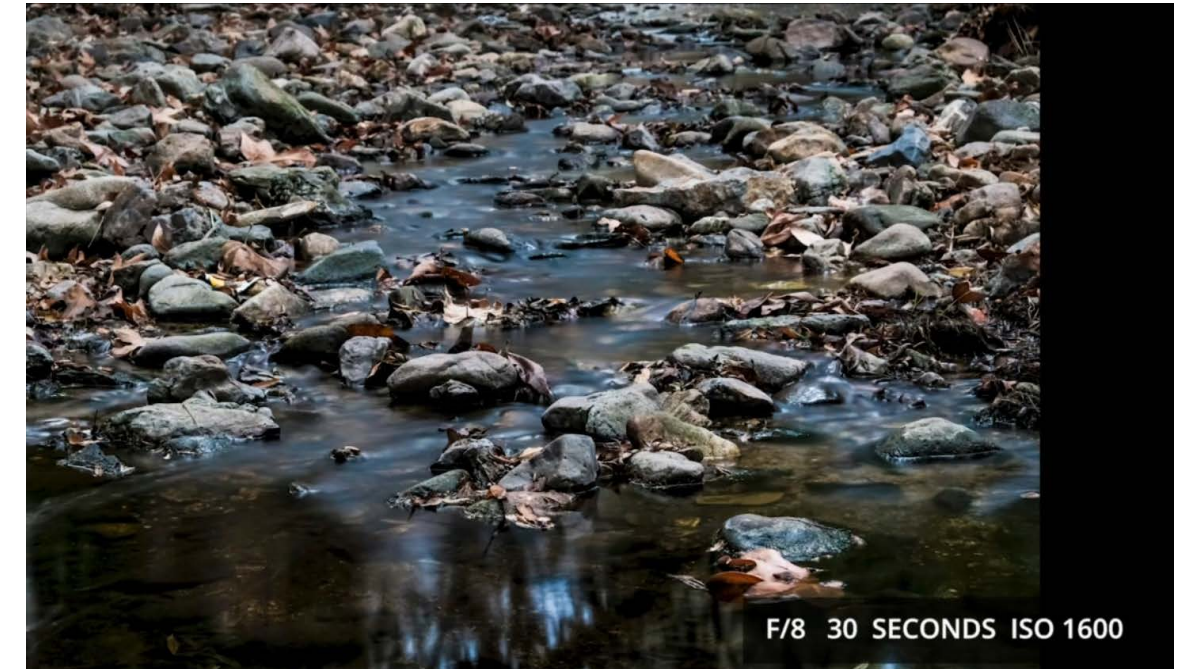
REALLY PAY ATTENTION TO ANY BRIGHT SPOTS THAT WILL BECOME OVEREXPOSED.

DAYTIME LONG EXPOSURES

SECTION: LONG EXPOSURE PHOTOGRAPHY

- Tips for Shooting Long Exposures
- *Daytime Long Exposures*
- Night Long Exposure Demonstration
- Assignment: Long Exposure Activity
- Supplemental Materials

Space for your personal notes:



- on tripod
- release shutter remote used
- framed up first
- zoomed-in to the motion
- natural density filter N10 used

SECTION: LONG EXPOSURE PHOTOGRAPHY

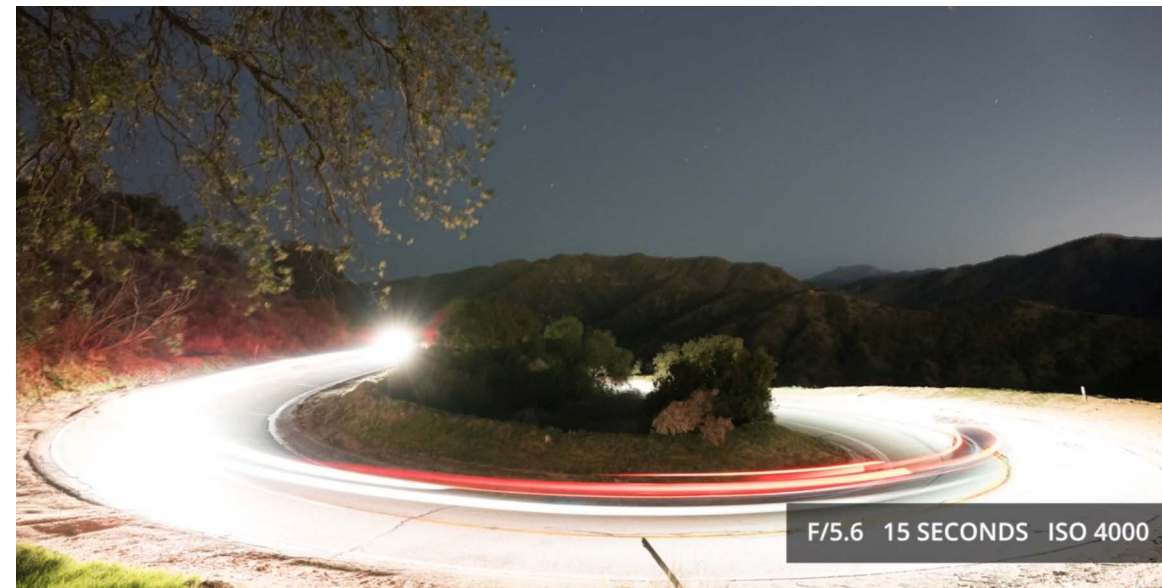
- Tips for Shooting Long Exposures
- Daytime Long Exposures
- *Night Long Exposure Demonstration*
- Assignment: Long Exposure Activity
- Supplemental Materials

Space for your personal notes:

NIGHT LONG EXPOSURE DEMONSTRATION

- bring a tripod, test, test, test, adjust your depth of field, know your ISO limit
- be patient and have fun

BEFORE



AFTER



- wider lens would be even better
- shooting in raw - a lot of information for post-processing
- 3 layers (foreground, object, background) have a 3D effect

PRO TIP

MAKE SURE TO TURN OFF ANY LIGHTS WHILE SHOOTING YOUR LONG EXPOSURE

PRO TIP

USING A RED HEAD LAMP WON'T AFFECT YOUR NIGHT VISION LIKE WHITE LIGHT

SECTION: LONG EXPOSURE PHOTOGRAPHY

- Tips for Shooting Long Exposures
- Daytime Long Exposures
- Night Long Exposure Demonstration
- *Assignment: Long Exposure Activity*
- Supplemental Materials

Space for your personal notes:

ASSIGNMENT: LONG EXPOSURE ACTIVITY

Take your own long exposure photo!

SECTION: LONG EXPOSURE PHOTOGRAPHY

- Tips for Shooting Long Exposures
- Daytime Long Exposures
- Night Long Exposure Demonstration
- Assignment: Long Exposure Activity
- *Supplemental Materials*

Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Here are some resources that will help you with long exposure photography:

- Long Exposure Wiki
- 15 Stunning Long Exposure Examples
- Step by Step Guide to Long Exposure
- Best Apps for Slow Shutter Speed
- Long Exposure Calculator (iOS)
- ND Filter Calculator (Android)

**SECTION:
LANDSCAPE
PHOTOGRAPHY**

SECTION: LANDSCAPE PHOTOGRAPHY

- *Tips for Shooting Landscape Photography*

- Landscape Photography Demonstration
- Assignment: Landscape Photography Activity
- Supplemental Materials

Space for your personal notes:

TIPS FOR SHOOTING LANDSCAPE PHOTOGRAPHY

Increase your depth of field

- with landscape photos, you will typically want more to be in focus
- increase f-stop as much as possible

Find a focal point

- best landscape photos has some sort of subject
- better look for something specific to capture, than just capturing everything in sight

Choose the right lens

- wide lens (11-35mm) is crucial for capturing the entire view
- bring also telephoto lens to capture closer up shots

Shoot at the right time

- golden hour will create more contrast and interesting shadows

Straighten your horizons

- horizons should be straight across
- also pay attention where horizons are in your frame

LANDSCAPE PHOTOGRAPHY DEMONSTRATION

SECTION: LANDSCAPE PHOTOGRAPHY

- Tips for Shooting Landscape Photography
- *Landscape Photography Demonstration*
- Assignment: Landscape Photography Activity
- Supplemental Materials

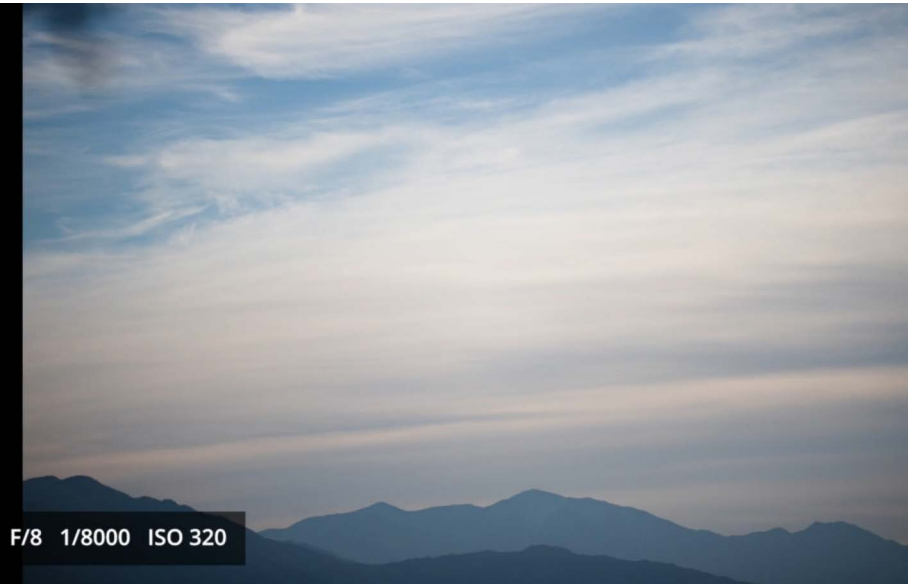
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- add a polarizing filter to make the skies pop
- use your manual mode
- using a zoom lens, you can adjust your composition more easily
- adjust your autofocus mode
- find the focal point in your landscape
- during the golden hour shadows are not so harsh
- **try different things!**

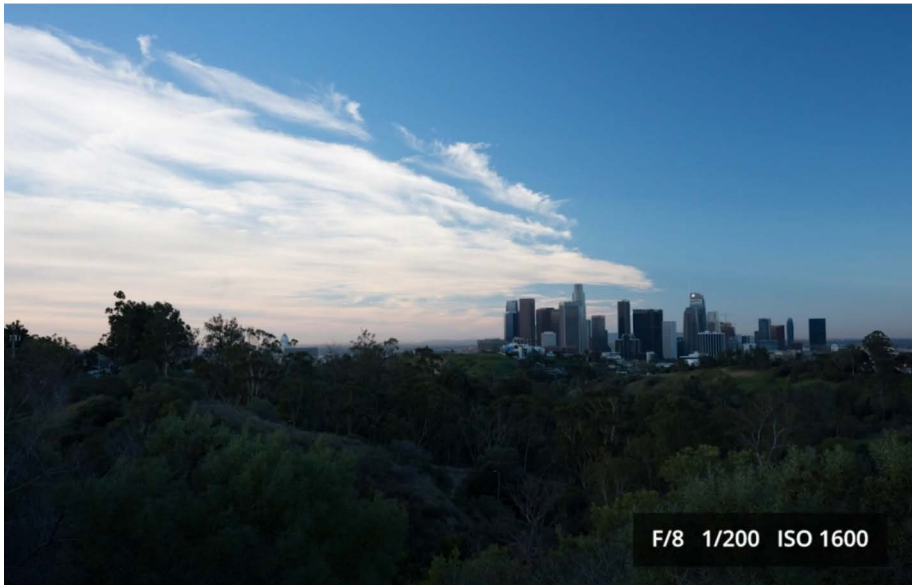
fully automatic



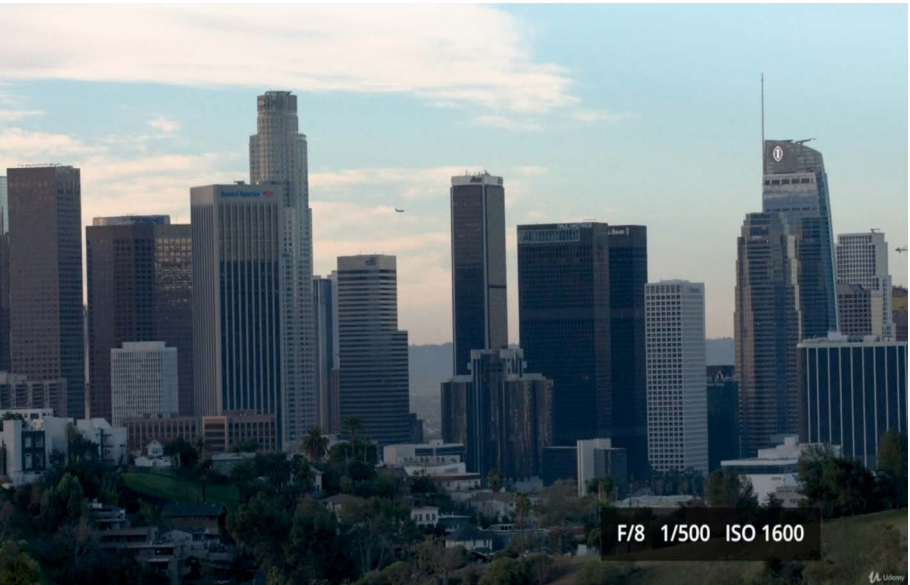
negative space



polarizer



zoomed-in



SECTION: LANDSCAPE PHOTOGRAPHY

- Tips for Shooting Landscape Photography
- Landscape Photography Demonstration
- *Assignment: Landscape Photography Activity*
- Supplemental Materials

Space for your personal notes:

ASSIGNMENT: LANDSCAPE PHOTOGRAPHY ACTIVITY

Go take a landscape photo!

SECTION: LANDSCAPE PHOTOGRAPHY

- Tips for Shooting Landscape Photography
- Landscape Photography Demonstration
- Assignment: Landscape Photography Activity
- *Supplemental Materials*

Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Here are some resources to help you with landscape photography:

[Landscape Photography Inspiration](#)
[Ideas for Landscape Photography](#)

**SECTION:
PRODUCT
PHOTOGRAPHY**

SECTION: PRODUCT PHOTOGRAPHY

- *Tips for Shooting Product Photos*
- Product Photography Demonstration with Natural Light
- Product Photography Demonstration with Artificial Lights
- Adding a Reflection to Increase Quality and Style
- Create a DIY Product Photo Light Box
- Assignment: Product Photography
- Editing a Product Photo
- Supplemental Materials

Space for your personal notes:

TIPS FOR SHOOTING PRODUCT PHOTOS

Two types of product photography:

- product-only photography
- lifestyle photography

Use a cheap paper-roll

- create a nice looking, professional background

Use a tripod

- it will let you shoot with a higher f-stop to have more in focus and longer shutter exposure to get more light
- photos will be consistent if shooting more products at once

Control your light

- bounce cards or negative fill (white poster board or black poster board)
- it will help you control contrast and control the look on your product itself

Pay attention to the product

- make sure it is far enough from the background
- it is in the centre, where all your light is
- it is clean and looks pristine

Increase production value with a reflection

- use some plexiglass or a mirror

Edit photos to make them look as professional as possible

- clean up the background
- clean up any spots
- add a little contrast

SECTION: PRODUCT PHOTOGRAPHY

- Tips for Shooting Product Photos
- *Product Photography Demonstration with Natural Light*
- Product Photography Demonstration with Artificial Lights
- Adding a Reflection to Increase Quality and Style
- Create a DIY Product Photo Light Box
- Assignment: Product Photography
- Editing a Product Photo
- Supplemental Materials

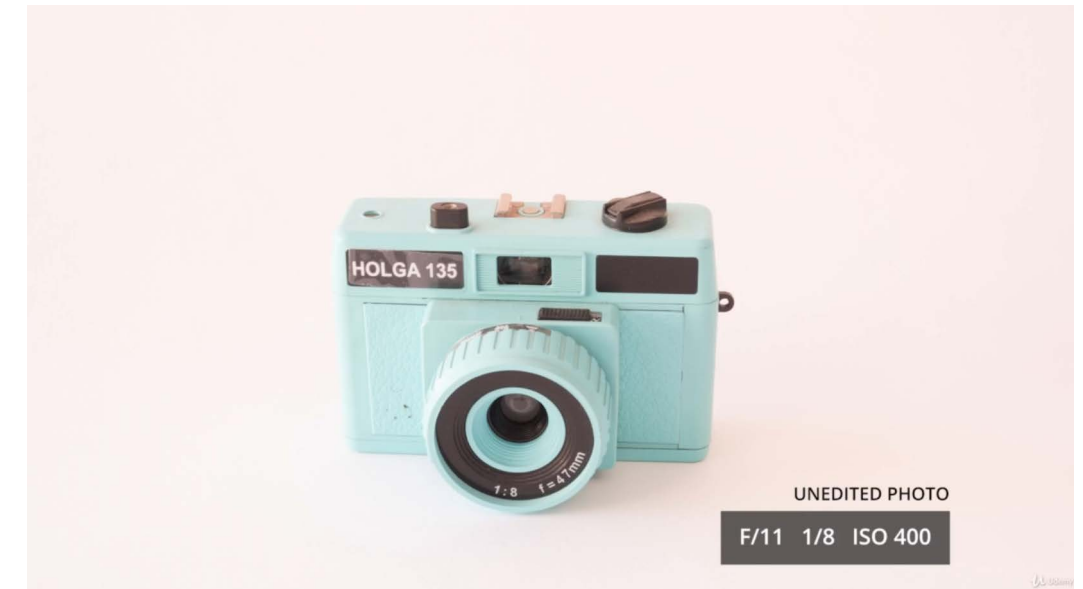
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PRODUCT PHOTOGRAPHY DEMONSTRATION WITH NATURAL LIGHT

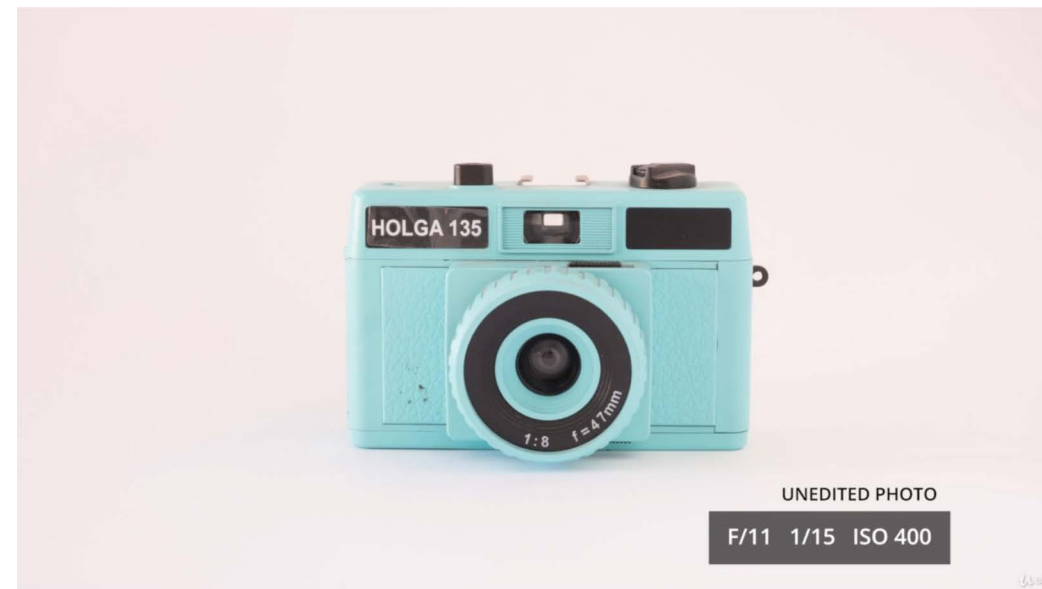
- shooting with a tripod
- f/11 to increase the depth of field



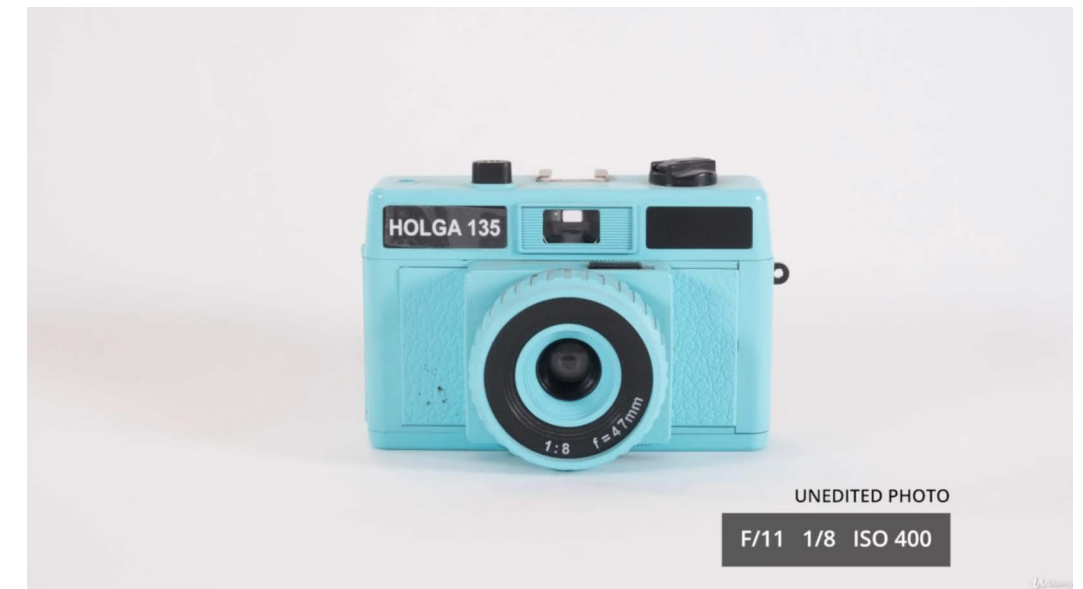
- first shot



- faster shutter speed to get more light



- changing angle
- using a white board to bounce light onto product (fill light) to get rid of the shadow



- using a black board to add a deeper contrast

SECTION: PRODUCT PHOTOGRAPHY

- Tips for Shooting Product Photos
- Product Photography Demonstration with Natural Light
- *Product Photography Demonstration with Artificial Lights*
- Adding a Reflection to Increase Quality and Style
- Create a DIY Product Photo Light Box
- Assignment: Product Photography
- Editing a Product Photo
- Supplemental Materials

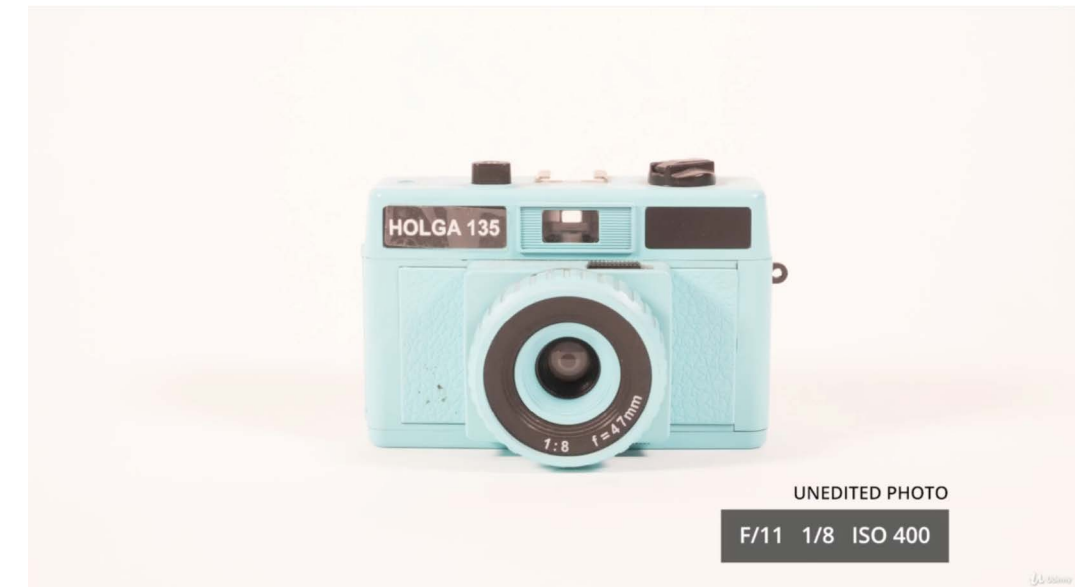
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PRODUCT PHOTOGRAPHY DEMONSTRATION WITH ARTIFICIAL LIGHTS

- studio lights allow to shoot any size of product at any time of the day, anywhere
- usually two lights with soft boxes (daylight balanced) and a back-light



- two lights with softboxes aiming directly at a subject



- the closer the lights, the more lights will be added



- just one light

SECTION: PRODUCT PHOTOGRAPHY

- Tips for Shooting Product Photos
- Product Photography Demonstration with Natural Light
- Product Photography Demonstration with Artificial Lights
- *Adding a Reflection to Increase Quality and Style*
- Create a DIY Product Photo Light Box
- Assignment: Product Photography
- Editing a Product Photo
- Supplemental Materials

Space for your personal notes:

ADDING A REFLECTION TO INCREASE QUALITY AND STYLE

- adding a cool reflective bottom part to a shot (either plexiglas or glass)
- a little bit more dynamic



- black cardboard under the plexi glass
- unedited



- only white background
- unedited



- black cardboard under the plexi glass
- edited



- only white background
- edited

SECTION: PRODUCT PHOTOGRAPHY

- Tips for Shooting Product Photos
- Product Photography Demonstration with Natural Light
- Product Photography Demonstration with Artificial Lights
- Adding a Reflection to Increase Quality and Style
- *Create a DIY Product Photo Light Box*
- Assignment: Product Photography
- Editing a Product Photo
- Supplemental Materials

Space for your personal notes:

CREATE A DIY PRODUCT PHOTO LIGHT BOX

- plastic box, poster board, butcher paper
- Home Depot hardware store lights
- under \$30, under 10 minutes
- **fully adjustable “studio”:**

- 2 lights
- on the side



- 1 light
- on the side



- 2 lights
- from the front



SECTION: PRODUCT PHOTOGRAPHY

- Tips for Shooting Product Photos
- Product Photography Demonstration with Natural Light
- Product Photography Demonstration with Artificial Lights
- Adding a Reflection to Increase Quality and Style
- Create a DIY Product Photo Light Box
- *Assignment: Product Photography*
- Editing a Product Photo
- Supplemental Materials

Space for your personal notes:

ASSIGNMENT: PRODUCT PHOTOGRAPHY

Practice your product photography!

SECTION: PRODUCT PHOTOGRAPHY

- Tips for Shooting Product Photos
- Product Photography Demonstration with Natural Light
- Product Photography Demonstration with Artificial Lights
- Adding a Reflection to Increase Quality and Style
- Create a DIY Product Photo Light Box
- Assignment: Product Photography
- *Editing a Product Photo*
- Supplemental Materials

Space for your personal notes:

EDITING A PRODUCT PHOTO

Adobe Lightroom classic CC - you might need to see first a section Adobe Lightroom

- Crop and rotate
 - › composition
 - › straight
- Set a white balance
- Contrast
 - › boost the whites
 - › boost the blacks
 - › a little more of saturation
 - › etc.
- Retouch
 - › get rid of spots and blemishes
- Detailing
 - › maybe adjusting an exposure
 - › cropping vignetting
 - › etc.
- Graduated background
- getting rid of a line in the background



before



after



before



after

SECTION: PRODUCT PHOTOGRAPHY

- Tips for Shooting Product Photos
- Product Photography Demonstration with Natural Light
- Product Photography Demonstration with Artificial Lights
- Adding a Reflection to Increase Quality and Style
- Create a DIY Product Photo Light Box
- Assignment: Product Photography
- Editing a Product Photo
- *Supplemental Materials*

Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Here are some resources to help you with product photography:

5 Must-Follow Tips
Beginner’s Guide to Product Photography

SECTION: LOW LIGHT PHOTOGRAPHY

SECTION: LOW LIGHT PHOTOGRAPHY

- *Tips for Shooting in Low Light*
- Low Light Photography Demonstration
- Assignment: Low Light Activity
- Supplemental Materials

Space for your personal notes:

TIPS FOR SHOOTING IN LOW LIGHT

Know how high your ISO can go

- test your camera to see how much grain and digital noise your photos have with a higher ISO

Know how low you can take your shutter speed

- if you can hold your camera steady without motion blur, you do not need to compensate with a higher ISO
- wide shots

Shoot “wide open”

- drop your f-stop to let more light in
- invest in a fast lens (f/1.4 or f/2)
- using a prime lens that can open up to a wide aperture helps

Use manual focus

- autofocus does not work well in a low light situation

Use stabilization

- decreasing your shutter speed will help to expose your shot properly

LOW LIGHT PHOTOGRAPHY DEMONSTRATION

SECTION: LOW LIGHT PHOTOGRAPHY

- Tips for Shooting in Low Light
- *Low Light Photography Demonstration*
- Assignment: Low Light Activity
- Supplemental Materials

Space for your personal notes:



- EOS Rebel T5I (cropped sensor)
- 18-55mm f/3.5-5.6 kit lens
- fully automatic mode



- EOS Rebel T5I (cropped sensor)
- 500mm f/1.8 lens
- manual mode
- autofocus



- EOS Rebel T5I (cropped sensor)
- 500mm f/1.8 lens
- manual mode
- manual focus



- Sony A7 R3 (full-frame)
- manual mode
- manual focus
- new composition

SECTION: LOW LIGHT
PHOTOGRAPHY

- Tips for Shooting in Low Light
- Low Light Photography Demonstration
- *Assignment: Low Light Activity*
- Supplemental Materials

Space for your personal notes:

ASSIGNMENT: LOW LIGHT ACTIVITY

Practice taking photos in low light situations.

SECTION: LOW LIGHT
PHOTOGRAPHY

- Tips for Shooting in Low Light
- Low Light Photography Demonstration
- Assignment: Low Light Activity
- *Supplemental Materials*

Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Below, you'll find links to helpful resources that further explain the concepts learned in this section about low light photography.

[Low Light Photography Tips](#)
[Low Light Photography](#)
[Tips for Low Light Photography](#)

**SECTION:
SPORTS & ACTION
PHOTOGRAPHY**

SECTION: SPORTS & ACTION PHOTOGRAPHY

- *Tips for Shooting Sports & Action Photos*
- Action and Sports Photography Demonstration
- Assignment: Action Photography Activity
- Action Photography Demonstration II
- Supplemental Materials

Space for your personal notes:

TIPS FOR SHOOTING SPORTS & ACTION PHOTOS

Use a long lens

- 200mm or even 300mm
- so you can get close-up shots and medium shots with details of the action

Increase your shutter speed

- do some test shots and increase your shutter speed to capture sharp details
- or slow down the shutter - panning

Take lots of photos

- use burst mode to get the options of choosing the perfect photo
- look for a camera with at least 6fps burst mode

Position yourself properly

- scope out the location
- shooting from near eye level of the athlete usually results in better photos

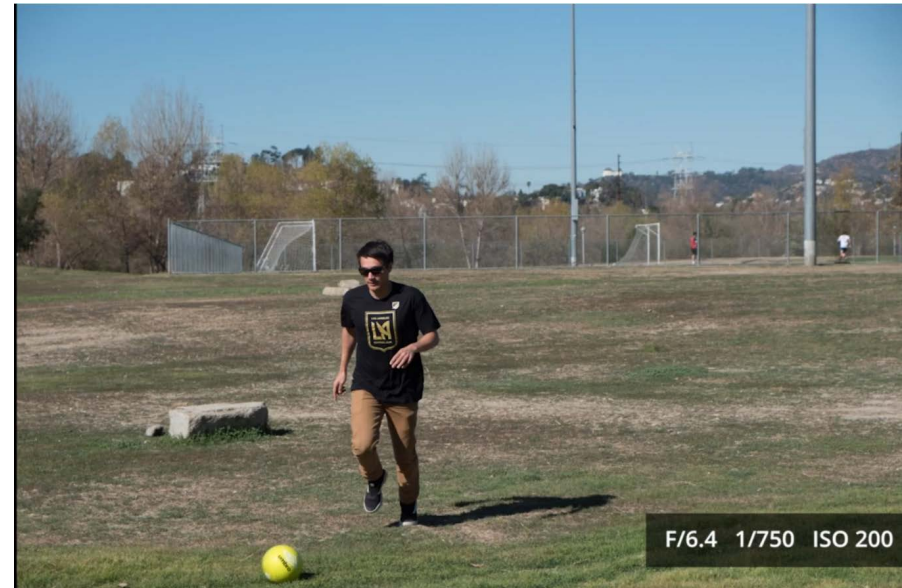
Capture their faces

SECTION: SPORTS & ACTION PHOTOGRAPHY

- Tips for Shooting Sports & Action Photos
- *Action and Sports Photography Demonstration*
- Assignment: Action Photography Activity
- Action Photography Demonstration II
- Supplemental Materials

Space for your personal notes:

ACTION & SPORTS PHOTOGRAPHY DEMONSTRATION



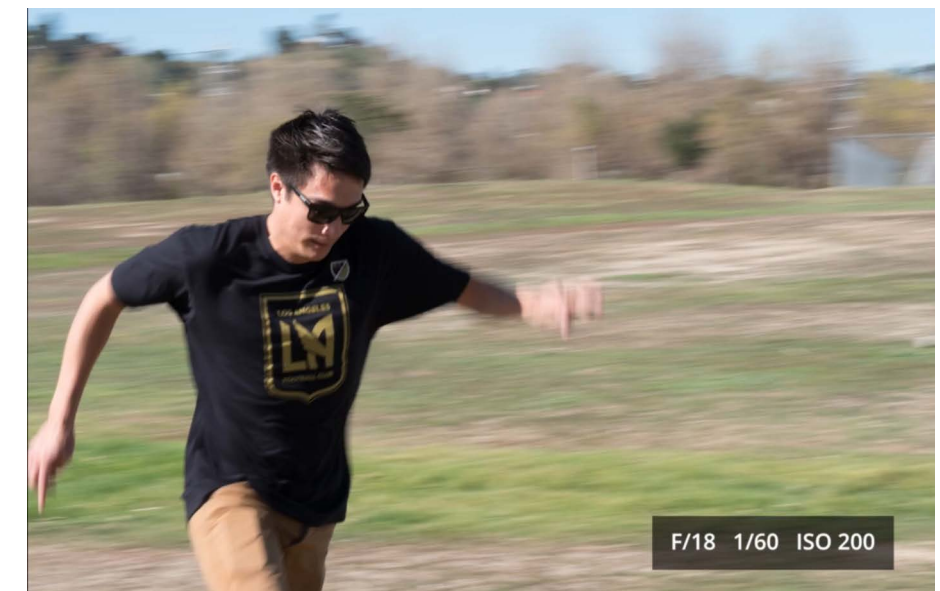
- Fujifilm XT-2 (cropped sensor)
- 18-55 mm kit lens
- automatic mode



- Fujifilm XT-2 (cropped sensor)
- 50-150 mm kit lens (76-213mm lens on a full frame)
- manual mode
- lower f-stop: shallower depth of field



- burst mode
- focused on a specific part of a frame (focus points)



- panning

ASSIGNMENT: ACTION PHOTOGRAPHY ACTIVITY

SECTION: SPORTS & ACTION PHOTOGRAPHY

- Tips for Shooting Sports & Action Photos
- Action and Sports Photography Demonstration
- *Assignment: Action Photography Activity*
- Action Photography Demonstration II
- Supplemental Materials

Space for your personal notes:

Practice your sports and action photography!

ACTION PHOTOGRAPHY DEMONSTRATION II

SECTION: SPORTS & ACTION PHOTOGRAPHY

- Tips for Shooting Sports & Action Photos
- Action and Sports Photography Demonstration
- Assignment: Action Photography Activity
- *Action Photography Demonstration II*
- Supplemental Materials

Space for your personal notes:

Canon 70D, 24-70 f/2.8 and 10-18 f/4.0

- panning
- using burst or continuous mode for rapid shots
- manual focus
 - › 3-4 ft from me everything will be in focus
- shutter speed
 - › to get sharp motion 1/500 or higher
 - › to get blurry background circa 1/60 - 1/100
- use a flash while slowing down your shutter speed
 - › while your shutter is open, you are capturing motion blur, but when the flash goes off, it freezes the motion of your subjects in your frame because it gives you more light
 - › some cameras do not allow to use flash and burst mode in the same time
- remember to pay attention to your compositions



SECTION: SPORTS & ACTION PHOTOGRAPHY

- Tips for Shooting Sports & Action Photos
- Action and Sports Photography Demonstration
- Assignment: Action Photography Activity
- Action Photography Demonstration II
- *Supplemental Materials*

Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Here are some resources to help you with sports & action photography:

- Sports Photography Tips
- 11 Easy Way to Improve Your Sports Photography
- 5 Tips for Taking Great Action Shots of Kids
- 40 Action Photography Examples
- Beautiful Examples of Action Photography

**SECTION:
MACRO
PHOTOGRAPHY**

SECTION: MACRO PHOTOGRAPHY

- *Tips for Shooting Macro Photos*
- Macro Photography Demonstration
- Assignment: Macro Photography Activity
- Supplemental Materials

Space for your personal notes:

TIPS FOR SHOOTING MACRO PHOTOS

Macro photography, is extreme close-up photography, usually of very small subjects and living organisms like insects, in which the size of the subject in the photograph is greater than life size.

Use a macro lens

- “macro” should be written on a lens
- you will need to rotate the focus ring to that macro setting (use a manual for your specific macro lens on how to activate macro mode)
- you can also use tube adapter to add glass onto your “non-macro” lens
- 50/60 mm lens is fine for general macro photography
- 100mm lens can be used from a further distance (better for insect shooting)

Choose a point of focus

- use manual focus
- in macro photography, even 1mm change can be a huge difference

Use a flash

- because your focal plan is so narrow, you will want to increase your f-stop to deepen it
- to compensate for exposure, you may need or want to use a flash to add more light

Use a tripod

- for perfect composition when shooting something static
- Higher your shutter speed when shooting something moving

MACRO PHOTOGRAPHY DEMONSTRATION

SECTION: MACRO PHOTOGRAPHY

- Tips for Shooting Macro Photos
- *Macro Photography Demonstration*
- Assignment: Macro Photography Activity
- Supplemental Materials

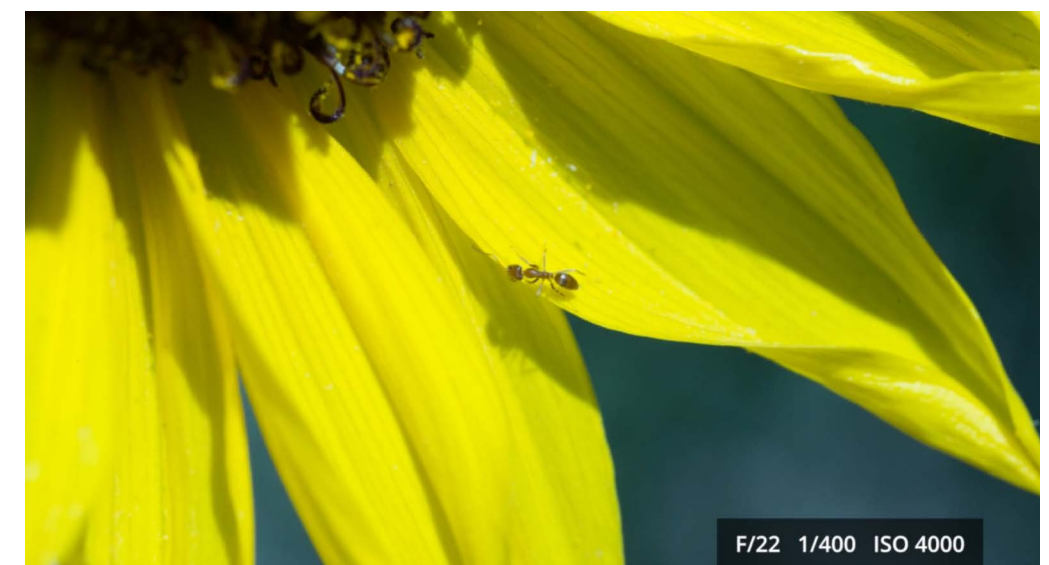
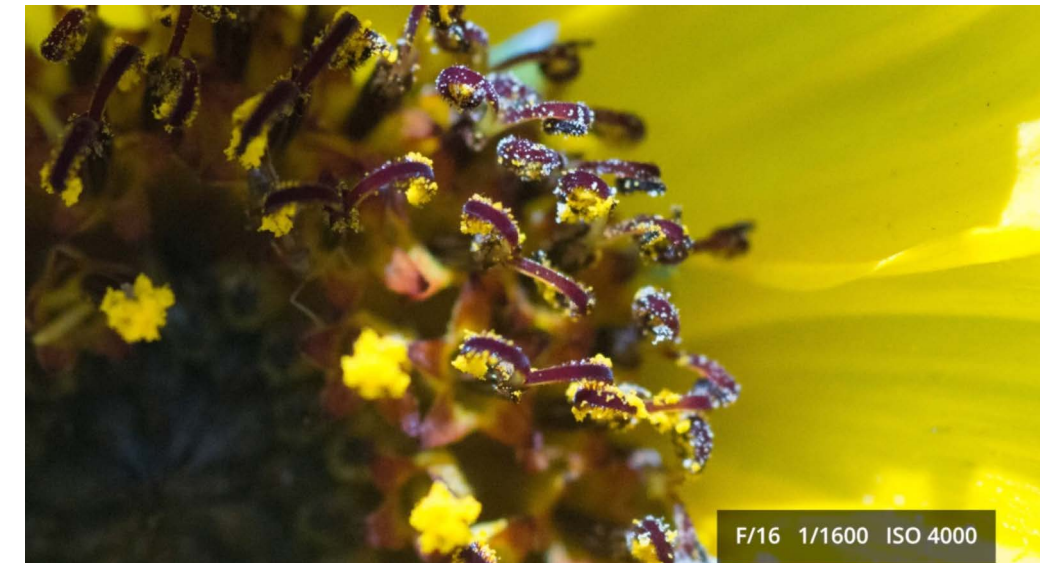
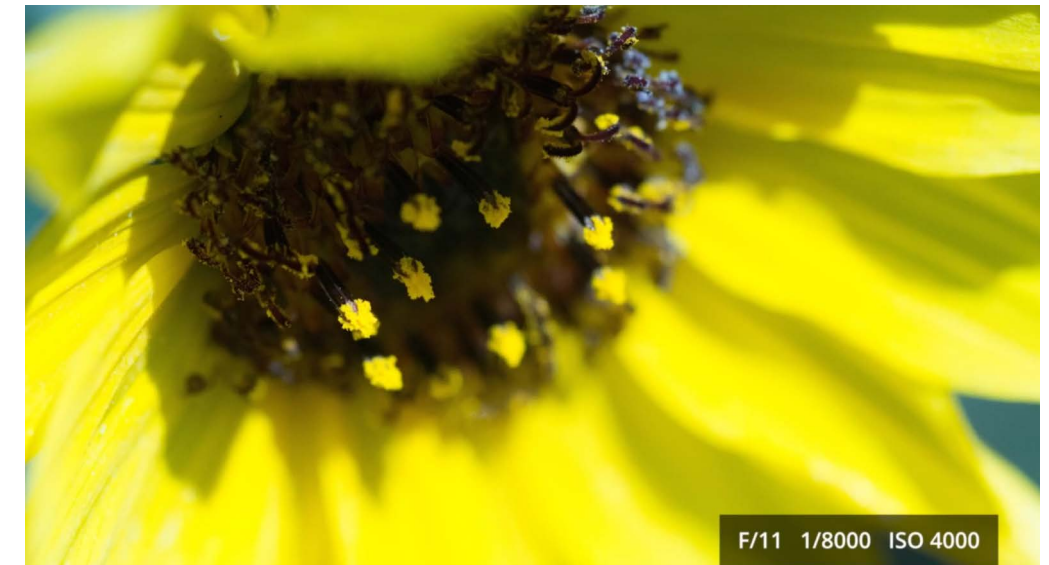
Space for your personal notes:

Nikon D800, 105mm f/2.8 macro lens

- perfect your focus by moving forwards or backwards

in macro photography:

- very little change of focus makes a huge difference
- every little move makes a huge difference (use tripod)



ASSIGNMENT: MACRO PHOTOGRAPHY ACTIVITY

Practice your macro photography!

SECTION: MACRO PHOTOGRAPHY

- Tips for Shooting Macro Photos
- Macro Photography Demonstration
- *Assignment: Macro Photography Activity*
- Supplemental Materials

Space for your personal notes:

SECTION: MACRO PHOTOGRAPHY

- Tips for Shooting Macro Photos
- Macro Photography Demonstration
- Assignment: Macro Photography Activity
- *Supplemental Materials*

Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Here are some resources to help you with macro photography:

- 50 Mind-Blowing Examples of Macro Photography
- 100 Most Beautiful Macro Photos
- 20 Inspiring Examples
- Macro Photography Gear

**SECTION:
ARCHITECTURE
& STREET
PHOTOGRAPHY**

SECTION: ARCHITECTURE & STREET PHOTOGRAPHY

- *Tips for Shooting Street Photos*
- Architecture & Street Photography Demonstration
- Assignment: Street & Architecture Activity
- Supplemental Materials

Space for your personal notes:

TIPS FOR ARCHITECTURE & STREET PHOTOS

Be aware of your surroundings

- make sure you are always aware of your gear
- use a camera strap to discourage thieves

Stick to one focal length

- sticking with prime lens can push you to get even more creative as photographer

Choose your own style

- either be quick and perhaps sneaky photographing subjects
- or to get their permission first

Look for lines

- look for interesting lines: from curvy to straight balanced or crooked

Tell a story

- tell a story with what you are capturing, even if it take a series of photos

ARCHITECTURE & STREET PHOTOGRAPHY DEMONSTRATION

SECTION: ARCHITECTURE & STREET PHOTOGRAPHY

- Tips for Shooting Street Photos
- *Architecture & Street Photography Demonstration*
- Assignment: Street & Architecture Activity
- Supplemental Materials

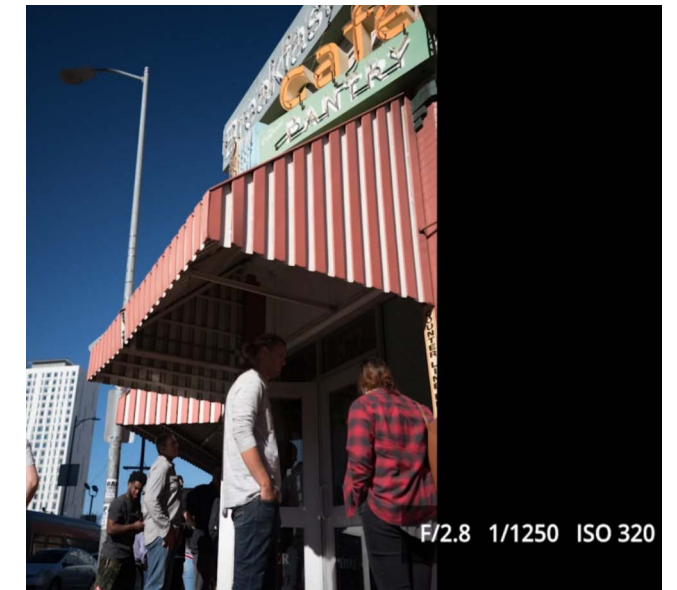
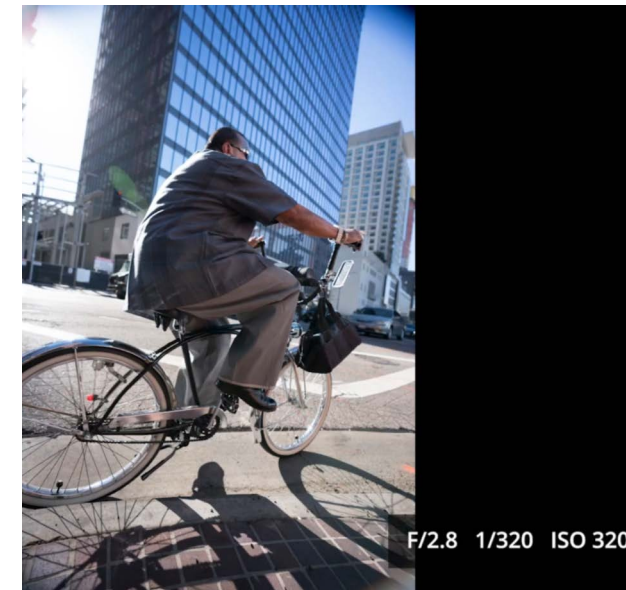
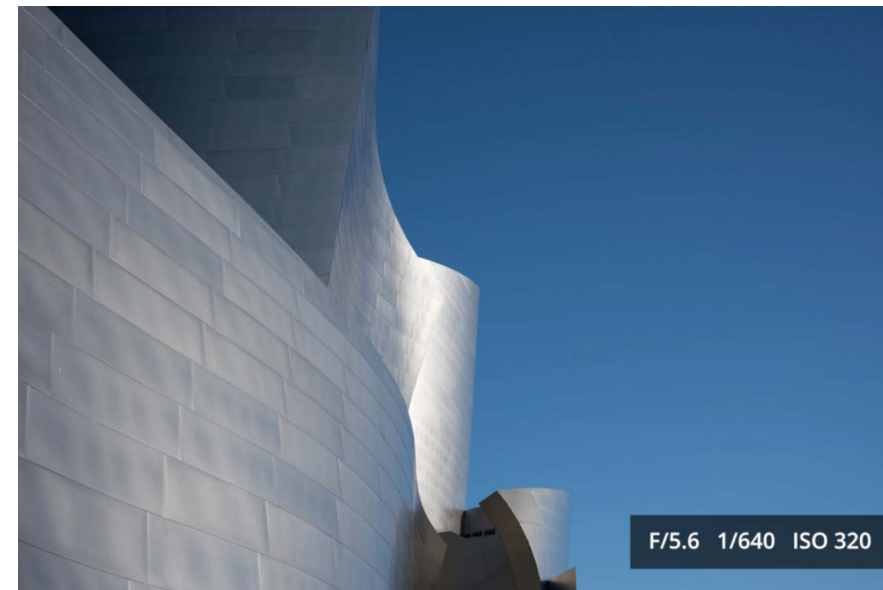
Space for your personal notes:

Sony A7R III, 16-35mm lens

-
- be mindful of your surroundings
- try to explore spaces your know (you might have something in mind)
- take photos of other people in the streets
- have fun!

PHOTO TIP

CHECK TO SEE IF YOUR CAMERA HAS A SILENT SHOOTING MODE



ASSIGNMENT: STREET & ARCHITECTURE ACTIVITY

SECTION: ARCHITECTURE & STREET PHOTOGRAPHY

- Tips for Shooting Street Photos
- Architecture & Street Photography Demonstration
- *Assignment: Street & Architecture Activity*
- Supplemental Materials

Space for your personal notes:

Tell the story of your town with photos.

SECTION: ARCHITECTURE & STREET PHOTOGRAPHY

- Tips for Shooting Street Photos
- Architecture & Street Photography Demonstration
- Assignment: Street & Architecture Activity
- *Supplemental Materials*

Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Here are some resources to help you with street & architecture photography:

- [How to Find Inspiration for your Street Photography](#)
- [40 Inspiring Examples of Street Photography](#)
- [Street Photography: 5 Places to Look For Inspiration](#)
- [Best Street Photographer Portfolios](#)

**SECTION:
EVENT & WEDDING
PHOTOGRAPHY**

SECTION: EVENT & WEDDING PHOTOGRAPHY

- *Tips for Shooting Events*
- PHOTO CHAT: Event Photography
- PHOTO CHAT: Bring the Right Tools
- PHOTO CHAT: Be Aware of your Surroundings
- PHOTO CHAT: Be Quick with Your Settings
- PHOTO CHAT: Capture the Details
- An Overview of Shooting a Wedding
- Assignment: Event Photography Activity
- Supplemental Materials

Space for your personal notes:

TIPS FOR SHOOTING EVENTS

Be prepared

- visit the site beforehand
- talk to the coordinator or event organizer
- talk to your client to know what they are expecting

Have the tools you need

- do not overcomplicate too
- fresh memory card
- extra batteries
- 1-2 lenses that you will need for the entire day

Be aware and courteous of your surroundings

- do not draw attention
- take your photos and then calmly and quietly move out

Be quick

- do some test shots whenever you get into a new lighting situation (outside, inside, etc.)

Capture the details

- get wide shots as well as close-ups

Bring external flash

- and know how to use it!
- especially for corporate events - at most events, there is not enough light to expose properly

SECTION: EVENT & WEDDING PHOTOGRAPHY

- Tips for Shooting Events
- PHOTO CHAT: Event Photography
- PHOTO CHAT: Bring the Right Tools
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- PHOTO CHAT: Be Quick with Your Settings
- PHOTO CHAT: Capture the Details
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- Supplemental Materials

Space for your personal notes:

PHOTO CHAT: EVENT PHOTOGRAPHY

Before the event:

- for a wedding: go and have a coffee with the couple - understand who they are and what kind of style they like
- how big event or the wedding is?
 - › 20 people = one camera, regular strap, etc.
 - › 50, 200 and more = two cameras, maybe second shooter or assistant, go around the location beforehand, etc.
- how does the location look like?
 - › restricted movement = maybe to rent a telephoto lens
 - › where to stand at what time, etc.

Day before:

- check if everything works
- clean everything
- charge the batteries
- set specific date and time

SECTION: EVENT & WEDDING PHOTOGRAPHY

- Tips for Shooting Events
- PHOTO CHAT: Event Photography
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Space for your personal notes:

PHOTO CHAT: BRING THE RIGHT TOOLS

Cameras

- 1 or 2 (depends on the type of event), but fast enough to be comfortable in every situation

Glass

- maybe only a zoom lens like 24-70mm or 16-55mm (20 people)
- wide and telephoto (big event)

Accessories

- flashes, extra batteries, etc..

Will´s setup:

- strap with two cameras (like suspenders) to be able to swap quickly (and as a backup)
 - › he rents the same exact camera
- long lens (e.g. 70-200mm) on the right side - 75% of photos
- mid-range lens (e.g. 24-70mm or 16-55mm)
- both cameras with aperture priority - no time for manual settings

SECTION: EVENT & WEDDING PHOTOGRAPHY

- Tips for Shooting Events
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Space for your personal notes:

PHOTO CHAT: BE AWARE OF YOUR SURROUNDINGS

- it is efficient if a couple puts a notice out that they have a professional photographer and there is no need to take photos on smartphones and tablets, etc.
- cooperate with videographers
- have a conversation beforehand, be courteous and have a good manners
- have a conversation with bride and groom about shooting of getting ready - to make the situation decent and comfortable for everybody



SECTION: EVENT & WEDDING PHOTOGRAPHY

- Tips for Shooting Events
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Space for your personal notes:

PHOTO CHAT: BE QUICK WITH YOUR SETTINGS

Event shots

- get in there, take a shot, get your settings, get out

Shots of people

- prepare settings with a DJ or assistant photographer or so

Posing shots

- know your settings beforehand
- get a help from coordinator or somebody else
- use burst mode (3fps)

- know the schedule of event - have a printout and notes

SECTION: EVENT & WEDDING PHOTOGRAPHY

- Tips for Shooting Events
- PHOTO CHAT: Event Photography
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Space for your personal notes:

PHOTO CHAT: CAPTURE THE DETAILS

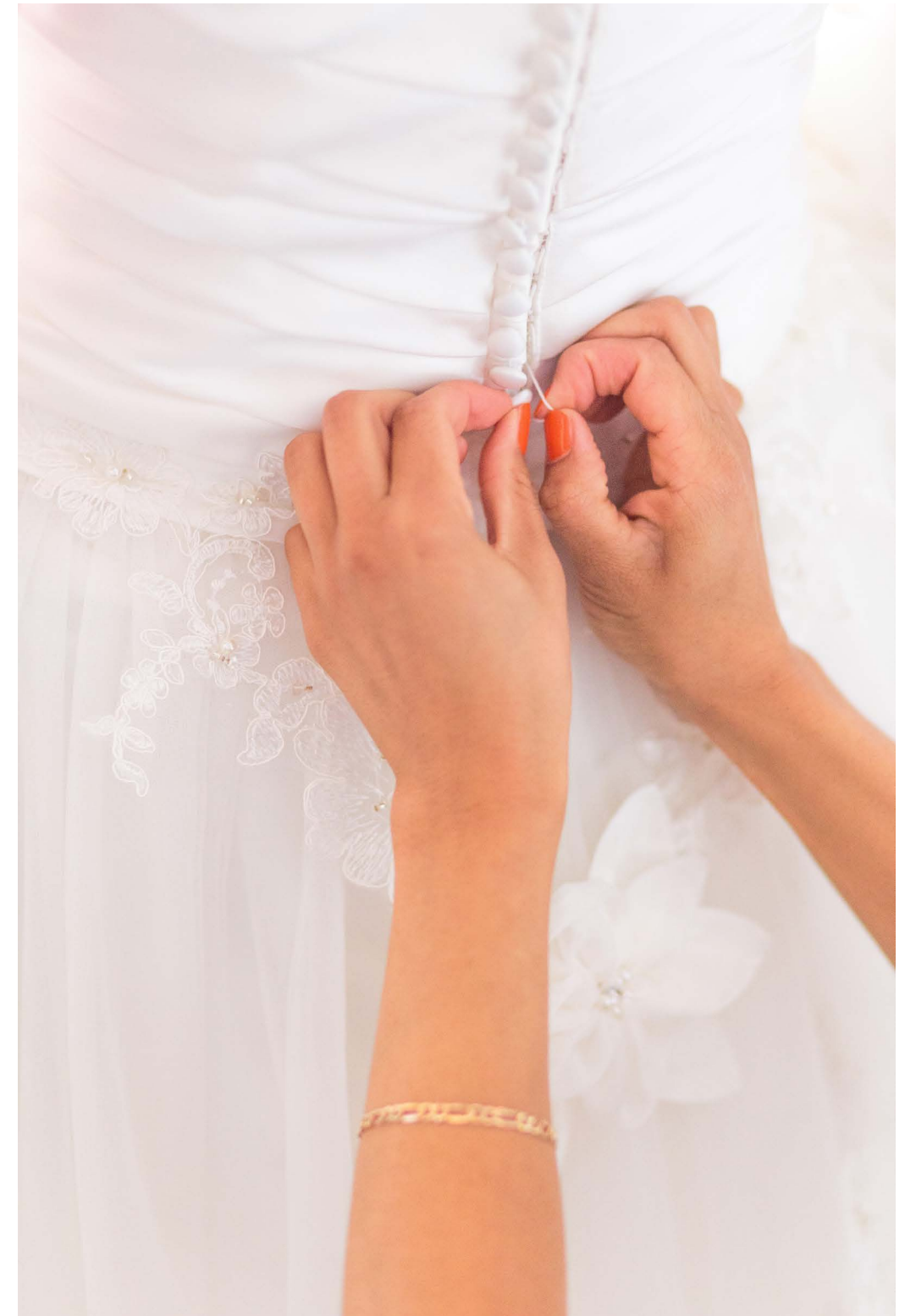
- macro lens is great
- inspiration:

Getting ready:

- rings
- trinkets
- details of dress
- bow tie
- cuff links
- etc.

Reception:

- before the place get messy
 - place settings
 - name settings
 - bouquets
 - flowers
 - etc.
-
- see other wedding photographers



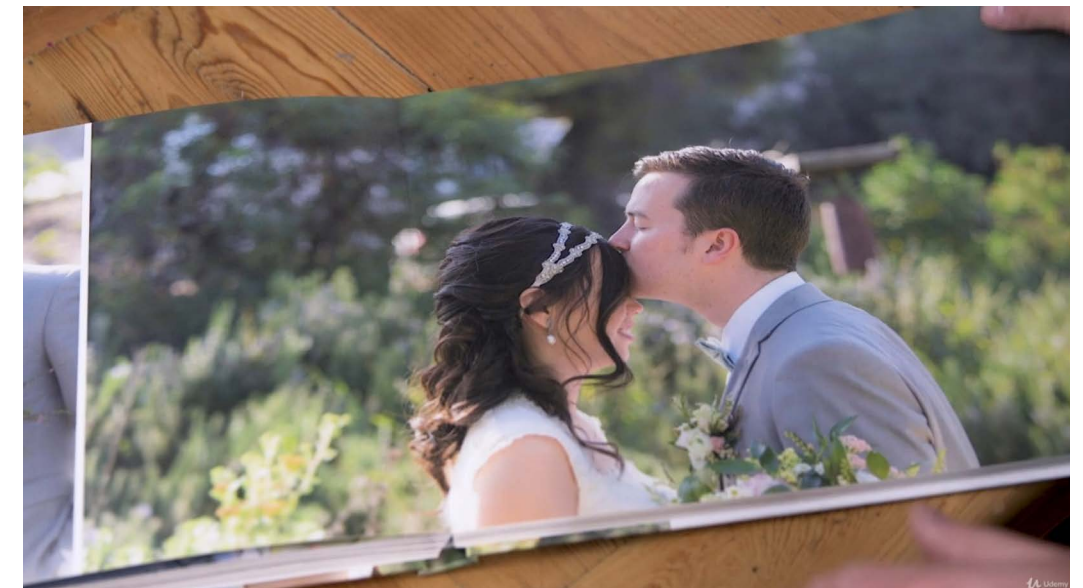
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Space for your personal notes:

AN OVERVIEW OF SHOOTING A WEDDING

- move your subjects a little to a white lighting source inside
- do not forget capturing people during the ceremony - not only bride and groom
- try to position people for the shooting with the sun hitting their back instead of their face
- try not to have all of the posing pictures too formal



**SECTION:
AERIAL & DRONE
PHOTOGRAPHY**

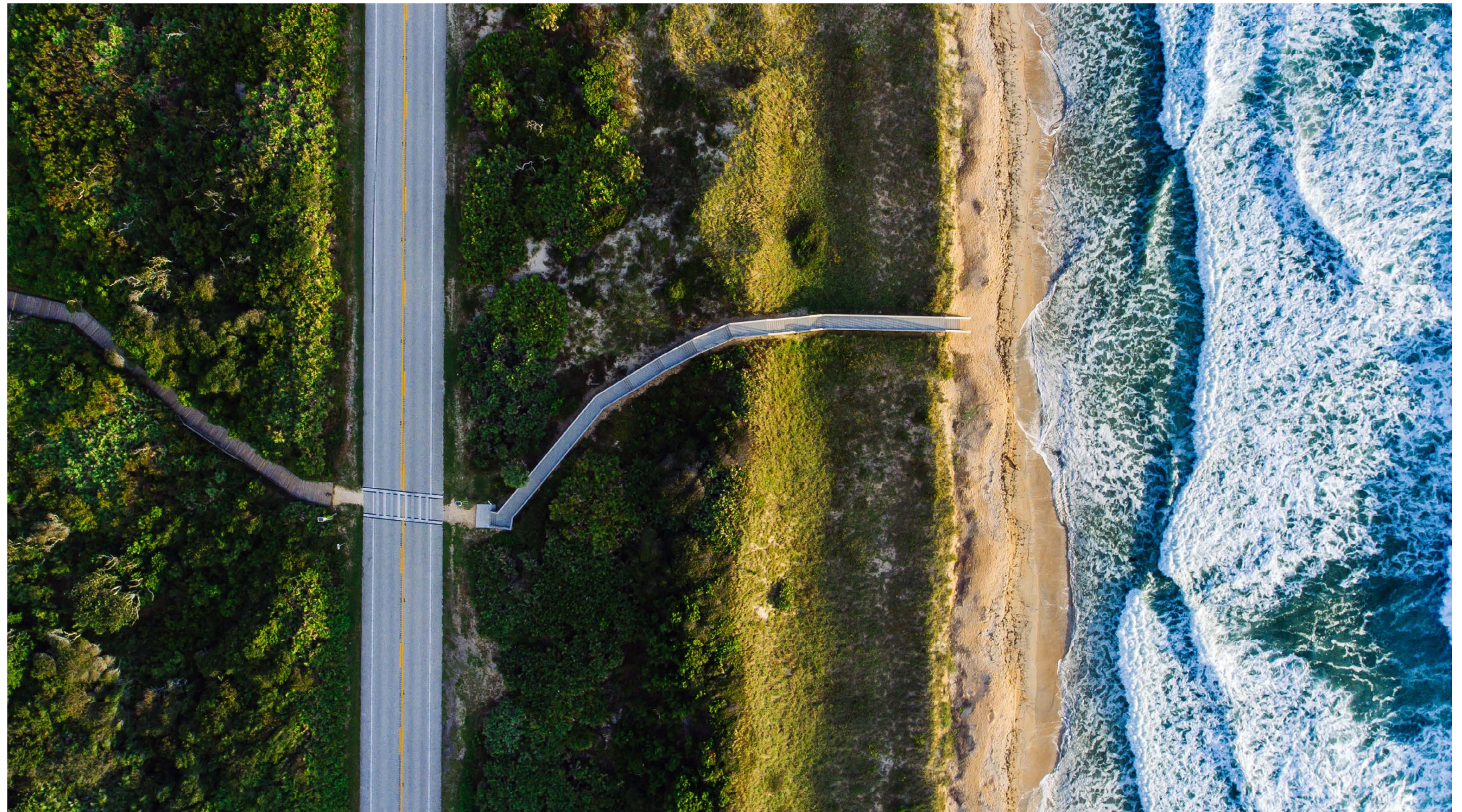
INTRO TO AERIAL & DRONE PHOTOGRAPHY

SECTION: AERIAL & DRONE PHOTOGRAPHY

- *Intro to Aerial & Drone Photography*
- Flight Disclaimer
- Our Recommended Drone Equipment
- Drone Photography Tips
- Drone Photography Demonstration
- Assignment: Aerial Photography Activity
- Supplemental Materials

Space for your personal notes:

- basic equipment
- basic camera settings of a camera in your drone
- demonstration



@lance_asper

SECTION: AERIAL & DRONE
PHOTOGRAPHY

- Intro to Aerial & Drone Photography
- *Flight Disclaimer*
- Our Recommended Drone Equipment
- Drone Photography Tips
- Drone Photography Demonstration
- Assignment: Aerial Photography Activity
- Supplemental Materials

Space for your personal notes:

FLIGHT DISCLAIMER

Rules and regulations exist to help you fly safely. Drone owners and operators must independently follow all applicable laws and regulations. You are responsible for understanding and abiding by the rules, wherever you fly - no matter what type of drone. These laws can change depending on the city, state, country.

www.KnowBeforeYouFly.org
www.faa.gov/uas/

SECTION: AERIAL & DRONE PHOTOGRAPHY

- Intro to Aerial & Drone Photography
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Space for your personal notes:

OUR RECOMMENDED DRONE EQUIPMENT

DJI

(Spark, Mavic, Phantom, Inspire)

- main brand of professional drones
 - several models at different price tiers
 - drones with systems where you can put a full DSLR or professional camera
 - drones with built-in cameras
 - remote can have built-in screen or you can use a table or smartphone
-
- used in this section: Phantom 4 Pro

Differences:

- megapixels
- dynamic range
- flight time per battery
- obstacle avoidance
- stability
- compact

GoPro

(Karma)



<https://store.dji.com/>

SECTION: AERIAL & DRONE PHOTOGRAPHY

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Space for your personal notes:

DRONE PHOTOGRAPHY TIPS

Remember your basic photography settings

- still the same photography, just from a different angle and perspective
- exposure, composition, story...

Choose the right location

- it is safe
- it is legal
- start with a place with minimum distractions

Be prepared

- battery charged
- extra batteries
- extra propellers
- everything checked if works properly
- practice in a big open field before you shoot in a busy street

Have a flight plan

- estimate the schedule of a flight

Look for a symmetry and patterns

Look for the shadows

- golden hour works the best

Follow the rules

- Check the law in your area - drone regulations and rules

SECTION: AERIAL & DRONE PHOTOGRAPHY

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DRONE PHOTOGRAPHY DEMONSTRATION

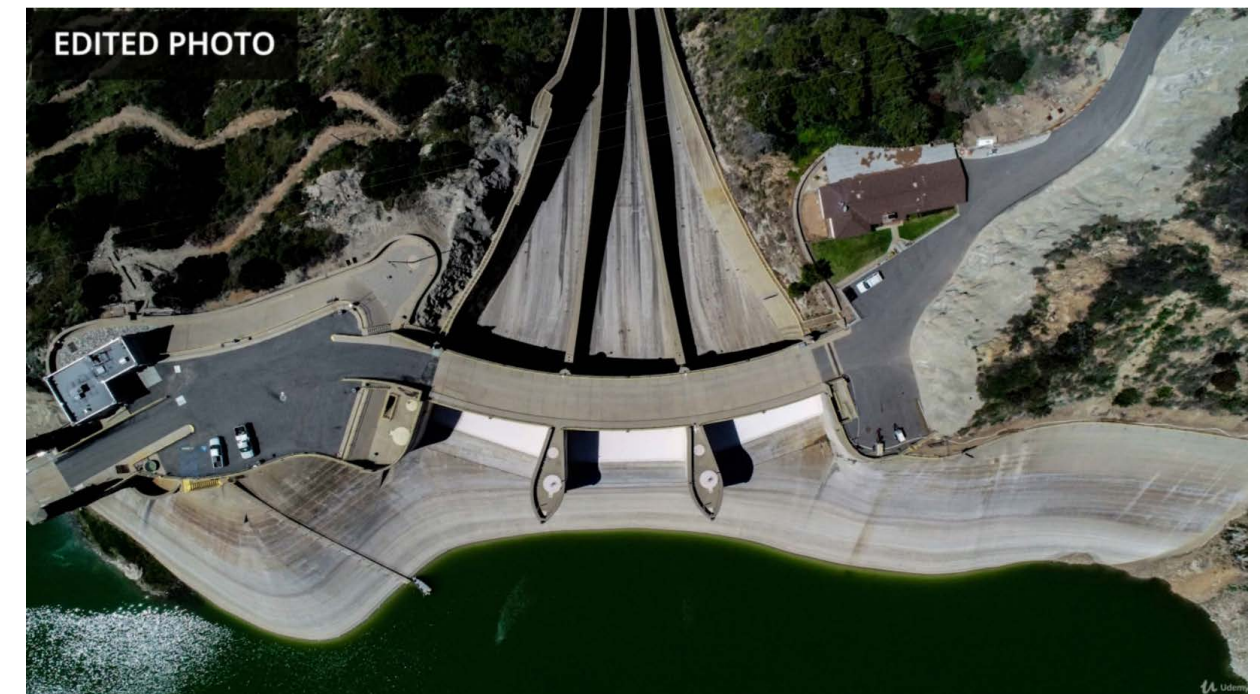
Before:

- checking possible areas for cool shots
 - › google maps
- checking if the chosen areas are not the zones where you can not fly
 - › [knowbeforeyoufly.org](https://www.knowbeforeyoufly.org)
 - › [dji.com/flysafe/geo-map](https://www.dji.com/flysafe/geo-map)

On the spot:

- checking the batteries and if everything works
- setting up the drone - see the supplemental materials of this section
- plan the shot beforehand
- connecting a remote to a drone
- looking for a cool shots, interesting compositions, etc.
- paying attention to a battery status
- you can check the photos and video by swapping SD card from the drone itself to the remote control

Editing



SECTION: AERIAL & DRONE
PHOTOGRAPHY

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- Drone Photography
Demonstration
- *Assignment: Aerial Photography
Activity*
- Supplemental Materials

Space for your personal notes:

ASSIGNMENT: AERIAL PHOTOGRAPHY ACTIVITY

Practice your aerial photography!

SECTION: AERIAL & DRONE PHOTOGRAPHY

- Intro to Aerial & Drone Photography
- Flight Disclaimer
- Our Recommended Drone Equipment
- Drone Photography Tips
- Drone Photography Demonstration
- Assignment: Aerial Photography Activity
- *Supplemental Materials*

Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Below, you'll find links to helpful resources that further explain the concepts learned in this section about composition.

[DJI Tutorials for Drone Setup and Flight](#)
[GoPro Karma Tips and Guides](#)

**SECTION:
WILDLIFE
PHOTOGRAPHY**

SECTION: WILDLIFE PHOTOGRAPHY

- *Tips for Better Wildlife Photos*
- Phil's Backyard Wildlife Shoot
- Sam's Mexican Wildlife Shoot
- Assignment: Wildlife Photography Activity
- Supplemental Materials

Space for your personal notes:

TIPS FOR BETTER WILDLIFE PHOTOS

Research your location before you go

- what animals and plants you might see
- what time of day (or a year) is the best to capture the specific wildlife

Be patient

- it might take hours or multiple trips to get your shot

Use your automatic modes

- aperture priority mode:
 - › enough depth of field to capture an animal in the distance
 - › but make sure it will not decrease your shutter too much (if your subject is moving quickly)
 - › if it does, increase your ISO to compensate

Shoot in burst mode

- great for photographing moving animals

Get down low

- get to a level with the animal
- photo will be more dynamic, you can capture more of the details of foreground and background

Be safe and respectful

- prepare food, water and first-aid kit and any gear you need to be safe
- do not deal with too much harsh weather
- be respectful to the environment and the animals
- always keep your distance not to scare them
- leave the place cleaner than you found it

PHIL'S BACKYARD WILDLIFE SHOOT

SECTION: WILDLIFE PHOTOGRAPHY

- Tips for Better Wildlife Photos
- [Phil's Backyard Wildlife Shoot](#)
- Sam's Mexican Wildlife Shoot
- Assignment: Wildlife Photography Activity
- Supplemental Materials

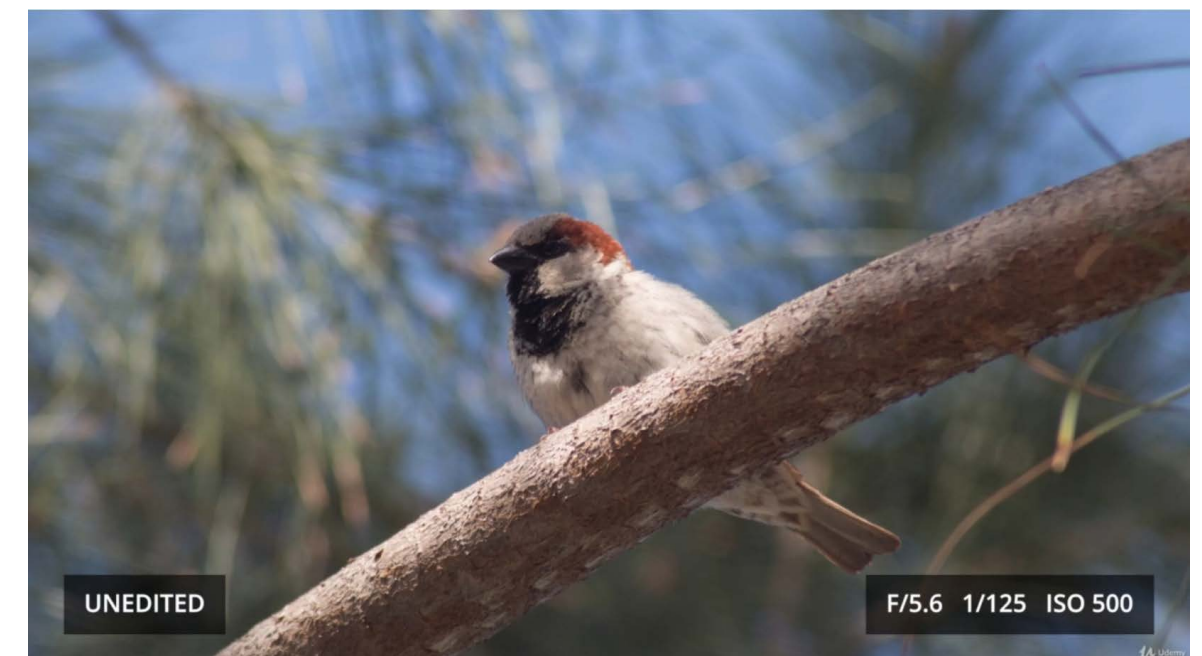
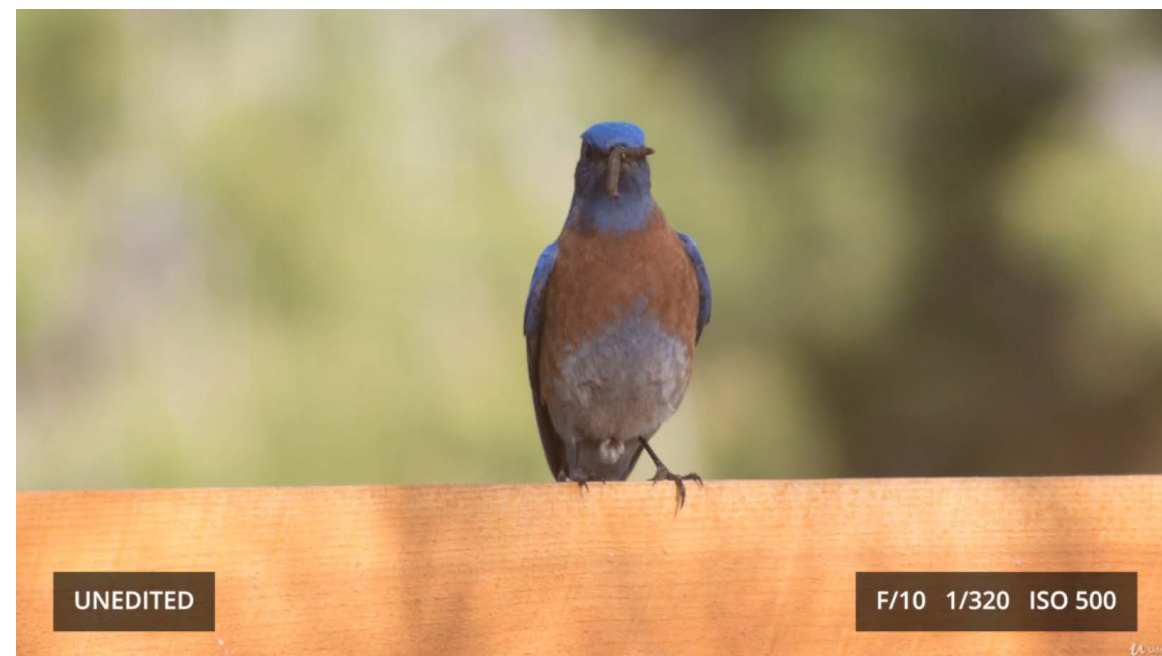
Space for your personal notes:

Canon 70D with a Tamron 75-300mm lens

- manual mode did not work the best
- switch to shutter priority mode - need to boost ISO to 500
- the lens opens only up to an f/5.6 aperture when zooming in
- autofocus did not work the best
- switch to manual focus
- burst mode

PHOTO TIP

USING A CROP SENSOR CAMERA GIVES YOUR EXTRA FOCAL RANGE.

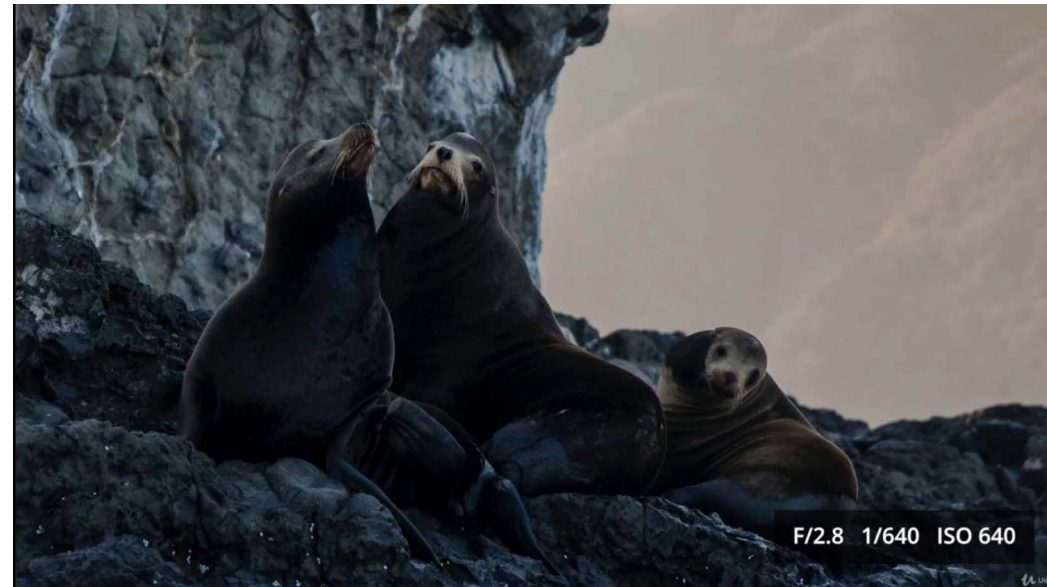


SECTION: WILDLIFE PHOTOGRAPHY

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Space for your personal notes:

SAM'S MEXICAN WILDLIFE SHOOT



Sea lions:

- no telephoto lens, only 24-70mm
- but shot in raw - so bigger options to adjust the shots in post-processing
- subject was in a shade - it would be better to come at a different part of the day



Birds:

- Sam did not want to scare the parents - not to disrupt the native habitat of the animals
- having a long telephoto lens could help to get the shot without being too close
- moving very slowly and lowered to the ground

PHOTO TIP

TRY NOT TO MAKE EYE CONTACT WITH ANIMALS TO PREVENT HOSTILITY OR FEAR.

SECTION: WILDLIFE PHOTOGRAPHY

- Tips for Better Wildlife Photos
- Phil’s Backyard Wildlife Shoot
- Sam’s Mexican Wildlife Shoot
- *Assignment: Wildlife Photography Activity*
- Supplemental Materials

Space for your personal notes:

ASSIGNMENT: WILDLIFE PHOTOGRAPHY ACTIVITY

Take photos of whatever wildlife is in your backyard!

SECTION: WILDLIFE PHOTOGRAPHY

- Tips for Better Wildlife Photos
- Phil’s Backyard Wildlife Shoot
- Sam’s Mexican Wildlife Shoot
- Assignment: Wildlife Photography Activity
- *Supplemental Materials*

Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Here are some resources to help you with wildlife photography:

National Geographic Photography
Tips for Wildlife Photography
BBC’s Wildlife Photo Tips

SECTION: NIGHT PHOTOGRAPHY

SECTION: NIGHT PHOTOGRAPHY

- [Tips for Better Night Photos](#)
- Night Photography Demonstration
- Assignment: Night Photography Activity
- Supplemental Materials

Space for your personal notes:

TIPS FOR BETTER NIGHT PHOTOS

Shoot in raw

- make sure you are capturing as much information as possible (not jpeg)

Use a tripod

- allows to shoot at longer shutter speeds

Increase your depth of field

- counter-intuitive when it comes to exposure
- but photographing building and cityscapes is better with deeper depth of field

Bring a flashlight

- flashlight will help you to see what you are doing

Be careful of a high ISO

- night photography usually contain lots of dark areas in a frame
- these dark spots are where digital noise or grain will be most visible
- know your camera and your maximum ISO

NIGHT PHOTOGRAPHY DEMONSTRATION

SECTION: NIGHT PHOTOGRAPHY

- Tips for Better Night Photos
- *Night Photography Demonstration*
- Assignment: Night Photography Activity
- Supplemental Materials

Space for your personal notes:

- camera settings: ISO 6400 1/100 f/2.8 - 16-35mm lens
- ISO 6400 is OK with Sam's Sony
- adjusting f-stops
- shooting raw - can crop a lot later
- went a little bit lower to make a building a little bit bigger
- enough lights so no need for a tripod

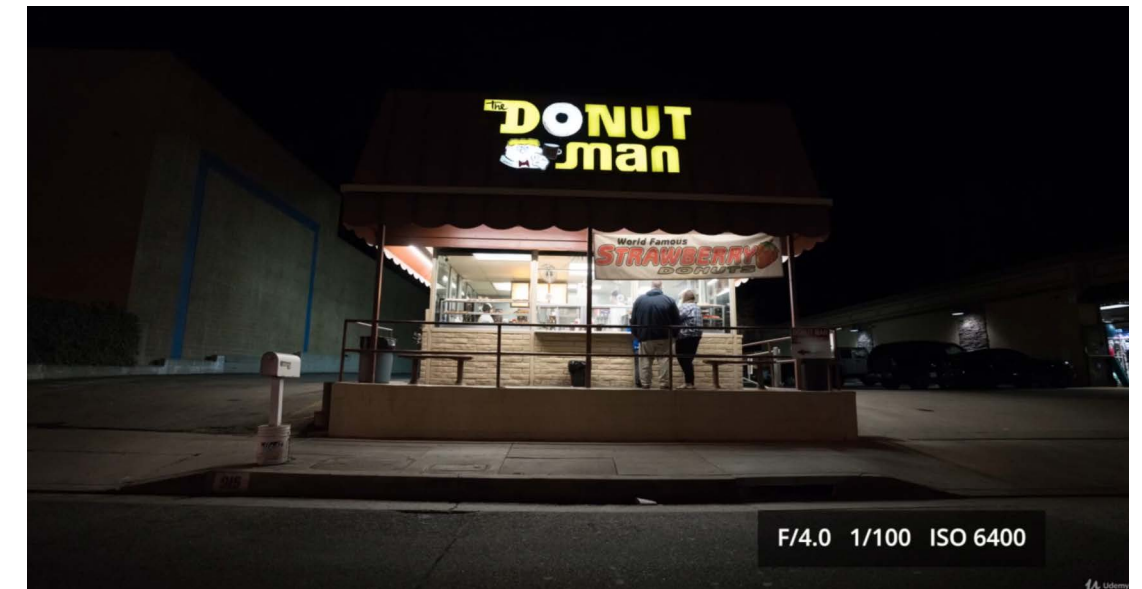


PHOTO TIP

WHEN PHOTOGRAPHING UNDER FLUORESCENT LIGHTS, YOU MAY SEE “BANDING” ACROSS YOUR IMAGE. TRY SLOWING THE SHUTTER TO FIX IT.

ASSIGNMENT: NIGHT PHOTOGRAPHY ACTIVITY

SECTION: NIGHT PHOTOGRAPHY

- Tips for Better Night Photos
- Night Photography Demonstration
- *Assignment: Night Photography Activity*
- Supplemental Materials

Space for your personal notes:

Practice your night photography!

SECTION: NIGHT
PHOTOGRAPHY

- Tips for Better Night Photos
- Night Photography Demonstration
- Assignment: Night Photography Activity
- *Supplemental Materials*

Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Here are some resources to help you with night photography:

- 60 Incredible Examples of Night Photography
- 100 Night Photo Examples
- 12 Expert Tips for Photographing Cityscapes at Night
- Tips for Proper Exposure at Night

SECTION: TIME-LAPSE PHOTOGRAPHY

INTRO TO TIME-LAPSE PHOTOGRAPHY

SECTION: TIME-LAPSE PHOTOGRAPHY

- *Intro to Time-lapse Photography*
- Camera Settings for Time-lapse Photography_ Intervals + Exposure
- Time-lapse Demonstration
- Preparing Time-lapse Photos for the Video
- Editing Your Time-lapse Photos into a Video

Space for your personal notes:

Time-lapse photography is a technique whereby the frequency at which film frames are captured is much more spread out than the frequency used to view the sequence. When played at normal speed, time appears to be moving faster and thus lapsing.

- fps = frames (pictures) per second
- movies and TV shows circa 30 fps
- some cameras have an intervalometer for “in camera” time-lapses, if not, it has to be external intervalometer for your specific camera model

You will learn:

- intervals in time-lapse
- exposure settings in time-lapse
- photo edit
- video edit

SECTION: TIME-LAPSE PHOTOGRAPHY

- Intro to Time-lapse Photography
- *Camera Settings for Time-lapse Photography: Intervals + Exposure*
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Space for your personal notes:

CAMERA SETTINGS FOR TIME-LAPSE: INTERVALS + EXPOSURE

Intervals:

- how many photos and how often
- depends on what action you want to capture

Interval Chart:

fast action, cars moving, fast clouds	1 second
crowds, sunset, sunrise, slow moving clouds	1-3 seconds
stars, sun moving across sky	15-30 seconds
plants growing, construction sites	30+ seconds

- the less time between the photos, the more detail you might have, but things might be moving slower

Exposure:

- try shooting time-lapses where the lighting/exposure does not change throughout your shoot
- with tripod - can be a slower shutter
 - › a little bit of a motion blur is good - typically around 1/25, for faster action 1/60 - 1/125
- when the lighting won't change, turn off any automatic exposure modes
- when shooting a scene where the lighting dramatically changes, use an auto-exposure mode

PHOTO TIP

ADD MOTION BLUR TO YOUR PHOTOS TO MAKE THEM MORE “CINEMATIC” AND FILM-LIKE BY USING A SLIGHTLY SLOWER SHUTTER SPEED.

SECTION: TIME-LAPSE PHOTOGRAPHY

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Space for your personal notes:

TIME-LAPSE DEMONSTRATION

Calculating the frames:

- goal: video 10 seconds long, 30fps; 10s x30fps = 300 photos
- fast action, therefore an interval of 1 second 300 photos x every second = 5 minutes of action

Settings:

- set the intervalometer (internal or external)
- turn off auto focus when shooting time-lapses - use manual focus
- remember to check your battery level and memory card space to see any limit you have
- start the shooting
- end the shooting
- prepare photos for a post-processing

SECTION: TIME-LAPSE PHOTOGRAPHY

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Space for your personal notes:

PREPARING TIME-LAPSE PHOTOS FOR THE VIDEO

Using jpeg:

- you can import photos right to the video editor (e.g. Adobe Premiere)

Using raw:

- edit in photo editor (e.g. Lightroom), save as jpeg and then import to the video editor
- depending on what kind of resolution the final video should be -you can also shrink photos from original size (e.g.6000x4000) to e.g. 1920x1080 (HD)* - it will save a lot of space and processing power
 - › if your computer is fast enough and you have enough space, it is not necessary

Photo editor:

- import all photos into photo editor
 - › better the one that allows to import multiple photos at once
 - › better the one where you can edit just one photo and copy and paste these settings to others easily = "sync settings")
- also the possibility not to change the settings in photo editor - but change the settings of the video in a video editor

*if you want to have a room to be able to crop in or zoom in when you are actually editing your photos in the time lapse video - you might want to make an export size a little bit bigger

* if you will export 1920 and you will want to zoom in, you will lose the quality in the photo

SECTION: TIME-LAPSE PHOTOGRAPHY

- Intro to Time-lapse Photography
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- Preparing Time-lapse Photos for the Video
- [Editing Your Time-lapse Photos into a Video](#)

Space for your personal notes:

EDITING YOUR TIME-LAPSE PHOTOS INTO A VIDEO

tutorial done in Adobe Premiere Pro

Quick way to create a time-lapse (your video editor might not have this option):

- File / Import / Folder with photos / Options / Image Sequence - Check
- it will import all the photos from the folder in a sequence and put it together as a video automatically (one photo = one frame of the video)
- Place to the time-line

Less quick way to create a time-lapse (your video editor might not have even this option):

- Create a new folder in the video editor / Import all of the photos into the folder / Create a new sequence (Item button / AVCHD 1080p30 / OK)
- Select all photos / Right Click / Speed or Duration / select the duration of one frame - OK
- Place all of the photos to the time-line

The slowest way (there is a possibility it is the only way how to do a time-lapse in your video editor):

- Import all of the photos (as in a previous way)
- manually place every photo to the time-line
- cut/trim every photo into 1/30th s. long frame

Sizing / Positioning / Motion / Rotation, etc.:

Effect Controls window:

- In the window - click on the setting - Ctrl+C - Select all of the frames you want to paste the setting - Ctrl+V

Changing the speed of the video

- Select all the frames / Right Click / Nest - OK - it creates the clip - Right Click on it / Speed & Duration / choose speed or duration - OK

Export

SECTION: SHARING YOUR PHOTOS ONLINE

SECTION: SHARING YOUR PHOTOS ONLINE

- *What Will You Learn in this Section?*
- Best Social Media Platforms for Photographers
- How to Win on Instagram
- Walkthrough of Creating a Free Portfolio with Wix
- Assignment: Portfolio Practice
- PHOTO CHAT: Having an Online Presence
- PHOTO CHAT: Getting More Followers
- PHOTO CHAT: Best Website Builder for Photographers
- Supplemental Materials

Space for your personal notes:

WHAT WILL YOU LEARN IN THIS SECTION?

- social media
- portfolios
- websites
- etc.

- the main goal: having a place where you can send people to see your work
- inspiration

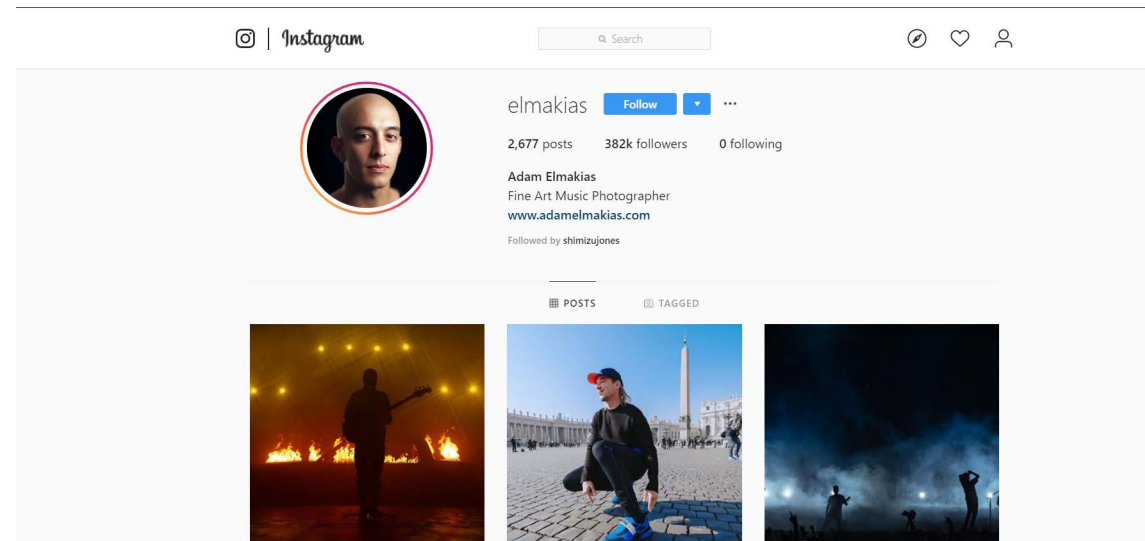
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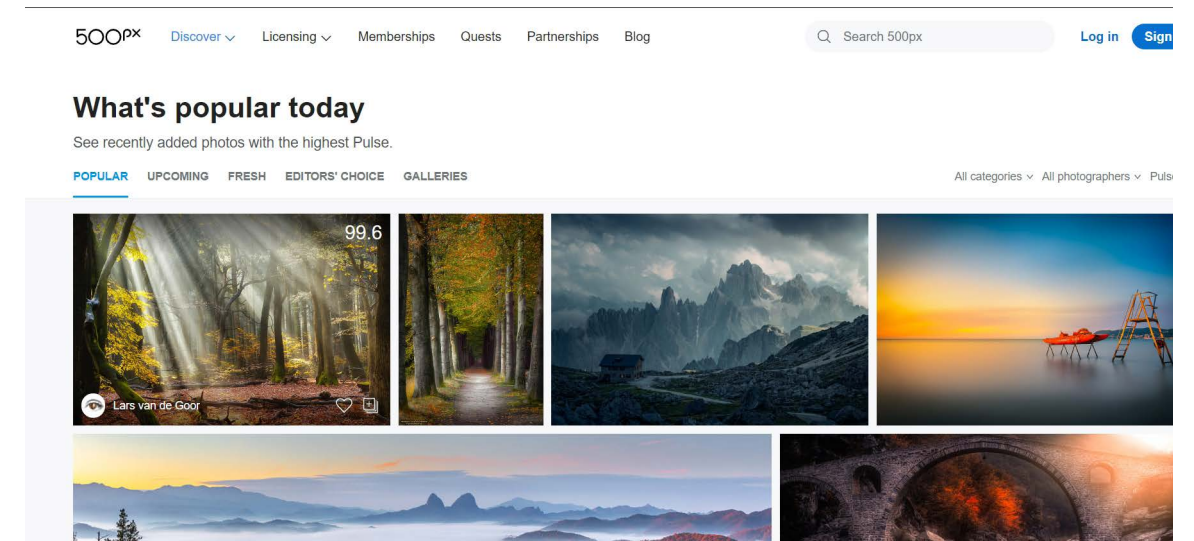
BEST SOCIAL MEDIA PLATFORMS FOR PHOTOGRAPHERS

- difference between having a place to share your entire portfolio and building a social media presence



Instagram

- free
- basic filtering
- clean gallery view
- becoming a more popular way of companies and brands finding photographers
- you can share to multiple other social media platforms - Facebook, Twitter, Tumblr
- low quality of images
- you only share one or a few photos from a single photo shoot
- time-consuming



500px

- higher cost options
- community of photographers
- allows to upload from computer, Instagram, Dropbox, Flickr and several other platforms
- possible to add descriptions, technical information about the photos and tag it
- creating public or private galleries
- own or shared photos
- being an active member is the key: commenting, liking, sharing
- various groups to join
- allows people to purchase photos
- allow automatically creating an online portfolio
- slightly customizable website
- high quality of images

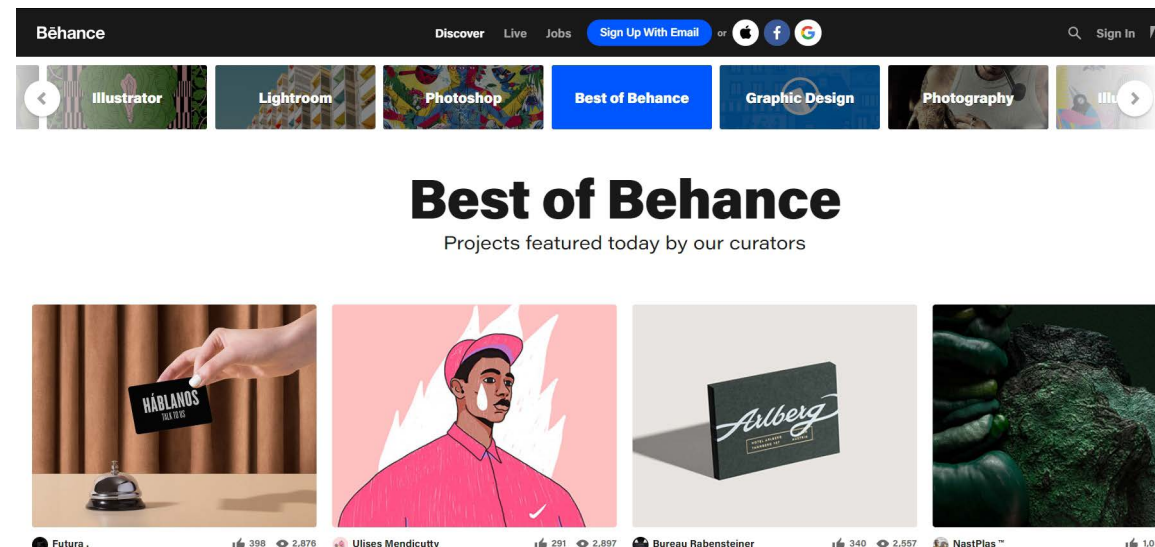
SECTION: SHARING YOUR PHOTOS ONLINE

- What Will You Learn in this Section?
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Space for your personal notes:

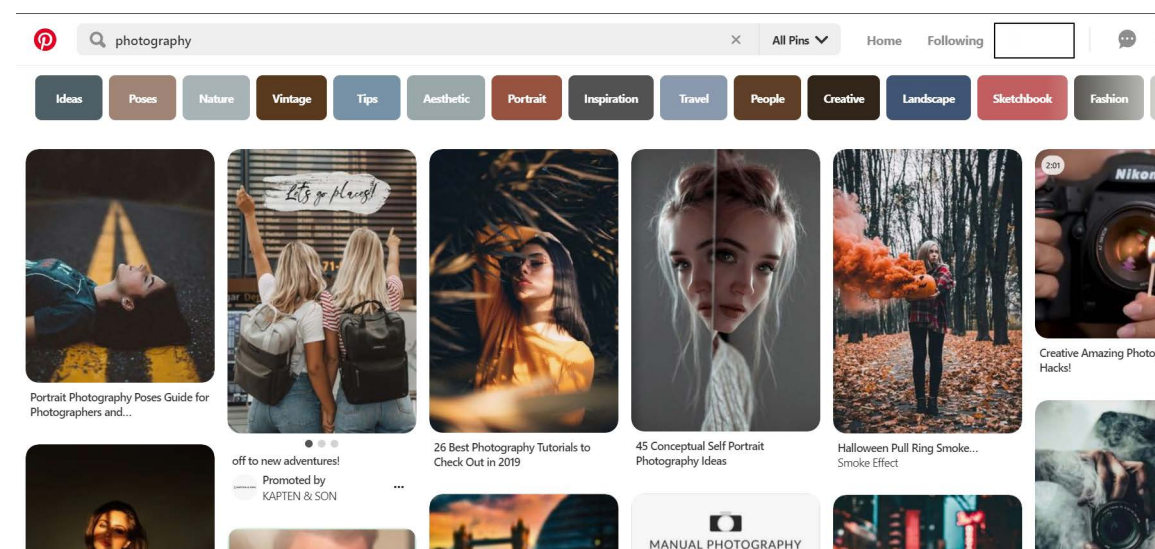
BEST SOCIAL MEDIA PLATFORMS FOR PHOTOGRAPHERS

- difference between having a place to share your entire portfolio and building a social media presence



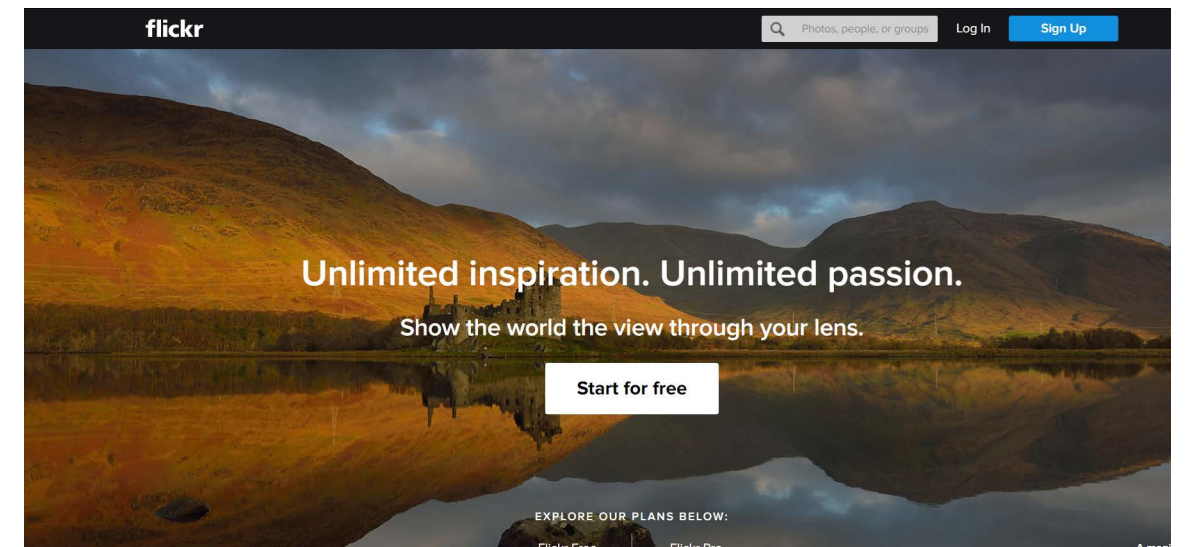
Behance

- connected to Adobe Creative Cloud Suite
- not only photographers, but also graphic designers, 3d animators, etc.



Pinterest

- great place to find inspiring images



Flickr

- same features when comes to sharing
- searching by key words, colours, people associated with certain keywords, etc.
- active discussions - how to achieve a certain look of photos, promotion of the work, getting feedback

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Space for your personal notes:

HOW TO WIN INSTAGRAM

- curating account and building a following
- serious Instagram following = hard work
- stay consistent with your style
- focus on one area (travel photography, sports photography, etc.)
- caption is equally important - have your style behind them
- hashtagging, geotagging, tagging people or companies
- possible way: putting hashtags and tags into the comment
- try posting at least few times a week (not more than once a day)
- plan in advance
- @shimizujones
- @williamcarnahan
- @video_school_online

PHOTO TIP

LOOK UP TRENDING AND POPULAR HASHTAGS LIKE #TBT.

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Space for your personal notes:

WALKTHROUGH OF CREATING A FREE PORTFOLIO WITH WIX

- platforms to get started: Wix, Wordpress, Squarespace, etc.

Wix

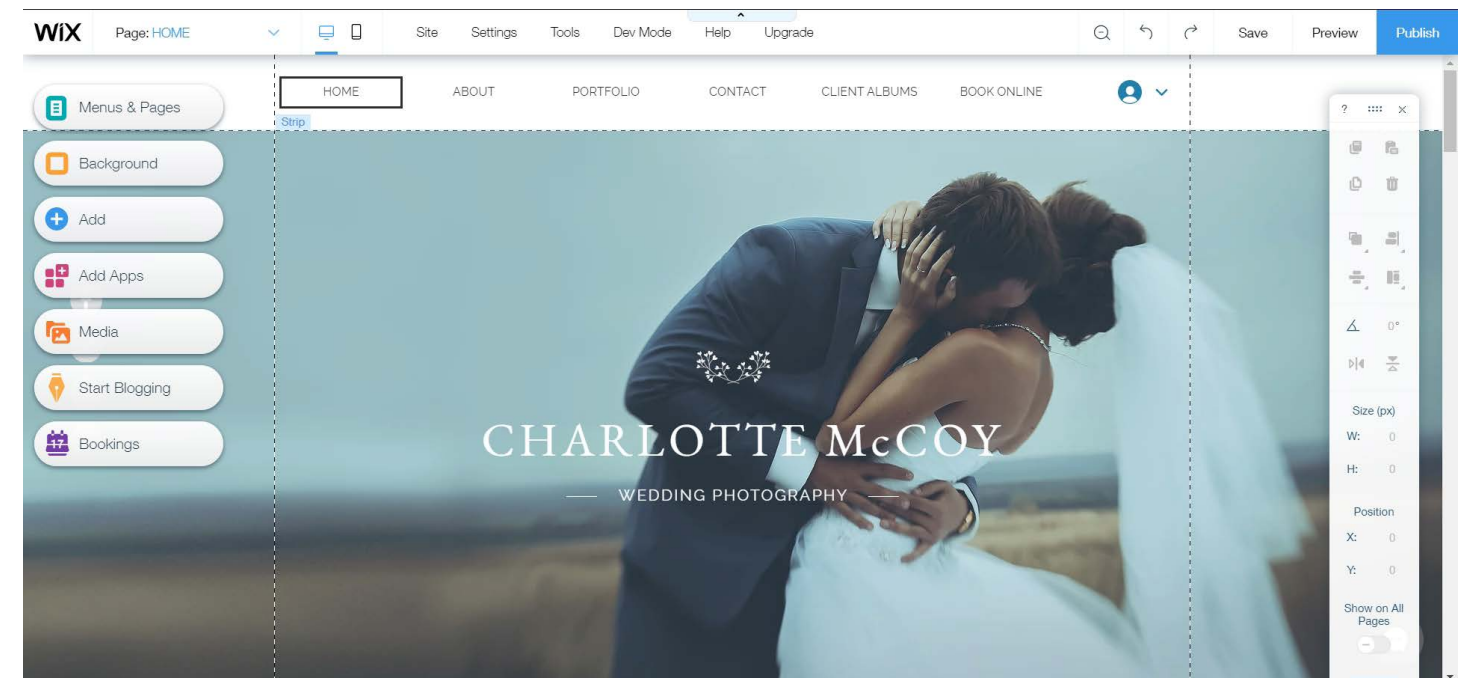
- easy and free, multiple sites
- free plan goes with wix ads and does not allow your own domain
- creates responsive web - adjusted for computer and mobile phones
- good “help” page

Preparation:

- choose the photos to upload
 - › very best photos
 - › as much variety as possible - to show that you can do variety of styles
 - › wedding: wide shots, close-ups, group shots, emotional shots, etc.
- write “About me” section

Building the website on Wix:

- sign-in
- photography website
- choose a template
- start editing - easy “wysiwyg” editor
- everything is modular
- adjust menu
- add or change texts
- add or change pictures
- drag & drop
- crop settings
- change the focus of the picture
- adjust the template as you wish
- connect with your profiles on other platforms



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Space for your personal notes:

ASSIGNMENT: PORTFOLIO PRACTICE

Put together a portfolio with your best photos!

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Space for your personal notes:

PHOTO CHAT: HAVING AN ONLINE PRESENCE

- at least share once a week - just to keep up to date with your work
- be consistent - people will remember your work and your style
- you can find not only inspiration or clients, but also cooperation with other creators
- others can mention you, review your work, share your work, write about you, etc.
- have a website combined with social media
- consistency is the key = it will take a while
- you have got to be “social” on social media: sharing, liking, commenting, etc.
- focus on a couple of platforms

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Space for your personal notes:

PHOTO CHAT: GETTING MORE FOLLOWERS

- hastagging:
 - › finding popular ones
 - › liking and commenting photos with the same hashtag
- tagging & collaborating:
 - › collaboration with people who might have a bigger following
 - › photos of you by other photographers - personal
- personal photos:
 - › it is supposed to be personal on a certain level
 - › people do like to see also photos of yourself, not just a work
 - › behind the scene in instastories

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Space for your personal notes:

PHOTO CHAT: BEST WEBSITE BUILDER FOR PHOTOGRAPHERS

Zenfolio

- meant for photographers
- more of a gallery
- also holds photos for your clients
- client database for photography

Squarespace

- great for a very basic landing page (about me, portfolio, contact)
- quick and cheap

- platforms like Squarespace,, Zenfolio, Wix, etc. are perfect for beginners

Wordpress

- offers much more customization
- but require more advanced skills
- can help you stand out of the rest

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Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Here are resources to help you with sharing your photos:

- [Increase Followers on Instagram](#)
- [10 Tips for Growing Your Instagram Brand](#)
- [The Dos and Don'ts of Building a Photography Portfolio](#)

**SECTION:
START
A PHOTOGRAPHY
BUSINESS**

SECTION: START A PHOTOGRAPHY BUSINESS

- *Intro to Starting a Photography Business*
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Space for your personal notes:

INTRO TO START A PHOTOGRAPHY BUSINESS

- beginning steps to be getting paid with your photo skills
- sometimes can be very long road
- it combines all the hardships of a freelancer, a business owners, and an artist

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Space for your personal notes:

HOW TO START A PHOTOGRAPHY BUSINESS

Incorporating as a business:

- speak to an accountant and legal advisor to figure out the best type of business for your
- you either set up a corporation or will be a self-proprietor

Choosing a name

- using your name - if you want to be the main photographer in your business
- using a different name - if you imagine growing the business beyond yourself
-
- check if a domain with this name is available
- you can also use combination of words with “photo” or “photography” or so
- check to see if social media accounts are available in your business’ name
- it is better if all your accounts use the same name, so people can find you

Building an online presence

- **website building:**
- about
- portfolio
 - › showcase photos that match what your business will do (portraits, weddings, etc.)
 - › also show some collections
- contact
 - › business locations
 - › provided service
 - › maybe pricing packages
- connect the website with all of your social media accounts
- **social media accounts**

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Space for your personal notes:

FINDING YOUR FIRST CLIENTS

- it will take time to build up consistent business
- it can take half of the time of working
- at least a year

Word of mouth/referrals

- start by photographing for your friends and family
- ask them to refer you
- ask them to tag you & your business when they upload photos on social media

Build your social media

- tag clients in photos that you post
- tag photography-based accounts to try to get reposted
- tag companies that you want to work for in photos that would interest the company

Join business groups

- local communities helping to refer clients to each other

Review websites

- set up a business a account on Yelp and Google
- find specific website for vendors in your niche
- make sure to follow up with clients to ask for a review

Online job boards

- search on sites like Craigslist, Indeed or Upwork

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Space for your personal notes:

PAYMENTS AND ACCOUNTING

- consult with a local accountant who knows the local rules & regulations
- setting prices, presenting them, tracking money and expenses
- accounting apps: Quickbooks, Xero, Wave
 - › templates and automated processes for sending and receiving invoices
 - › tracking payments
 - › etc.

The photography business flow

- client asks for a job pricing
- photographer provides a quote, contract and asks for a deposit
- client signs the contract, pays the deposit
- photographer photographs, edits, delivers the photos
- clients pay the rest of payment
- wedding photography: on the wedding day before the photo delivery
- corporate client: on a final delivery

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Space for your personal notes:

HOW MUCH SHOULD YOU CHARGE?

Rates in general:

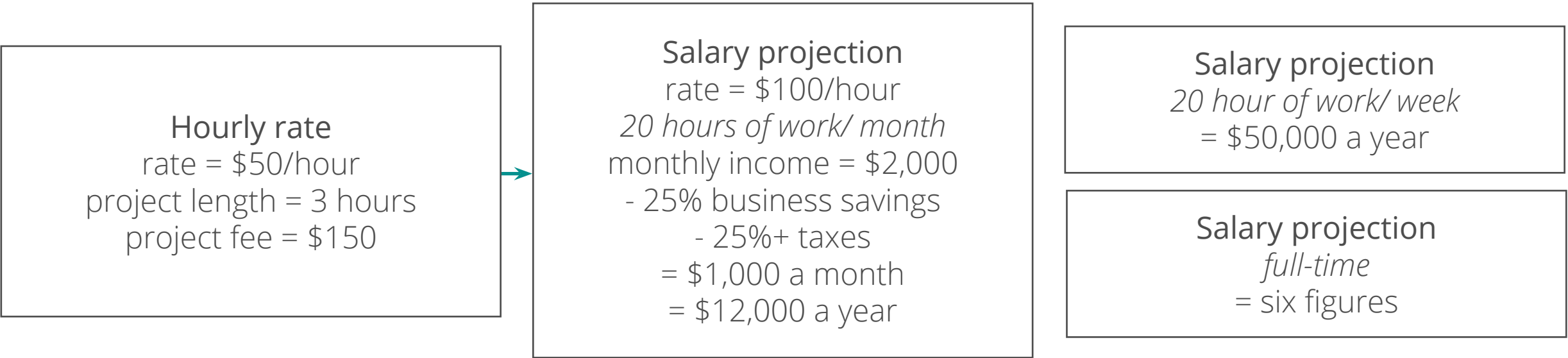
- depends on experience, type of job, local rates
- do a competitive research to see what other photographers are charging
- feel free to reach out to photographers in your area and request a quote

Hourly rate depends on:

- what are your expenses
- costs for health insurance, equipment, extra taxes
- costs for equipment, travel costs, etc.
- by knowing your hourly rate and estimating how long the project will take you; you can calculate the price per project
- consider saving 20% or more in the business to invest in better equipment, marketing & for slower business months
- you should be able to grow a wedding business to eventually charge \$3,000 - \$4,000 per wedding
- shooting 2 weddings per week = 24 weddings per year

PHOTO TIP

PHOTOGRAPHY IS NOT A GET-RICH-QUICK BUSINESS.



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Space for your personal notes:

CONTRACTS

- have an official contract! - a lawyer is the best place to get legal advice - see also supplemental materials chapter of this section
- always be clear with your client about the cost of any extra work

What to include:

- non-refundable deposit - 1/3 of the full price
- date of shoot
- total cost
- due date of final payment
- penalty for late payment
- cost for shoot additions
- names & contact info
- shoot location
- deliverables (how many photos and in what format)
- date of delivery
- photo ownership (who owns the raw images)
- cancellation policy
- signatures by both sides

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Space for your personal notes:

INCOME AND EXPENSE TRACKING

Keep records of:

- everything!
 - invoices
 - receipts (every purchase connected with your business)
 - client contact information
 - hours of work on each project
 - etc.
-
- start for free by using spread sheets (Google Drive)
 - try an app like Evernote to easily photograph & upload receipts
-
- use app like Quickbooks, Xero or Wave for all of accounting
 - these tools can automatically import expenses from your business bank account or credit card
-
- see also supplemental materials in this section

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Space for your personal notes:

PHOTO CHAT: GETTING OUR FIRST CLIENTS

- people have to see your work!
- being in a community of photographers
- friends and family - holiday photos, graduation portraits, wedding, etc.
- shooting popular events - getting in contact with people and brands in photos

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Space for your personal notes:

PHOTO CHAT: WHAT GEAR DO YOU NEED TO START A BUSINESS?

- very base level of shooting - like Christmas cards
 - › you need a camera that you are comfortable with
 - › you feel is fast enough for you
 - › 24-70mm, 16-55 mm, f/2.8 lens
- next level of shooting - events
 - › faster lens f/1.4 or f/1.8 with a longer zoom 70-200mm
- higher level of portraits
 - › 35mm, 50mm, 85mm
- two extra batteries
- one extra card
- for each job, you can rent the special lens you will need without need to purchase when starting out

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Space for your personal notes:

PHOTO CHAT: HOW MUCH DID WE CHARGE?

- set up the price of basic packages, but be ready to adjust the price
 - you have to be able to talk business and be comfortable about it
 - you are a business owner, a sales person, a technician and an artist
 - some staff can be very interesting for you, some can really add to your portfolio
 - client is not paying money only for the hours you spent by the specific work - pays also for your equipment, your skills, your experience and education, etc.
-
- make sure that you are delivering great product!

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- PHOTO CHAT: How Much Did We Charge?
- *Supplemental Materials*

Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Here are resources to help you with starting a photo business:

- [How Much to Charge as a Freelancer](#)
- [How to Start a Photography Business](#)
- [How Much Does it Cost to Start a Photography Business](#)
- [Simple Guide to Setting Up a Photography Business Legally](#)
- [9 Free Photography Contracts from Docracy](#)

**SECTION:
SELLING STOCK
PHOTOGRAPHY**

WHAT IS STOCK PHOTOGRAPHY?

Stock photos are images that anyone can license for creative projects.

SECTION: SELLING STOCK PHOTOGRAPHY

- [What is Stock Photography?](#)
- Best Stock Photography Websites
- How to Sell Your Own Photos
- Understanding Licensing
- Supplemental Materials

Space for your personal notes:

You will learn:

- how to sell on stock photo sites
- how to sell on your own site
- how licensing work
- stock photography might become passive income

SECTION: SELLING STOCK PHOTOGRAPHY

- What is Stock Photography?
- *Best Stock Photography Websites*
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Space for your personal notes:

BEST STOCK PHOTOGRAPHY WEBSITES

Process:

- you sign up for an account
- fill up the form
- upload your photos (approval process)
- pick a specific niche and find categories with a lack of photos
- try photographing specific events, sporting activities, or seasonal trends
- royalty = how much you make per photo sale - different for every site

Recommended sites:

- alamy
 - shutterstock
 - adobestock
 - getty images
 - fotolia
 - 123rf
 - dramstime
 - pond5
-
- you can upload the same images across all of them

SECTION: SELLING STOCK PHOTOGRAPHY

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Space for your personal notes:

HOW TO SELL YOUR OWN PHOTOS

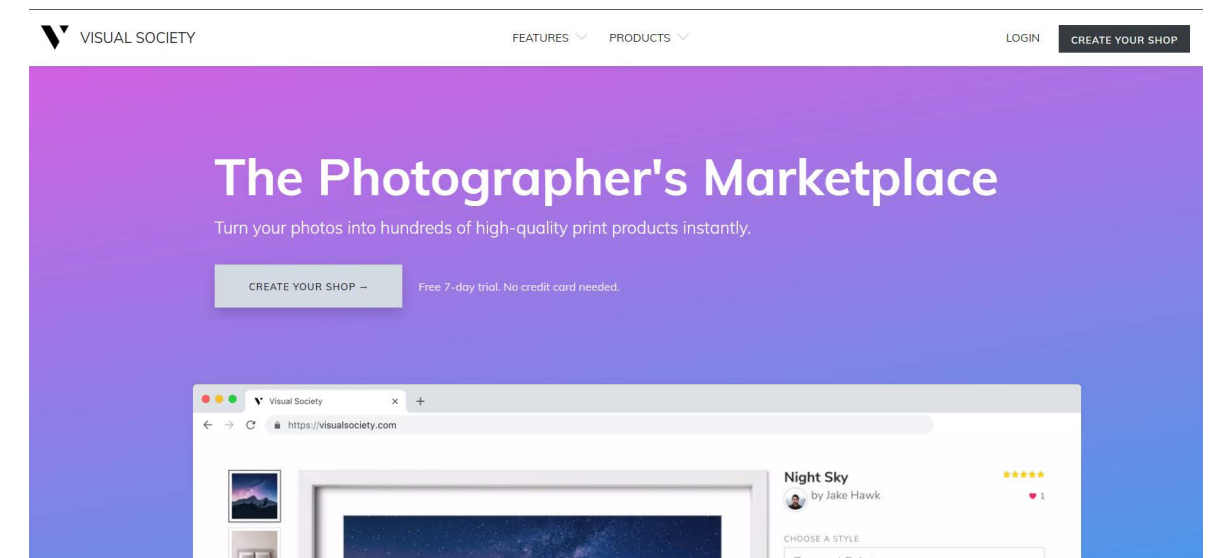
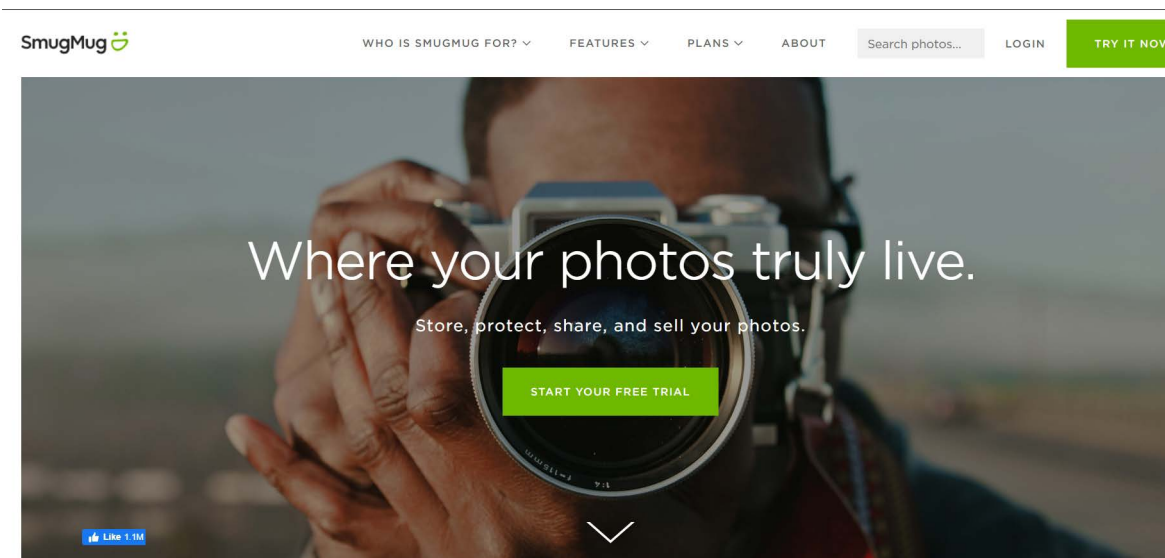
- stock photography is very saturated
- selling photos on your own might be easier

Ways to sell:

- photography platform like Smugmug or Visualsociety
- e-commerce platform like Shopify
- custom website with an e-commerce theme or plugin
 - › e.g. wordpress - with a custom plugin like “sell media” or “woocommerce”
- tool like Gumroad (platform to sell any digital product)
 - › you can start for free and the platform will charge you a percentage from sale

Process:

- post the photos
- drive traffic to your website
- be patient and consistent



SECTION: SELLING STOCK PHOTOGRAPHY

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Space for your personal notes:

UNDERSTANDING LICENSING

A [photography license](#) is a contract in which the photographer grants specific rights to the client who wants to use your image(s) for a stipulated amount of time. The client is free to use the photos in any way that doesn't go beyond the scope of the agreement.

Key terms::

Royalty free

- the right to use an image multiple times after purchasing the license

Fair use

- the right to use an image in a non-profit, educational, research-based way

Creative commons

- a type of license that gives the right to use a photo, but not the rights to the photo itself
- some require attribution - giving the credit every time you use it

Public domain or creative commons cco

- an image is free to use without paying for it

Types of licenses:

- the ability to use a photo of a non-commercial project
- the ability to use a photo for a commercial digital product
- the ability to use a photo in sth that is printed up to 250 000 prints

- commercial (charging more) vs. non-commercial
- digital vs. print (will there be a limit?)
- merchandising use (e.g. photo on a t-shirt)
- use in stock templates

SECTION: SELLING STOCK PHOTOGRAPHY

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Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Here are resources to help you with selling stock photos:

- [How to Successfully Sell Your Photos Online](#)
- [Comparison of Major Stock Websites](#)
- [How I Made \\$1,254.93 in Four months Selling Stock Photos on EyeEm](#)
- [Tips for Selling Stock Photography](#)

SECTION: PRINTING YOUR PHOTOS

SECTION: PRINTING YOUR PHOTOS

- *How to Print Your Photos*
- How Big Can You Print Your Photos?
- Framing Your Prints
- Supplemental Materials

Space for your personal notes:

HOW TO PRINT YOUR PHOTOS

Choose a size

- 4x6 & 5x7 are typical formats from photolab
- 8x10 & 8.5x11 are typically a good balance between cost & size

Crop appropriate size

Export the biggest best quality jpeg you can

Choose a paper

- glossy
- mate (less shine & usually higher quality)
- metal (more contrast and a specific shine)
- canvas
- etc.

Print

- dry process - printer using ink
- wet process - printer uses light-sensitive paper and print through chemical process (usually better quality)

Common print sizes:

- 4x6
- 5x7
- 8x10
- 8.5x11
- 11x14
- 16x20
- 18x24
- 20x24
- 24x36

SECTION: PRINTING YOUR PHOTOS

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Space for your personal notes:

HOW BIG CAN YOU PRINT YOUR PHOTOS?

Factors:

PPI & DPI & pixels

- PPI = pixels per inch
- DPI = dots per inch
- the highest quality is usually 300dpi
- calculating perfect ppi = divide pixel count by the ppi:

$$24\text{MB} = 6000\text{px} \times 4000\text{px}$$

$$6000\text{px} / 300\text{dpi} = 20 \text{ inches (cca 50cm)}$$

$$4200\text{px} / 300\text{dpi} = 14 \text{ inches (cca 35cm)}$$

20x14 inches is the size of the frame you can print from 24MB photo without losing a quality

Paper quality

- smoother paper will require a higher quality photo to look good (and adversely)

Distance of viewing

- the farther the distance of viewing will be, the less pixels on inch is needed (TV vs. billboards)
- 2 feet (cca 60cm) is the best distance for viewing an 8x10 photo

SECTION: PRINTING YOUR PHOTOS

- How to Print Your Photos
- How Big Can You Print Your Photos?
- *Framing Your Prints*
- Supplemental Materials

Space for your personal notes:

What kind of frame

- what kind of style
- what colour - fit with photo and the place
- solid black frame is never a bad option

To add a mat or not?

- creates a more fine art look
- can raise photo away from the glass and/or the background
- make sure to buy the mat that matches your photo size

FRAMING YOUR PRINTS



SECTION: PRINTING YOUR PHOTOS

- How to Print Your Photos
- How Big Can You Print Your Photos?
- Framing Your Prints
- *Supplemental Materials*

Space for your personal notes:

SUPPLEMENTAL MATERIALS

Supplemental Materials

Here are resources to help you with printing your photos:

[How Big Can I Print My Photos?](#)

CONCLUSION

thank you for taking this course!
we hope the course and this guide has
helped you become a better photographer.
we hope to see you in another course soon!



Phil Ebner
William Carnahan
Sam Shimizu-Jones



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Photography Masterclass: A Complete Guide to Photography