



Camera Basics

Knowing is half the battle

Kevin: "Hey Jeff, are you koalafied to be a cameraman?"

Jeff: "My career is not a joke, Kevin."



Objective

Students will be able to:

- Define terminology
- Understand the basics of the DSLR camera
- Understand the different parts of the DSLR camera
- Be able to properly and safely use the cameras in and out of the classroom
- Know how to check out and in cameras



Did you know that don't have to Photoshop photos every single time? That you can shoot them right in-camera?



FIX IT IN PRE!



Vocabulary

DSLR

Digital single lens reflex camera. They are the most versatile of the digital cameras.

Front of the Camera

1 - Power Switch

To turn on or off the camera.

You must ALWAYS have the camera **OFF** when putting in or taking out SD Cards or batteries.

You must ALWAYS have the camera **OFF** when switching lenses.



2 - Display button

To toggle the display on the screen.



3 - ISO Button

Press this to be able to adjust the ISO in camera.



4 - Main Dial

You use this to adjust
Shutter Speed, Aperture,
ISO, etc in the camera.

By default, you adjust the
shutter speed when not
touching anything else.

Hint: *maindial*



5 - Shutter Button

Photo students use this to take photos.

If you press it down half way it will focus the camera in Auto Focus.

When you push it all the way it will take your photo.

Hint: *shutterrelease*



Focus

You always want to try to get focus in your films.

There's a difference between having a focal point (Something is in focus) or just the entire shot being out of focus!

You need to use manual focus when filming because things move around in your shots.

Hint: *focus*



**SHOTS COME BACK OUT OF
FOCUS**

**CALL IT A STYLISTIC
CHOICE**

6 - Grip

What you hold onto the camera with.

You will need to use a tripod when using a camera in film.



7 - Mirror

NEVER TOUCH THE MIRROR OR
ANY PART *INSIDE* THE CAMERA!

This is what the camera uses to bounce
the image from the lens onto the
sensor.



8 - Lens Mount

What connects the lens to the camera.

Make sure to be careful and not scratch up this part of the camera when switching lenses.

Never leave a lens off the camera and open to the *environment*, it'll get dust which is bad.



8 - Lens Mount(continued)

You need to line up the red/white marks on the lens mount with the lens mount of the lens to connect the lens with the camera body.

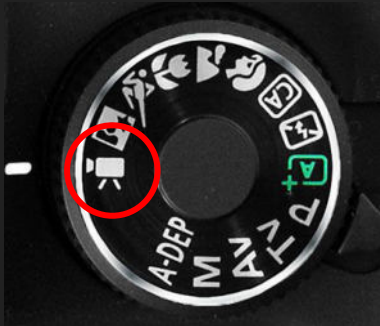
Once you've lined these together and put the lens and body together, you just twist and you'll hear a click when it's locked in place.



9 - Mode Dial

This is where you adjust the mode that you are shooting in.

You will always shoot in **VIDEO** for this class.



10 - Built In Flash

Do not use this for class projects.

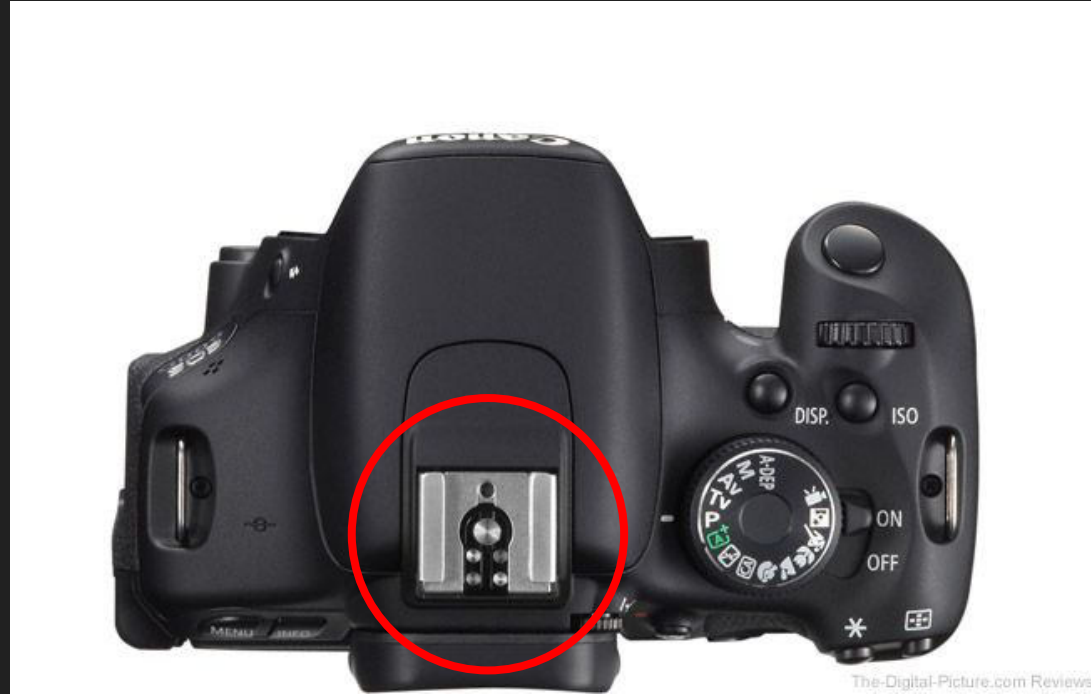
We will be going over external light devices later in class.



11 - Hot Shoe Mount

This is where you put any accessories for the camera, mainly microphones for this class.

Hint: *hotshoe*



The-Digital-Picture.com Reviews

What did Cinderella lose
at the photography ball?



Her Hotshoe!



12 - Strap Mount

This is where you thread your camera straps onto the camera.



Camera Strap

For photo students, you **MUST** always wear your camera strap around your neck.

For film students, if your camera is not on a tripod or in your camera bag, it must be around your neck.

If you are not using your camera, it should be in the camera bag!



Camera Strap

When you are walking around campus(Or anywhere else), if you have your camera around your neck you should have at least one hand on your camera so your camera isn't swinging around and hitting into things.

Hint: *camerastrap*



13 - Microphone

This is where the camera records sounds for video files.

If you are not using a microphone that connects to the hot shoe, this is where you will record your audio.



14 - Flash Button

You use this to pop open the Built in Flash.

Remember, you should never use the on body Flash.



15 - Terminal Cover

This is the cover to protect the different plugins for external use, like HDMI, micro-USB, microphone, etc.



16 - Lens Release Button

You use this to be able to switch lenses.

To remove a lens, you hold this down and then twist the lenses.

NEVER FORCE THIS!

Hint: *lensrelease*



17 - External Microphone Port

This is what you plug an external microphone into the camera.



18 - Body Cap

If the camera doesn't have a lens on it, you put the body cap on it to keep the internal pieces protected.



Back of the Camera

1 - Eye Cup

To keep sunlight out when looking into the Viewfinder.

This is for photo students.



2 - *Viewfinder* Eyepiece

This is where the photo students look at what they're taking photos of.

Film students use Live View mode on the LCD monitor to see what they're filming.



3 - Info Button

You use this to bring up information about the film or your settings when filming.

If you can't see your light meter, shutter speed, aperture, etc, you click on this to see this.



4 - Menu Button

You use this to open up the menu. This is where you'll need to go when you want to format your SD card once you've transferred all of your video clips to a computer.



5 - LCD Monitor

This is where you will see your recordings or watch what you're filming via Live View mode.

Hint: *lcdmonitor*



5 - LCD Monitor for T6

The Canon T6 LCD Monitor cannot be repositioned.

Film students don't use T6.



6 - Aperture Button

AV button, this is what you hold to adjust the aperture.



7 - Tripod Socket

This is where you put the QUICK RELEASE PLATE from the tripod onto the camera.



Quick Release Plate

You put the quick release plate in the Tripod Socket on the camera.

Do not leave this on the camera when you turn it in. It should always remain on the tripod.

Hint: *quickreleaseplate*



8 - Quick Control Button

This will allow you to switch between different settings.

It will give you descriptions of what each setting does, and allows you to adjust with the main dial from there.



9 - *Playback* button

Allows you to see the video you just did.

Pressing it or the shutter button goes back to the Live View Mode.



10 - Settings Button

You can adjust the settings of the camera here.



11 - Cross Keys

You can use this to cycle through photos and video clips in playback, and you use these to move through the menu screen. Each button also has a specific function when in the default screen.



White Balance (Up Arrow)

White Balance Selection.

When in default screen, this will allow you to adjust the white balance.

This is the only time you can have something in auto.



Picture Style Selection (Down Arrow)

You don't need to worry about
Picture Style Selection.

Not for Film

You'll be using this for the down
arrow.



Drive Mode Selection (Left Button)

Drive Mode Selection allows you to choose between single shot, multiple shot, and timer.

If your camera starts beeping when you try to take your photo, the timer is on. **You should be in film mode as a Film student.**

You will use this as the LEFT arrow, too.

This is only for Photo students.



AF Mode Selection (Right Arrow)

Allows you to choose how Auto Focus will function.

For Photo students.



12 - Dioptic Adjustment Knob

Important if you wear glasses for photo students.

For film students, since you don't use the eye piece to view what you are recording, you won't need to worry about this part.



13 - Live View Shooting/Recording

When you are in the Video/Film mode(We talked about this earlier on in this presentation), you will use this button to begin recording(Notice the red dot) and end your recording.



14 - Zoom Out

Allows you to zoom out in a photo/go into a grid when looking at multiple images/clips.



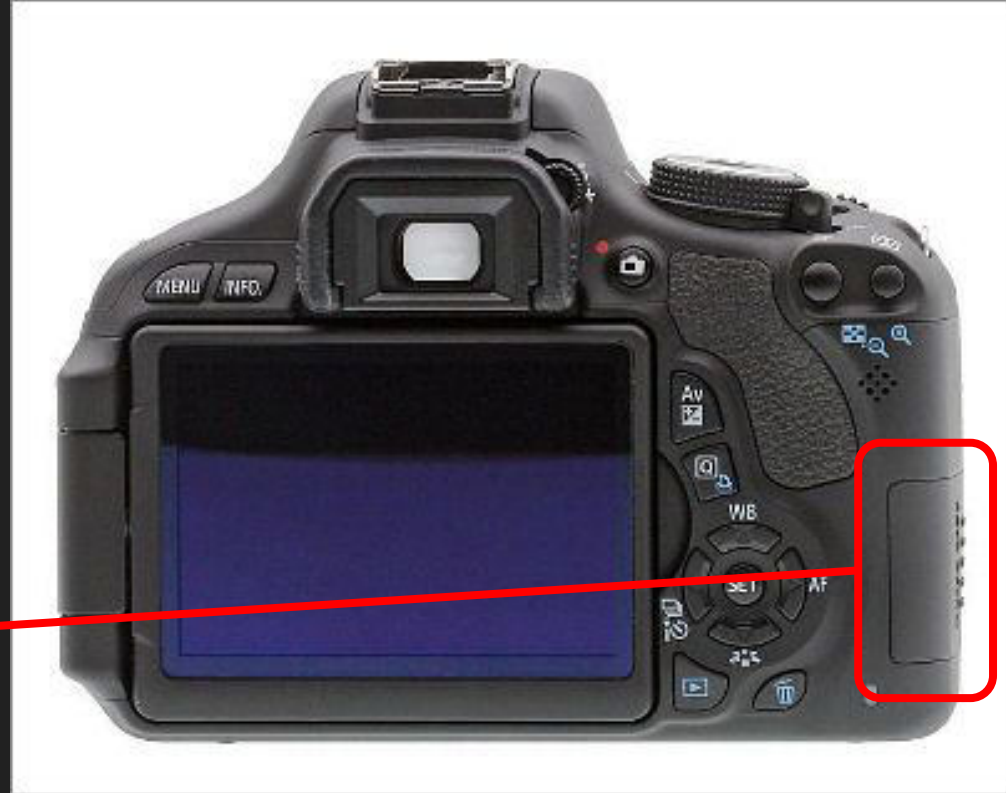
15 - Zoom In

Zoom into a photo during playback.
This also allows you to leave the
grid of images while in playback.



16 - SD Card Slot cover

Protects the SD card. Make sure this stays shut and only open it when you're removing the SD card.



17 - Battery Compartment Release

This is what allows you to open up the camera battery compartment.



18 - Battery Compartment

This is where you put your battery.

Never try to force it in.



19 - Erase Button

This is how you delete an individual photo or video clip.

Do not delete photos or video clips like this.

Use *format* in the camera menu.



20 - Card Slot

This is where you put the SD card.

Never force this.



Card Slot on T6

On the T6, the SD Card slot is in the battery compartment.

Never force this.

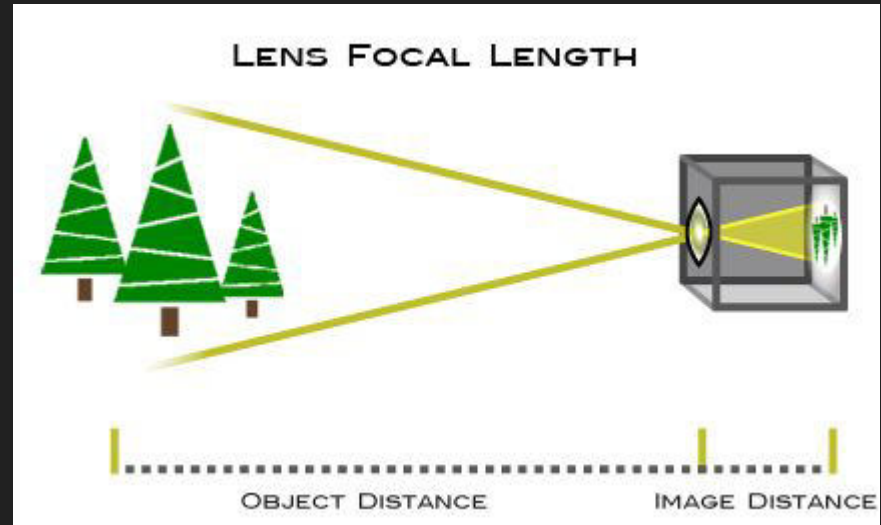


Canon Lens

The Basics

Lenses are measured with their focal length. This is measured between the lens and the image it forms on the film.

We will have a class specifically about lenses and their different types.



Hint: *focallength*

1 - Hood Mount

This is where the hood or the Lens Cap goes.



No Lens Hood

Light source, out of frame

Light hits lens at an angle, creating flare

Lens' field of view



With Lens Hood

Light source, out of frame

Light hits lens hood and bounces away

Lens' field of view



2 - Filter Mounting Ring

This is how you screw on your filters.

There should be a UV filter on each camera.



**ALWAYS HAVE A UV
FILTER ON YOUR LENS!**



ALWAYS



ZOMBIEWEREWOLFPRODUCTIONS.COM

3 - Zoom Ring

This is the ring that you adjust to zoom in or out when filming.



4 - Focus Ring

This can change depending on the lens.

For Film students, you always need to be focusing manually.

For Photo Students when in Auto Focus(AF), NEVER adjust this ring manually!



5 - Distance Scale

This just allows you to see the distance meter on the lens.

Not on all lenses.



6 - Focus Mode Switch

This adjusts the lens from either Auto Focus or Manual.

Photo students can use auto focus.

Film students **MUST** use manual focus!

NOTE: Auto focus is not a guarantee to get the focus **YOU** want.



Why we focus manually for Film students

In film, if we use Auto Focus, our films would CONSTANTLY be refocusing and it would be distracting and amateur.

7 - Lens Mount Index

Look at the little square on the side by the mount.

You line this up on the mount ring to put the lens on the camera.



Lens Caps

Remember, when you are not using your camera or when it's in the camera bag, it needs a lens cap on to avoid getting the glass scratched.

Hint: *lenscap*



Lens Wipes

Lens wipes are the only thing you should be cleaning your lenses with.

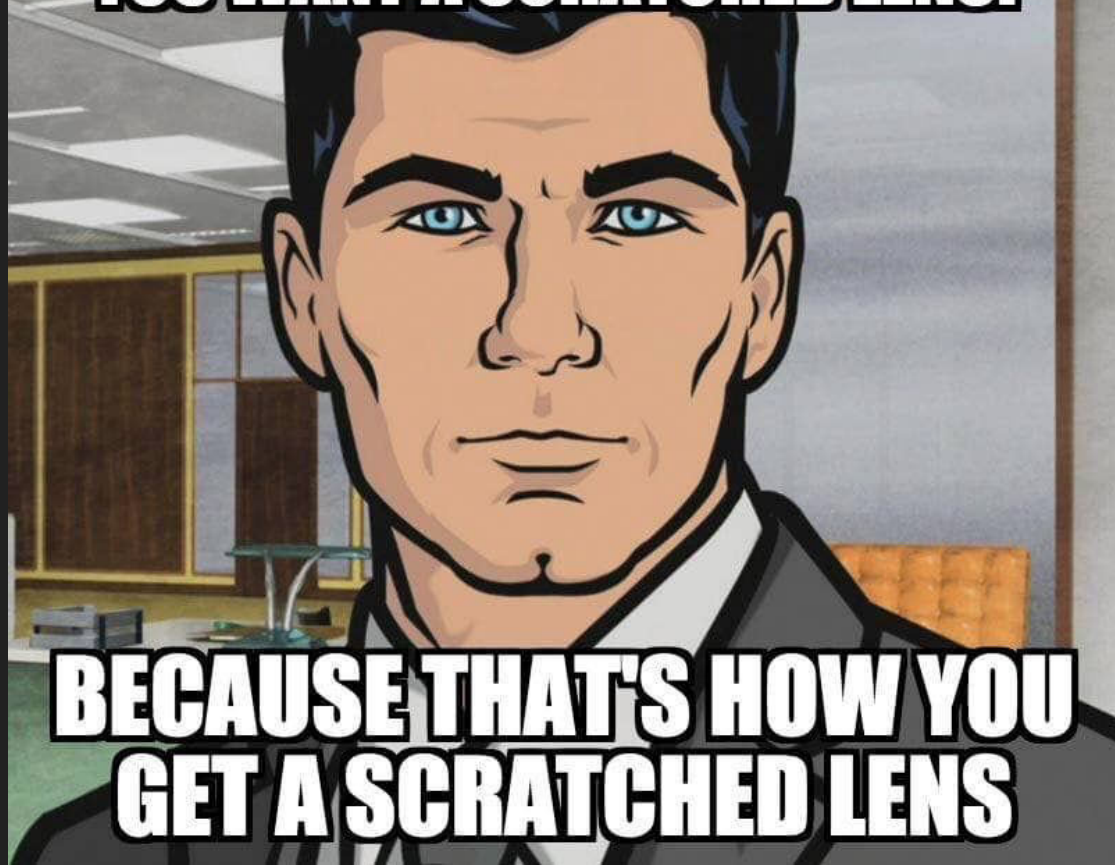
There are dry lens wipes by the Battery charging station, and Mr. Nistas has wet lens wipes.

Only EVER clean the front part of the lens. If the back glass of the lens needs to be cleaned, give it to Mr. Nistas to clean it.

Hint: *lenswipe*



**USING SHIRT TO CLEAN LENS. DO
YOU WANT A SCRATCHED LENS?**



**BECAUSE THAT'S HOW YOU
GET A SCRATCHED LENS**

8 - Spot Metering Circle

This is the area that your light meter will be detecting. To get proper exposure for your video clips, have the area you're trying to expose correctly be in this area.



10 - Focus screen(No #9 for Film)

This is the area that is your image you are filming.

The most common aspect ratio for cameras is 4:3 or 3:2. Aspect Ratio is the height and width of your image.

Hint: *aspectratio*

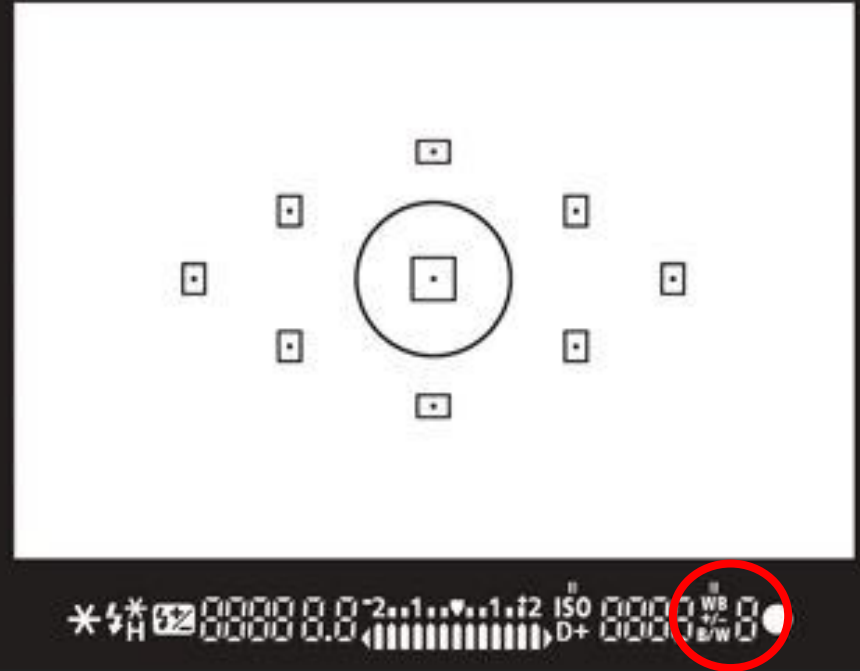


11 - White Balance

This is where your current White Balance setting is located.

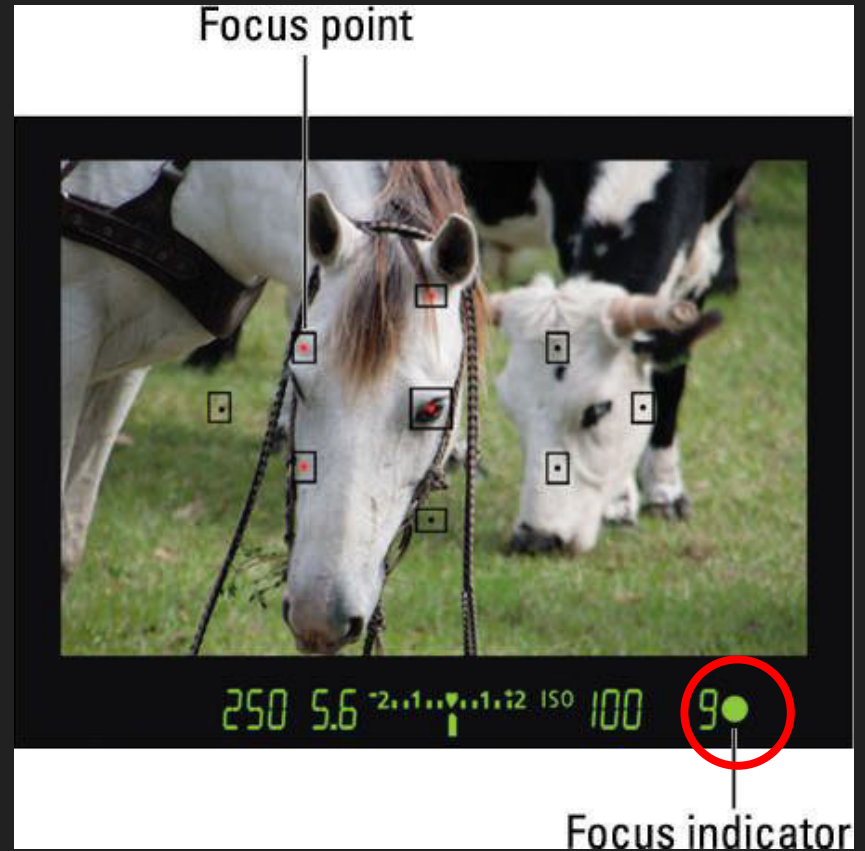
The White Balance is the setting used to adjust for the different color of light sources.

Hint: *whitebalance*



12 - Focus Confirmation Light

If you are using Auto Focus, this dot will come on if your focus is set.



14 - ISO Speed(No 13)

This is where your current ISO speed will be located.

Remember from our lessons that *ISO* determines how sensitive the camera is to light.

Remember that the higher the ISO, the more digital *noise* you have.



15 - Exposure Meter

This is your exposure meter.

Exposure determines how light or dark the image is.

You will want to have the arrow set to 0 for a proper exposure.



Hint: *metering*

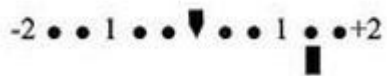
Underexposed



Correctly Exposed Meter



Under Exposed Meter



Over Exposed Meter



Overexposed



Correctly Exposed Meter



Under Exposed Meter



Over Exposed Meter



16 - Aperture

This is where your current Aperture setting is located.

Remember that we measure Aperture in *f-stop's*.



Aperture

Remember from our lessons on Aperture that it is the size of an opening within the camera lens that allows light to pass through the lens.

Hint: *aperture*



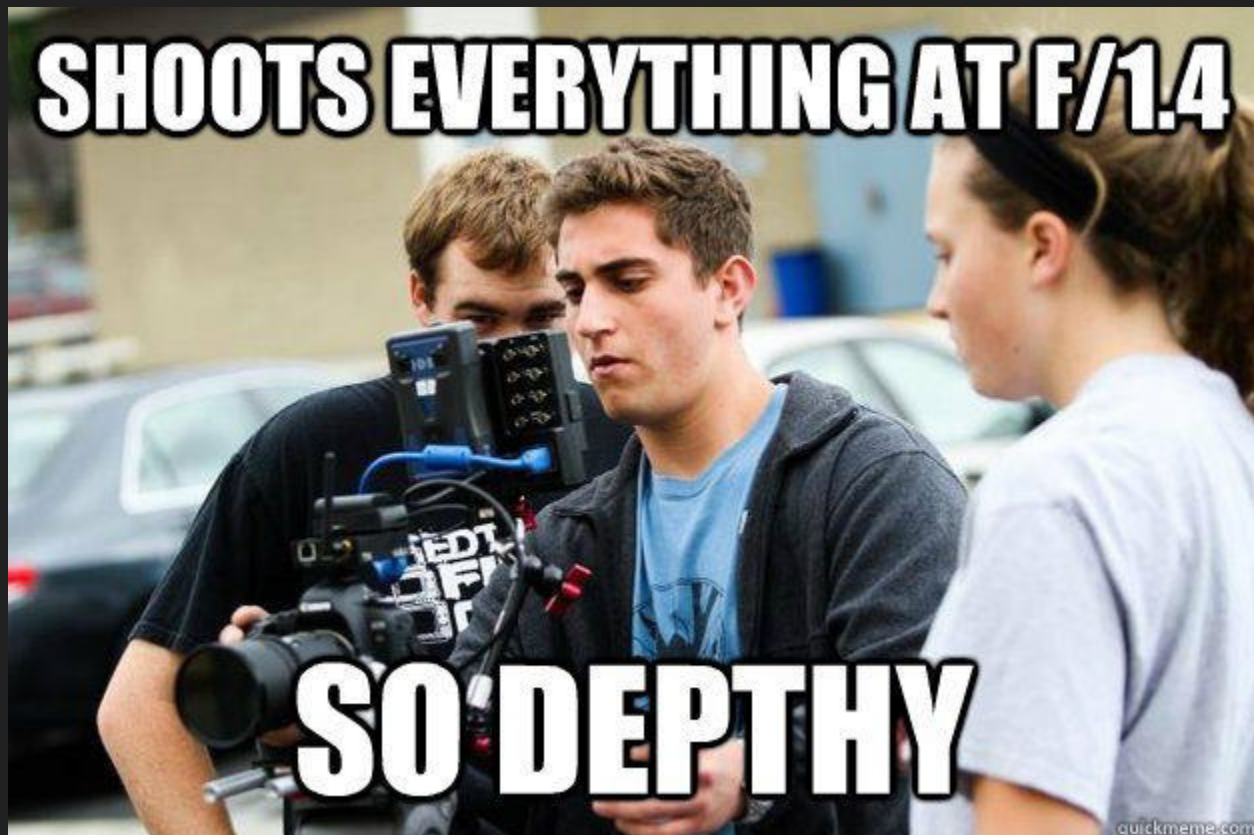
Aperture

Remember from our lessons on Aperture and Depth of Field that *bokeh* is the aesthetic quality of the blur produced in the out-of-focus parts of an image produced by a lens.

Hint: *depthoffield*



SHOOTS EVERYTHING AT F/1.4



SO DEPTH

17 - Shutter Speed / Card Info

This is where your current Shutter Speed setting will be located.

Remember that Shutter Speed is measured in *seconds*.

If there is an issue with the SD card, you will see it here.



Shutter Speed

Remember from our lessons that shutter speed is the amount of time which the shutter is open to allow the film/sensor to be exposed to light.

It also determines how blurred actions might be.

Hint: *shutterspeed*



1/500



1/250



1/125



1/60



1/30



1/15



1/8



1/4



1/2

SD Card

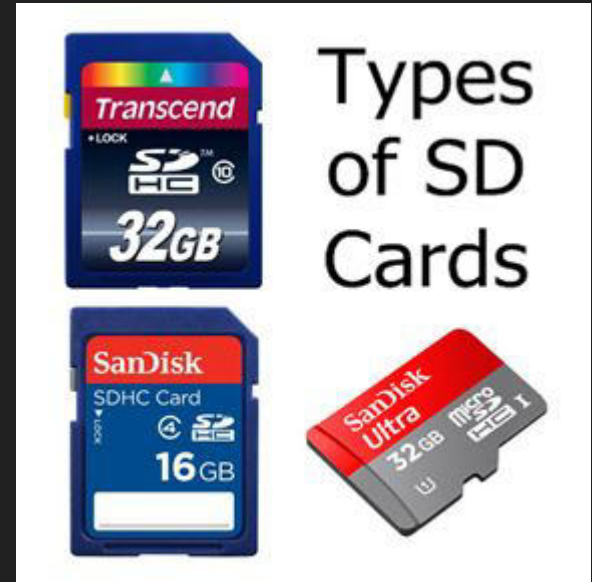
What is an SD Card?

SD cards are the storage devices we use to save our images or video clips from our cameras when we take photos or film.

They come in different storage sizes(example: 4gb, 8gb, 16gb, 32gb, 64gb, etc), and different sizes(You can get a microSD card or a regular one, for this class we use SD Cards).

The proper way to delete images is *FORMATING*.

Hint: *sdcards*



**WENT TO
THE MOON**



**TOOK 5
PHOTOS**

WENT TO MARS



TOOK 6 PHOTOS

**WENT TO THE
BATHROOM**



**TOOK 37
PHOTOS**

18 - SD Card Contacts

These are the contacts that allow your camera/computer to connect with the SD Card.

NEVER TOUCH THESE!



19 - SD Card Lock Switch

This will lock and prevent you from taking video if this is in the LOCK position. If your camera is not letting you film, check this before seeing Mr. Nistas.





Don't go home without one!

Remember that it is the STUDENTS responsibility, not Mr. Nistas', to check to see that there is a *SD card* in the camera.

It is also the students responsibility to check the camera to see if the SD card was formatted when they check out a camera, and it is the students responsibility before checking in the camera that they have formatted their card.

That look you make when you realize you forgot to bring a memory card to a shoot.

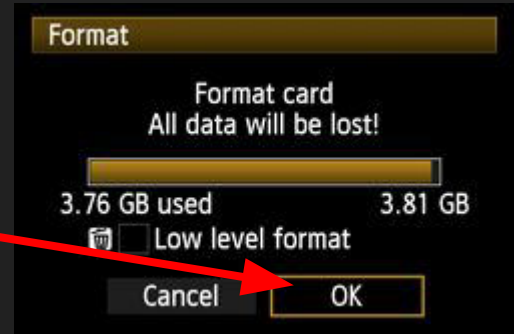


How to Format Your SD Card

To format your SD Card, you need to click on Menu (Hey, you know where that is now!) and then go here.



It will then want to confirm that you want to format your SD Card. This means all data will be lost! Click OK.



Tripods

Quick Tips about Tripods

The tripod is used to help stabilize the cameras, for filming and long exposures for photography.

Make sure to always stay no more than an *armslength* from the tripod.

Make sure to never leave a camera on the tripod.

NEVER carry a tripod by it's *arm*.



NEVER WALK AROUND WITH A CAMERA ON A TRIPOD



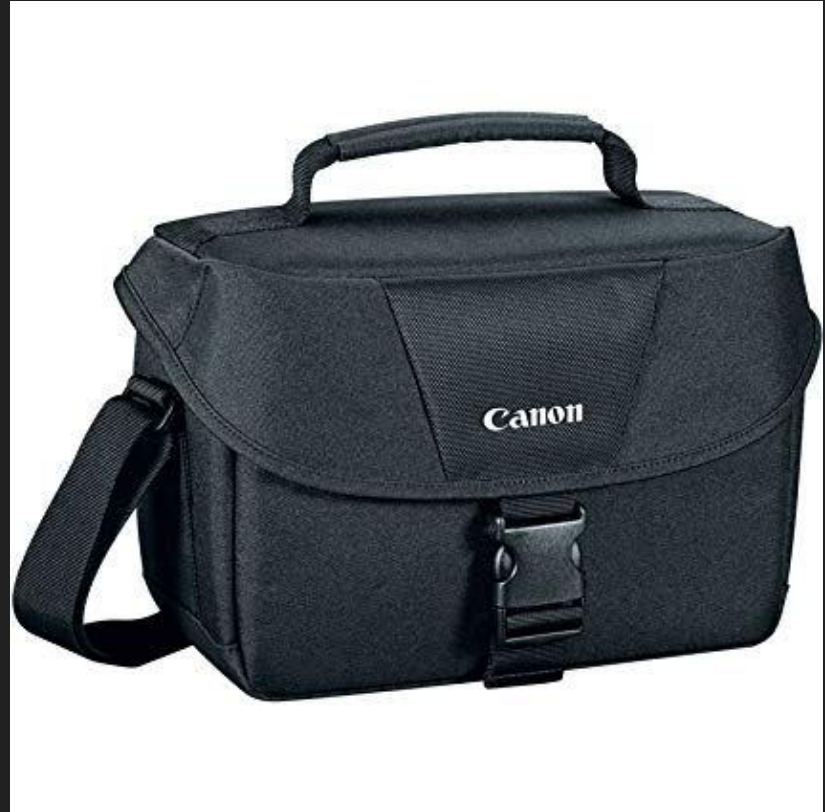
Bags

Camera Bags

Cameras should be in their camera *bag* when not in use.

Each camera is assigned to it's own bag, so do not switch them around.

Camera bags must ALWAYS be with you.



Procedures

If anything ever happens...

Always **EMAIL** Mr. Nistas on joshua.nistas@fwusd.org if there are any issues with your camera gear. NEVER wait to tell him if there's an issue, even if it seems minor.

YOU ARE THE ONLY ONE ALLOWED
TO USE THE EQUIPMENT YOU SIGN
OUT!

You are *financially* responsible for your camera equipment that you check out.

YOU CAN NEVER USE SOMEONE
ELSE'S WORK FOR YOUR OWN

It's still plagiarism

Water

You need to keep cameras and accessories away from water at all times. Remember that cameras have a lot of sensitive circuitry in them.

Lenses can get fungus in their insides if they're exposed to the elements.



In Class Procedures

Checking Out Cameras During Class

When it's shoot days, you will see the instructions on the TV screens that it is a shoot day. You will need to get a camera and any possible accessories and sign it out.

Batteries will only be handed out and students will be able to begin once EVERYONE has signed out their cameras.

Filming Around Campus

You must ALWAYS be *respectful* when filming around campus and classrooms. This means no yelling/shouting/etc if you are close to classes.

You are NEVER allowed to take students out of class to take their photo or include them in your film. (Hint: *no-one*)

Thanks to a previous student, the parking lot is also off limits.

You are NEVER allowed to leave the campus during class time to film.

Checking In Cameras During Class

On Shoot Days during class, you will need to be back in class **TEN Minutes** before the bell rings. (You should set an alarm on your phone to make sure you are not late)

Remember to have your battery out and put it on a *charger* or in the Battery Recharge tub when turning in your camera.

Cameras need to be TURNED IN 5 minutes before the bell rings.

A student will typically be assigned to take in cameras. This student will have shown they are showing responsibility, and better cameras and more equipment will be available to these students.

Checking Out Cameras

When Checking Out Cameras

Grades

To be able to check out cameras, you need to have an 80% in class. *If it's for an assignment or extra credit in hopes to better your grade, talk to Mr. Nistas.*

To check out the Canon 80D, you will need at least a 90% as well as talking to Mr. Nistas beforehand.

When Checking Out Cameras

Check Out Time

Unless specifically allowed by Mr. Nistas, check out times are *after* the last bell of the day(3:30).

People getting on a bus or being picked up directly will take priority as they need to leave as soon as possible.

Please make sure you know what equipment you want to check out when you ask Mr. Nistas.

When Checking Out Cameras

Batteries

Remember it is the students responsibility to make sure they have a battery when they check out a camera, not Mr. Nistas'. It is also the students responsibility to make sure the battery is charged.



When Checking Out Cameras

Battery Chargers

The ONLY time students will get chargers is on weekends.

Make sure to remove this from the camera bag when checking in cameras.



When Checking Out Cameras

Additional Accessories

You need to let Mr. Nistas know when you're wanting an additional lens (Limited to one extra), microphone, or other accessory when you ask for a camera. You need to make sure to write **EVERYTHING** you're getting down on the Check Out sheet, it is your responsibility to make sure you get everything you signed out.



When Checking Out Cameras

Do Not Leave In Cars!

Cameras can have internal damage due to extreme heat(lost pixels, etc).

Bags left in cars are a target for potential thieves to break into your car(damage to your car) and stolen camera(Possibly other items in your car, too).



Checking In Cameras

When Checking In Cameras

Check In Time

You need to turn in any equipment by 8:35(When the first bell rings of the day). If you are absent, try to EMAIL Mr. Nistas to let him know you won't be able to turn the equipment in(Not an absolute must, but please try). If you got to school late, try to turn it in at the very next passing period or at lunch at the latest. If you are in fourth, fifth, or sixth period, do NOT wait until your class to turn it in!

Do NOT leave your camera in another class because you do not want to have to carry it around school. That is why check OUT times are after school and check IN times are before school. We need every single camera for possible in class use.

Cameras are due back the very next school day after check out(Mondays if checked out on Friday).

When Checking In Cameras

Batteries

You need to make sure to remove your batteries from the camera and put them either on the correct charger(Preferred) or in the Battery Recharge tub.



When Checking In Cameras

Additional Accessories

If you've checked out any additional items (Lens, lights, battery charger, microphone, tripod, etc), make sure to *remove* them from the camera bag and give them to Mr. Nistas to make sure you're fully clear of all equipment responsibilities.



When Checking In Cameras

Images/Clips on SD Card

You need to transfer your images or clips to your computer before you turn in your camera(WITH SD CARD!), and make sure to format your SD card before you turn it in.

SD Cards need to stay IN the camera.



At the end of the day, remember these cameras are not a right but a privilege.

Your actions in this class determine if you can check out cameras or even use them in class.