

Introductory Photography

Basic concepts + Tips & Tricks

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The Flow

- General Thoughts
- Cameras
- Composition
- Miscellaneous Tips & Tricks

General Thoughts

- I'm going to touch on a lot of stuff in a small amount of time...so please hold any detailed questions until after the presentation.
- There are very few hard and fast rules, but lots and lots of guidelines, especially for composition.
- In the end, it is the photographer not the camera.

Cameras

What is the right camera for you?

- Film vs Digital (subject for another day)
- Point & Shoot (PS) vs Single Lens Reflex (SLR)
- “Micro Four Thirds” Cameras
- Holding your camera

Point & Shoot

■ Pros

- Cost
- Small and Lightweight
- WYSIWYG for exposure
- Simple to operate
- They just keep getting better

■ Cons

- Relatively small sensor
- Lenses cannot be changed
- Cannot use filters
- Limited zoom options (optical vs digital zoom)
- Shutter lag

Single Lens Reflex

■ Pros

- Larger Sensor
- No shutter lag
- WYSIWYG for framing (and for exposure with live view)
- Interchangeable Lenses
- Filters
- More versatile
- Supports External Flash

■ Cons

- Cost
- Larger and heavier
- Potentially more maintenance

SLR vs Point & Shoot

What Filters can do for you



“Micro Four Thirds”

- Hybrid between PS and SLR
- Sensor is 4/3 inches measured diagonally
 - Eight times larger than most Point and Shoots
 - About the same size as low end Digital SLRs
- Smaller and lighter than SLR...
 - ...because there is no mirror box and pentaprism
 - ...but you lose the optical viewfinder
- Supports interchangeable lenses
 - Currently too new for second-source lenses

The best camera is the one you
have with you!

Holding the Camera

- Form a tripod with your body
- Using structures (walls, fences, etc) for additional support
- Consider using a strap

- DSLR
 - Left hand under lens support weight of camera
 - Right hand on the controls
 - Elbows in and pressed against your chest
 - Feet spread to about shoulder-width

Holding the Camera

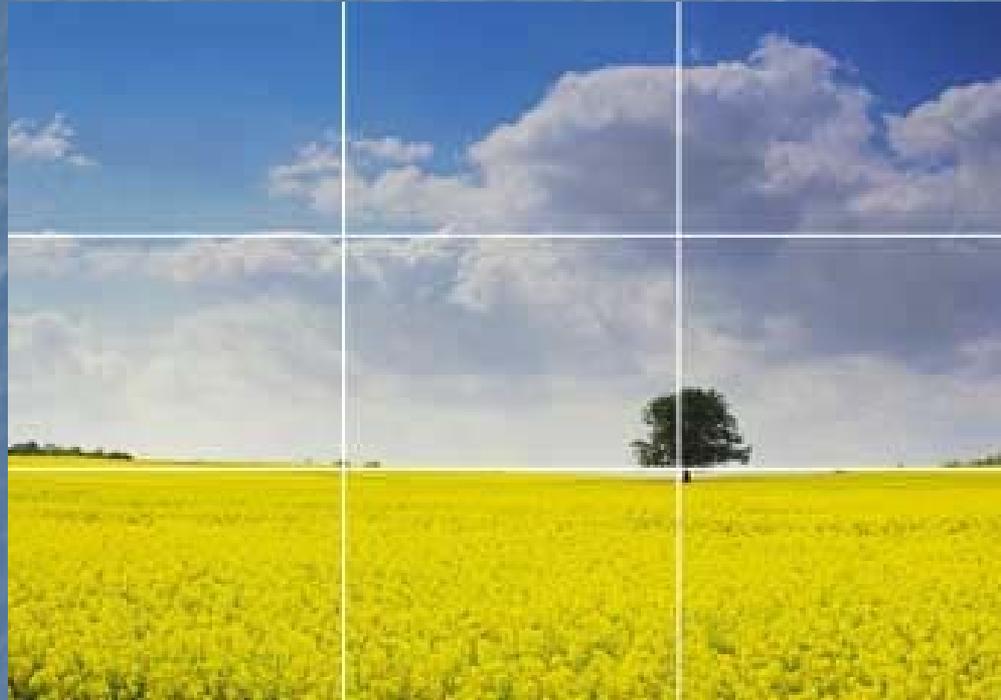
- Point & Shoot
 - Use both hands
 - Hold at comfortable distance for viewing screen, \approx 12 inches
 - Keep track of your fingers
 - Elbows in and pressed against your chest
 - Feet spread to about shoulder-width

Composition

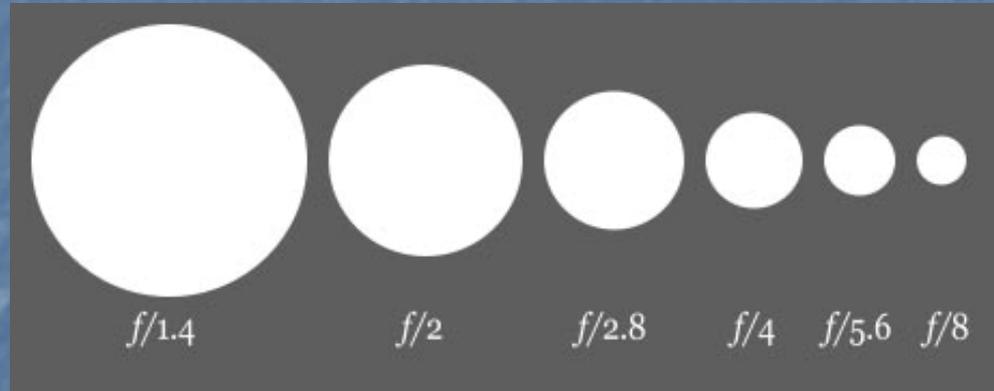
- “Rule” of thirds
- Aperture and Depth of Field (f/stops)
- Deciding what you are going to shoot
- Shooting Position
- Get in Close
- Use a Tripod
- Patience — Wait for the right moment

**Remember,
there are no hard and fast rules, only guidelines!**

“Rule” of Thirds



Aperture, Depth of Field and f/stops



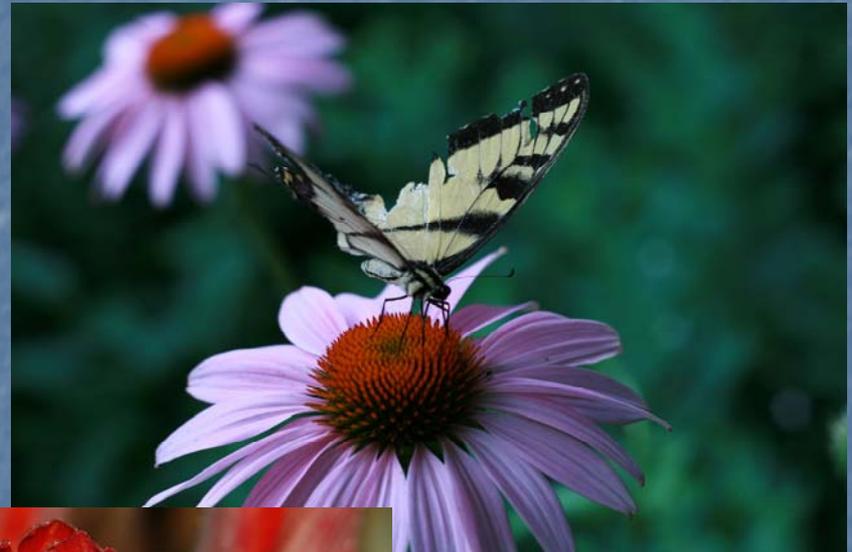
- Aperture is how large the iris of your lens opens up.
- The f/stop is the focal length divided by the "effective" aperture diameter...
- ...therefore a smaller f/stop denotes a larger aperture...
- ...and a larger aperture means a larger opening in your lens for light to pass through.

Aperture, Depth of Field and f/stops (cont)

- **Depth of Field** is the portion of a scene that appears acceptably sharp in the image.
- Photographs taken with a low f/stop will tend to have one subject in focus, with the rest of the image out of focus.
- Photographs taken with a high f/stop will tend to have most or all of the image in focus

Depth of Field Pictures

Low f-stop



Depth of Field Pictures

High f-stop



Deciding what you are going to shoot

- What is the subject of the picture?
- Where are you trying to draw the viewer's eye?
- What story are you trying to tell?
- Try to make the picture interesting rather than routine.
- In the end, what is important is that YOU like the picture.

What is the Subject? What is the Story?



Shooting Position

- Don't always shoot from a normal standing position.
- Get low (sitting, kneeling, laying on the ground)
- Get high (stand on something)

Get Low



Get High



Get in Close



Use a Tripod



Patience

Wait for the right moment



In the end, what is important is that YOU like the picture



Miscellaneous Tips & Moving Beyond Basic Auto Mode

- Fill Flash
- ISO
- Camera Operating Modes
 - Various Auto Modes
 - Manual Modes
- Backup, Backup, Backup!

Fill Flash

- **Fill flash** is used to "fill in" shadowy areas of a photograph...
- ...i.e. it "fills in" the details that would otherwise be lost because of the high dark and bright contrasts in the photograph
- Used both indoor and out, day and night
- Ask yourself these three questions:
 - Is my subject in a shadow?
 - Is there more light behind my subject than in front of it?
 - Am I close enough for flash? (internal flashes are typically effective between 5-10 feet)

ISO

- From the film world (remember ASA)...
- ...ISO stands for International Organization for Standardization
- ISO is the “speed” of the film – higher ISO values mean you can take photos in lower light.
- Similarly, on a digital camera ISO indicates your digital camera’s sensitivity to light.

“Using” ISO

- Rather than decrease shutter speed in low light, you can increase the ISO, avoiding blurry photos
- A high ISO will also help when taking fast moving sports or wildlife photos
- The downside to high ISO is that you introduce “noise” into your photographs
- As a first step, try Auto-ISO on your camera to see if you get the desired results
- Many new digital cameras can take low-noise photos at high ISO, check the specs for your camera

“Noise” in your Photographs



Camera Operating Modes



Auto Modes

Vary by Manufacturer & Camera Model

- **Portrait Mode** - Side (profile) view of a head - Subjects in the foreground in sharp focus; may use a larger aperture to blur the background.
- **Macro Mode** - Flower - For extreme close-up shots where the camera may otherwise have trouble focusing; may use a larger aperture to blur the background.
- **Landscape Mode** - Mountains - For shots of distant objects, or for wide-angle shots, sets a smaller aperture and brings background objects more clearly into focus.
- **Night Scene Mode** - Contains a star - Uses flash and slower shutter speed to illuminate the subject and allow more light to enter the camera.
- **Sports / Action Mode** - Person Running - For shots in which the subject is in motion and you want to avoid blurring.

Manual Modes

Vary by Manufacturer & Camera Model

- **Program Mode (P)** – Similar to automatic mode, but with the flexibility to manually override settings.
- **Shutter Priority (TV)** – You manually adjust the shutter speed, the camera adjusts the aperture.
- **Aperture Priority (AV)** – You manually adjust the aperture, the camera adjusts shutter speed (I use this a lot for low light or action shots)
- **Manual Mode (M)** – You manually adjust everything

Backup, Backup, Backup!

- Related topic...Size of your memory cards
- Laptop/Netbook
 - Card Reader vice directly connecting camera
 - External Drive
 - Thumb Drive
 - CD/DVD
- Portable viewer/storage units



Have Fun!



Sources of Information

■ Professional Photographs

■ National Geographic

- <http://photography.nationalgeographic.com/photography/>

■ Outdoor Photographer Magazine

- <http://www.outdoorphotographer.com/>

■ Instructional Material

■ Manufacturer's website

- Canon Learning Station
- Nikon Digital Learning Center

■ Other websites I have found useful

- Photography 101 - <http://www.photography101.org>
- Photo.net - <http://photo.net/learn/>
- iPhone Photography Tips - <http://mostlylisa.com/blog/streetphotog/>
- Wikipedia for explanation of terms
- There is a lot of information out there, do a Google/Yahoo/Bing/etc search

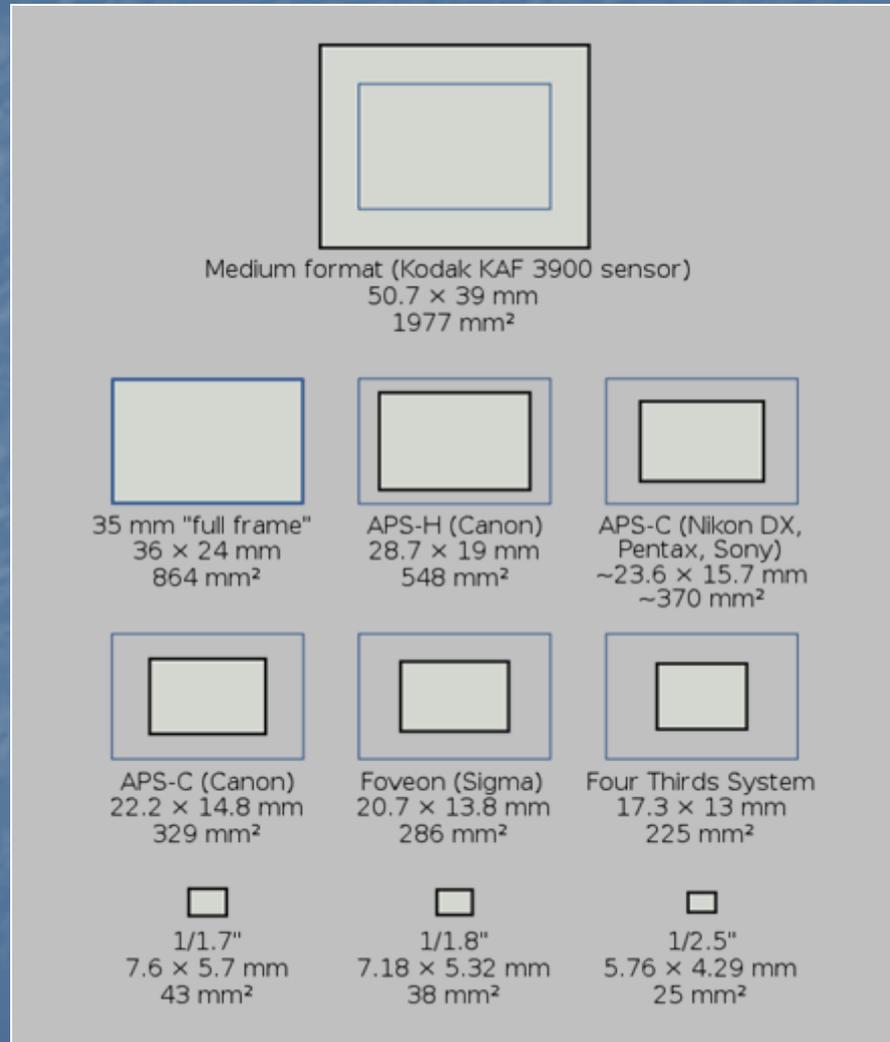
Questions?



20 July 1969 - President Nixon speaks to Neil Armstrong & Buzz Aldrin
Shot off the television with a Kodak Instamatic 100

Backup Slides

Digital Camera Sensor*



*Table from Wikipedia

Digital Camera Sensor

- Larger sensors capture images with less noise and greater dynamic range than smaller sensors
- Full-frame sensors are equal to the size of a frame of 35 mm film
- Most consumer-level SLRs use sensors around the size of a frame of APS-C film, with a crop-factor of 1.5-1.6.
- Four Thirds cameras have a crop factor of 2.0
- The sensor sizes of many point & shoot cameras are expressed in terms of the non-standardized "inch" system, as approximately 1.5 times the length of the diagonal of the sensor. 1/2.5" size sensors were once common, now varies greatly from camera to camera

Digital Camera Sensor

- Crop factor is the ratio of the dimensions of a camera's imaging area compared to a reference format, in this case, 35mm film
- Crop factor is also commonly referred to as a focal length multiplier ("FLM") since multiplying a lens focal length by the crop factor gives the focal length of a lens that would yield the same field of view if used on the reference format.