

Photography 101

How photography works,
basic photo composition,
and improving your
photography.



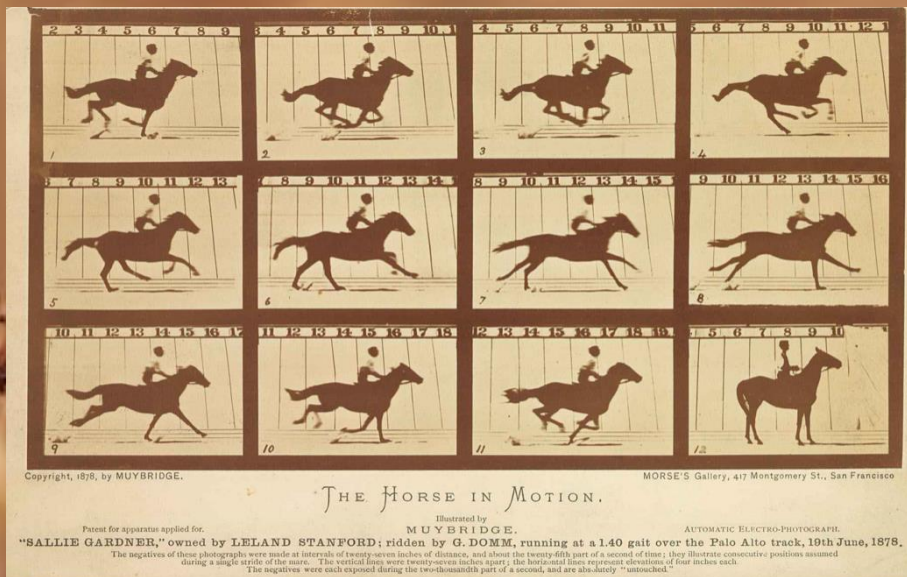
What is photography?

- Greek *phōtos* “light” / *graphé* “drawing” drawing with light
- Creating durable images by recording light or other electromagnetic radiation either electronically using an image sensor or chemically with light sensitive material such as film.
- Combination of Science & Art
- Captures moments in time



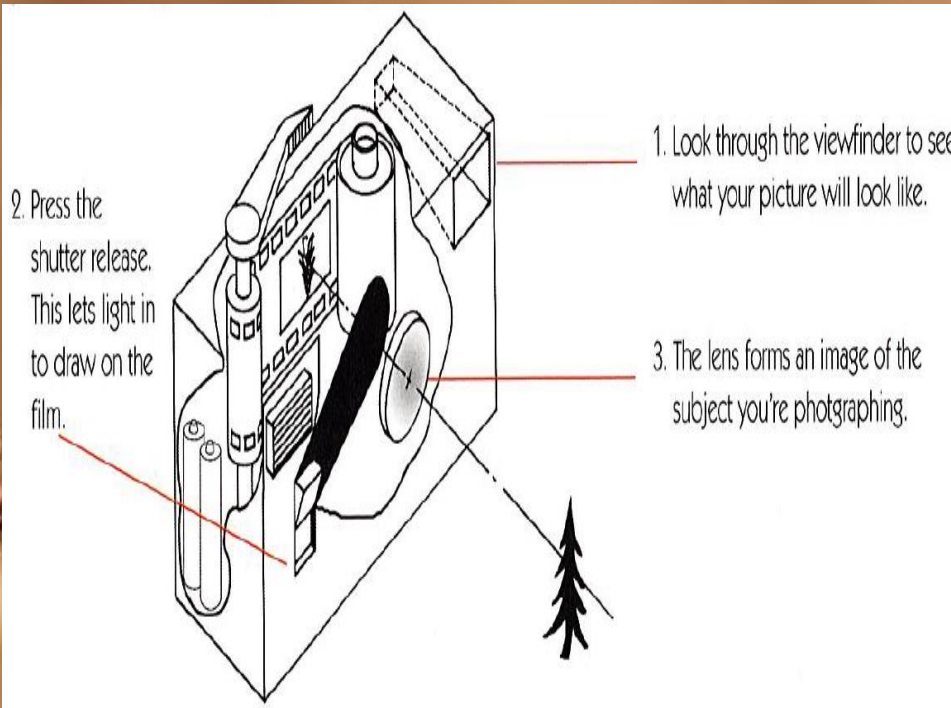
Brief history

- Originated in the 1800s with black & white film.
- Color film came along in the 1930s.
- Digital photography was a result of the space age but did not become prevalent until the late 1990s.
- Paved the way for the motion-picture industry.



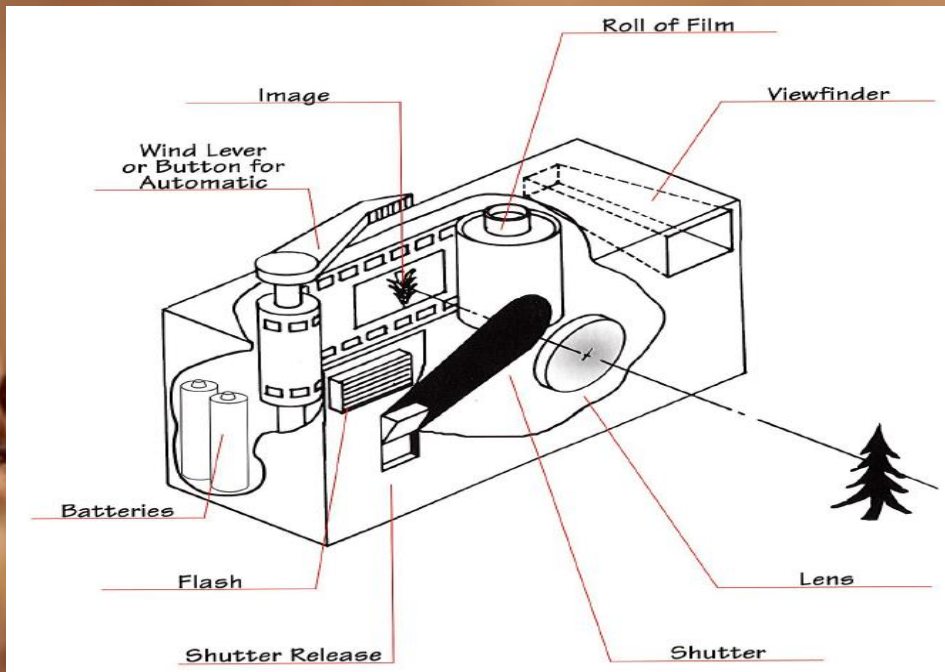
Getting to know your camera

- You should be able to identify and know what each part of your camera does.



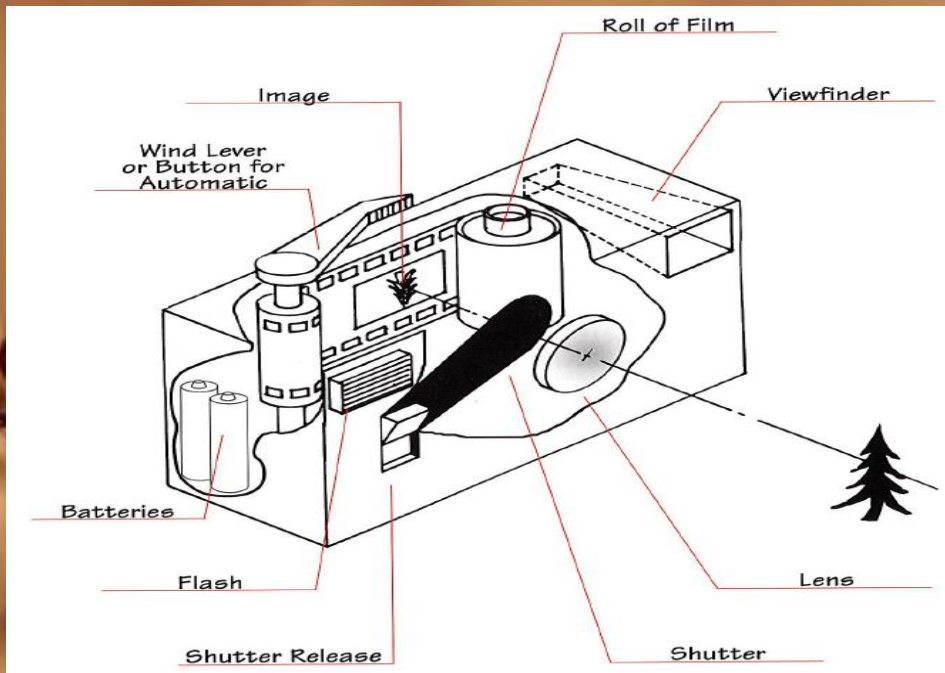
Parts of a camera

- **Camera Body** – Outside casing of the camera, keeps light out from sensitive sensors/film and holds everything together.
- **Lens** – Optical glass or similar material. It's made to collect and focus rays of light to form a sharp image.
- **Shutter** – A movable cover inside a camera which controls the time during which the light reaches the film.
- **Film** – Plastic with a chemical coating which can record light images.

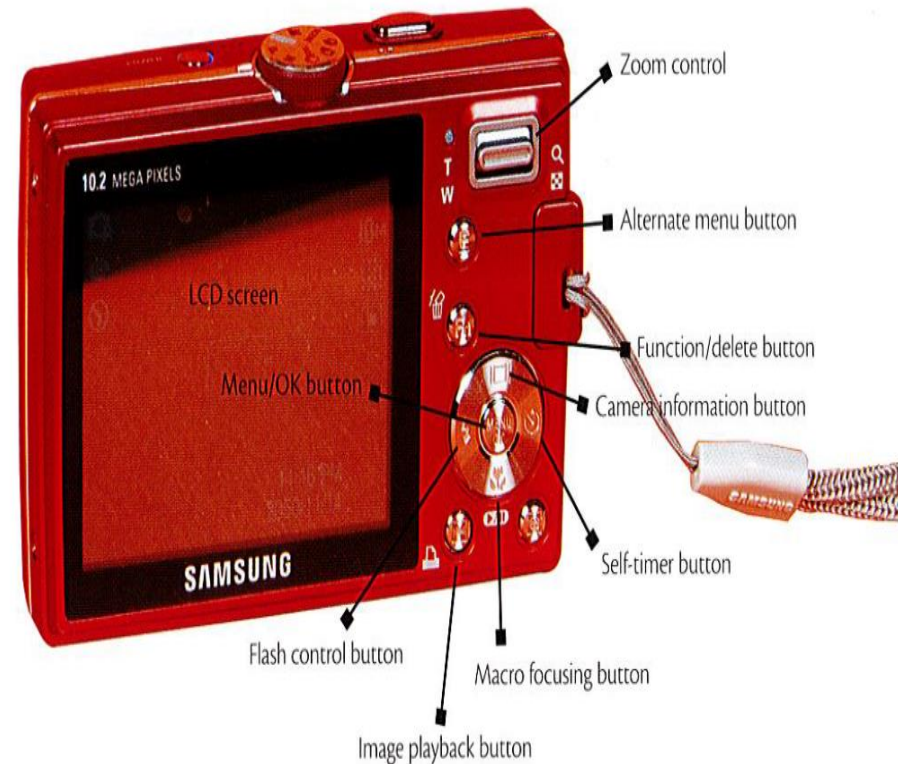


Parts of a camera

- **View Finder** – The place where you look to see your picture before you take it.
- **Flash** – A brief, intense burst of light produced by a flashbulb or electronic flash unit.
- **Shutter Release** – The button you press to open the shutter to take a picture.
- **Wind Lever** – A lever used to wind your film, to advance to the next slide.
- **Camera Strap** – Piece of ribbon or cloth that is attached to the camera body for security.
- **Battery** – Provides energy for the electrical parts of the camera.



Getting to know your camera

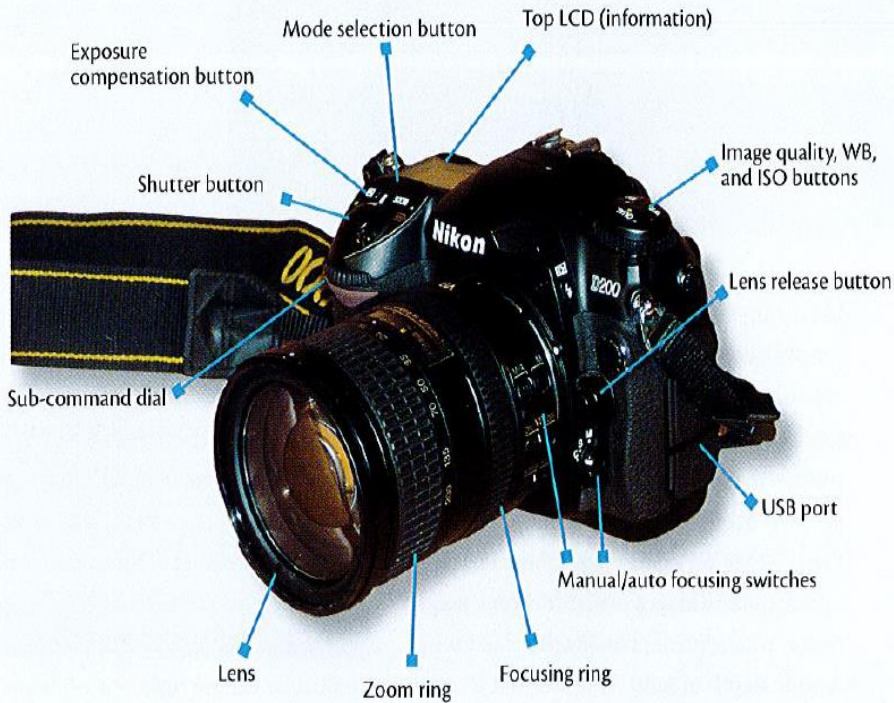


Here are some of the most common features of a point-and-shoot camera. Your particular model may or may not share all of these features.

You will want to become familiar with all of the controls and features on your camera so that you will know where everything is and be well prepared when an exciting photographic opportunity presents itself.

Getting to know your camera

Here is a look at some of the most common features, dials, and parts of a DSLR camera and lens. Learning to use everything may seem overwhelming, but don't let the array of buttons discourage you.



This rear view of a DSLR shows more buttons and dials, as well as the LCD screen. Some DSLRs do not allow the photographer to use the LCD screen as a viewfinder. Instead, you have to work with the more traditional optical viewfinder, which offers a sharper, more accurate view of your scene.



Getting to know your camera



- A Shutter speed
- B Aperture setting (f/stop)
- C Battery level
- D Number of pictures remaining
- E White balance setting
- F Active focusing point
- G Image quality
- H Exposure compensation graph
- I Current mode

In addition to the large LCD screen on the back, DSLR cameras also have a small LCD screen on the top that is used to display information—not images—to the photographer.

Why do we take pictures?

- Create art
- Preserve memories (Scrapbooking / Photo Albums)
- Have fun
- Career
 - Weddings / Portraits
 - Pets / Nature
 - News / Journalism
 - Sports



Subjects

- Ask yourself why you are taking the picture.
- “This is a photo of _____.”
- Stands Out
- Abstract
- Shadows & Silhouettes



Lighting

- *Natural – Sun*
 - *Time of Day*
 - *Weather Conditions*
 - *Season*
 - *Cannot Control*
- *Artificial – Man-Made*
 - *Main source or auxiliary*
 - *Controllable*



Bright Sunlight

Sunlight produces the brightest colors, but it can be too harsh, causing people to squint. Try shade or shoot later in the day.



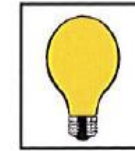
Weak Hazy Sun

When the sun is partly covered by clouds, people appear more natural and don't squint as much. It's a great light for portraits.



Overcast Light

Sometimes the best light happens just after a rain storm. Look for the golden glow as the clouds clear.



Tungsten Lamps

With color film, household lamps produce orange-colored prints if you don't use a filter on your lens. They are okay for black-and-white film.



Bright Light on the Beach

The harshest light of all happens on white sand or snow. For people shots, look for shade or shoot later in the day.



Winter Light

Without filters winter light can produce blue shadows. This happens because the white snow reflects blue sky.



Cloudy Bright Light

This light is almost as bright as direct sun but produces less glaring photographs.



Autumn Light

Expect warm colored reds and oranges in the autumn. Fall leaves can look very dramatic.



Sunset or Sunrise

This light looks very red or orange. Put your camera on a firm support to take photos. Don't look directly into the sun.



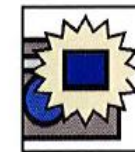
Rainy Days

On rainy days, use 400- or 800-speed film. Protect your camera from the rain. Light on rainy days can be beautiful.



Underwater Light

This light is very blue. With underwater cameras, shoot close to the surface only on bright sunny days.



Electronic Flash

Most cameras take flash pictures. Try to use flash creatively.

Lighting Angles

- Front Lighting
- Back Lighting
- Side Lighting
- Top Lighting
- Diffuse Lighting



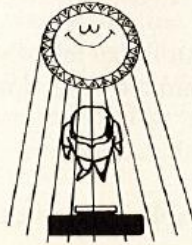
Front Lighting

Many pictures you take will use front lighting. Here, the light falls directly on the subject. This usually provides well-exposed pictures with bright colors. This is good for landscapes and buildings, but it can cause people to squint and appear unnatural.



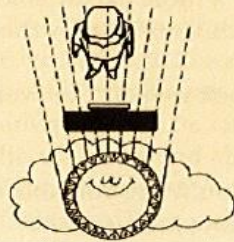
Side Lighting

Light coming from the side avoids the problems of direct light. It also provides light that reveals more detail in the subject. This produces an effect that photographers call modeling. Modeling makes faces round and gives them depth. People squint less with side lighting.



Backlighting

Here the light comes from the back of the subject. You probably won't get detail in the subject's face unless you use a flash. But backlighting gives you a strong silhouette and sometimes a halo effect. Backlight can be dramatic, especially in the early morning or late in the day when the sun is low. Indoors, silhouettes in front of a window can look interesting.



Diffuse Lighting

Cloudy days produce lighting called diffuse or flat. Shadows are very fuzzy or nonexistent. There is no direction to the light and it comes from all over the cloudy sky. This is perfect light to use to take close-up pictures of faces. On a bright, sunny day, you can find diffuse lighting in the open shade—under a tree, or in the shade of a building.

Light: Too much, too little or just right

- *Over-Exposure (Too MUCH Light)*
 - *Faded / Washed Out*
 - *Little Contrast*
 - *Loss of details*
- *Under-Exposure (Too little Light)*
 - *Dark*
 - *Loss of details*
- *Proper-Exposure (Just Right)*
 - *Color is rich & vibrant*
 - *Sharp Contrast*
 - *Plenty of Details*



Composition

- How all the elements of the photo are arranged to make the image appealing, attractive, and/or interesting.
- Tells a Story, shows an idea, or creates a feeling
- Subject / Placement
- Filling the Frame
- Background/Foreground



Filling the Frame

- Take up the entire picture
- Make the subject obvious
- “This is a picture of _____”
- Remove distractions or anything that does not compliment the subject



Foreground & Background

- Areas in front of and behind the subject.
- Reduce clutter or clutter-free / No distractions
- Use f stop to blur background
- Light subject against dark background & vice versa

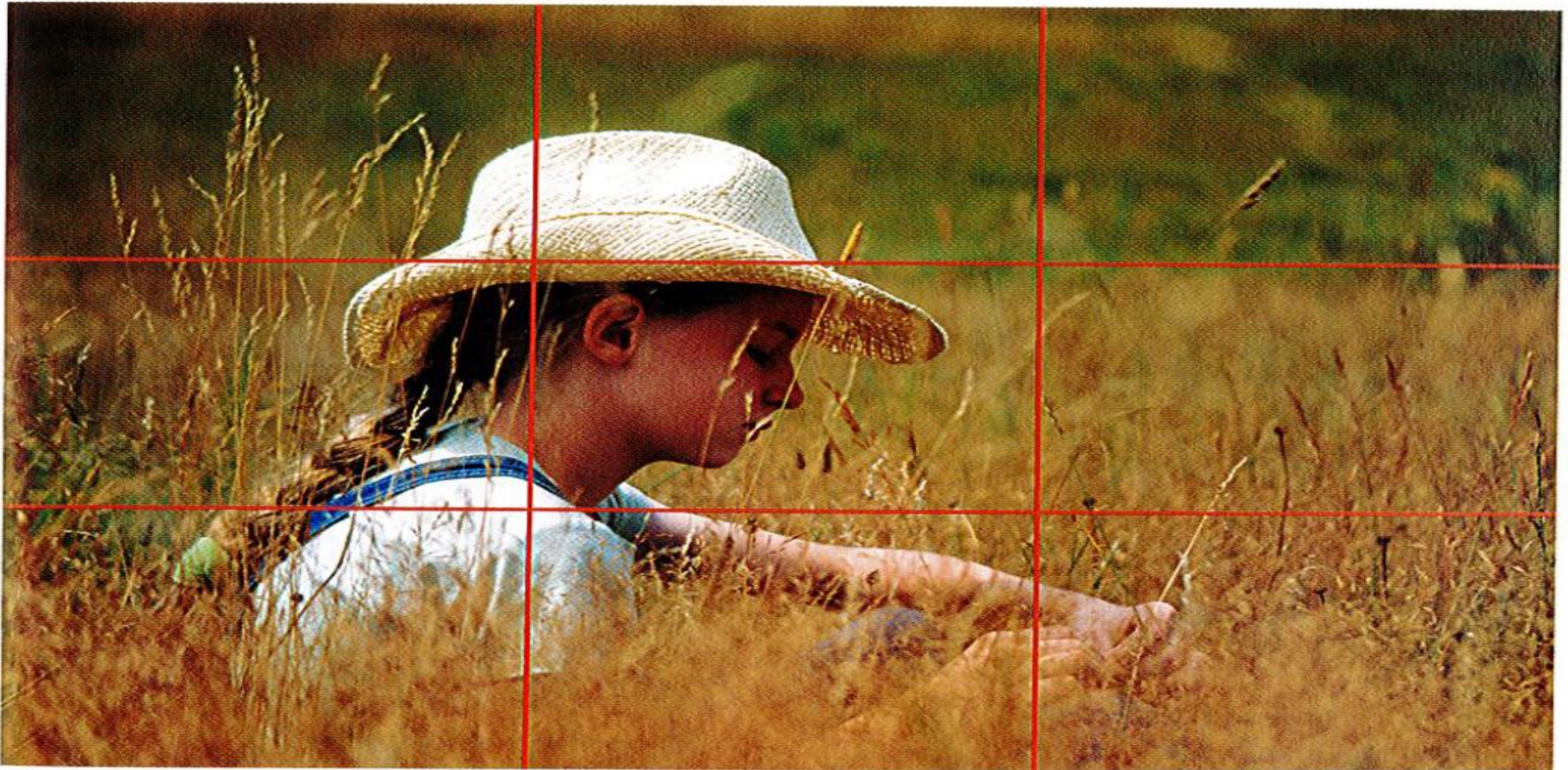


Rules & Techniques

- Subject Placement
 - Horizontal vs. Portrait
 - Off-setting / Not centering
 - Draw eye to the subject
 - Cropping
- The Rule of Thirds
- Golden Triangle
- Golden Rectangle



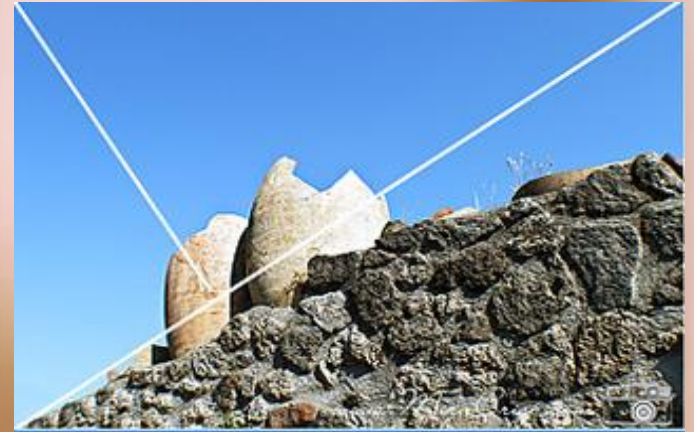
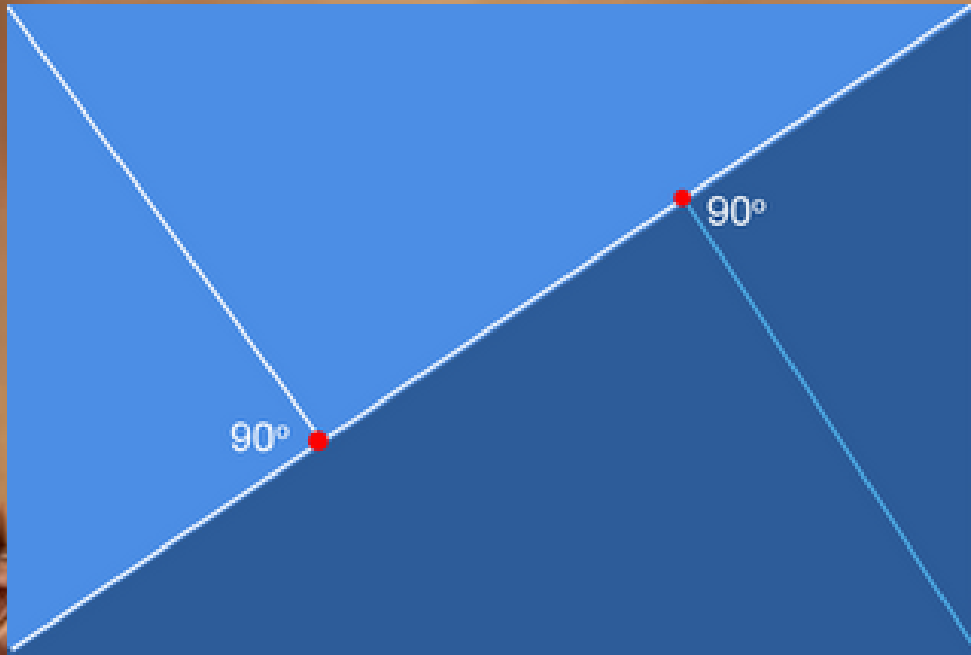
Rule of Thirds



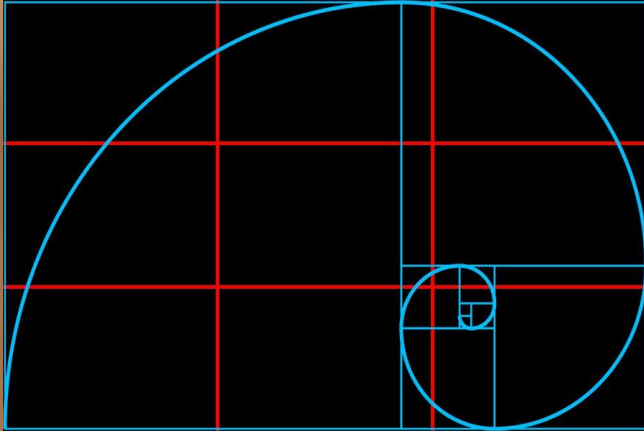
The rule of thirds works great here because it places the subject in a pleasing position within the frame. Look how the left vertical line runs straight through the girl's body with one of the intersections on her head. Also notice how this composition leaves room on the right side of the photo to give the impression the subject has space to "look into." If the girl was placed on the other side of the rule of thirds (with extra space behind her) the photo would seem cramped and unnatural.

Golden Triangle

- Works best with lines within photos

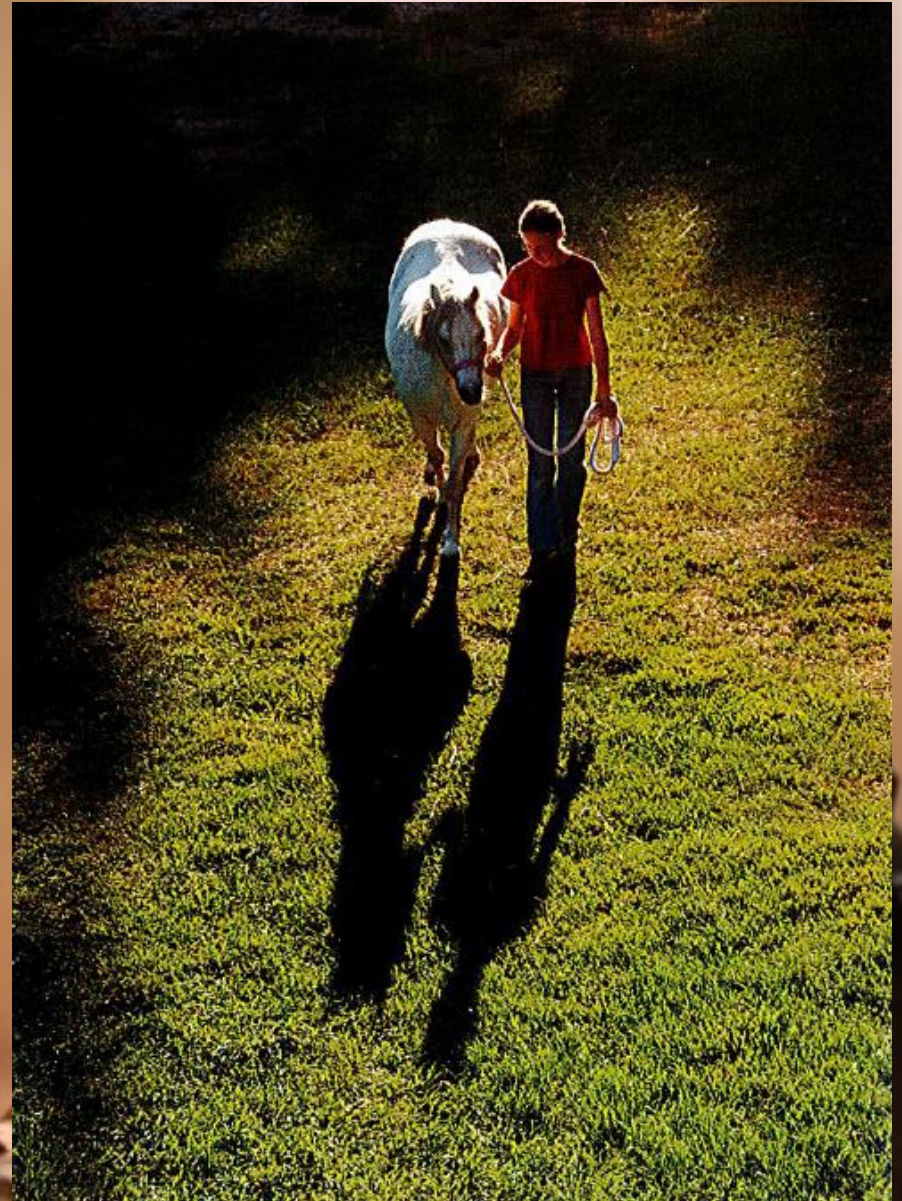


Golden Rectangle "Ratio"



Perspective

- Distance
- Point of View
 - Bird's Eye View
 - Bug's Eye View
- Angles of Interest



Focal Point & Distance

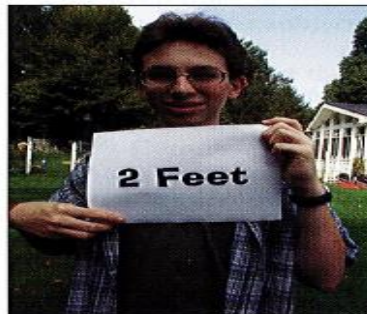
- Most important part of the subject.
- Get Close!
 - Walk Closer
 - Zoom In
 - Not TOO Close
- Focal Lengths



Take a picture while standing 15 feet away from the subject.



Take a picture while standing six feet away from the subject.

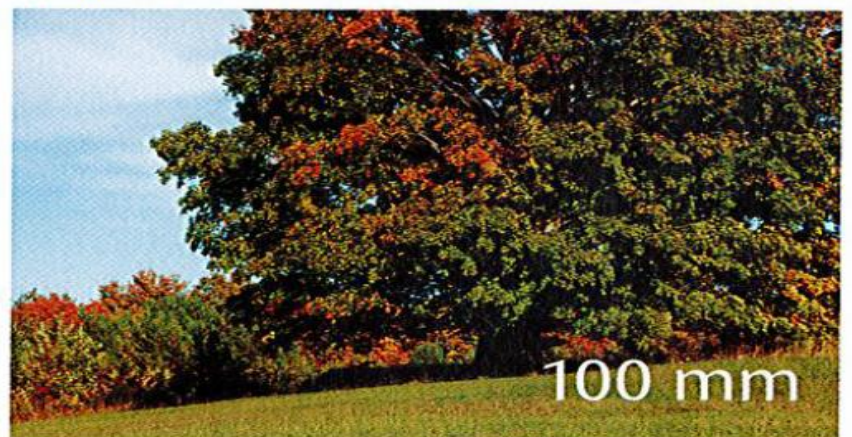
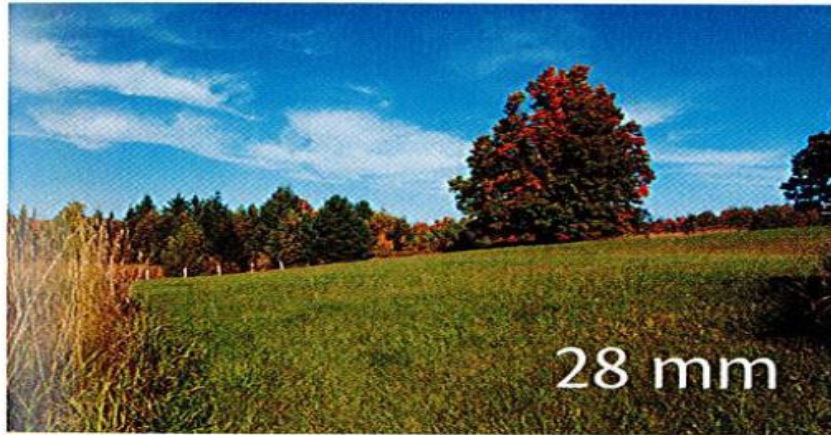


Take a picture while standing two feet away from the subject. You should be able to touch it with your hand when you're that close.

closer!!



Focal Lengths



Here are four pictures of the same scene, photographed at four different focal lengths. Personally, I like the 35mm and 50mm views the best. The 28mm view seems a bit wide and takes in too much of the scene. The 100mm view seems too tight and doesn't show us enough of what we're looking at. If I had to pick the best of these four, I would go with the 50mm.

Bird's Eye View



Bug's Eye View



Eye to Eye View



Angles of Interest



Quick Tips

- Shoot every photo at the highest quality setting
- Press Shutter Button halfway to prime camera and reduce shutter lag
- Get in close, avoid digital zoom
- Resist using the flash
- Save the original of any photo you edit



Summary

- Photography Background
- Parts of a Camera
- Lighting
- Composition
- Perspective
- Tips

