

Technical Details of Photography

- * ISO
 - * Aperture
 - * Shutter Speed
 - * Exposure and White Balance
 - * Resolution
 - * Auto Modes
 - *Cheater and Advanced Modes
-

- Definition:
 - The measurement of the camera's image sensor's sensitivity to light
 - A lower ISO number means more light is required for a good exposure (100/200 needs bright sunny day)
 - A higher ISO number means you can shoot in a lower light situation (1600/3200 can be a dark room or concert)
 - With a higher ISO comes more “grain or noise” to the image

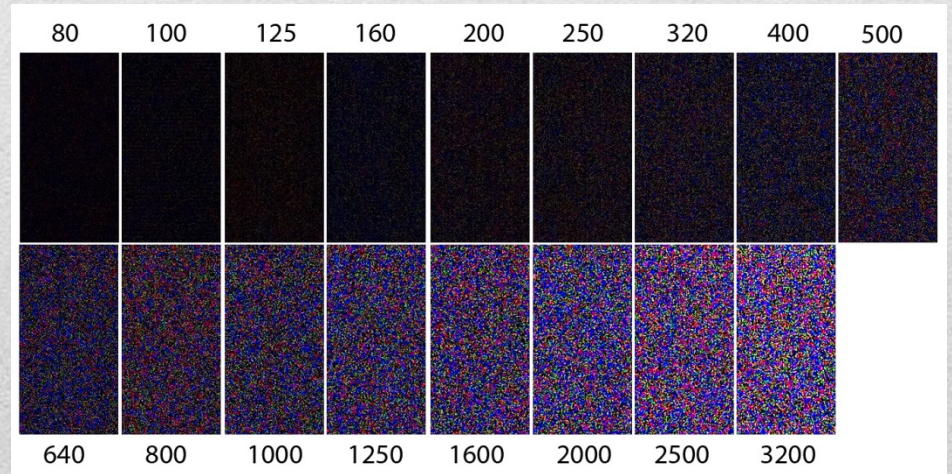


ISO:100 / 200 / 400 / 800 / 1600



Examples of NOISE/GRAIN

ISO

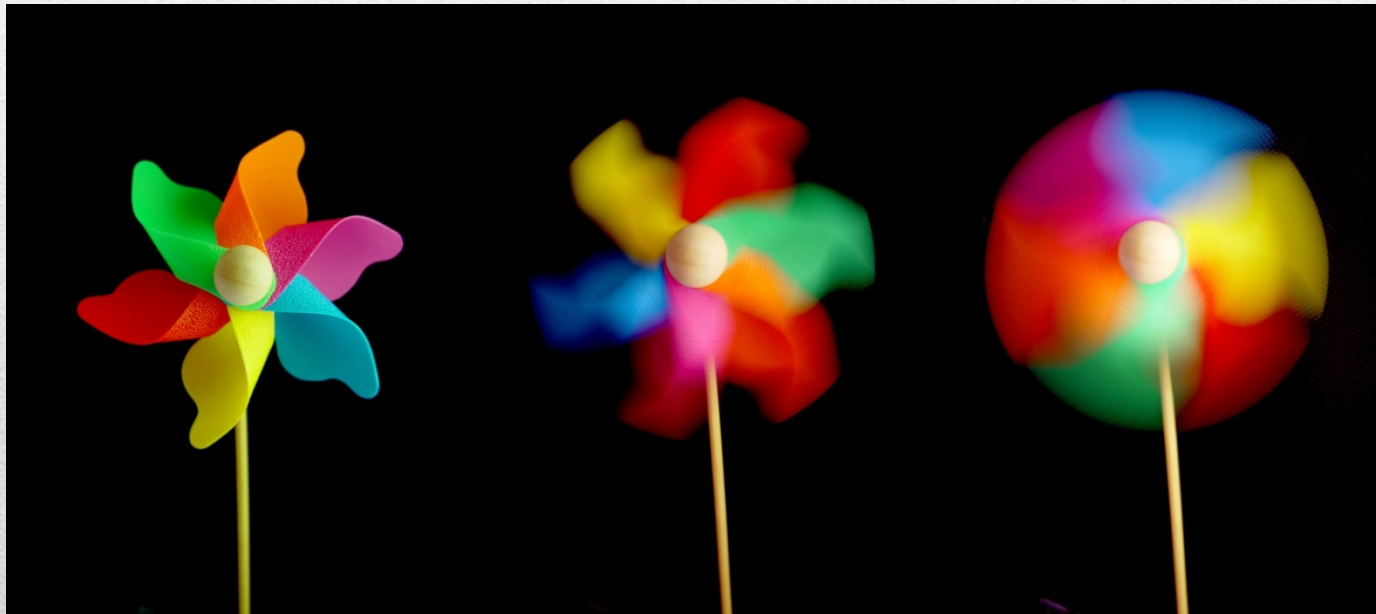


- The size of the opening of the lens
- One of the factors that determines how much light will enter through the lens
- Similar to the way a pupil dilates to control how much light enters the eye
- As the f-stop number gets bigger, the aperture gets smaller



Aperture

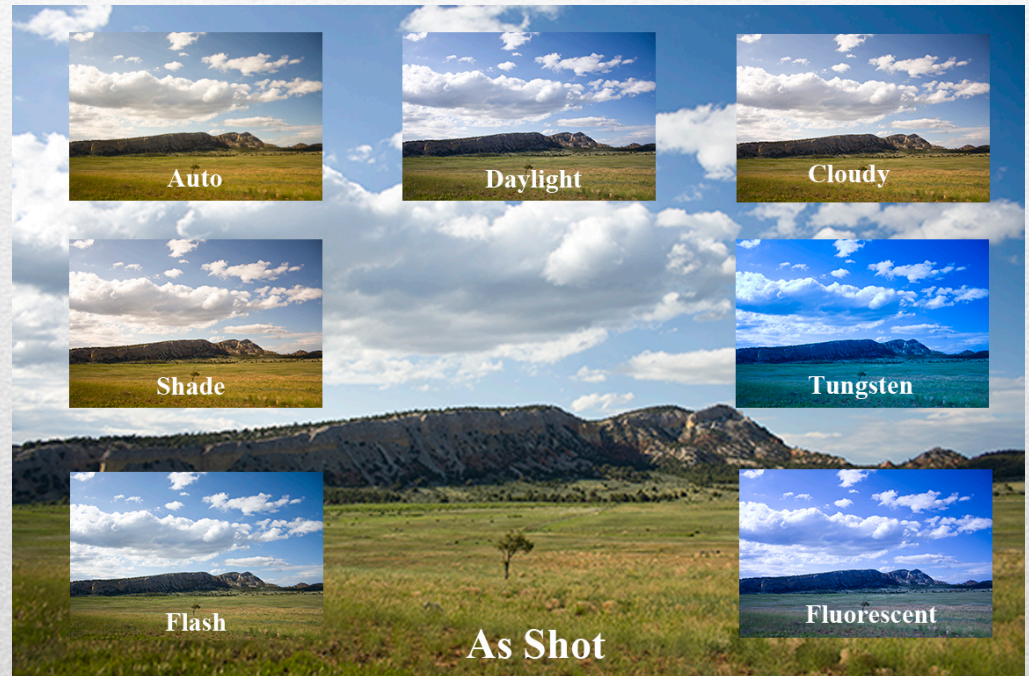
- Refers to the amount of time the aperture can remain open
- The longer the shutter speed, the more light that can enter through the lens
- Faster shutter speeds can stop action



Shutter Speed

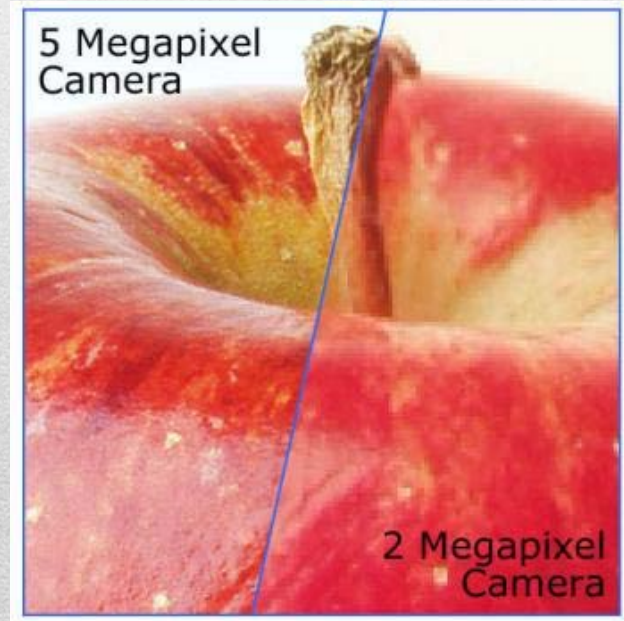
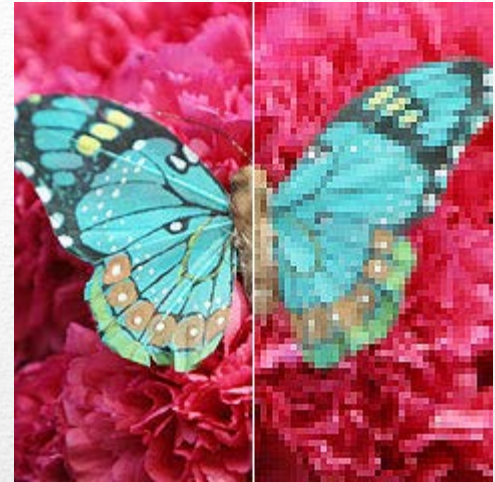
- Exposure:
 - The amount of light that falls on the film/sensor
 - Understanding aperture, shutter speed and ISO is necessary for understanding exposure...
all 3 factor into how much light will enter.

- White Balance:
 - The adjustment of relative amounts of red, green and blue so the natural colors are reproduced naturally



Exposure and White Balance

- Determines the quality of an image
- Is measured in pixels per inch (ppi)
- The higher the ppi, the crisper/clearer and higher quality the image will be
- They are measured by the linear inch NOT per square inch
 - 50ppi means 50 pixels across and 50 pixels down equaling 2500pixels per square inch



Resolution



- Auto Mode



- Auto Exposure means the camera makes the adjustments to shutter speed and aperture to get a good exposure for you
- Auto Flash means the flash will fire in low light situations
- Auto White Balance means the camera will make necessary adjustments to the color of the light to allow for natural looking color
- Press the shutter half way down to lock in auto focus
 - Make sure you're not too close or it's not too dark

- Program Auto Mode



- Most common setting for point and shoot cameras
- Allows the photographer to adjust the ISO, White Balance, and Control of Flash

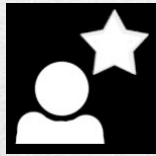
Auto Modes



- Portrait Mode
 - Blurs the background to bring out the subject



- Landscape Mode
 - Shows details in the foreground and background
 - Makes colors more vivid



- Night Portrait Mode
 - Allows photographer to take portraits in low light without too much flash on the person and allowing some of the background to be seen as well



- Sports/Action Mode
 - Increases the shutter speed to try and freeze the action



- Macro Mode
 - Allows the camera to auto-focus while being close to the subject

Cheater Modes

- Aperture Priority Mode

Av

- YOU set the aperture size and the camera will select an appropriate shutter speed for good exposure
- Aperture control is important in controlling depth of field
- Often labeled *Av* on the camera

- Shutter Priority Mode

Tv

- YOU set the shutter speed and the camera will select an appropriate aperture for good exposure
- Controlling the shutter speed allows you to control blur or freezing an object that is moving
- Often labeled *S* or *Tv* on the camera

M

- Manual Mode

- You must set all of the controls for a good exposure on your own!

Advanced Modes
