Shutter Speed and Aperture

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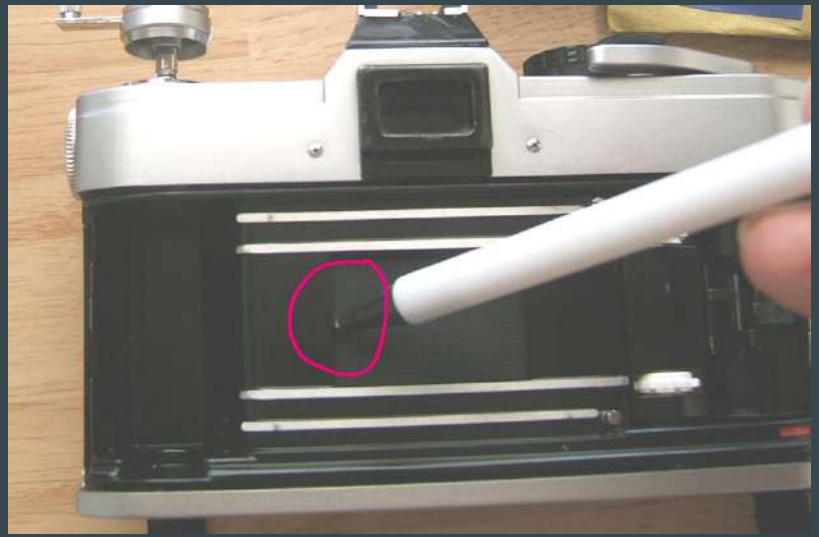
How to control the light that goes into your camera

(Photo 1 Edition)

2 ways to control light coming into your camera

The shutter curtain opens and closes on the inside of the camera body for different amounts of time



The lens has an opening called an aperture that lets in light. It can be made bigger or smaller.

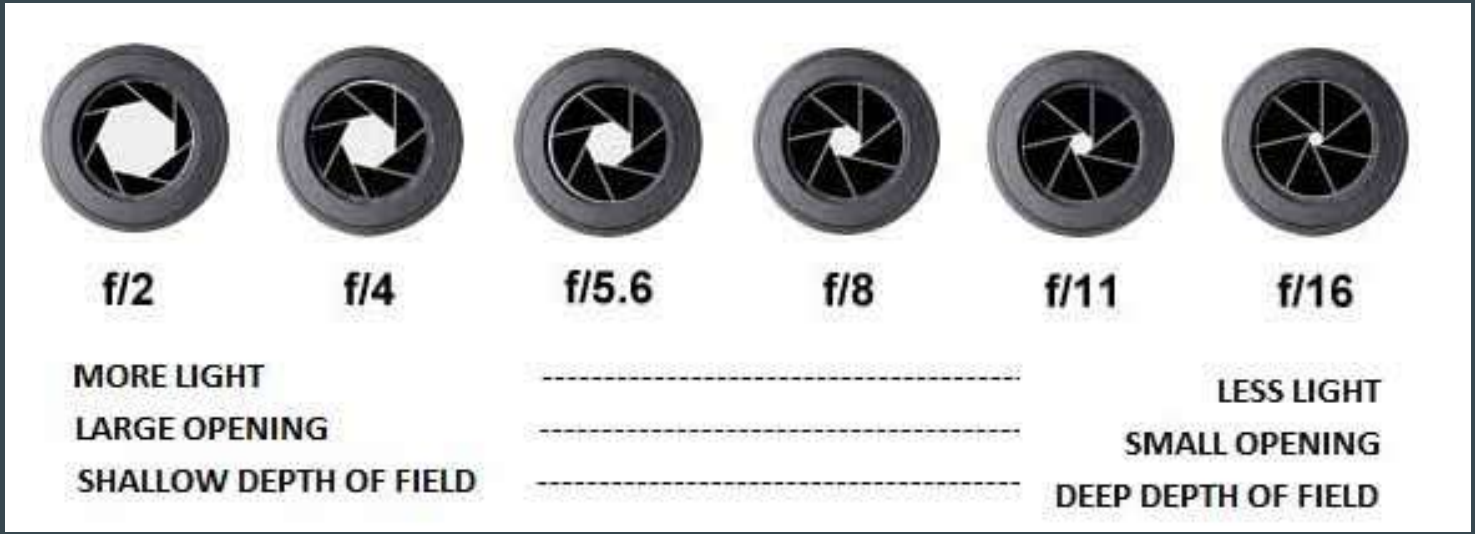
But why have different settings?

Because the different options produce different looking images.

Frozen action
(Fast shutter speed: 1/2000 sec.)

Blurred motion
(Slow shutter speed: 1/30 sec.)

APERTURE


f/2
f/4
f/5.6
f/8
f/11
f/16
MORE LIGHT
LARGE OPENING
SHALLOW DEPTH OF FIELD
LESS LIGHT
SMALL OPENING
DEEP DEPTH OF FIELD

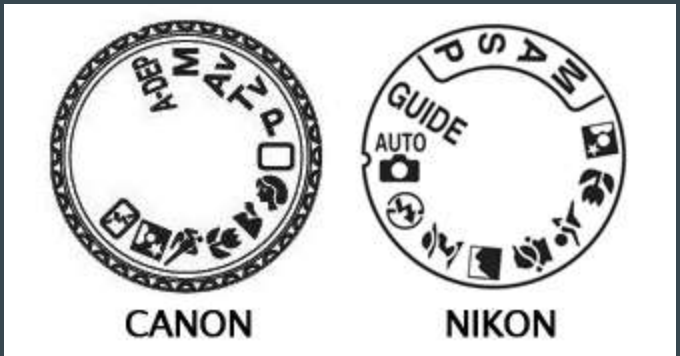
Visual Effect of a Large Aperture

Shallow Depth of Field - only part of the picture is in focus

More Shallow Depth of Field

Settings for Shallow Depth of field

Real Settings - put camera on A/Av and choose lower number f stop (f4, f3.5, f2, f1.4, etc)



Cheater Settings - put camera on the picture of the WOMAN

EXTRA TIPS - you must have objects different distances away from the camera. Also, you should focus on something within 3-5 feet of the camera to help force Shallow DOF

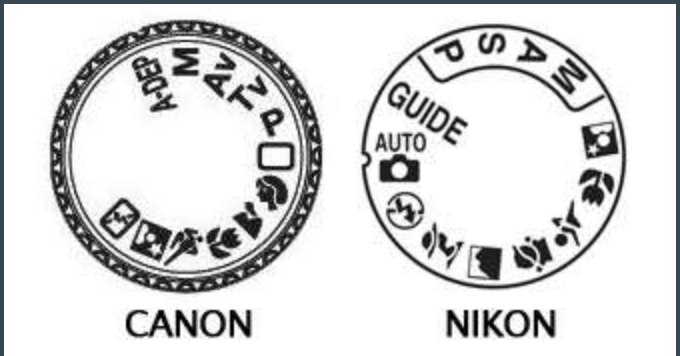
Visual Effect of a Small Aperture

Greater Depth of Field - all of the picture is in focus

More Greater Depth of Field

Settings for Greater Depth of field

Real Settings - put camera on A/Av and choose higher number f stop (f11, f16, f22, etc)



Cheater Settings - put camera on the picture of the MOUNTAINS

EXTRA TIPS - you must have objects different distances away from the camera. Also, you should focus on something far away from the camera to help force Greater DOF

SHUTTER SPEED

Shutter speed is measured in fractions of a second.

The longer a shutter is open, the more motion it captures and the more light it lets in.

Visual Effect of a Slow Shutter

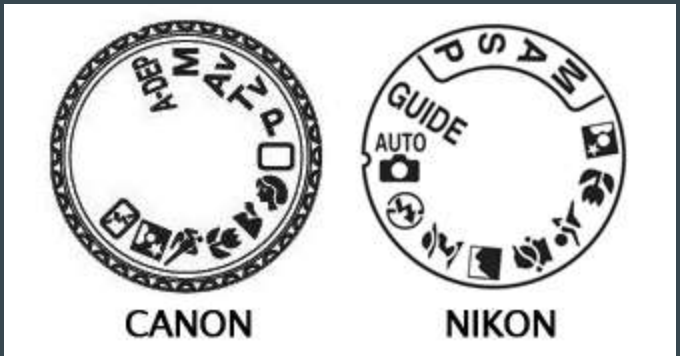
Blurred Motion - anything that is moving in front of the camera is blurred. Anything that is still is not blurred.

More Blurred Motion

More Blurred Motion

Settings for Blurred Motion

Real Settings - put camera on S/Tv and choose lower denominator (1/30, 1/15, ⅛, ¼, ½)



Cheater Settings - put camera on the picture of NIGHT TIME

EXTRA TIPS - you must have something that is moving in the frame.
Also, you MUST hold the camera still! Otherwise even non-moving things will be blurred.

Ways to hold the camera still

1. Hold camera close to body, with feet wide apart
2. Lean against wall, while holding camera close to the body
3. Place camera on a table or chair or other sturdy non-moving object
4. Use a tripod

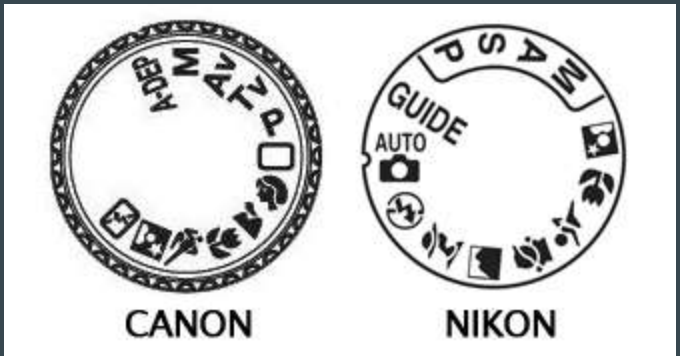
Visual Effect of a Fast Shutter

Frozen Motion - anything that is moving in front of the camera is frozen in time.

More Frozen Motion

Settings for Frozen Motion

Real Settings - put camera on S/Tv and choose higher denominator (1/125, 1/250, 1/500)



Cheater Settings - put camera on the picture of the RUNNING MAN (Sports)

EXTRA TIPS - you must have something that is moving in the frame.
It needs to be something interesting! A frozen moving car just looks like a parked car.

Using a Flash

Make sure you turn your flash OFF!!!

Having the flash on makes certain cameras override settings that you want to use to capture the visual effect that you are trying to create

ACTIVE CHOICES

Just because you are now thinking about shutter and aperture, do NOT forget about:

Shadows/Light, the principles and elements of design (visual organization), distance, focal length, orientation, fore/mid/background, angles, rule of thirds, timing, eyespace, etc.

All of these things are in your tool box, and you want to think about them as you build your composition.

Advanced Shutter Speed and Aperture

In Photo 2 we will learn:

1. How to use the fully Manual setting on the camera
2. How shutter speed and aperture interact with
each other
3. The exposure triangle including ISO
4. How to use the different light meter settings when choosing shutter and aperture