



INDS 222:

PHOTOGRAPHY

Lecture 1: Camera setting
2020-2021

SANAR SARDAR SAMI (Msc.)

sanar.sardar@tiu.edu.iq

CAMERA TYPES

CAMERA IS JUST A TOOL, YOU ARE THE ARTIST



CANON REBEL SERIES:
T3I, T4I, T5I, T6, T7...



CANON REBEL SERIES:
550D, 650D, 750D...



FUJIFILM CAMERAS:
A3, X-T10, X-T20



NIKON SERIES:
D3300, D3400, D3500, D5300, D5500, D5600...



PANSONIC LUMIX CAMERAS:
G7, G85, FS1000



SONY A-SERIES:
A5000, A6000, A6300, A6500...

HELPFUL ACCESSORIES

📷 FILTERS

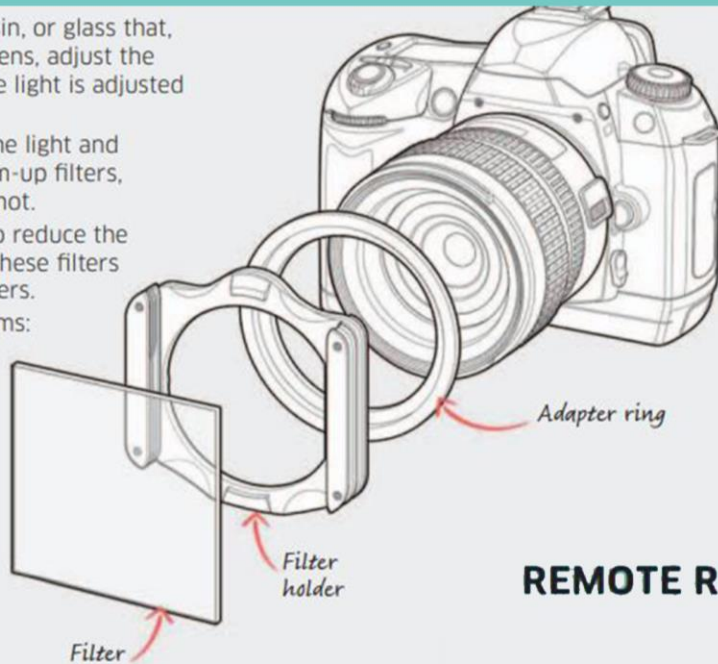
Filters are sheets of plastic, optical resin, or glass that, when added to the front of a camera lens, adjust the light passing through the lens. How the light is adjusted depends on the filter.

- Some types of filters add color to the light and thus add color to the final photo. Warm-up filters, for example, add yellow-orange to a shot.
- Other types of filters can be used to reduce the amount of light entering the camera. These filters are known as Neutral Density (ND) filters.
- Filters are bought in one of two forms: screw-in or filter holder.



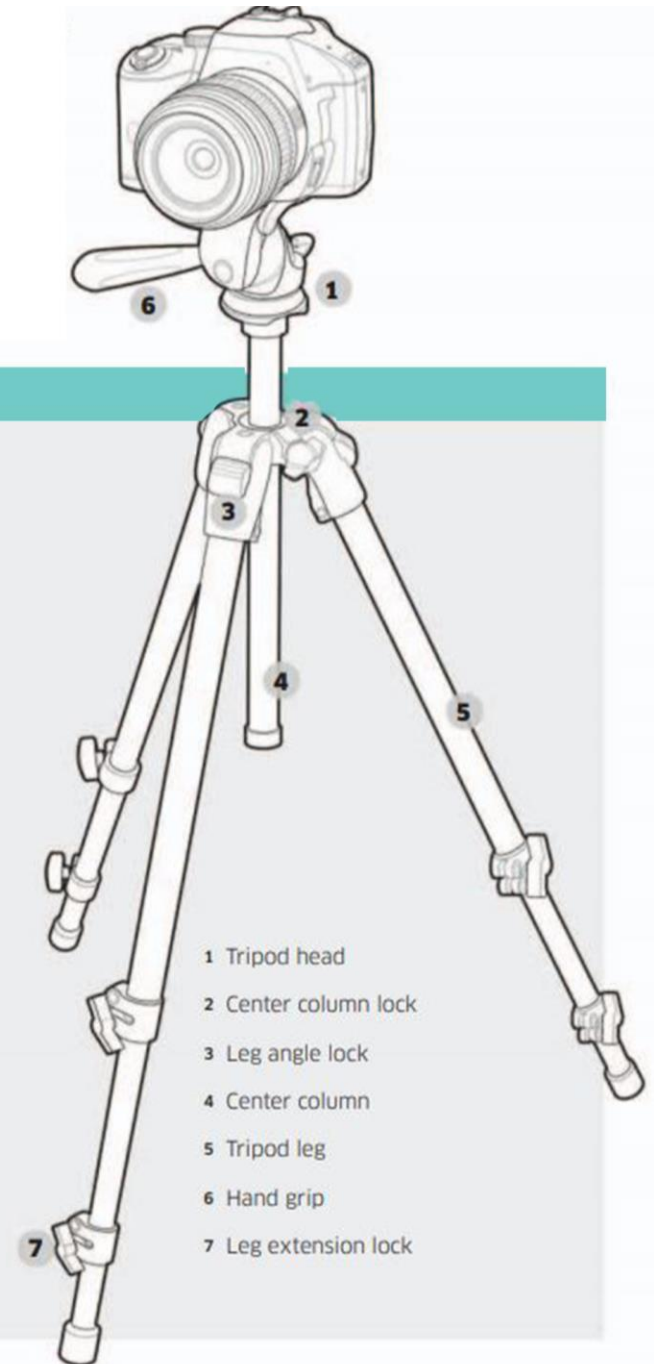
SCREW-IN

Circular filters that attach directly to the filter thread of a lens.



REMOTE RELEASE

Keep the wire of the remote release loose to avoid pulling the camera over



- 1 Tripod head
- 2 Center column lock
- 3 Leg angle lock
- 4 Center column
- 5 Tripod leg
- 6 Hand grip
- 7 Leg extension lock

WHAT ARE THE MAIN FEATURE OF THE CAMERA



CAMERA MODES

Automatic
Depth of Field

Manual

Aperture Priority

Shutter Priority

Program

Guide

Auto

Portrait

Landscape

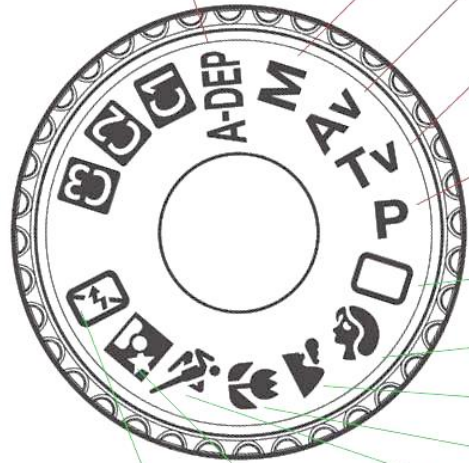
Macro

Sports

Night Portrait

No Flash

Child



Canon

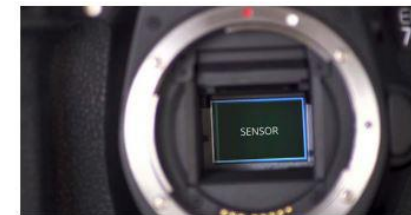
Nikon



HOW DOES A CAMERA WORK?

Core of photography is about capturing light.

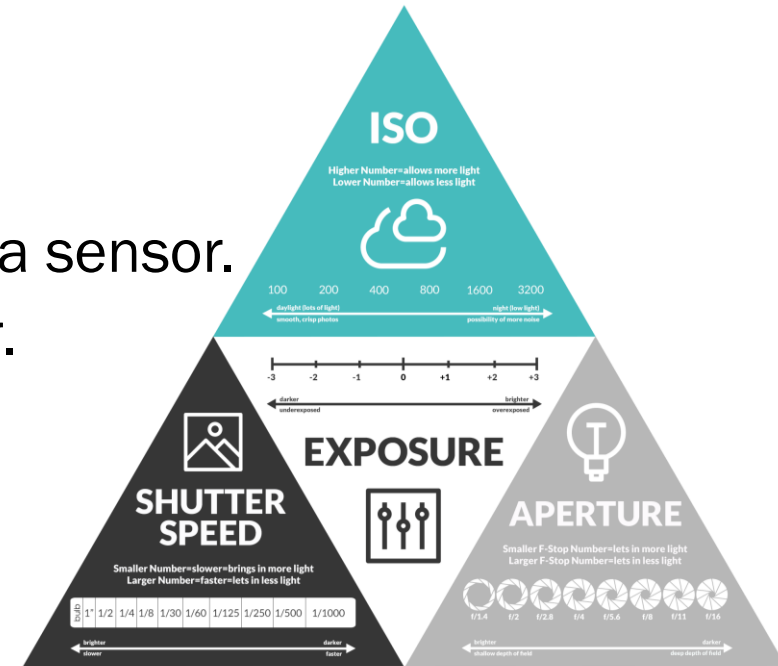
- The light goes into the camera through the lens which has an aperture inside - it opens and lets light go inside.
- The light passes through the camera shutter
- The light hits your camera's sensor
- There is digitally captured and saved as an image



WHAT IS EXPOSURE?

EXPOSURE is the amount of light which reaches your camera sensor. It is a crucial part of how bright or dark your pictures appear.

EXPOSURE IS A BALANCE OF LIGHTING AND SETTINGS
you can adjust exposure with your camera using:
APERTURE, SHUTTER SPEED, ISO



UNDEREXPOSED PHOTO

› a photo that is too dark



OVEREXPOSED

› a photo that is too bright

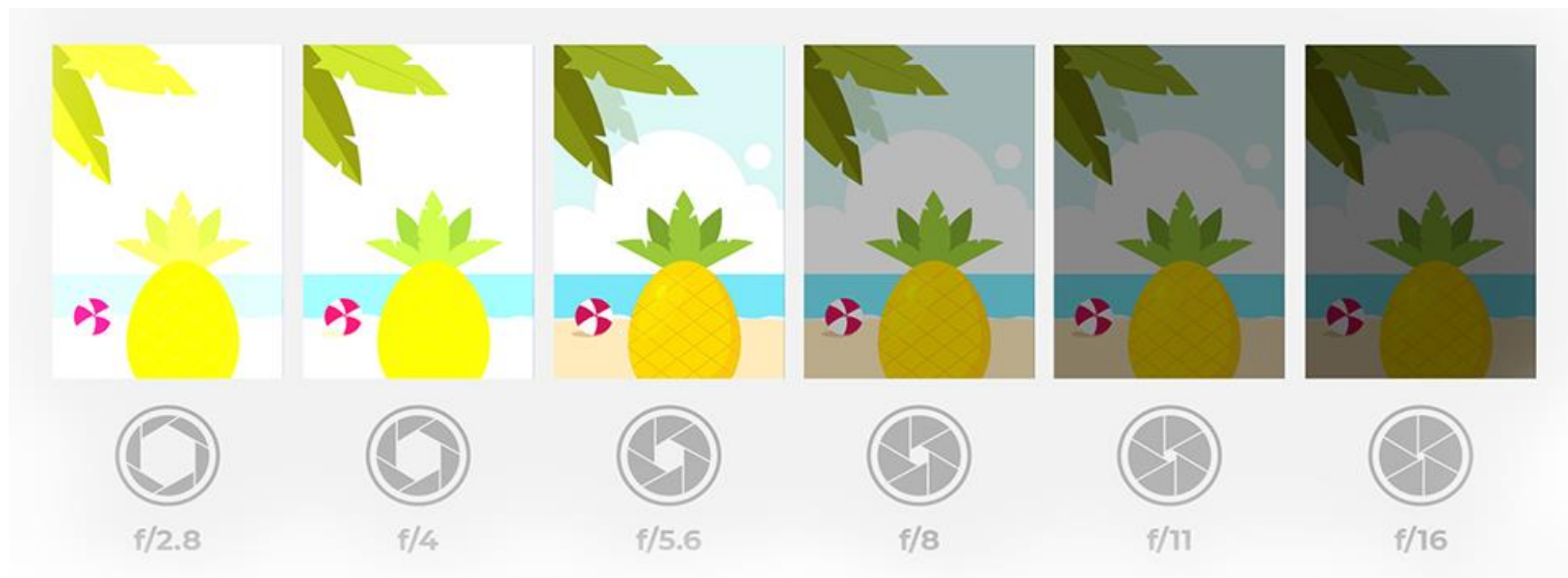


PROPERLY EXPOSED

› photo that looks natural

WHAT IS APERTURE?

APERTURE can be defined as the **opening in a lens, which light passes to enter the camera.** It is an easy concept to understand if you just think about how your eyes work.



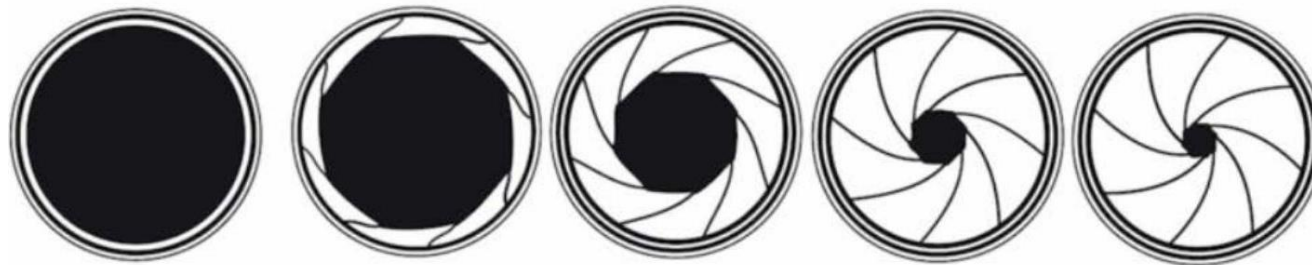
- Increasing (opening-up) the size of the aperture makes your image brighter

- Decreasing the size of the aperture makes your image darker

The **F-stop or F-number** is a scale that represents the size of the aperture.

- The smaller f-number = the larger aperture
- The larger f-number = the smaller aperture

F-STOP SCALE



F/1

F/1.4

F/2

F/2.8

F/4

How Aperture Affects Depth of Field:

The other critical effect of aperture is depth of field. Depth of field is the distance between the nearest and the farthest objects that are in acceptably sharp focus in an image.

				
f/1.4	f/2.8	f/5.6	f/11	f/22
Very Large Aperture	Large Aperture	Medium Aperture	Small Aperture	Very Small Aperture
Very Small Depth of Field	Small Depth of Field	Medium Depth of Field	Large Depth of Field	Very Large Depth of Field
				

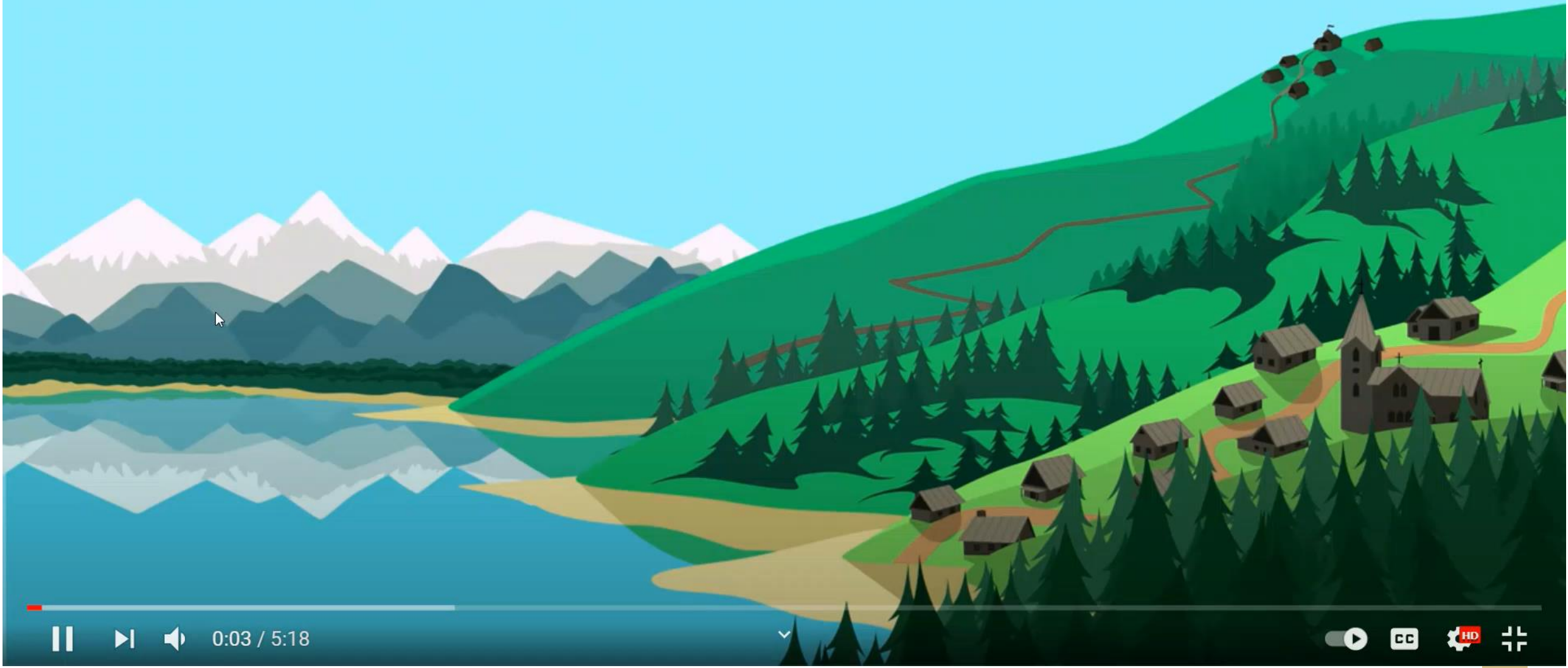
- a **wide open aperture** has a very small depth of field.
(perfect for portraits)



- a **small open aperture** has a deeper depth of field.
(perfect for landscape photography)



WHAT IS APERTURE?

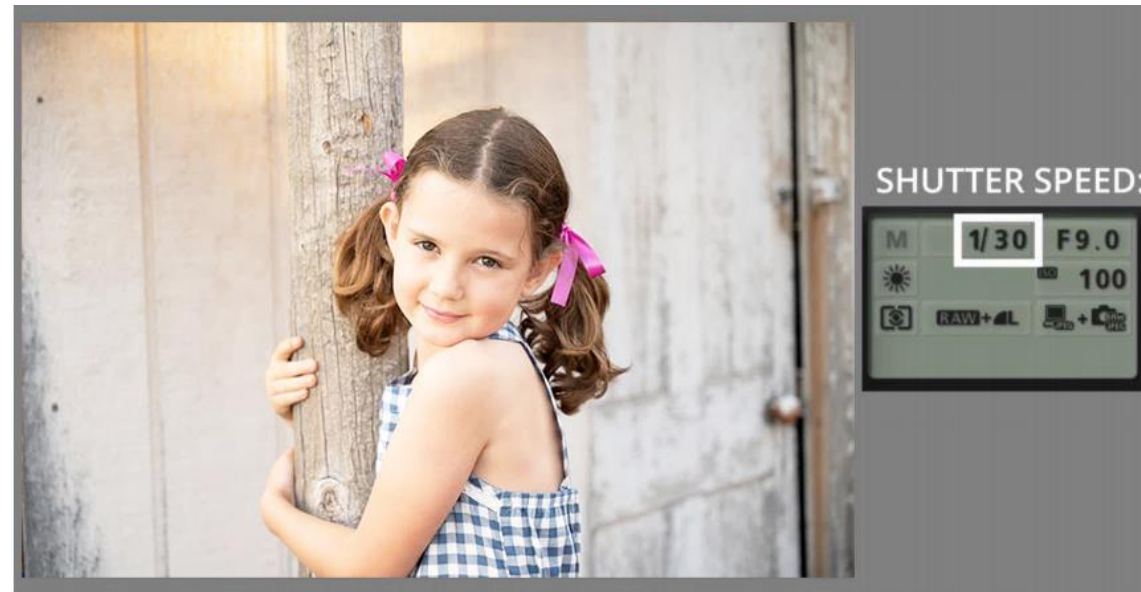
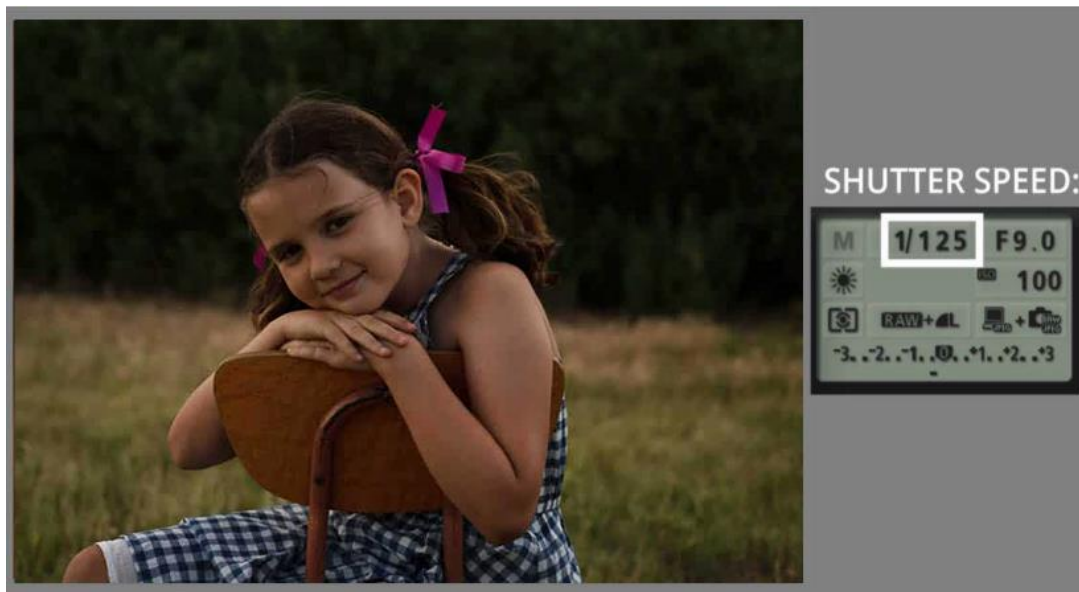


WHAT IS SHUTTER SPEED?

Shutter speed or exposure time is the length of time when the digital sensor inside the camera is exposed to light.

- The faster shutter speed = the less light is let in

- The longer shutter speed = the more light is let in



- Use a **tripod to prevent camera shake** when using a **longer shutter speed to blur a motion.**
- If you are photographing a **moving object**, you will need a **faster shutter speed to freeze that.**



Faster shutter speed $1/4000$

Longer shutter speed $1/4$



Play (k)



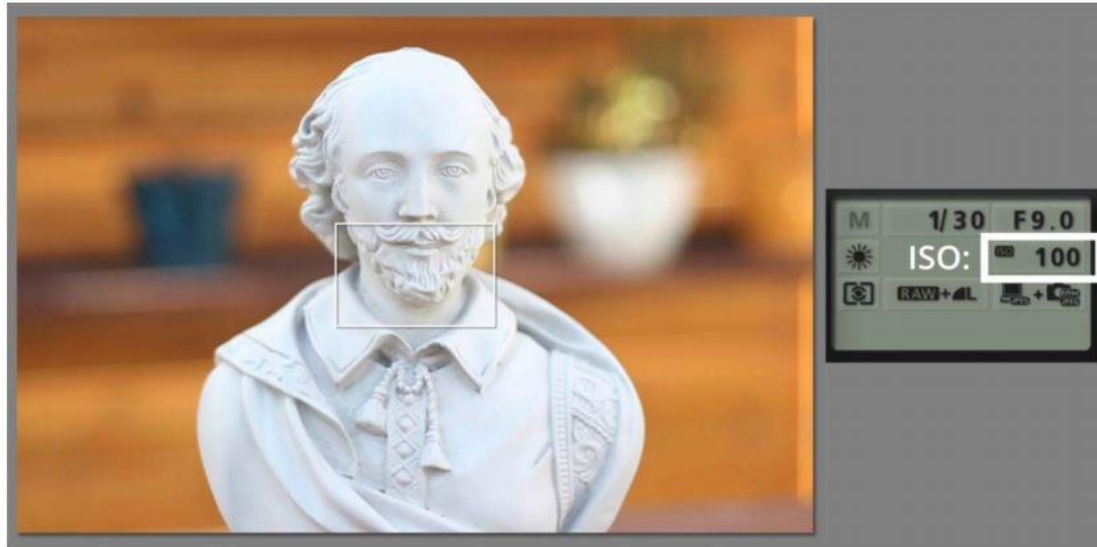
0:00 / 3:30



WHAT IS ISO?

ISO is the light sensitivity of imaging sensor.

- Increasing the ISO increases exposure
- Decreasing ISO decreases exposure

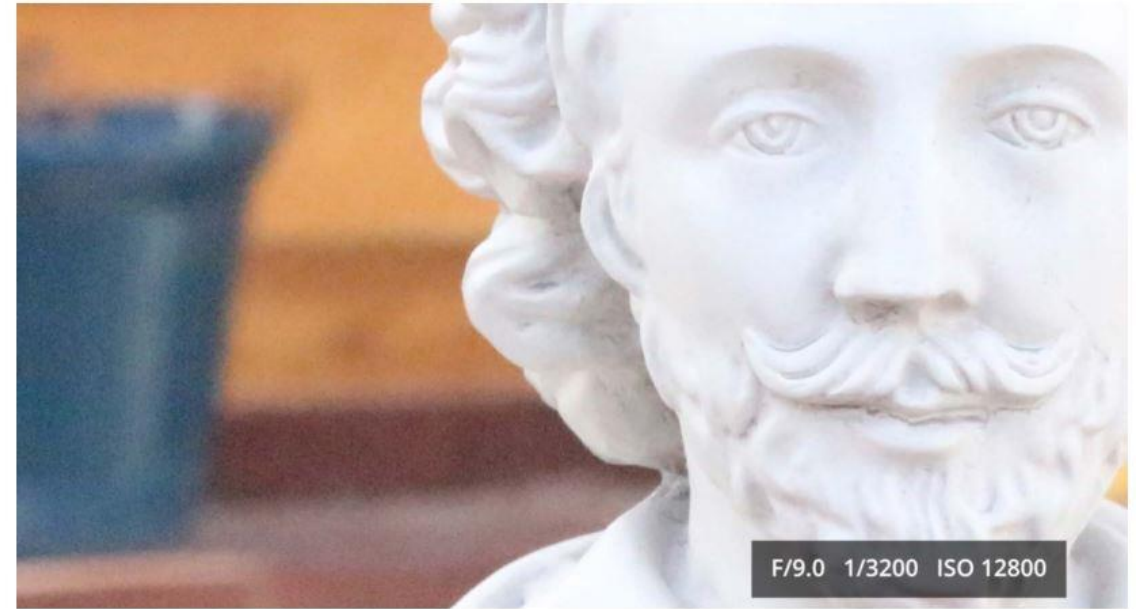


- Increasing the ISO doubles the sensitivity of your camera

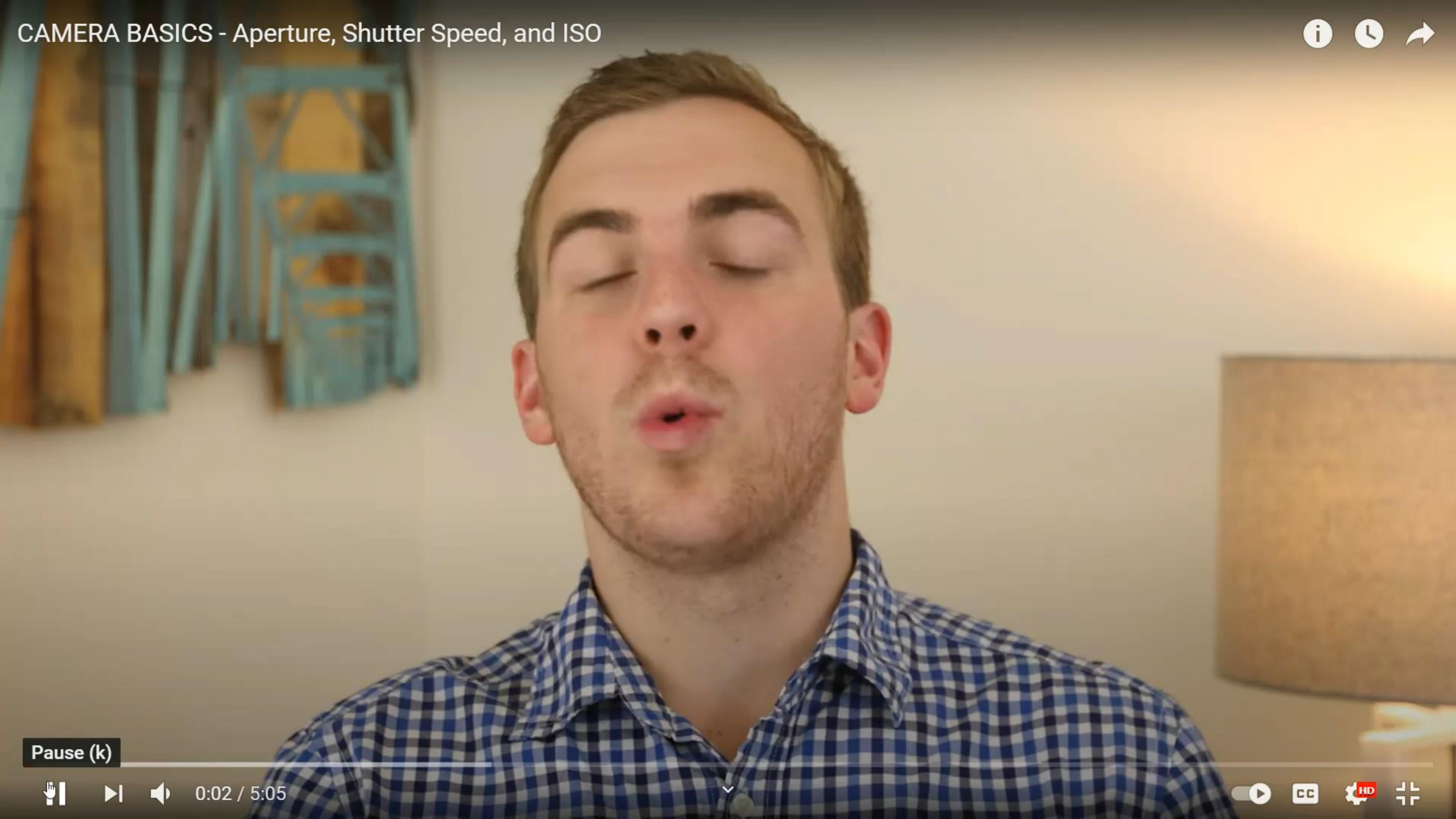
ISO SCALE

100, 200, 400, 800, 1600, 3200, 6400...

- Increasing the ISO too much can lead to digital noise/grain



CAMERA BASICS - Aperture, Shutter Speed, and ISO



Pause (k)

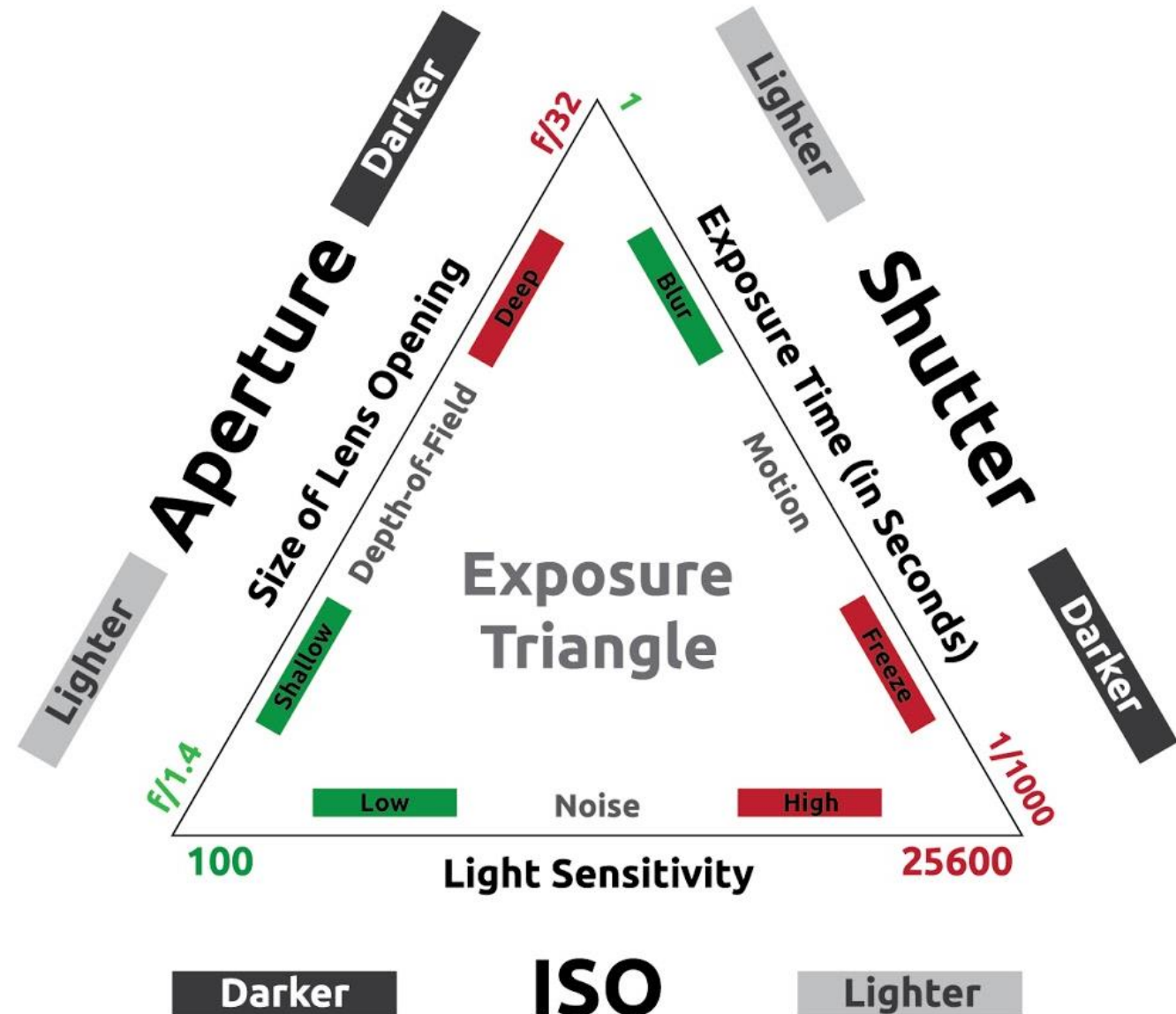


WHAT IS EXPOSURE TRIANGLE?

The exposure triangle is a common way of associating the three variables that determine the exposure of a photograph:

- APERTURE
- SHUTTER SPEED
- ISO

One must balance all three of these to achieve a desired result, an adjustment of one requiring adjustments of at least one of the others.



HOME WORK

Take 8 photos use the manual settings on your camera to exposure properly

1. Freeze action or fast-moving object,
2. Create an effect of motion blur for a slow-moving object,
3. Portrait mode with a very small depth of field for a person, food, close-up details...etc.
4. Landscape with a deeper depth of field.

you can capture anything or anyplace you want (person, landscape, plant, flower, interior accessories, building, food, animals ... etc)



NEXT LECTURE

Mobile photography

Composition techniques in photography

