

ISO

How sensitive are you?

**COMPLAINS HIS CAMERA
GENERATES TOO MUCH GRAIN**



**ONLY SHOOTS AT
ISO 6400**

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WWW.MAXU.IT

Bellwork

What are the two legs of the exposure triangle we have already discussed?

Where are they found in the camera?

How do they affect your image?

You don't take a
photograph.

You make it.

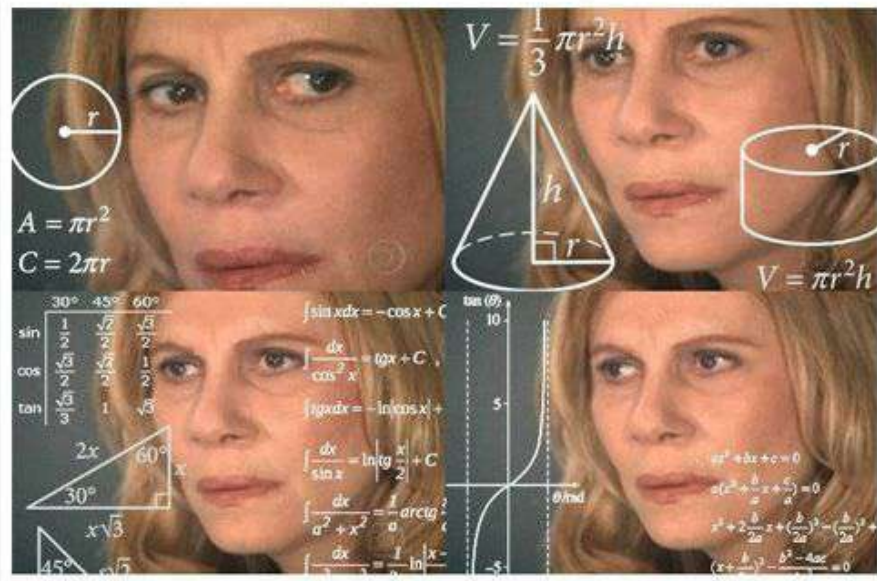
- Ansel Adams

Objectives

Students will be able to:

- Understand the ISO component of the Exposure Triangle
- Know the differences when it comes to low and high ISO
- Determine when they should use a low or high ISO

when you explain the
exposure triangle to amateurs

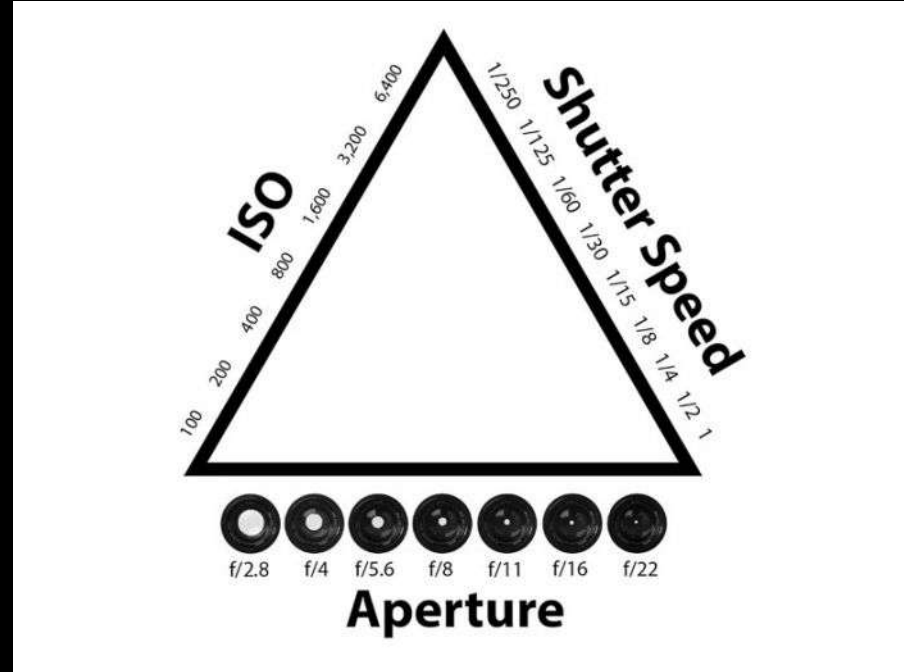


The Exposure Triangle

In this lesson, we will be talking about ISO, one of the three sides of the Exposure Triangle.

Remember that with all three sides, when you adjust one, you typically have to adjust the other two.

Note: ISO is the easiest one to set!



Exposure

There are three factors that influence the exposure of your image:

- *Aperture*
- *Shutter Speed*
- *ISO*

A “correct” or “good” exposure occurs when you maintain as much detail as possible in both the very bright parts (highlights) as well as the very dark parts (shadows) of an image.

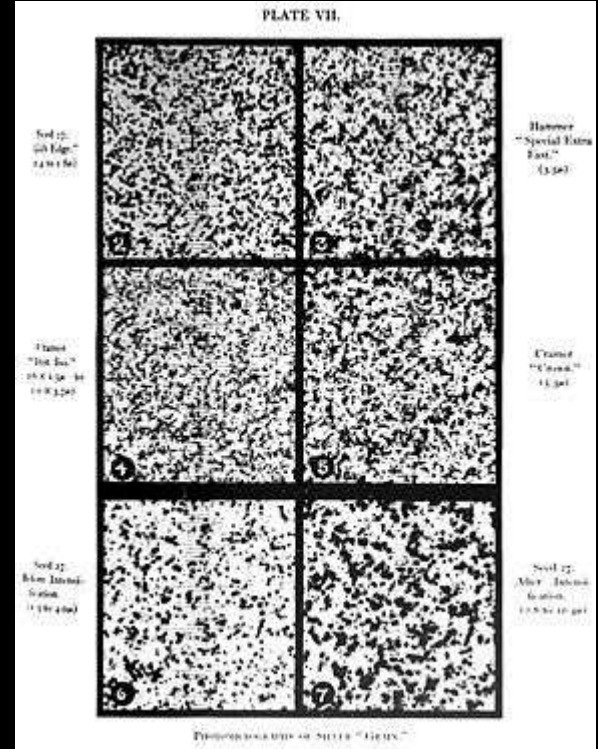
How much of a range in which you can capture detail from light to dark is referred to as the *Dynamic Range*. As you are about to see over the next few days, there can be many “correct” or “good” exposures.

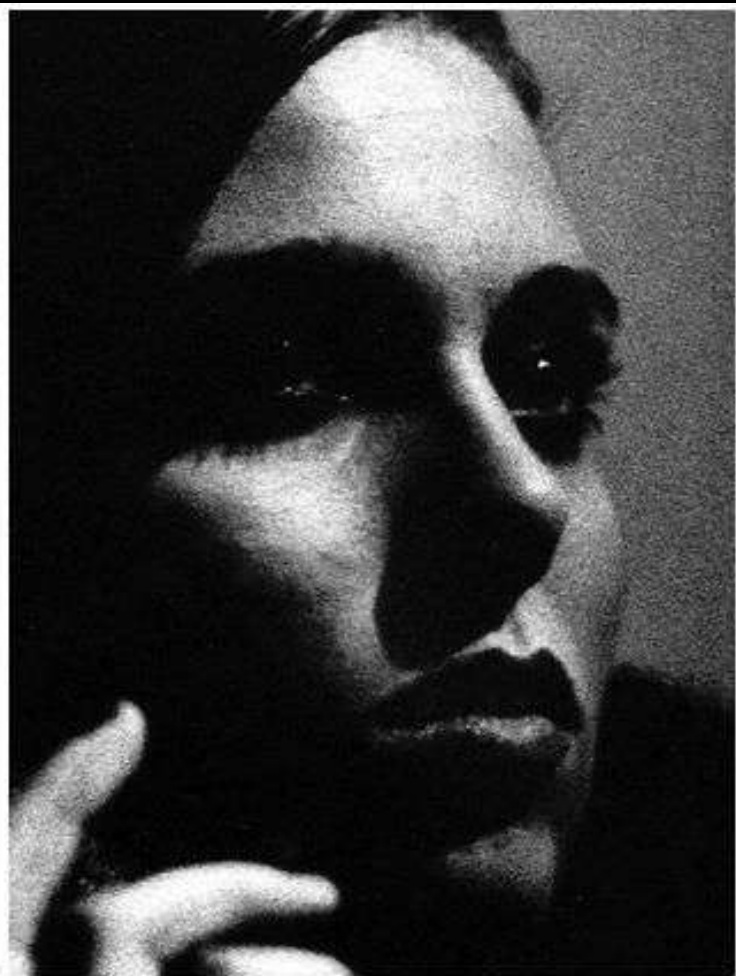
Vocabulary

Grain

noun

Film grain or granularity is the random optical texture of processed photographic film due to the presence of small particles of a metallic silver, or dye clouds, developed from silver halide that have received enough photons.





Vocabulary

Noise

noun

Just like with sound, where noise refers to auditory disruptions, in photography, the term digital noise refers to visual distortion. Noise looks like tiny colored pixels or specks in your photograph, and sometimes resembles the grain that you may see in film photography.







ISO SCALE

50 100 200 400 800 1600 3200 6400

Less sensitive to light  More sensitive to light

Will capture less light  Will capture more light

More light needed for “good” exposure  Less light needed for “good” exposure

Less image noise/grain  More image noise/grain

ISO

International Standards Organization

What is ISO?

- **In traditional (film) photography** ISO (or ASA) was the indication of how sensitive a film was to light.
- **In Digital Photography** ISO measures the sensitivity of the image sensor.



ISO cheat sheet

www.abigailfaheyphotography.shop

100 SUNNY DAY, BRIGHT LIGHT

200 PARTIAL SHADE, BRIGHT LIGHT

400 CLOUDY DAY, BRIGHT INDOOR

800 EVENING, DIM LIGHTING

1600 NIGHT, DARK INDOOR

3200 DARK, ASTROPHOTOGRAPHY

6400 DARK, ASTROPHOTOGRAPHY

ISO

100 PLENO SOL, NADA DE SOMBRA, QUIERO EXTREMA DEFINICIÓN

200 MUCHO SOL, MUCHA LUZ INDIRECTA. LUGAR BASTANTE ILUMINADO.

400 EN UN LUGAR CERRADO CERCA DE UNA VENTANA EN UN DÍA SOLEADO

APARECE
EL RUIDO

700 EN UN LUGAR CERRADO CERCA DE UNA VENTANA EN UN DÍA SOLEADO

800 ATARDECER, EN UN ESPACIO CERRADO, CON ENTRADA DE LA LUZ DEL SOL O SIN ELLA.

850-1000 ATARDECER, SEPARADO DE LA VENTANA EN UN LUGAR CERRADO.

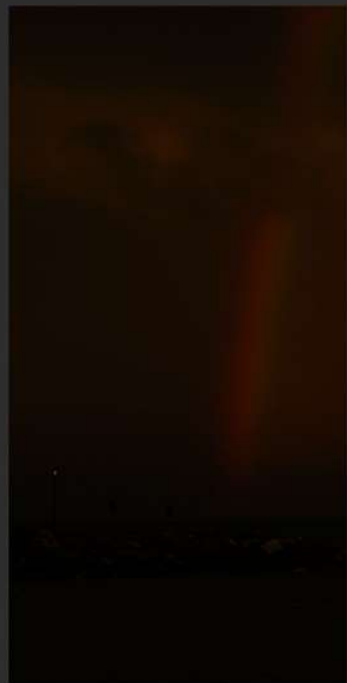
1250 EN UN LUGAR CERRADO, ENTRADA LA NOCHE, CON FOCOS DE LUZ ARTIFICIAL BOMBILLOS.

1600 EN UN LUGAR CERRADO, ENTRADA LA NOCHE, CON FOCOS DE LUZ ARTIFICIAL BOMBILLOS.
LUGARES CON Poca LUZ, HABITACIONES, RESTAURANTES, TEATROS. HAYFOTOGRAFIA.BLOGSPOT

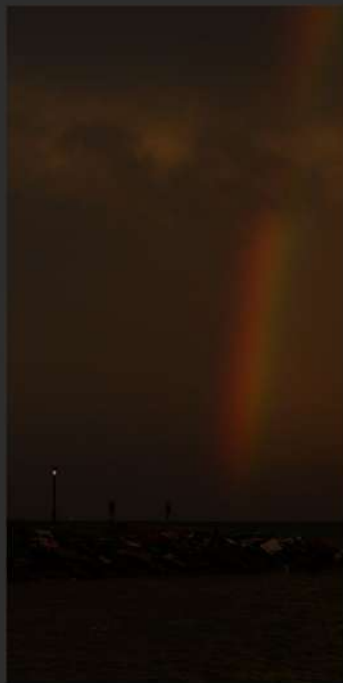
HIGH ISO SETTINGS



USEFUL FOR NIGHT PHOTOGRAPHY



ISO 100



ISO 200



ISO 400



ISO 800



ISO 1600



iso: 6400



iso: 4000



iso: 2500



iso: 1600



iso: 1000



iso: 800



iso: 640



iso: 500



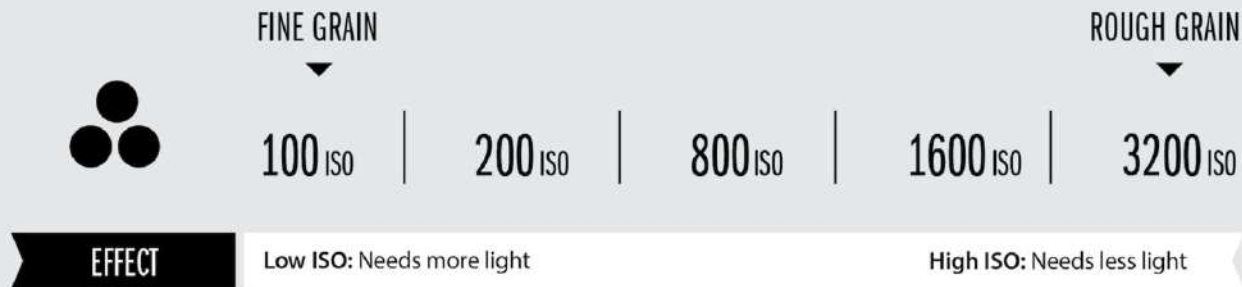
iso: 250



iso: 200

ISO / Film Speed.

ISO is the level of sensitivity of your camera has to available light. Shooting with a low ISO will give you a high quality image with fine grain, to do this you'll also need lots of light. Using a higher ISO means can take photos in low-light conditions, the trade-off is it will have more grain or "noise".



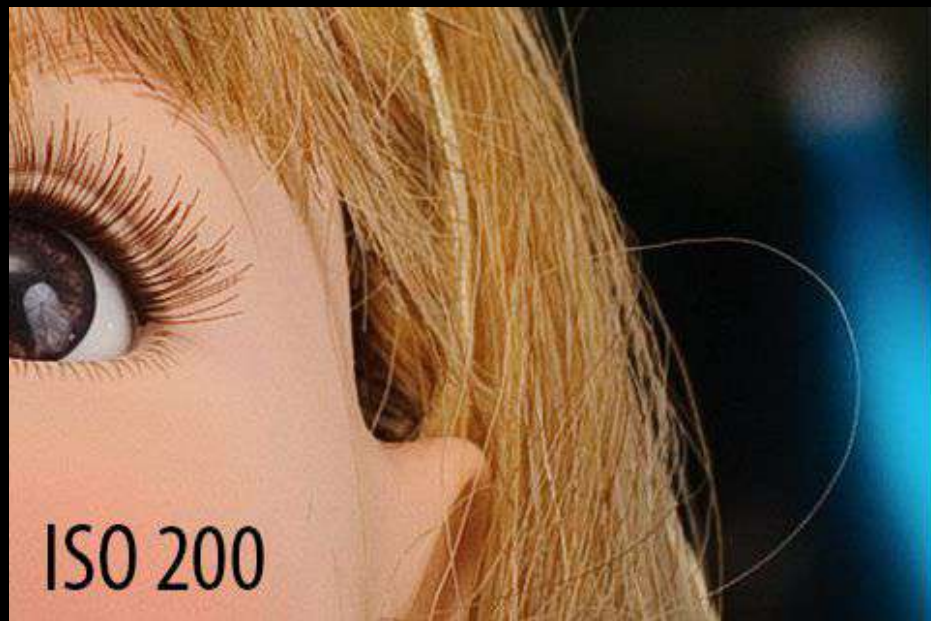
ISO 100

ISO 3200

CLEAN IMAGE

NOISY IMAGE





80

100

125

160

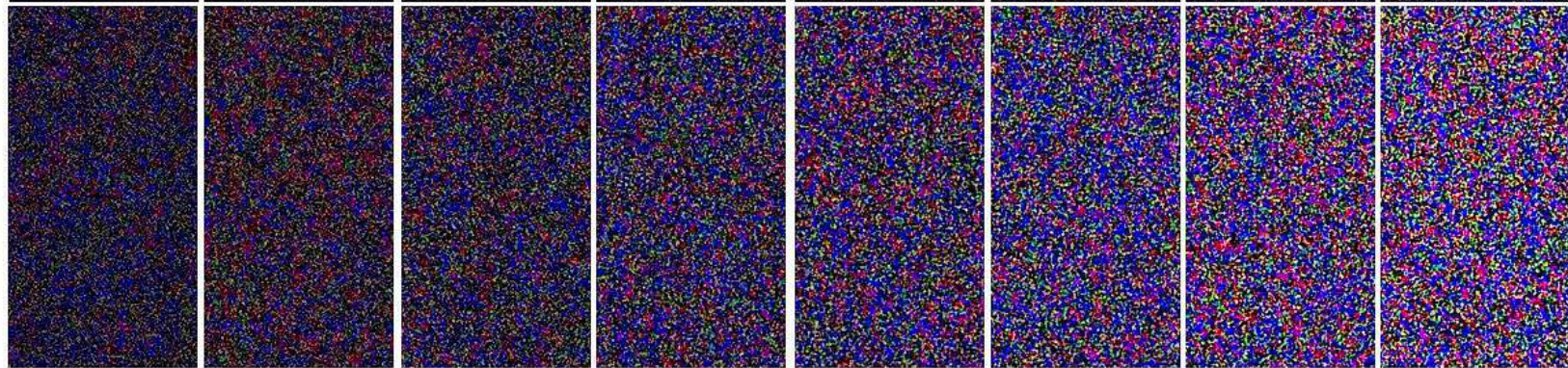
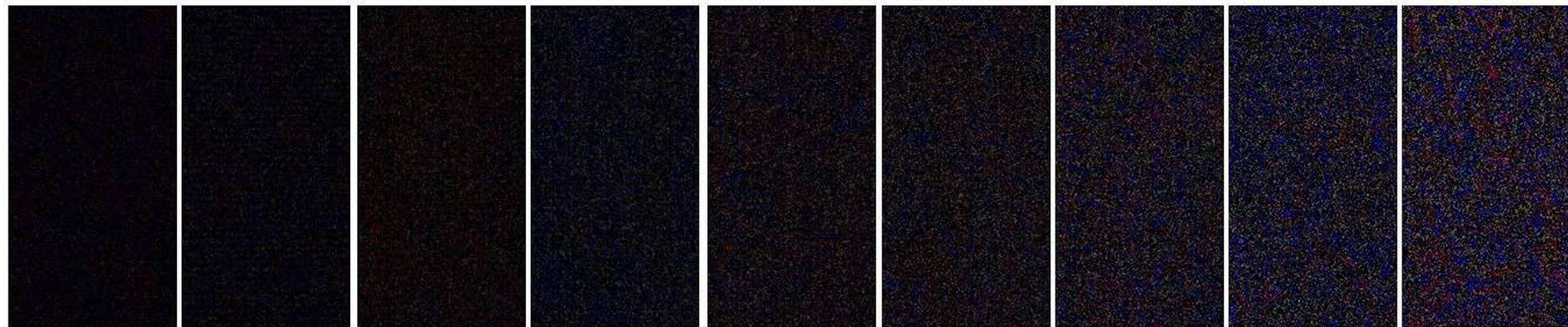
200

250

320

400

500



640

800

1000

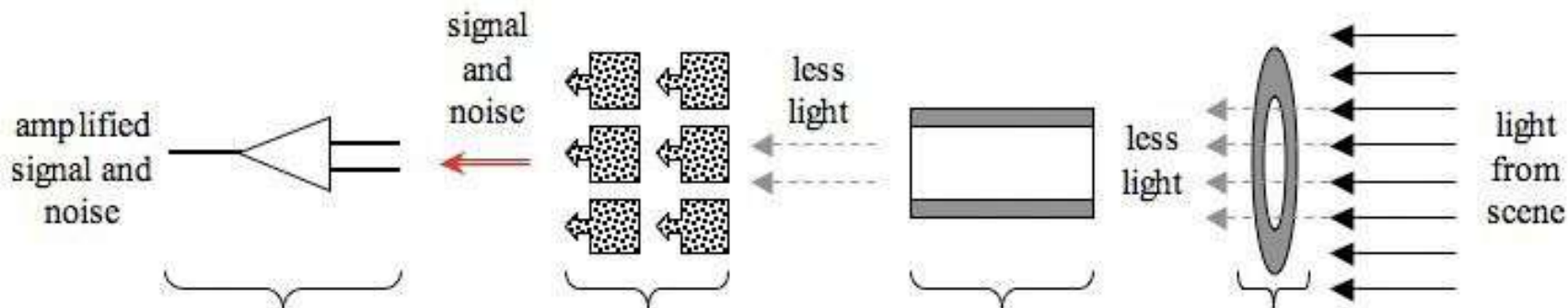
1250

1600

2000

2500

3200



ISO amplifiers

artificially
increase the
signal (and the
noise)

sensor photosites

convert photons
(light) to electrons
(electrical signal)

shutter

controls how
much light
reaches the
sensor

aperture

controls how
much light
reaches the
shutter

NOT AS SCARY WITH BETTER ISO MANIPULATION.



In October of 1994
three student filmmakers disappeared
in the woods near Burkittsville, Maryland
while shooting a documentary...

A year later their footage was found.

THE BLAIR WITCH PROJECT

Everything you've heard is true.

ITIMAN ENTERTAINMENT PRESENTS HAVAN FILMS PRODUCTION: HEATHER DONAHUE, MICHAEL WILLIAMS, JOSHUA LEONARD "THE BLAIR WITCH PROJECT" PRODUCTION DESIGNER BEN ROCK ART DIRECTION RICHARDO R. MORENO
DIRECTOR OF PHOTOGRAPHY NEAL FREDERICKS MUSIC BY ANTONIO CORA EXECUTIVE PRODUCED BY BOB EICK AND KEVEN I. POKÉ CO-PRODUCED BY MICHAEL MONELLO
PRODUCED BY GREGG HALE & ROBIN COWIE WRITTEN, DIRECTED, AND EDITED BY DANIEL MYRICK & EDUARDO SANCHEZ 1999
www.blairwitch.co.uk THE BLAIR WITCH PROJECT: ASSOCIATED WITH PATHE! PATHE!

How to Set Aperture on a Camera

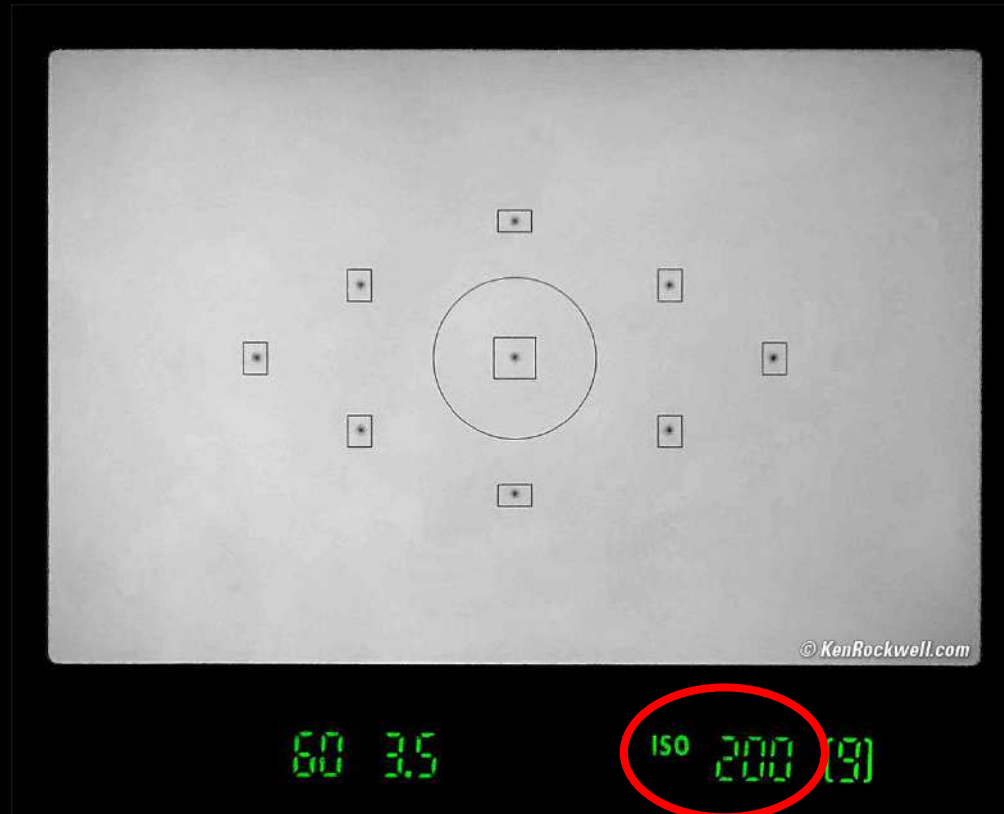
When using a Canon Rebel T3i, you need to hold down the ISO button on the top and then use the main dial at the top to set your ISO.



Where do we find our ISO Value on the camera?



Where do we find our ISO Value in the Viewfinder?



Not All Cameras are Made Equally



Each camera has a different ISO sensitivity. Canon Rebel cameras are on the lower spectrum, and as you go to the midrange to full frame cameras, especially the newer ones, the better the ISO sensitivity.



UNDERSTANDING ISO

+STAR WARS LEGO

Closure:

1. What does ISO control in the digital camera?
2. What do we need to watch out for with ISO?
3. What are you still confused about with the Exposure Triangle?
4. What do you think you've mastered?