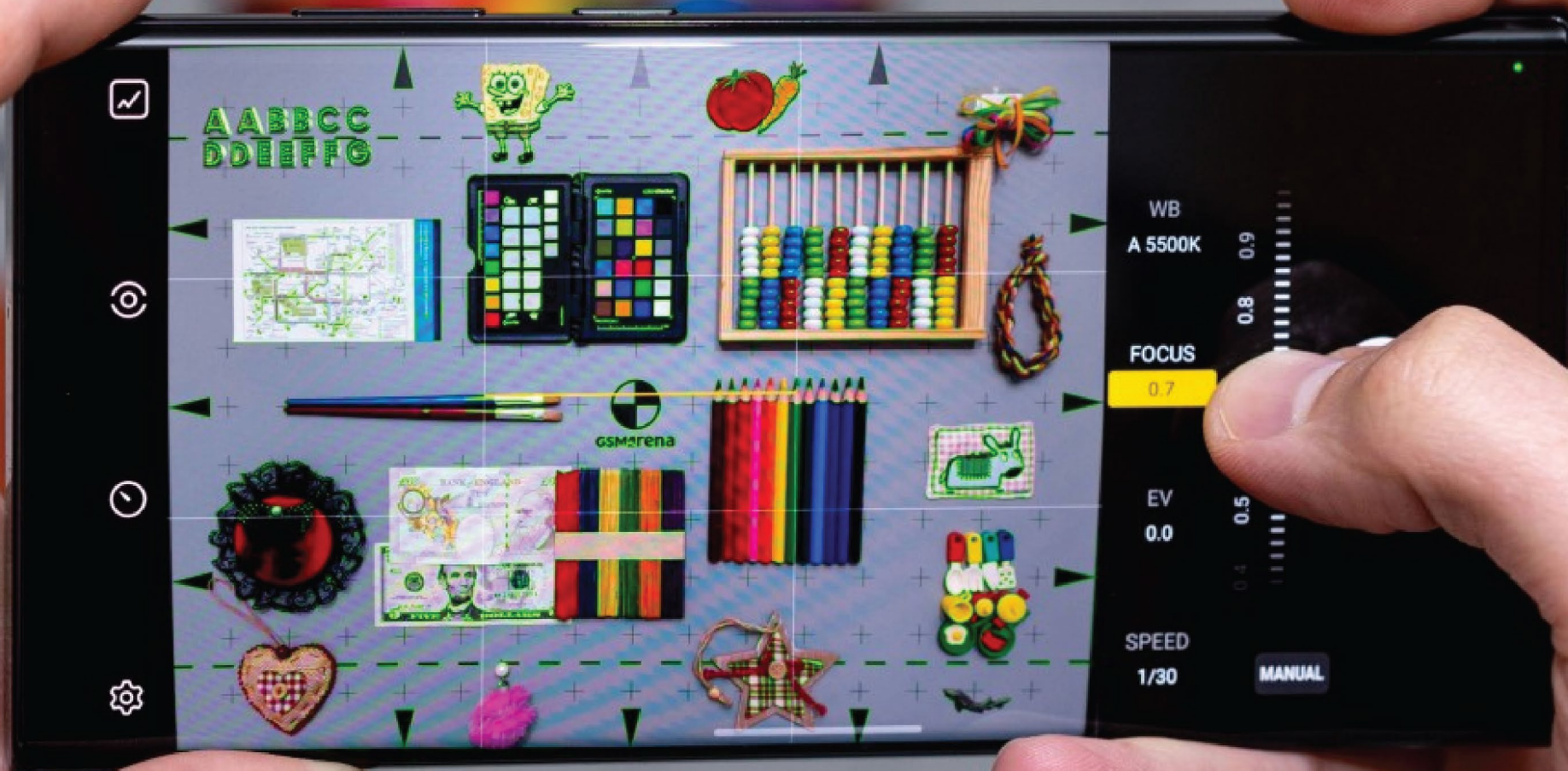
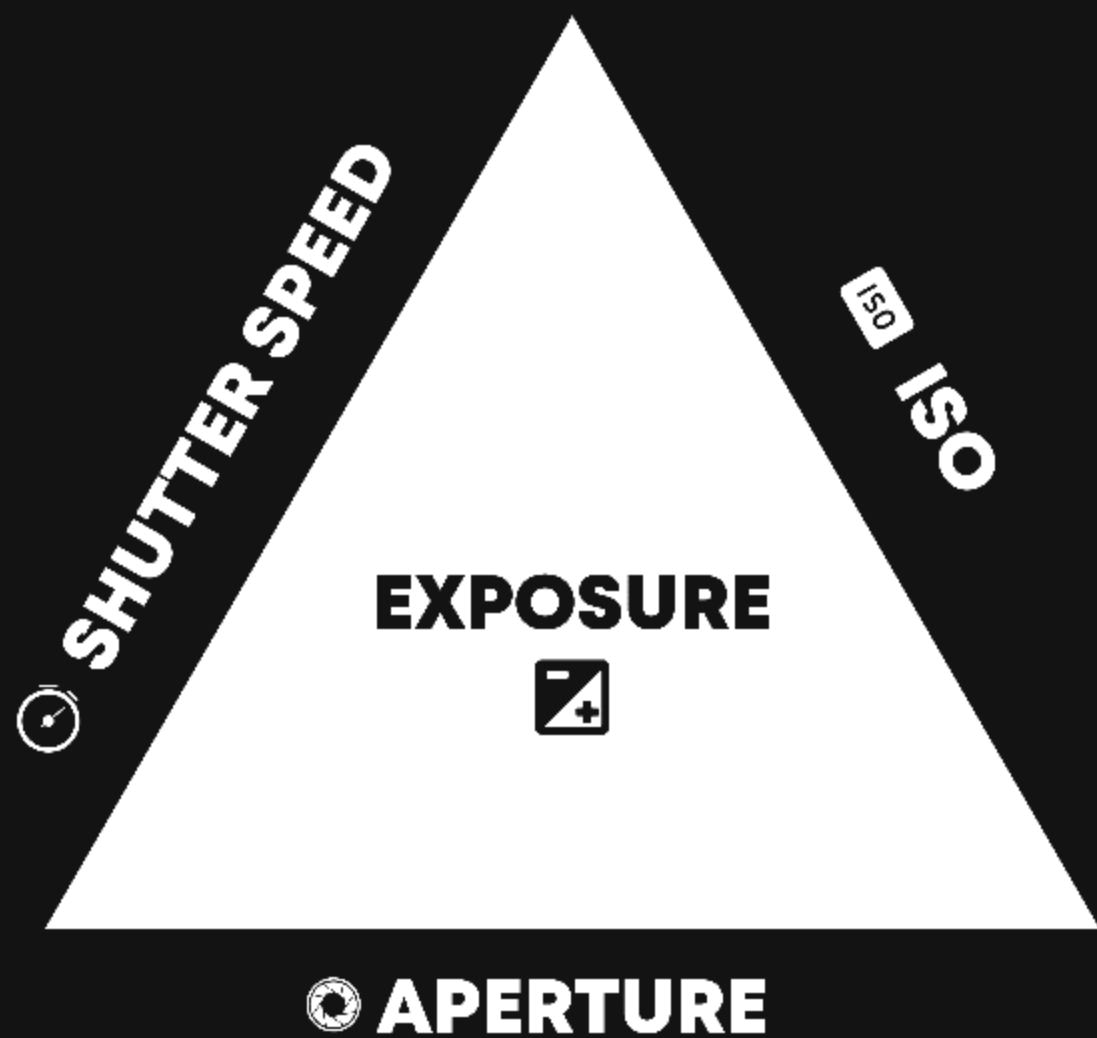




MANUAL
“~~PRO~~ MODE”





**WHITE
BALANCE**

FOCUS

A hand holds a small, clear crystal ball. Inside the ball, a detailed reflection of a forest with tall trees and a body of water is visible. The background is a soft-focus scene of autumn foliage in shades of orange, yellow, and blue. Overlaid on the center of the image is the word "Focus" in a large, bold, white sans-serif font.

Focus

**YOU CANNOT CHANGE
FOCUS IN EDITING.**

GET IT RIGHT THE BEFORE YOU SHOOT!

WHITE BALANCE

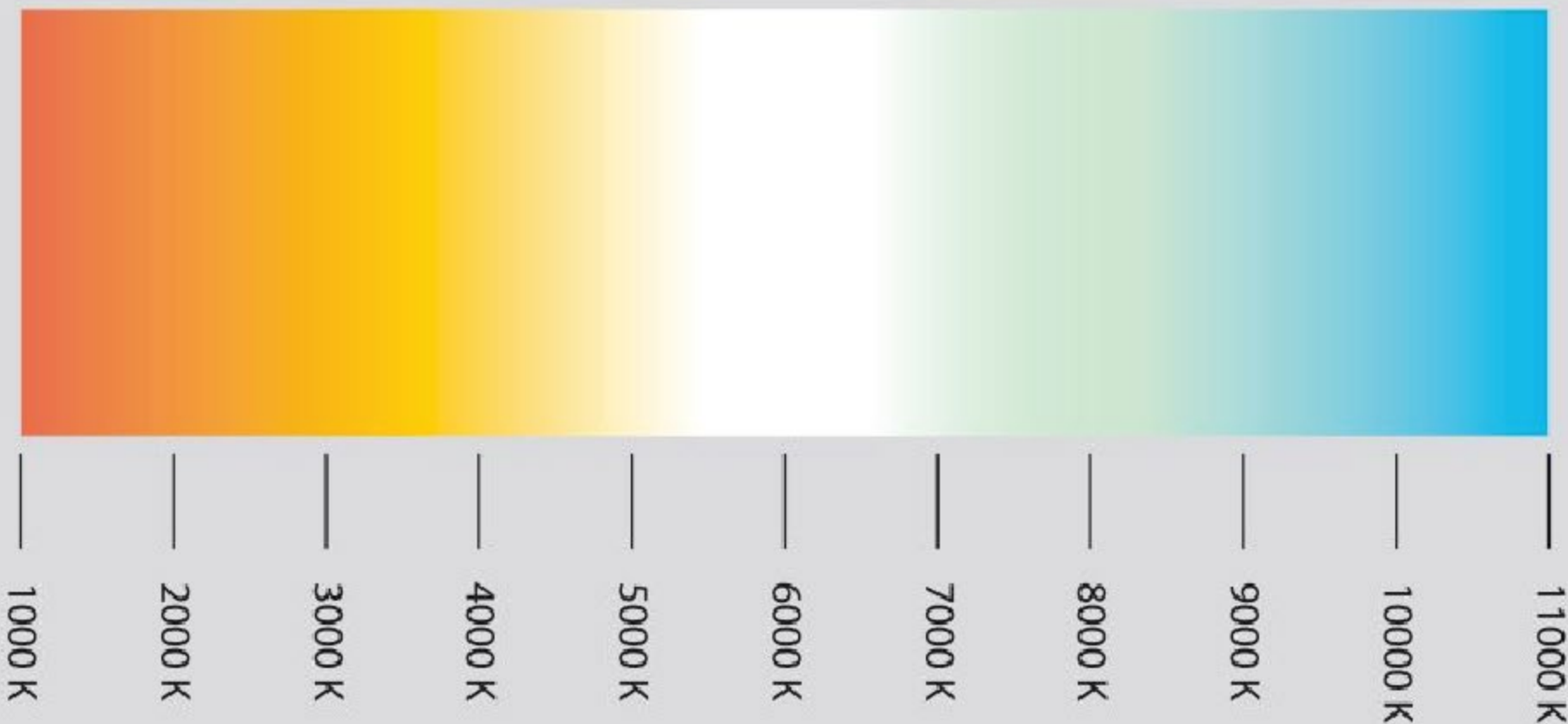
The image is a vertical collage of six panels, each showing a different color grade of the same coastal scene. The scene depicts waves crashing against dark, jagged rocks on a sandy beach under a cloudy sky. The panels are separated by thin white vertical lines. The color gradient starts with a deep blue in the first panel on the left and transitions through lighter blues, greens, and yellows to a warm orange in the final panel on the right. The text 'WHITE BALANCE' is superimposed in large, white, bold, sans-serif capital letters across the middle of the collage.

WHITE BALANCE

KELVIN-SCALE

WARM

COOL





1,900K
Candle

2,200K
High Pressure
Sodium Lamp

2,700-3,000K
Warm White
Halogen
Incandescent

4,000-4,500K
Natural White
Metal Halide

4,800K
Direct Sun

5,000-6,000K
Day White

7,000-7,500K
Cool White

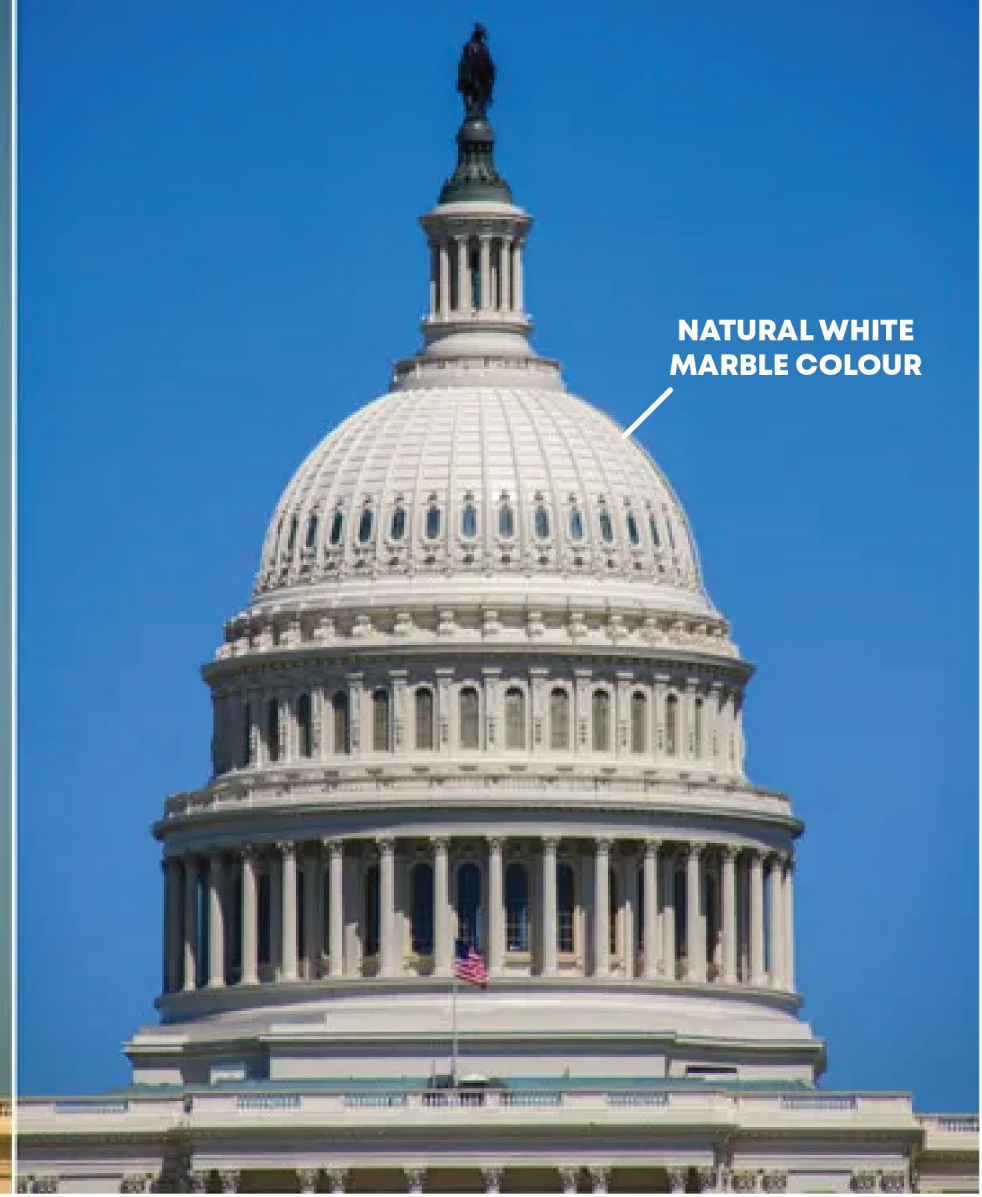
10,000K
Blue Sky

TOO WARM



**WHITE MARBLE
LOOKS YELLOW**

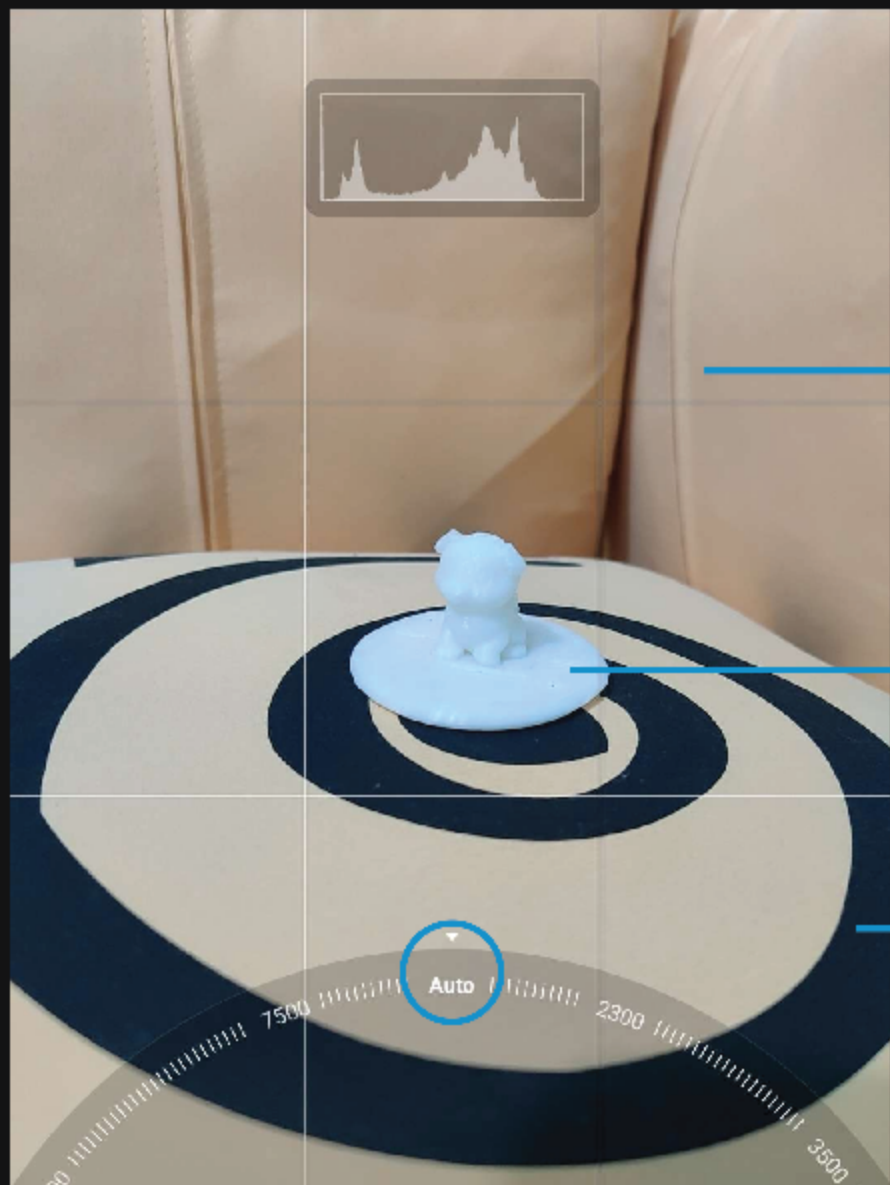
NEUTRAL



**NATURAL WHITE
MARBLE COLOUR**

OVERCORRECTED

IN AUTO WB



**YELLOWS LOOKS
FADED AND BLEACHED**

**WHITE TOY LOOKS
BLUE**

**BLACKS LOOK LIKE
DARK BLUE**

AUTO (4450K)

PROPER COLOURS

MANUAL WB



YELLOWS LOOK
NATURAL AND VIBRANT

WHITE TOY LOOKS NATURAL

BLACKS LOOK NATURAL

MANUAL (5510K)

4500 K

5750 K

7500 K

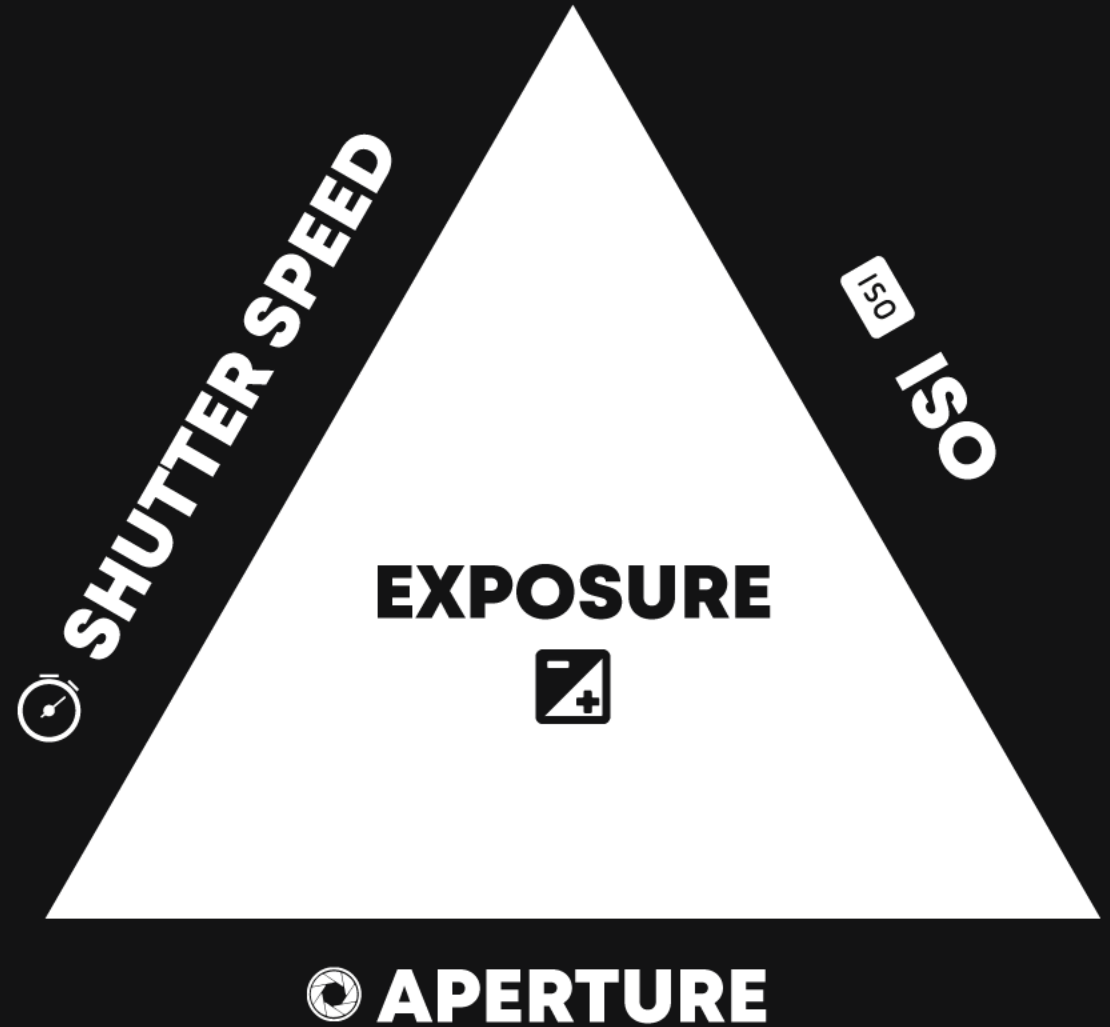
**WHITE BALANCE IS VERY EASY
TO CORRECT IN EDITING!**

KEEP IT ON AUTO IF YOU FEEL LIKE!

EXPOSURE TRIANGLE



EXPOSURE TRIANGLE



UNDEREXPOSED



CORRECTLY EXPOSED



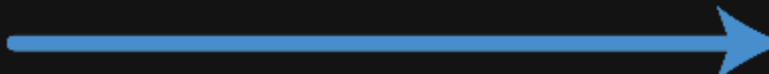
OVEREXPOSED





ISO

Think of ISO as the
“**Sensitivity**” of the
camera sensor

100  6400

Low ISO = Darker Image

High ISO = Brighter Image



800

1600

3200

6400

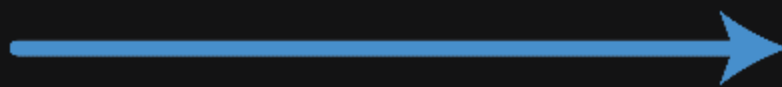
12800

25600

ISO

There is a catch!
Higher ISO will have
more Noise!

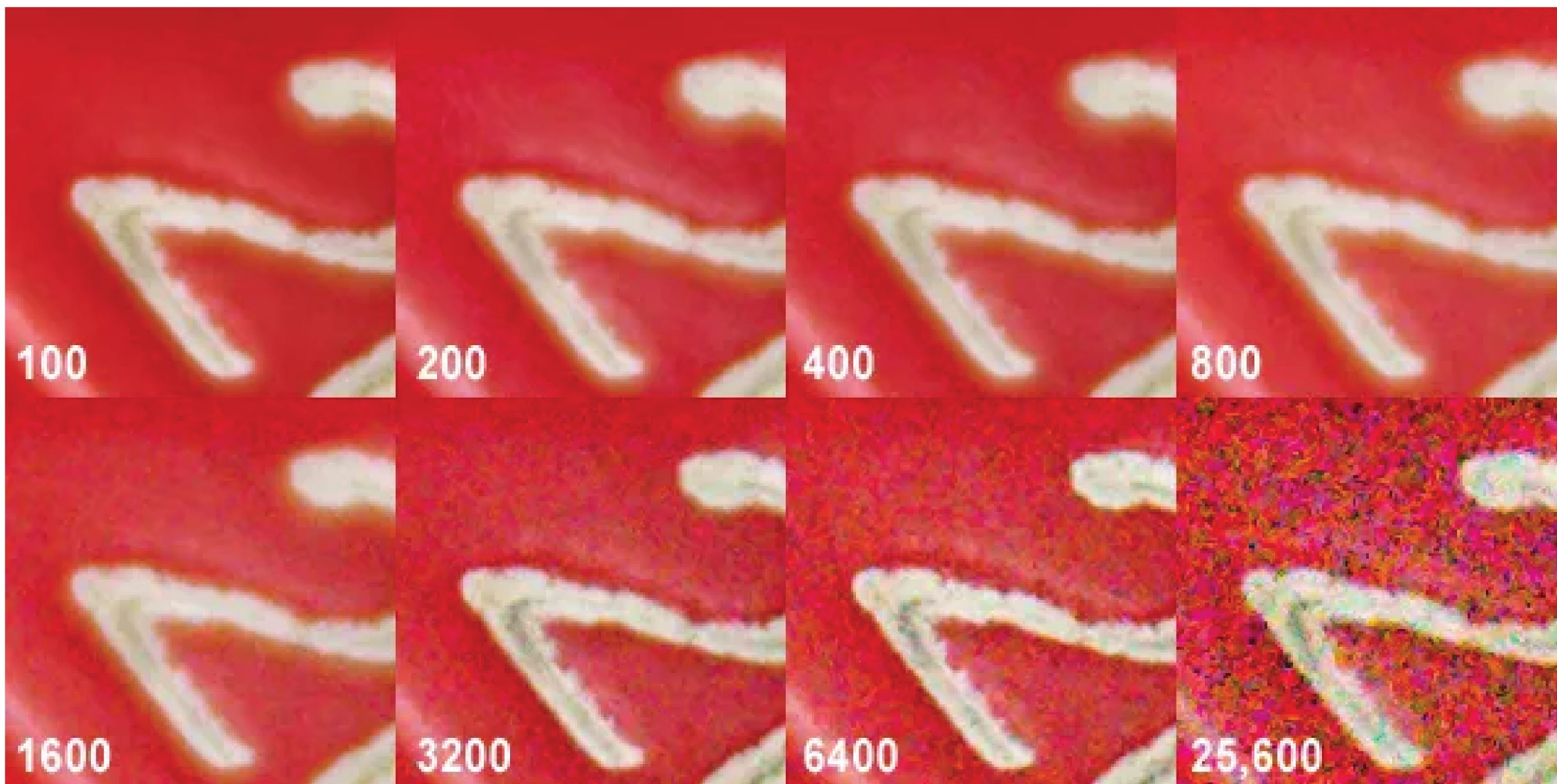
100



6400

Low ISO = Sharper Image

High ISO = Noisy Image

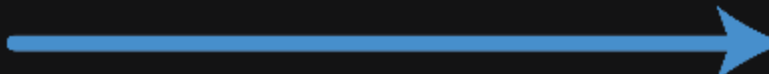




ISO

**Keep ISO as low as possible
for sharper images!**

**But don't be afraid to raise it if you need
priority for shutter speed!**

100  **6400**

Low ISO = Sharper Image

High ISO = Noisy Image



It is **possible** to correct the noise from High ISO, but it is something we want to **avoid!**

SHUTTER



SPEED



SHUTTER SPEED

**Shutter Speed is how long
the camera sensor is
exposed to light**

Its also known as Exposure Time!



1/250
f/8 ISO 200



1/125
f/8 ISO 200



1/60
f/8 ISO 200



1/30
f/8 ISO 200



1/15
f/8 ISO 200



1/8
f/8 ISO 200



1/4
f/8 ISO 200



1/2
f/8 ISO 200



SHUTTER SPEED

Fast Shutter = Less Light

Slow Shutter = More Light

1/1000

1/250

1/15

10"

Very Fast

Fast

Slow

Very Slow



SHUTTER SPEED

Shutter speed measured in fractions of a second

1/2000 = One 2000th of a second!

1/15 = One 15th of a second!

0.5" = 0.5 seconds!



SHUTTER SPEED

Shutter Speed also effects
Motion Blur!

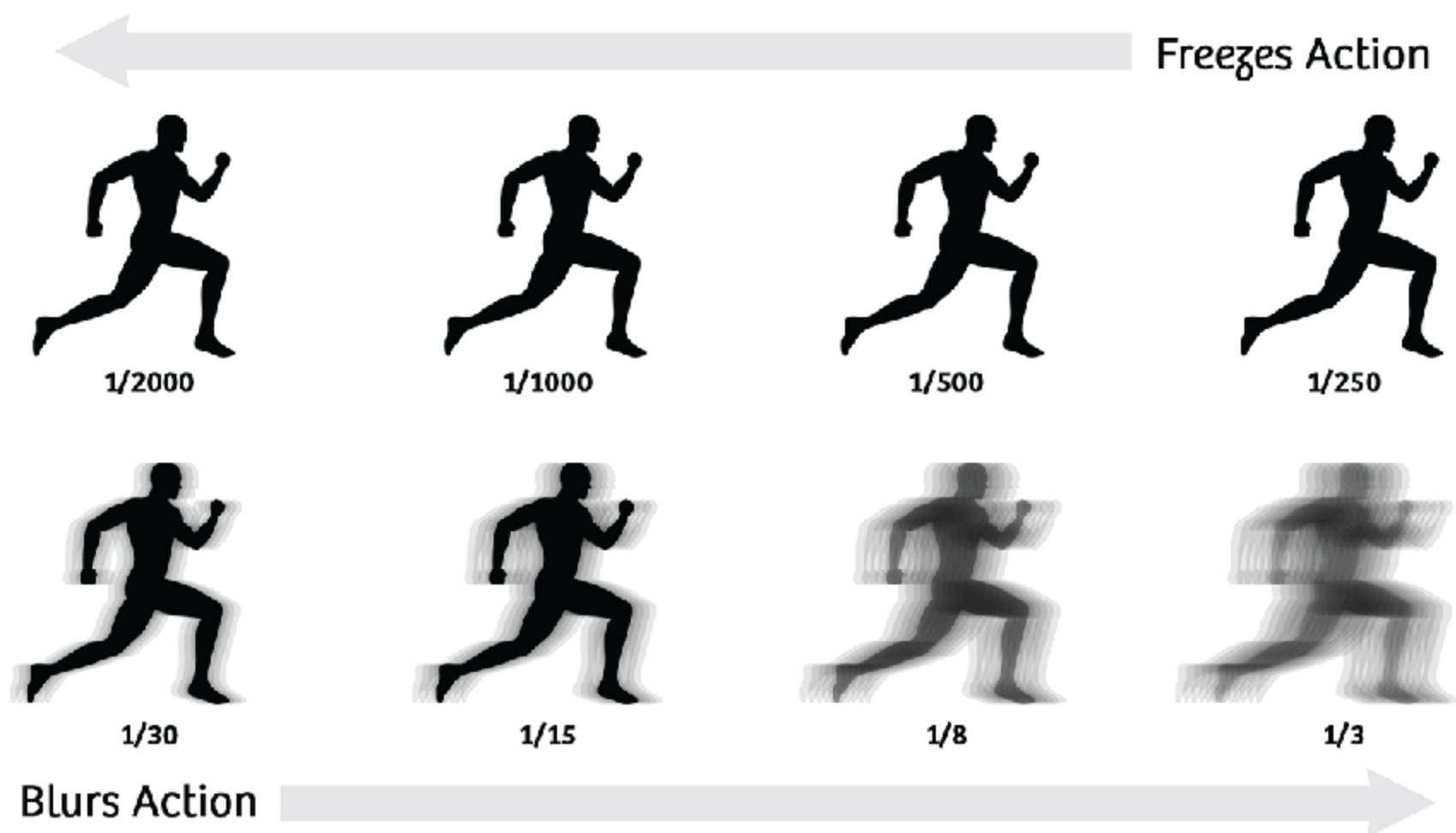
Super Fast Shutter = Freeze Motion

Fast Shutter = Less Motion Blur

Slow Shutter = More Motion Blur



SHUTTER SPEED





USE IT CREATIVELY!



10" Shutter



1/2000 Shutter



SHUTTER SPEED

**Set your Shutter Speed
according to the situation!**

Action Shots?
Fast Shutter!

Night Time Shots?
Slow Shutter!

APERTURE





APERTURE

APERTURE is the relative size of the opening in the lens

APERTURE is measured in F Stops



f/2.8



f/4



f/5.6



f/8



f/11



APERTURE

LOW F Value = BIGGER

APERTURE

HIGH F Value = SMALLER

APERTURE



APERTURE

Larger opening (**LOW F number**) means more light hits the sensor, therefore a brighter image



APERTURE

Aperture also effects **DEPTH
OF FIELD!**

Also known as the
“**BOKEH EFFECT**”



IN FOCUS
SUBJECT

BACKGROUND

OUT OF FOCUS



FOREGROUND
OUT OF FOCUS

APERTURE DIAPHRAGM



f/2.8



f/4



f/5.6



f/8



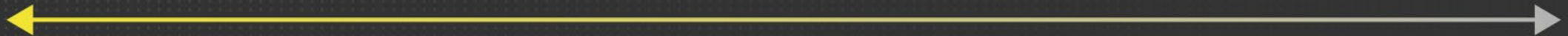
f/11



f/16



f/22

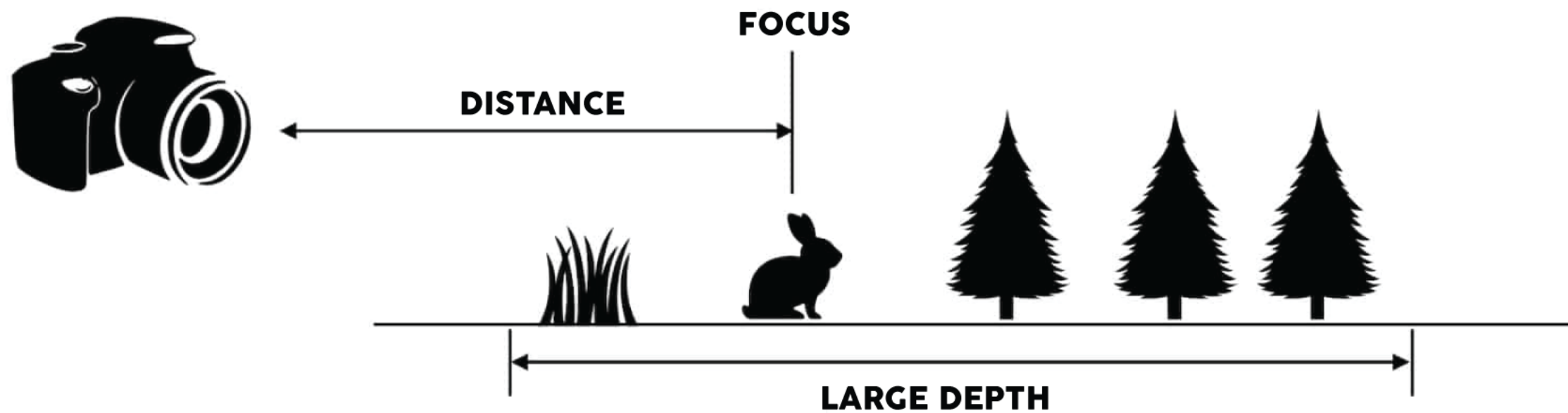
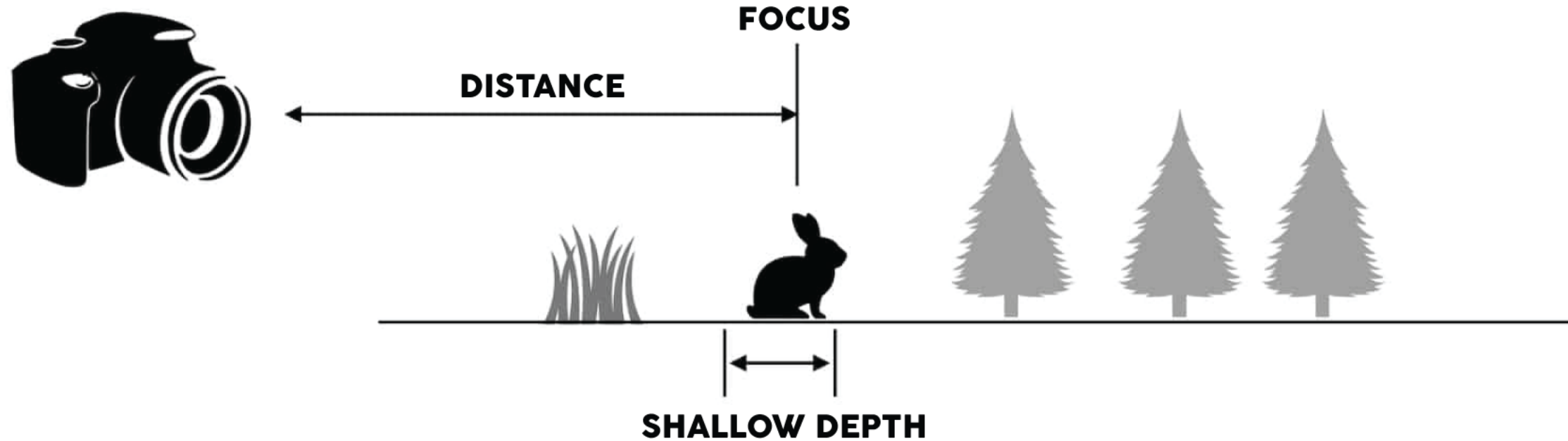


MORE LIGHT

Shallow Depth of Field

LESS LIGHT

Deep Depth of Field



SHALLOW

LARGE

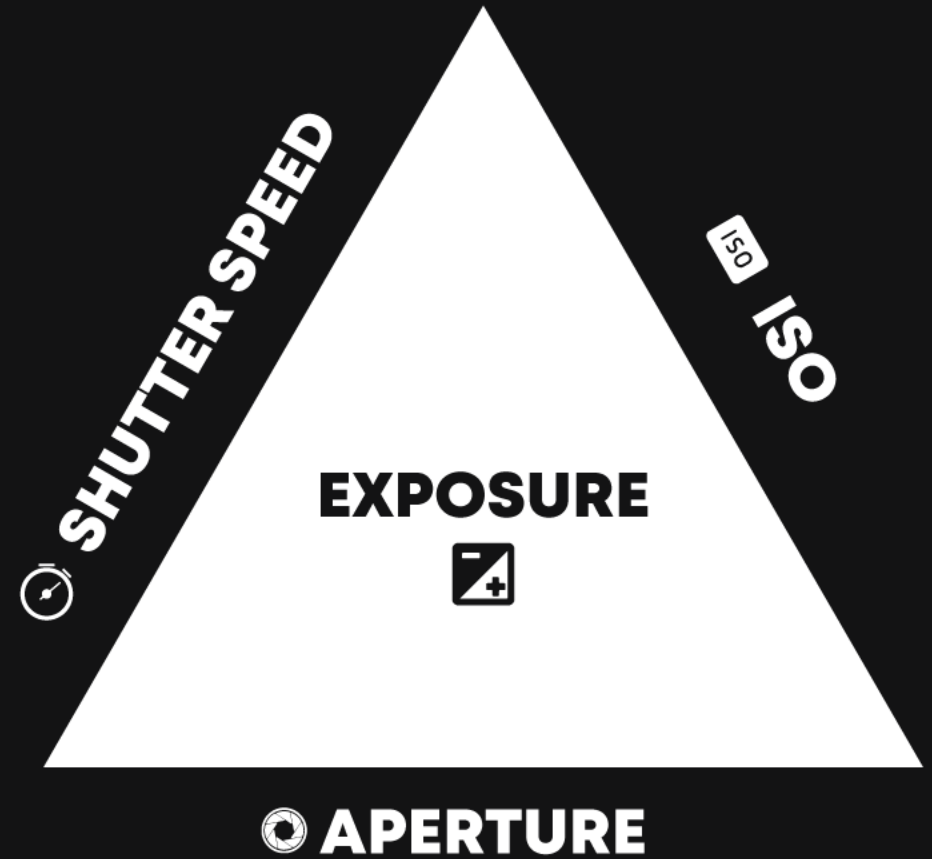
VERY LARGE



BALANCING EXPOSURE



**Balancing
Exposure is
adjusting **ISO**,
APERATURE and
SHUTTER SPEED
according to the
situation**



BALANCING EXPOSURE

Prioritize one setting
according to the situation,
then **adjust the others** to
make up for the light!

BALANCING EXPOSURE

SCENE: SPORTS MATCH



I want freeze frame action shots, so I need to keep **Shutter Speed very high!**

Increase ISO and **raise APERTURE** to make up for the lost light.

Fine tune both settings so that I get a balanced exposure and the desired effect!

FINAL SETTINGS

ISO: 900 SHUTTER: 1/1000 APERTURE: F 1.8

BALANCING EXPOSURE

SCENE: PORTRAIT PHOTO



I want a high detail portrait photo, I will keep **ISO on lowest** setting!

Keep **Medium Shutter** and **High APERTURE** to make up for the lost light and keep **high DOF**, the subject isn't moving so **motion blur** isn't an issue!

Fine tune both settings so that I get a balanced exposure and the desired effect!

FINAL SETTINGS

ISO: 100 SHUTTER: 1/30 APERTURE: F 1.8

BALANCING EXPOSURE

SCENE: NIGHTSCAPE PHOTO



I want a high detail photo of the night sky, keep **ISO on lowest** setting!

Keep **VERY Slow Shutter** to make up for the low light, but hand is unstable so set the phone on tripod to keep stable!

Fine tune both settings so that I get a balanced exposure and the desired effect!

FINAL SETTINGS

ISO: 100

SHUTTER: 30" APERTURE: F 7.2

APERTURE

narrow aperture



f/11

f/8

f/5.6

f/4

f/2.8

f/2

f/1.4

wide aperture

SHUTTER

fast shutter



1/1000

1/500

1/250

1/125

1/60

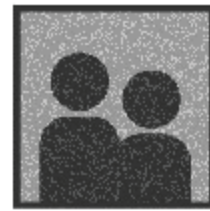
1/30

1/15

slow shutter

ISO

low sensitivity



ISO 100

ISO 200

ISO 400

ISO 800

ISO 1600

ISO 3200

ISO 6400

high sensitivity