

NOT JUST AUTO

Taking more control of your images

WHY NOT AUTO?

AUTO: The camera decides everything

MANUAL: You can exert your creative input

Controlling Exposure

(Focus is another topic...)

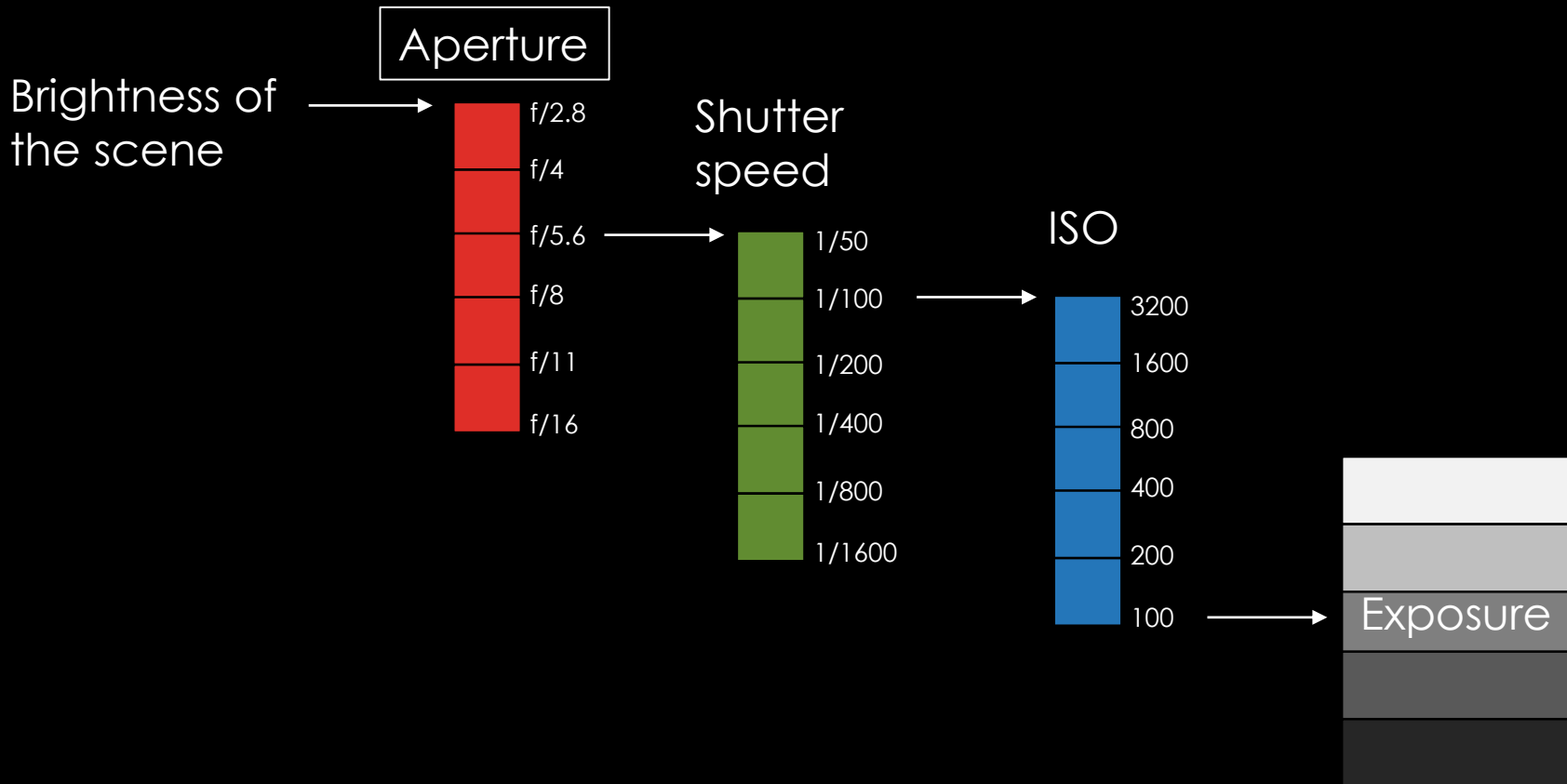
- Aperture Priority
- Shutter Priority
- Manual
- ISO: fixed or AUTO
- Exposure compensation

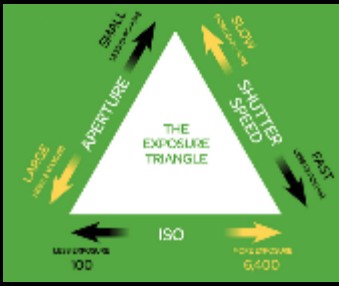
GOOD EXPOSURE

- Good exposure requires getting the right amount of light to fall on the Sensor
- Exposure is controlled by 3 variables combined:
 - **Aperture**
 - How wide the lens opens
 - **Shutter Speed**
 - How long the shutter stays open
 - **ISO**
 - How sensitive you make the Sensor

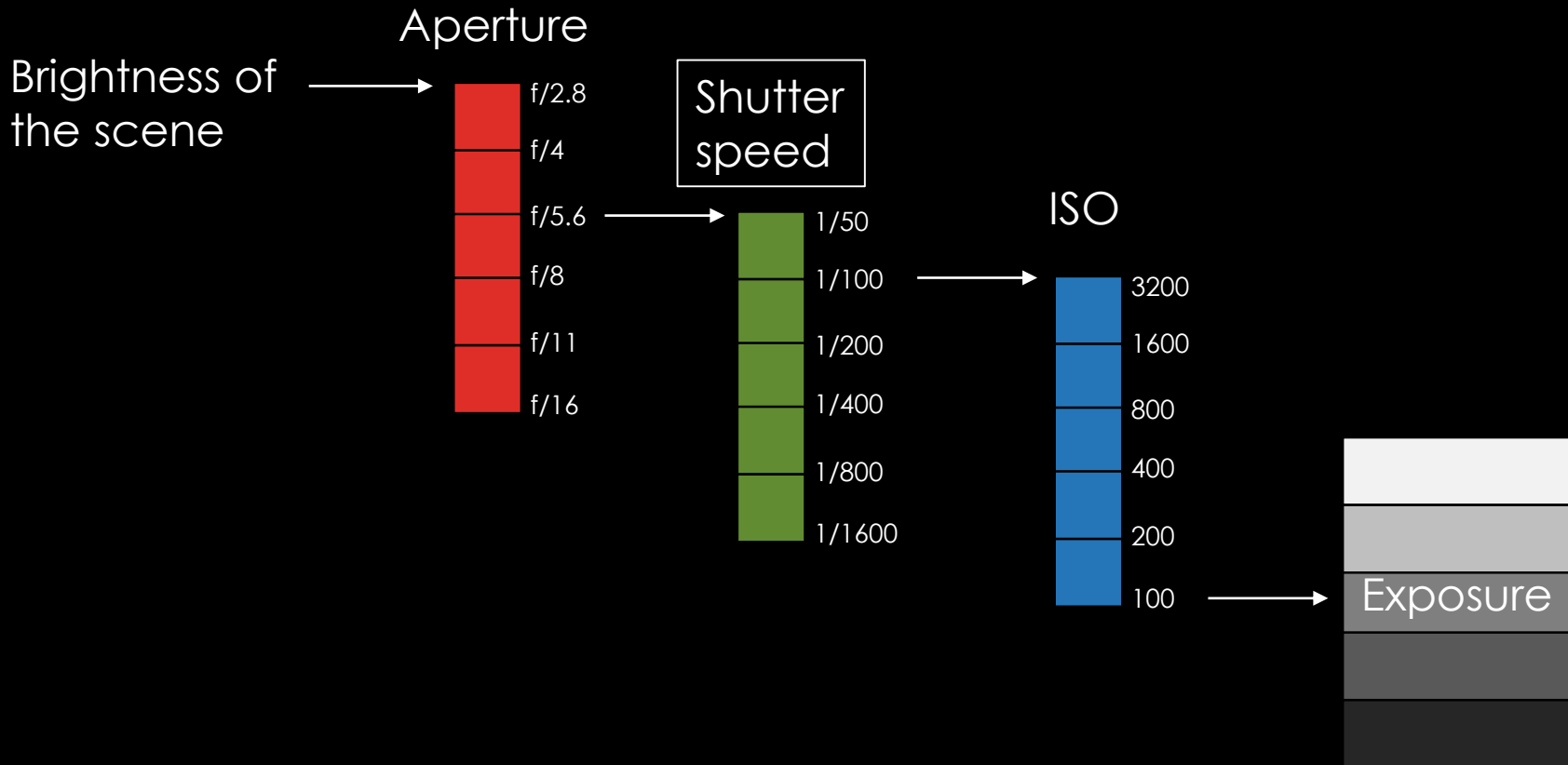


GOOD EXPOSURE



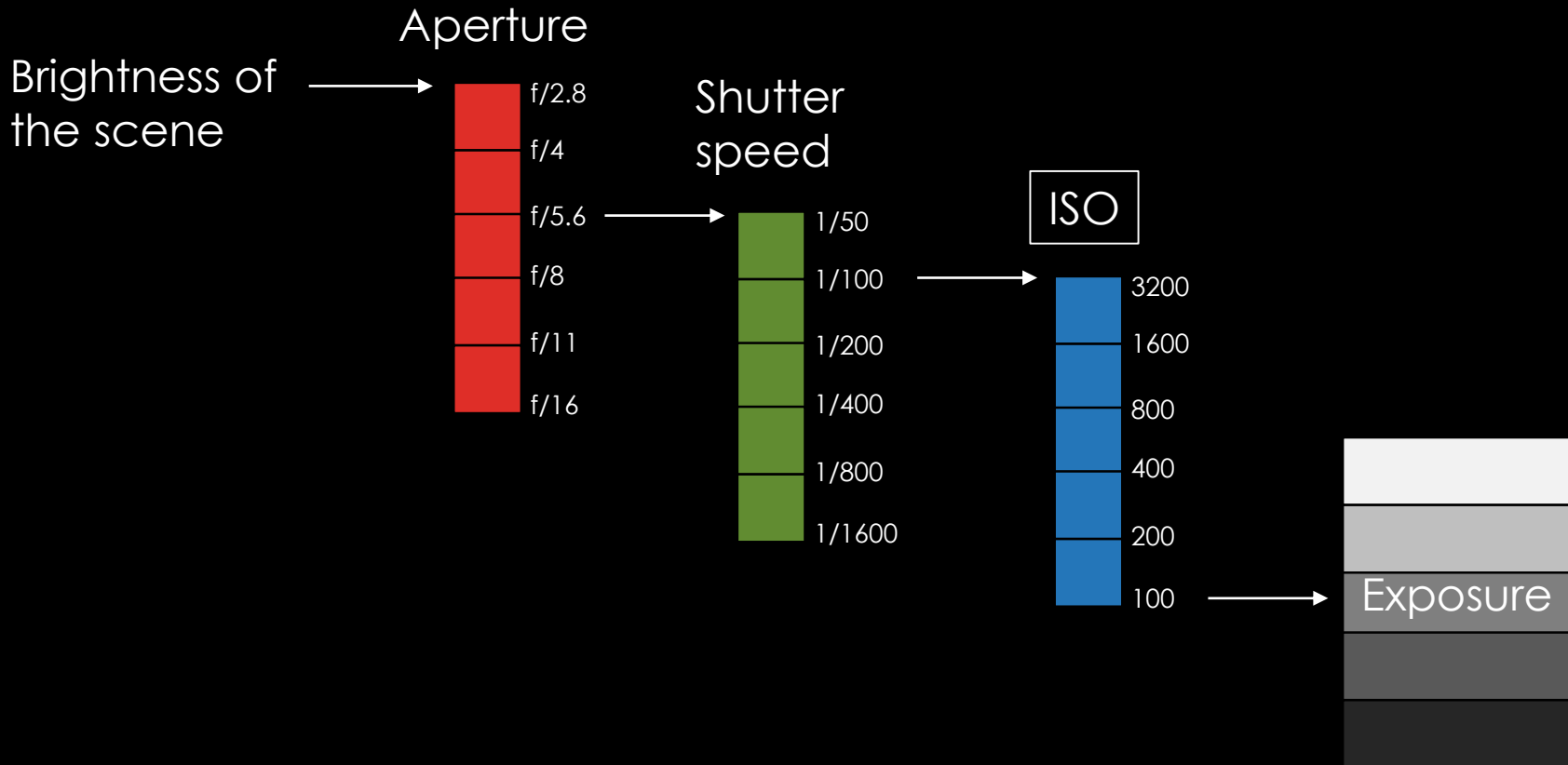


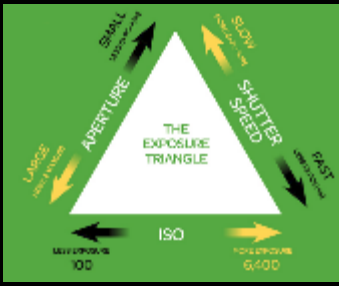
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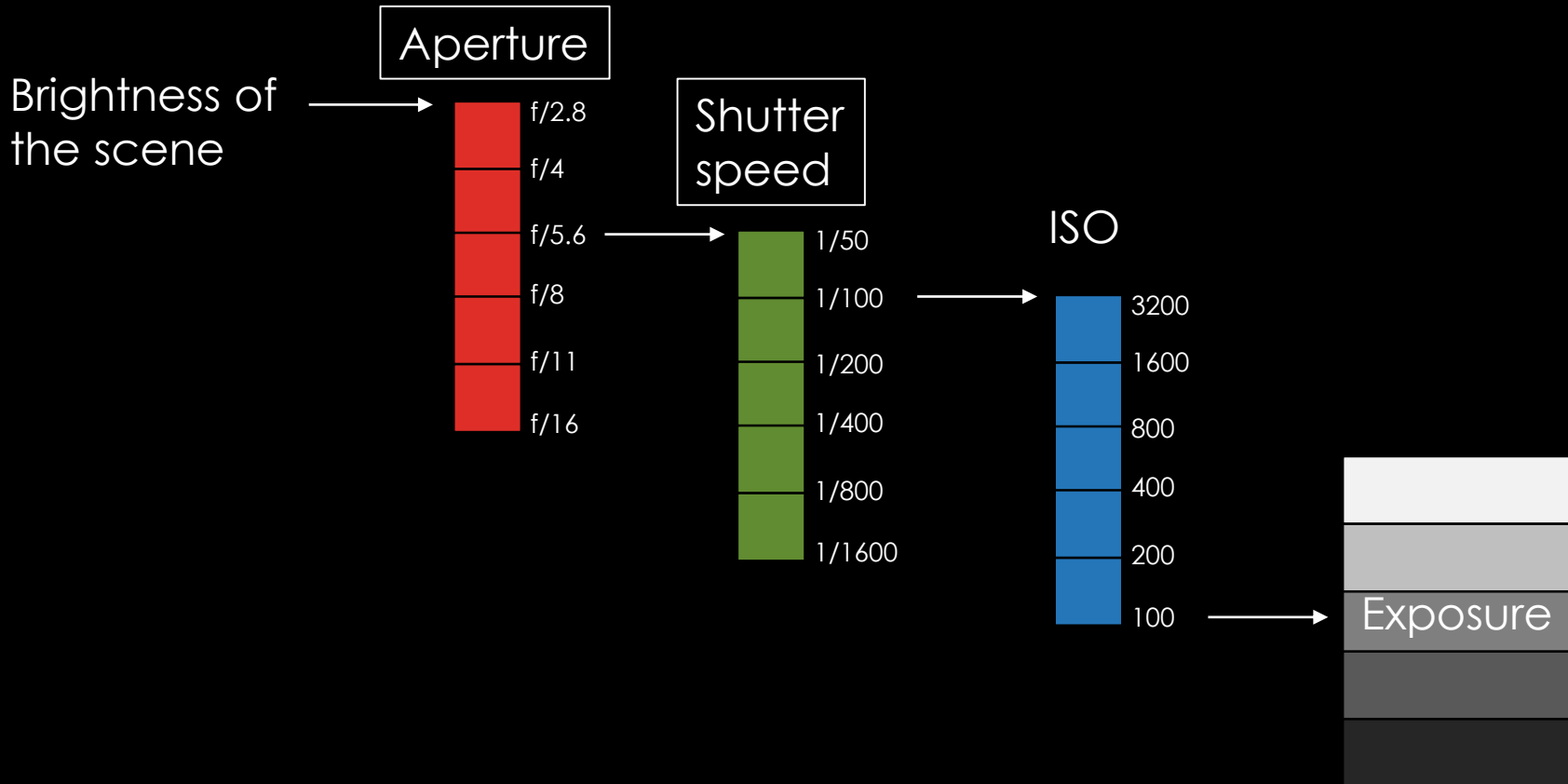


GOOD EXPOSURE

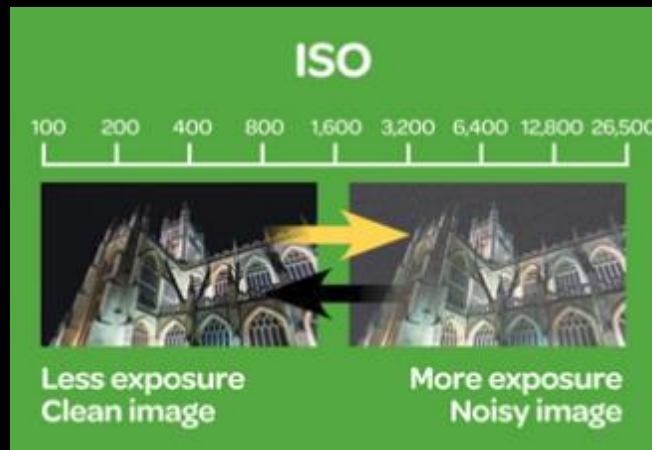
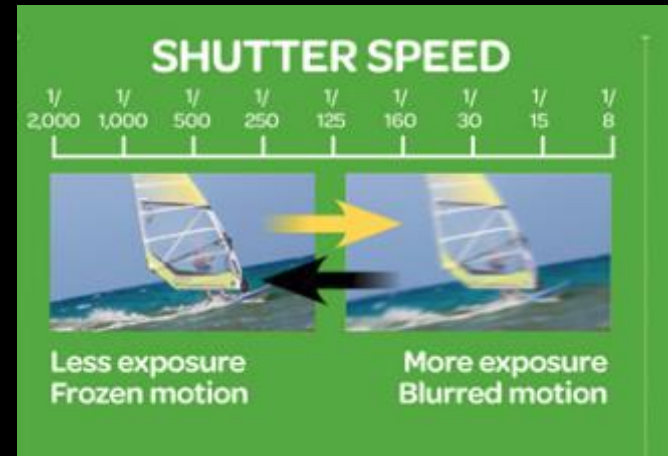
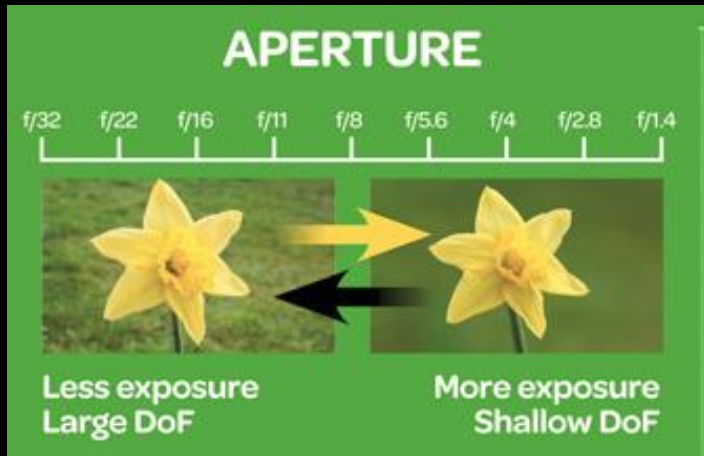




GOOD EXPOSURE



AS WELL AS CHANGING EXPOSURE...



SO WHAT DOES AUTO DO?

Camera evaluates light level and controls aperture, shutter speed and ISO

Aperture

Follows light level. No minimum or maximum.

Shutter speed

Minimum: fast enough to be hand held

Depends on the focal length

ISO (AUTO)

Tries to keep as low as possible

May get quite high (and noisy) when light is low

CAMERA ADJUSTS FOR EXPOSURE AND HAND-HELD

SO WHAT DOES AUTO DO?

✓ When you've not time to fiddle with settings!

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FIXED – YOUR CHOICE

CAMERA ADJUSTS FOR EXPOSURE AND
HAND-HELD

APERTURE PRIORITY

- ✓ You want to control the depth of field
- ✓ Subject isn't moving (much)
- ✓ Camera is hand-held

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Follows light level. No minimum or maximum.

Shutter speed

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FIXED – YOUR CHOICE

CAMERA ADJUSTS
FOR EXPOSURE

FIXED – YOUR CHOICE

APERTURE PRIORITY

- ✓ You want to control the depth of field
- ✓ Subject isn't moving
- ✓ You are using a tripod

Aperture

Follows light level. No minimum or maximum.

Shutter speed

No minimum

ISO (FIXED)

Tries to keep as low as possible

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FIXED – YOUR CHOICE

CAMERA ADJUSTS
FOR EXPOSURE

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CAMERA ADJUSTS
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FIXED – YOUR CHOICE

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CAMERA ADJUSTS
FOR EXPOSURE

SHUTTER PRIORITY

- ✓ Subject IS moving
- ✓ You want to freeze or blur the motion
- ✓ Depth of field is less critical

Aperture

Follows light level. No minimum or maximum.

CAMERA ADJUSTS
FOR EXPOSURE

Shutter speed

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Depends on the focal length

FIXED – YOUR CHOICE

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CAMERA ADJUSTS
FOR EXPOSURE

FIXED – YOUR CHOICE

FIXED – YOUR CHOICE

IMAGE MAY BE UNDEREXPOSED

SHUTTER PRIORITY

Not clear to me when this would be an advantage

Aperture

Follows light level. No minimum or maximum.

Shutter speed

Minimum: fast enough to be hand held

Depends on the focal length

ISO (FIXED)

Tries to keep as low as possible

May get quite high (and noisy) when light is low

CAMERA ADJUSTS
FOR EXPOSURE

FIXED – YOUR CHOICE

FIXED – YOUR CHOICE

IMAGE MAY BE UNDEREXPOSED

EXERCISE #1: APERTURE PRIORITY

1. Use camera on tripod
2. Take a fully auto shot, focus on the mid-range item
3. Set Aperture Priority, ISO=100
4. Take images with f/4, f/5.6, f/8, f/11 and f/16
5. What is the:
 - Impact on depth of field?
 - Impact on exposure?
 - Shutter settings?
 - Do you get any camera shake?

EXERCISE #2: SHUTTER PRIORITY

1. Use camera on tripod
2. Take a fully auto shot
3. Set Shutter Priority, ISO=Auto
4. Take images with 1/200, 1/60, 1/20, 1/6, 0.5s and 1s
5. What is the:
 - Impact on how frozen or blurred the image is?
 - Impact on depth of field?
 - Impact on exposure?
 - Impact on noise?
 - Aperture and ISO settings?

TEA BREAK

WHAT TO DO WHEN THE CAMERA GETS IT WRONG?

Underexposed



Backlit subjects
Bright skies
High contrast - highlights

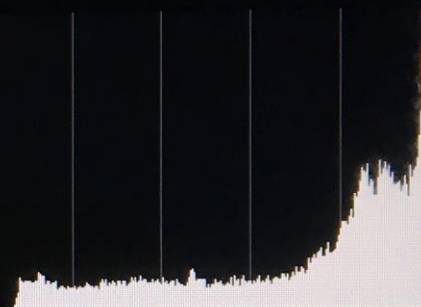
Overexposed



HOW TO KNOW?

1/100 4.0  +2

100-0744



P 

 2500

 AWB

 0, 0, 0, 0

 RAW

27.3MB

sRGB

1/1

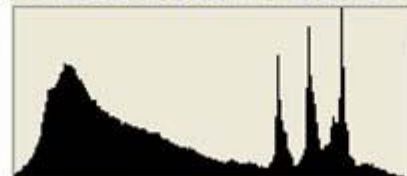
20/10/2018 15:43:10

HOW TO KNOW?

Histogram Basic Tutorial



Underexposed



Well Exposed



Overexposed

TAKING CONTROL OF EXPOSURE

Exposure Compensation

Camera controls exposure

You nudge it down or up

Fully Manual Exposure

You control aperture, shutter and ISO



✓ Panoramas

✓ Light conditions not changing



EXPOSE TO THE RIGHT



EXERCISE #3: EXPOSURE COMPENSATION

1. Set shutter priority with shutter speed 1/20s and ISO=Auto
2. Take a shot
3. Look at the histogram
4. Set the exposure compensation to “-1”
 - What is the effect on exposure and histogram?
5. Set the exposure compensation to “+1”
 - What is the effect on exposure and histogram?
6. Can you use exposure compensation to “expose to the right”?

EXERCISE #4: FULLY MANUAL EXPOSURE

1. Set aperture priority f/16 and ISO=100 (fixed)
2. Take shot and note the shutter speed
3. Set manual mode
4. Set aperture, shutter speed and ISO to same values
5. Take shot – is it the same?
6. Look at the histogram
7. Change **shutter** speed (double, half)
 - Effect on exposure and histogram? Depth of field should not change
 - Can you “expose to the right”?
8. Change **aperture** (+1 stop, -1 stop)
 - Effect on exposure and histogram?
 - Can you now change the shutter speed to get the same exposure as you started with?