

# photography

module 2.0

Photography  
M. J. M.



**EXPOSURE**

# EXPOSURE

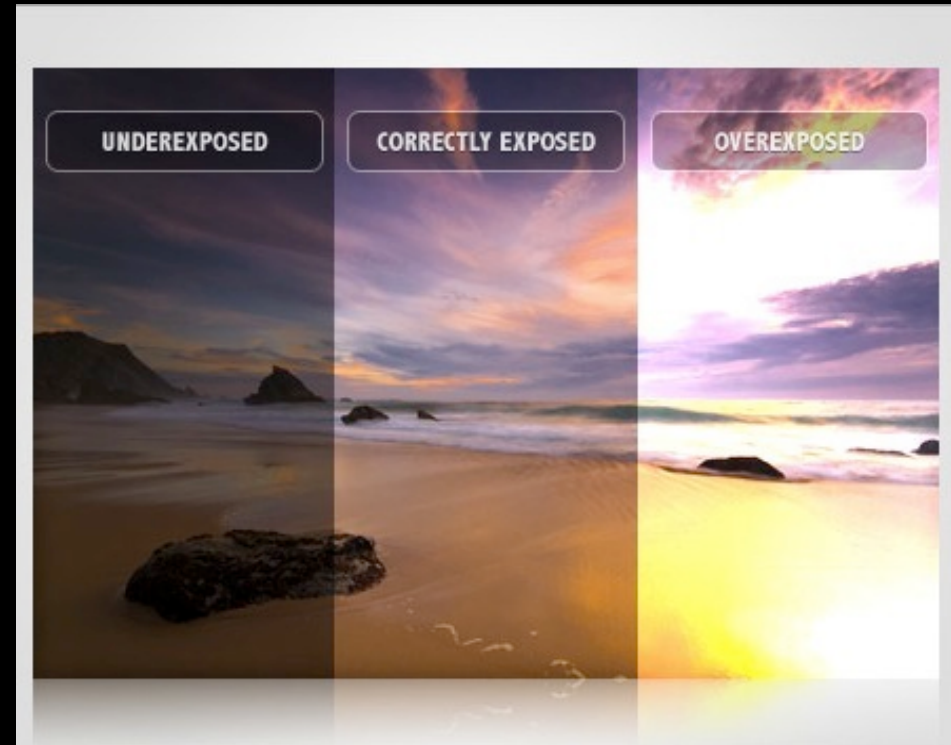
## Getting the correct exposure is like collecting rain in a bucket.

- While the rate of rainfall is uncontrollable, 3 factors remain under your control: *the bucket's width, the duration you leave it in the rain, and the quantity of rain you want to collect.*
- You just need to ensure you don't collect too little ("*underexposed*")
- But that you also don't collect too much ("*overexposed*").
- The key is that there are many different combinations of width, time and quantity that will achieve this.
  
- **For example**, for the same quantity of water, you can get away with less time in the rain if you pick a bucket that's really wide.
- Alternatively, for the same duration left in the rain, a really narrow bucket can be used as long as you plan on getting by with less water.
  
- In photography, the exposure settings of ***aperture, shutter speed and ISO speed*** are similar to the ***width, time and quantity*** discussed above.
- Just as the rate of rainfall was beyond your control above, so too is natural light for a photographer.



# EXPOSURE

- When a photograph is **correctly exposed**, it has *plenty of detail recorded in both the darkest shadows and the brightest parts (highlights)* of the photo and therefore produces a good print.
- An image that is **overexposed** has received *too much light in the lightest parts* of the image also called *highlights* and they appear white and lost on print resulting in poorer image quality.
- In contrast, an image is **underexposed** when it has received *too little light*. The dark parts of the image are thus converted to pure black, losing detail in the shadow areas. This leads the image to appear heavy and featureless when printed.



# EXPOSURE



UNDER EXPOSURE



OVER EXPOSURE



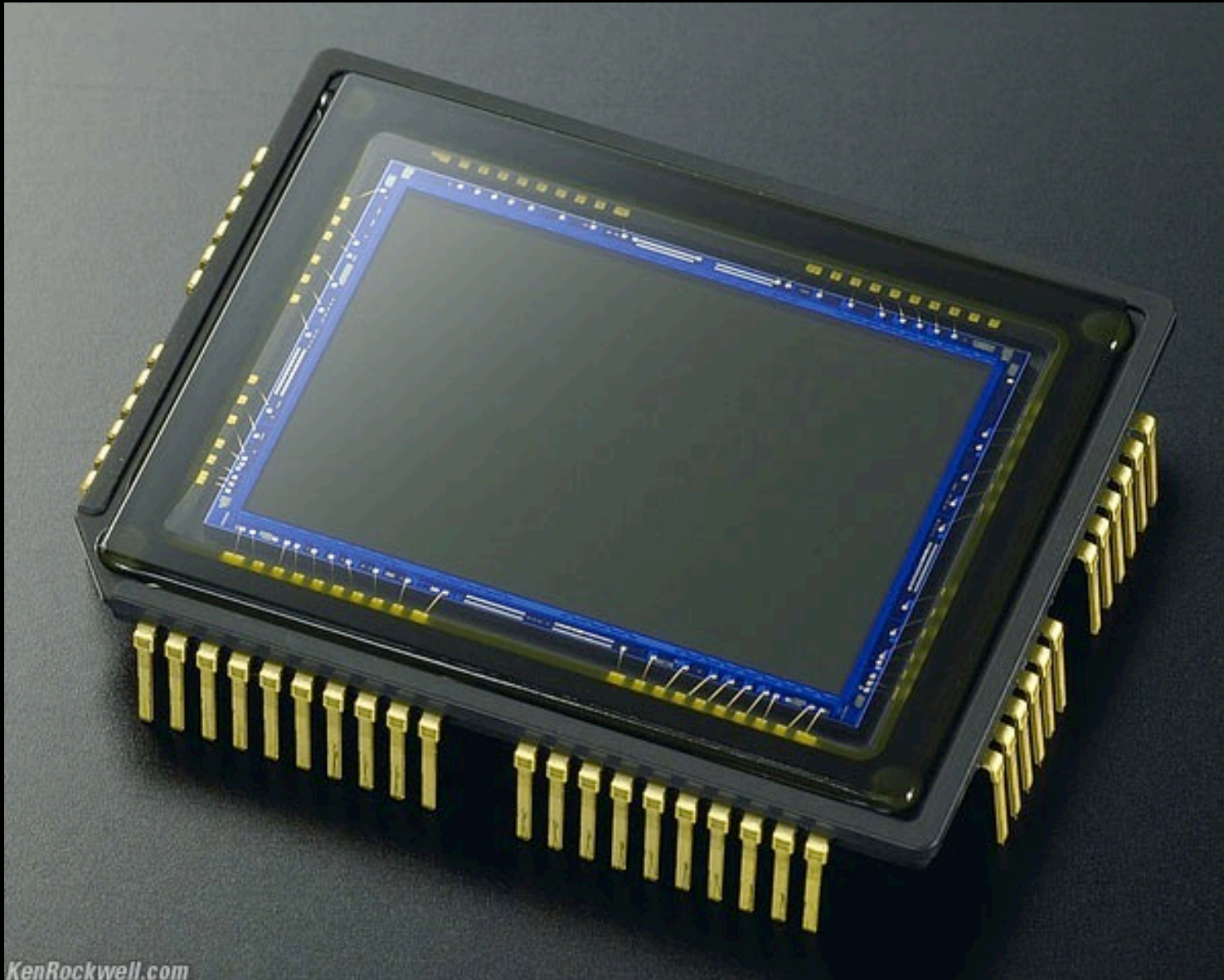
CORRECT EXPOSURE

# HOW THE CAMERA WORKS

# Inside the camera

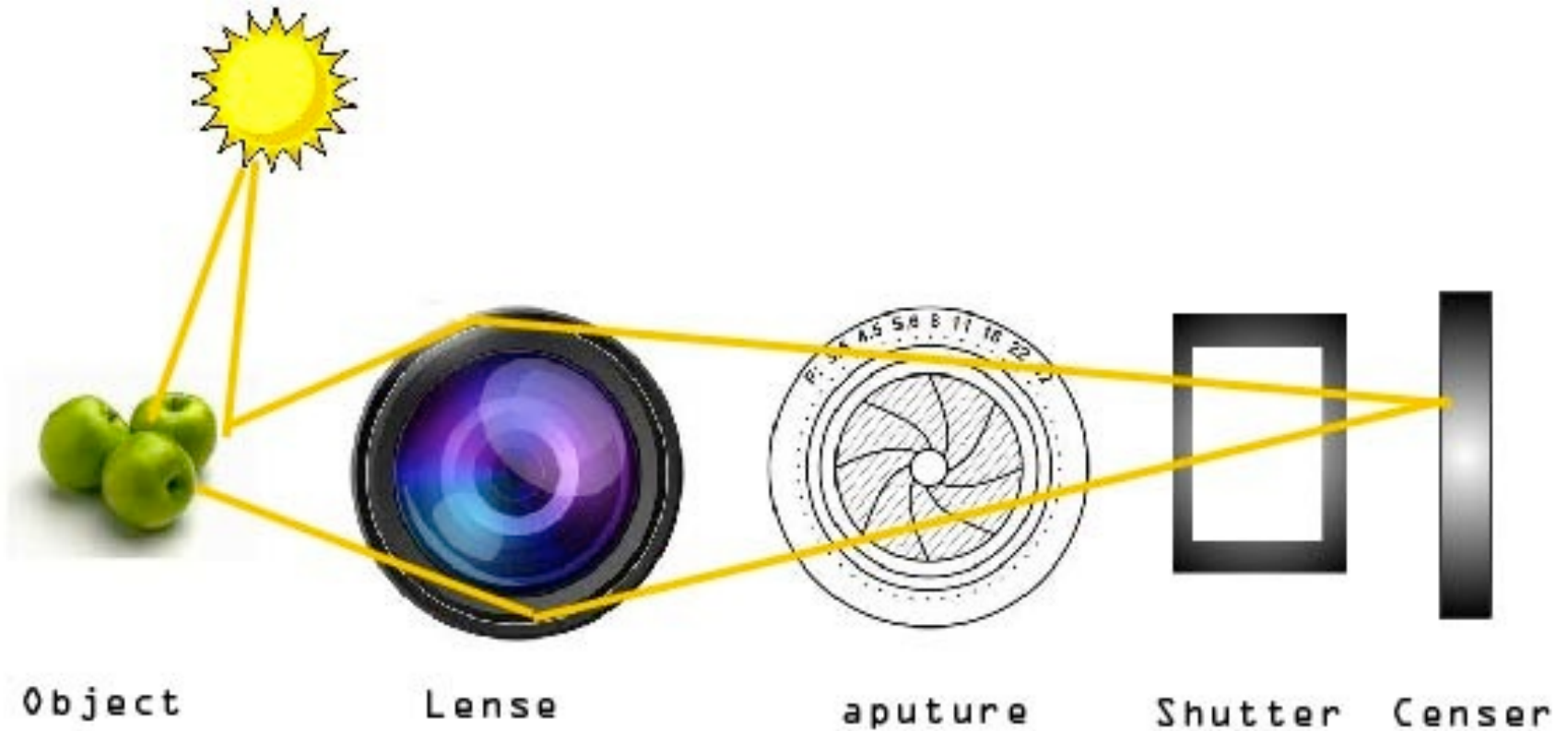


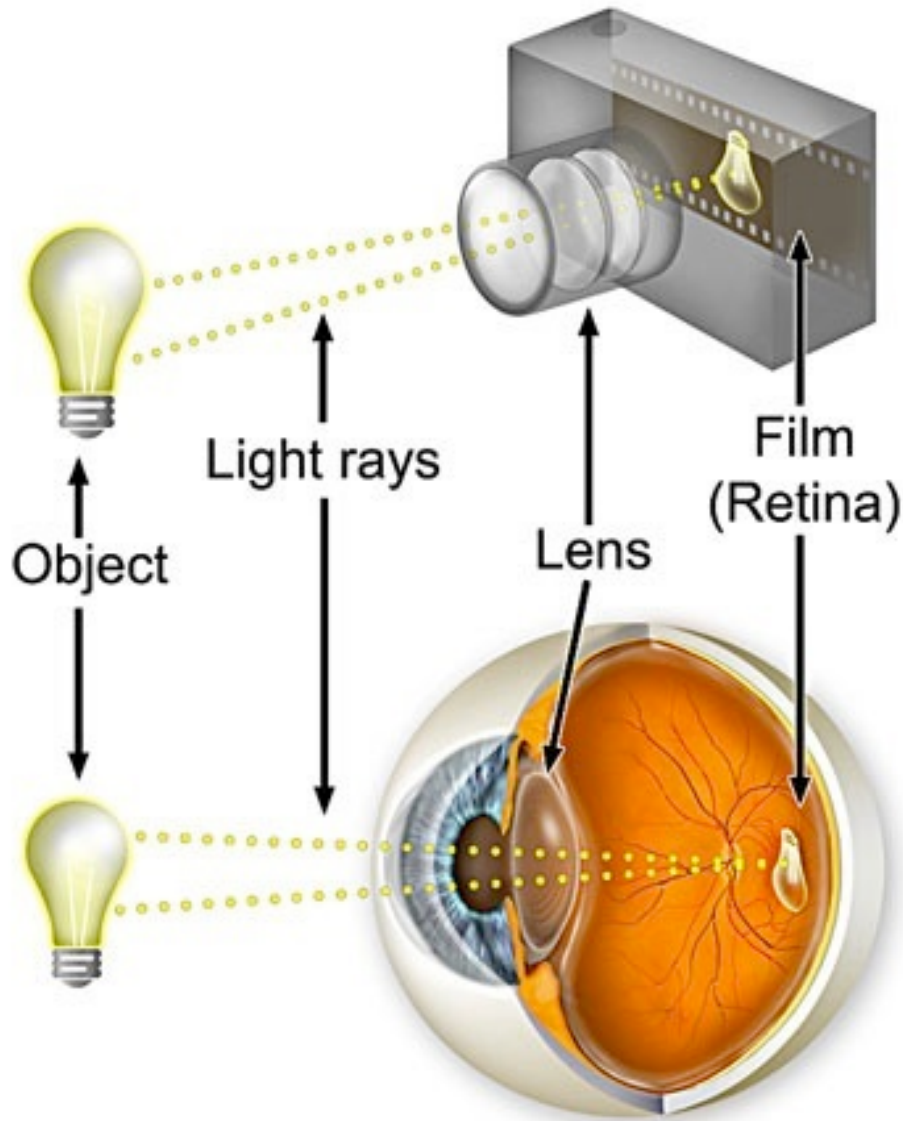
# THE DIGITAL SENSOR





# THE CAMERA { How it works }



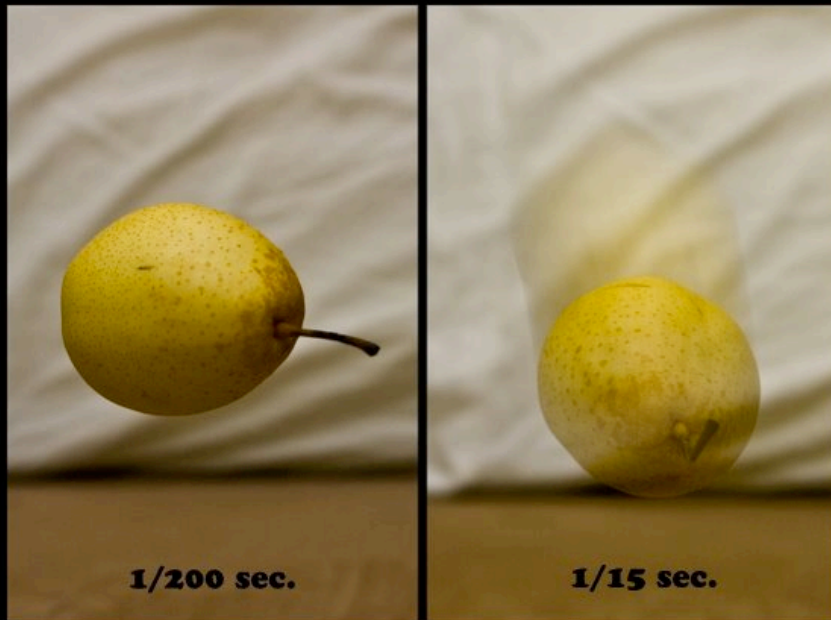


# THE SIMILARITIES

THE HUMAN EYE  
&  
THE CAMERA

SHUTTER SPEED  
APERTURE

# SHUTTER SPEED



- A camera's shutter determines when the camera sensor will be open or closed to incoming light from the camera lens.
- The shutter speed specifically refers to how long this light is permitted to enter the camera.
- Shutter speed is a powerful tool for freezing or exaggerating the appearance of motion.
- 1/60 second is the slowest shutter speed you should be using hand held. Anything slower and you need to use a tripod (for example: 1/50, 1/40, 1/30, 1/25, 1", 5")

# APERTURE

The larger the size of the lens opening, the smaller the number.

The smaller the size of the lens opening, the larger the number

## ***THINK OPPOSITE***

An **aperture** is a hole or an opening through which light travels when a photo is taken.

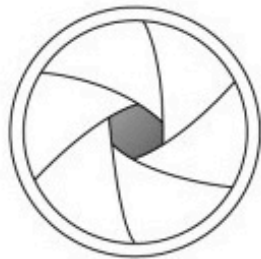
Measured in f-stops



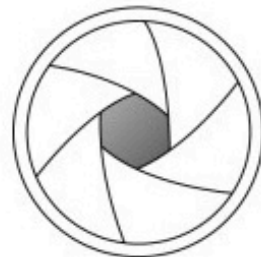
f/16



f/11



f/8



f/5.6



f/4

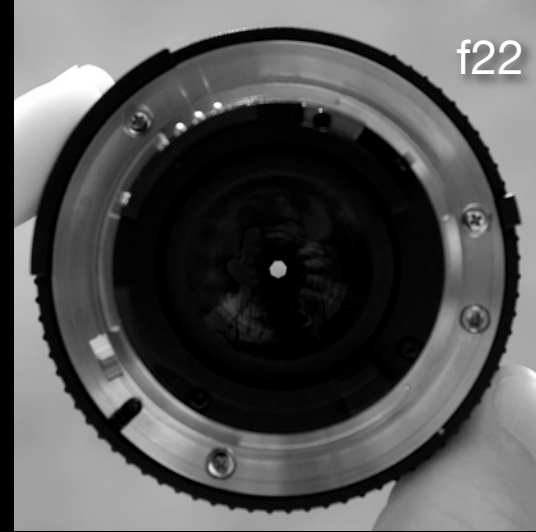
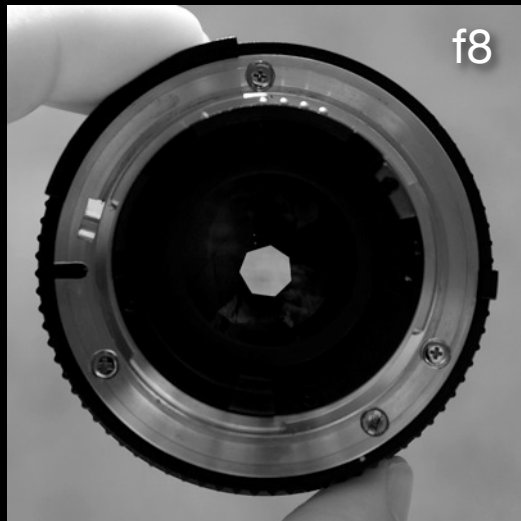
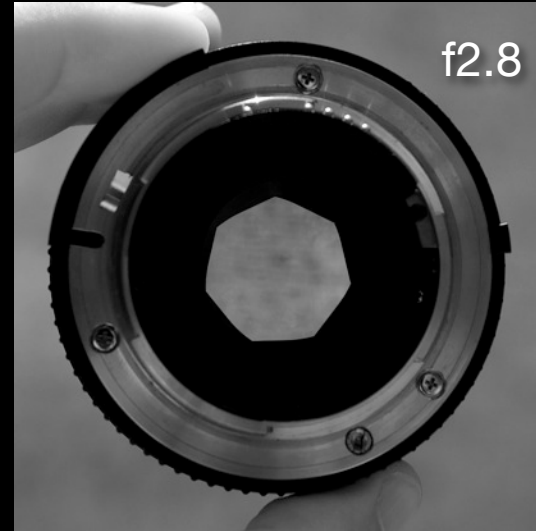
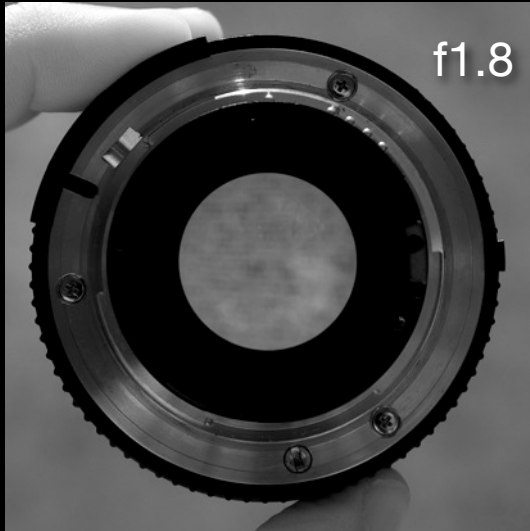


f/2.8



f/2

# APERTURE



F1.8



F2.5



F3.5



F5



F7.1



F10



F14



F20



F22



# DEPTH OF FIELD

## The Difference between Depths of Field



Narrow depth of field

APERTURE: f 1.8



Large depth of field

APERTURE: f 9



# BASIC + AUTOMATIC

## CAMERA MODE SETTINGS

# CAMERA SETTINGS

- The idea of giving a "**correct**" exposure to a photograph means letting the image formed by the camera lens act sufficiently on your digital sensor to give a good quality picture. The fact is there is *no magical correct setting* to find the balance of neither too much nor too little light falling onto the digital sensor.
- The light entering the camera and therefore the degree of exposure the film or digital sensor receives is controlled by the **aperture, shutter speed, and iso** settings you have chosen.



# CAMERA SETTINGS

## • Auto Mode

- Found on all cameras
- Used by beginners
- If you want to take a quick shot without worry about settings
- In automatic mode you can not make changes to the settings
- For suckas and fools



# CAMERA SETTINGS

- Landscape

- the Landscape mode allows you to shoot pictures of landscapes like mountains
- Picks a large depth of field (small aperture) so that everything in the picture frame is clear
- delivers sharpness from the foreground to the background
- Usually a tripod is needed because the shutter speed is longer.





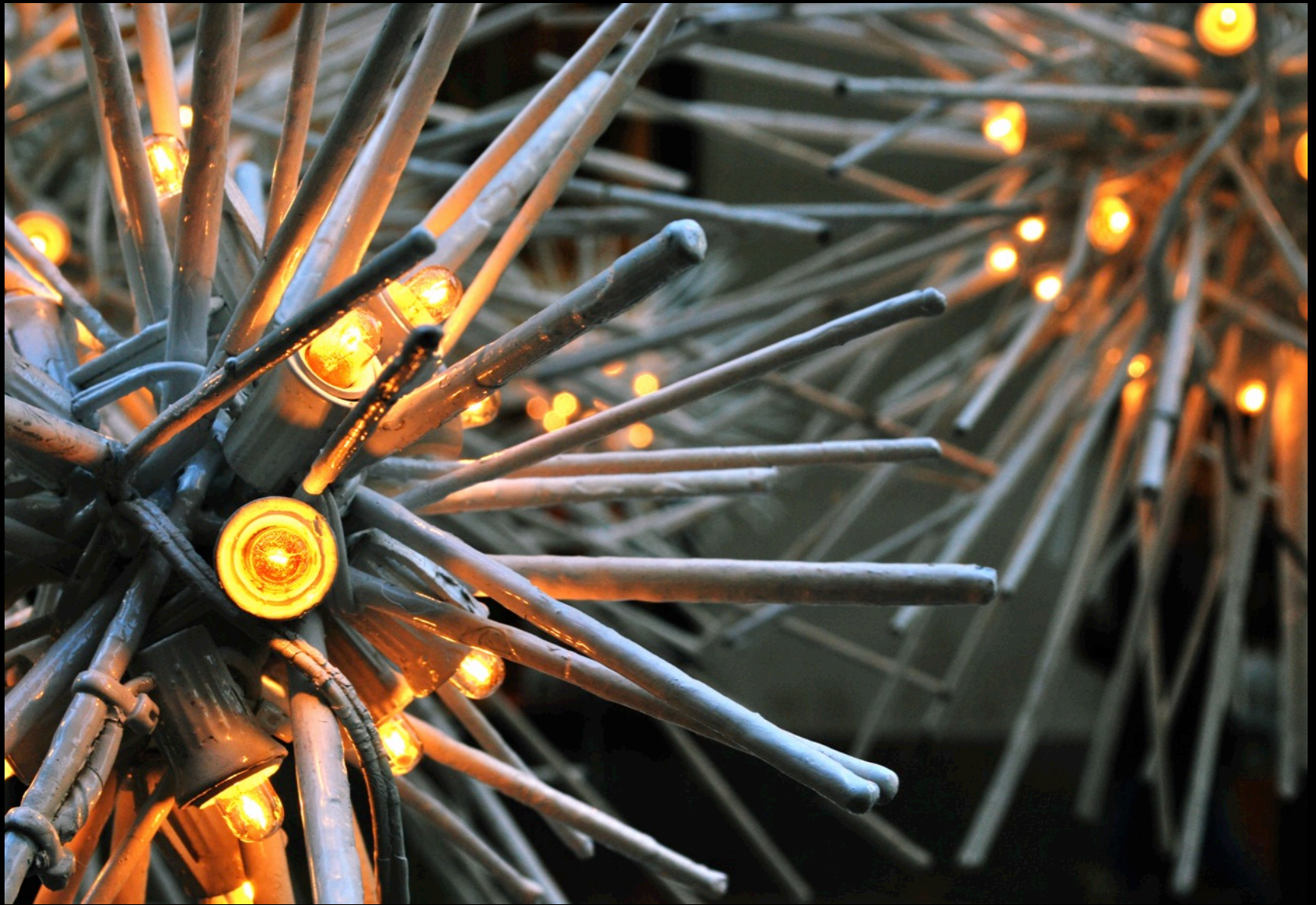


# CAMERA SETTINGS

## • Macro Mode

- The Macro Mode allows you to focus on objects at amazingly small distances - *sometimes just centimetres from the lens.*
- Use the Macro mode when you need to capture the smallest little details on your subject.
- Area of focus is sharp, background is blurry.
- Helps create a contrast between subject and background.









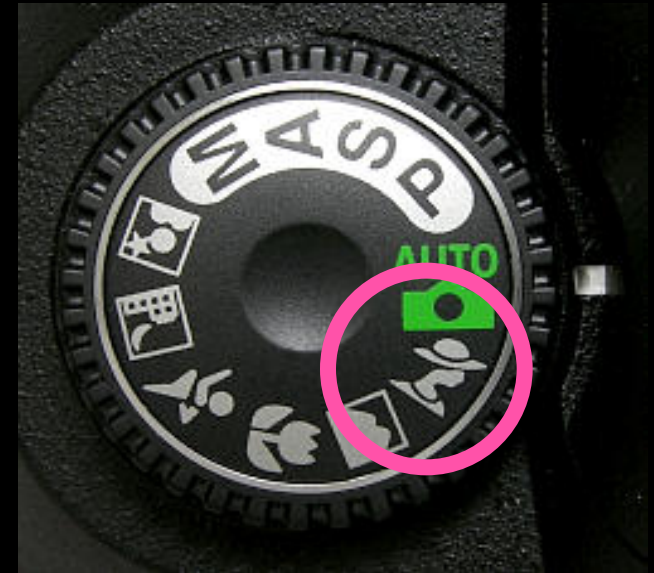


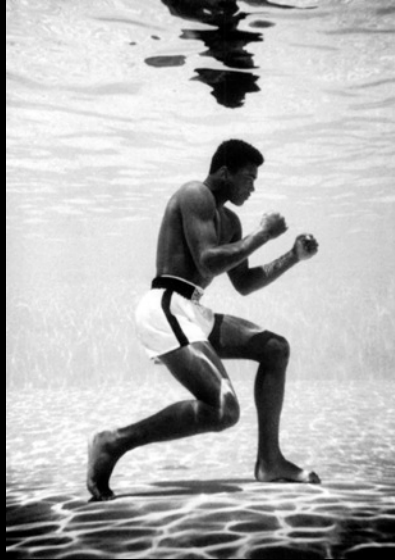


# CAMERA SETTINGS

## • Portrait Mode

- If you want to shoot close-ups of people or faces, the Portrait Mode is the mode to choose.
- Clear image in the front and soft blurry background
- Similar to Macro Mode.







# CAMERA SETTINGS

## • Sports Mode

- If you want to capture fast action, then you'll need the fast shutter speed setting
- When you switch to this mode, your camera will automatically choose the fastest shutter speed (ideally 1/250 secs or faster) possible given the situation
- Eliminates the blur that occurs when trying to capture movement









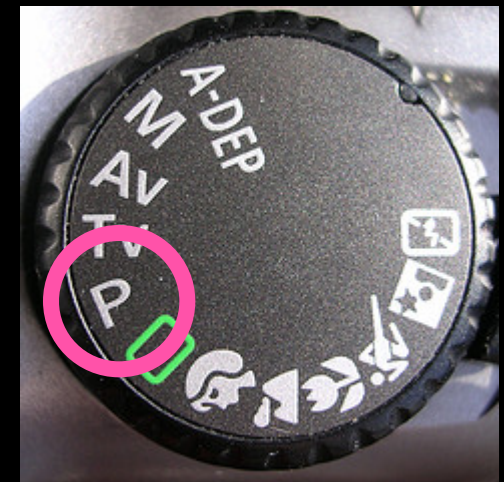
# CREATIVE ZONE

## CAMERA MODE SETTINGS

# CAMERA SETTINGS

## • Program Mode

- Program mode (semi-auto/manual)
- The camera will automatically choose the right settings for you (shutter, aperture, iso, focus modes), but you can make limited changes to these settings
- A large degree of control over settings, but the camera will automatically prevent you from using settings that result in over – or underexposure



# CAMERA SETTINGS

## • Shutter Priority Mode

- Allows you to adjust the shutter speed, camera will decide on the other key factor: the correct aperture to get a good exposure
- Mode is favoured by photographers who want to capture action (faster shutter speed) and blurred movement (slower shutter speed)
- Settings are represented by fractions of a second (i.e.- 1/30, 1/60, 1/125, 1/500, 1/80000).



@MichaelLangford



As an example, both images above are correctly exposed but at the same time differ greatly. The image on the left has very little depth of field but frozen hand movement achieved with shutter speed set at **1/30 second** and aperture setting at **f2.8**. The image on the right had **1 second at f16** and shows nearly all keys in focus but the moving hands appear blurred due to the slower exposure.





# CAMERA SETTINGS

## • Aperture Priority Mode

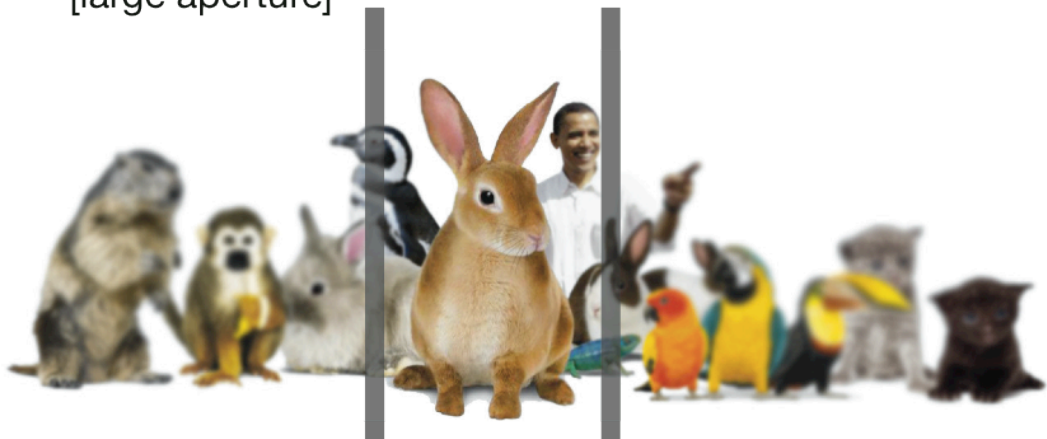
- The opposite of shutter priority, mode used by portrait, candid, and landscape photographers
- Set the aperture you need, camera will decide on the shutter speed
- Used when depth of field is an important aspect of your photograph
- High Av setting will capture a scene with large depth of field, low Av setting will capture a narrow depth of field
- Small number= large opening
- Large number= small opening





# depth OF field

narrow depth of field  
[large aperture]



large depth of field  
[small aperture]







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FINE ART PHOTOGRAPHY

# CAMERA SETTINGS

## • Manual Mode

- You'll set all the camera's menu functions, and your aperture setting and shutter setting are set independently
- Is tricky and requires lots of practice
- The camera will not make any adjustments for your mistakes like all the other modes
- Most rewarding one you get the hang of it
- Use the light meter to help you obtain the correct exposure



Aperture Priority

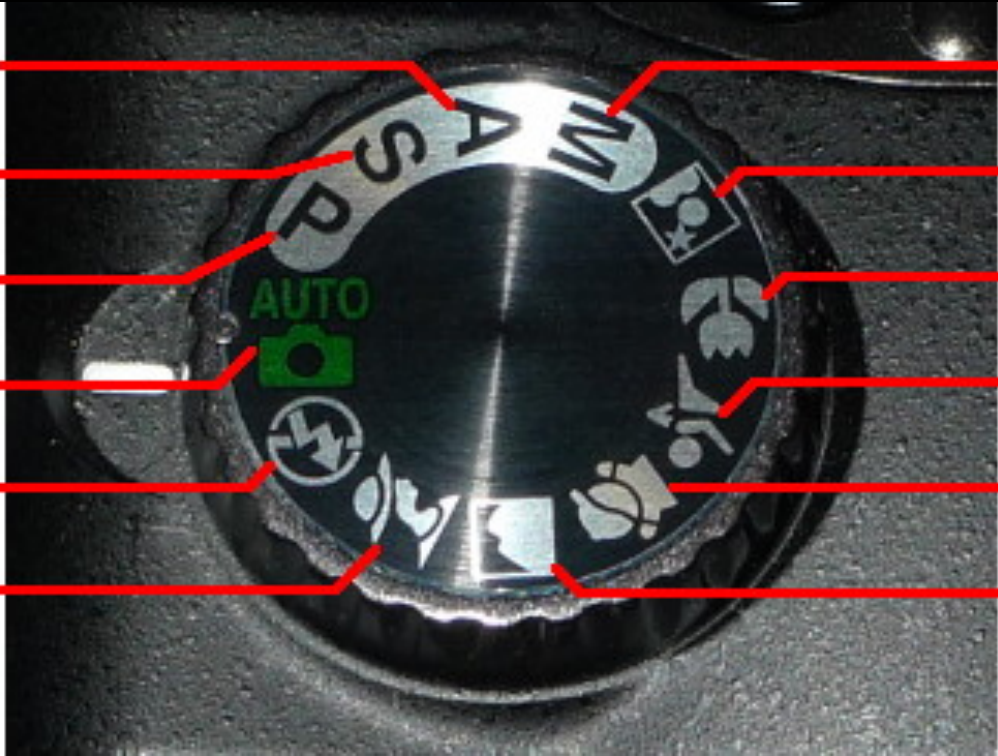
Shutter Priority

Programme

Auto

No Flash

Portrait



Manual

Nighttime

Macro

Sport

Kids

Landscape

# Camera Settings Overview

# HOLDING A CAMERA

DO'S + DON'TS

# HOW TO HOLD A CAMERA

by sweet khaki shorts guy



Your elbows should lock into your body so that you have stability. Also use walls, or objects around to help steady the camera. This will reduce the number of blurry photos. **ALWAYS USE BOTH HANDS!!!**

**CORRECT!**



[www.dkphotographs.wordpress.com](http://www.dkphotographs.wordpress.com)



# WRONG WRONG WRONG



**TAKING A PHOTO**

**THE STEPS**

# STEPS TO TAKING A PHOTO...

## 1. Recognize a picture taking opportunity (Pre-visualize)

- Do you have an interesting subject?

## 2. Access Lighting Situation

- Are you in a dark or bright setting?
- Is it sunny, dim, cloudy, warm or cool light?

## 3. Decide on camera settings

- Choose a setting that works with the lighting situation, moving or still subject/background, or depth of field (narrow or large).

## 4. Set camera

## 5. Compose picture

- Are you using the Rule of Thirds?
- What orientation are you choosing? Landscape or Portrait?

## 6. Take the photograph (lather, rinse, + repeat)



# THE CAMERA

BUTTONS, SWITCHES + SETTINGS

# THE LCD SCREEN

## SHUTTER SPEED

- How fast your shutter is.

## LIGHT METER

- Indicates whether you need more (+) light or less (-) light.
- Helps you get the correct exposure for your shot

## CAMERA MODE

- Auto, landscape, macro, shutter, aperture, program, etc...

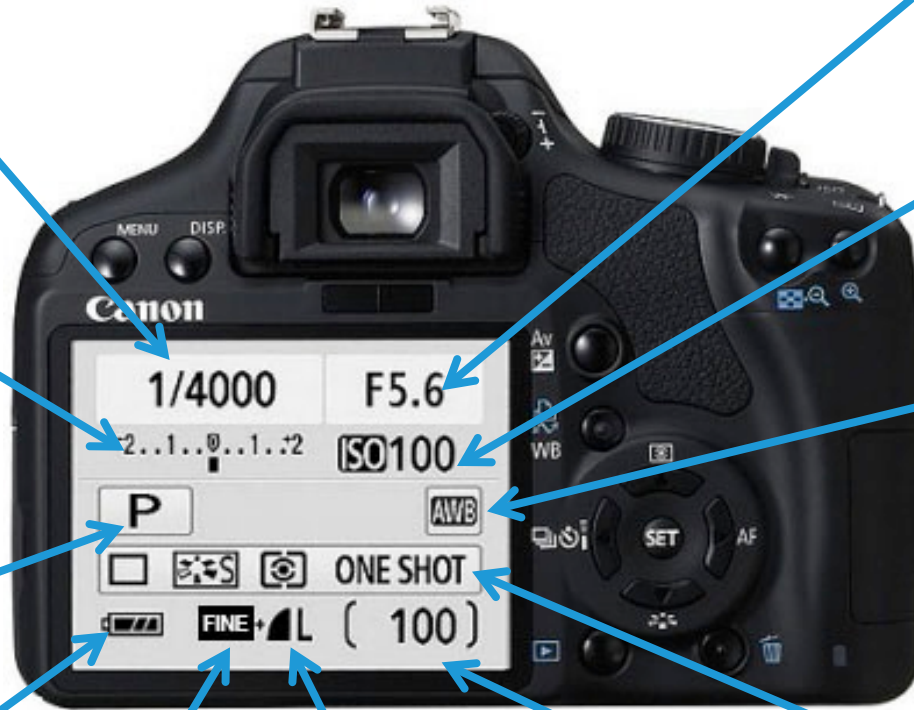
## BATTERY LIFE

## IMAGE QUALITY

## IMAGE SIZE

## PHOTO COUNT

- How many photos you have left



## APERTURE

- The size of the lens opening
- Measured in F-stops

## ISO

- The speed of your film. Higher number equals grainier photo

## WHITE BALANCE

- Adjust to the type of light you have in your environment
- le- sunny, cloudy, warm lights, cool lights, night time, etc...

## RELEASE MODE

- Rapid fire
- Single shot
- Remote
- Timer



## 1. RED-EYE REDUCTION

## 2. ZOOM RING

- Rotate ring to zoom in and out

## 3. FOCUSING RING

- In AUTOFOCUS mode, this ring rotates until the camera has focused on the subject
- In MANUAL FOCUS mode, turn the ring by hand to focus on the subject

## 4. BUILT IN FLASH

- When there's not enough light for decent exposure, your camera's flash will pop up
- We will not use the built in flash because it makes photos look too yellow

KenRockwell.com



## 1. FOCUSING RING

## 2. ZOOM RING

## 3. FOCUS MODE SWITCH

- AUTO FOCUS (AF), the camera will focus on it's own
- You can still use the AF points to tell the camera where to focus on the subject
- MANUAL FOCUS (MF), you focus the camera yourself

## 4. FLASH BUTTON

- When shooting in the CREATIVE ZONE modes you can push to instruct the built in flash to pop up
- If held down, you can control the strength of the flash by turning the COMMAND DIAL

## 5. SELF TIMER

- Change the camera from Single shooting, Continuous shooting, or the self timing settings.



## 1. FLASH HOT SHOE MOUNT

- Enable you to mount a more powerful external flash

## 2. MODE DIAL

## 3. COMMAND DIAL

- Rotating the dial will let you change the aperture and shutter speed manually

## 4. ON/OFF SWITCH

## 5. SHUTTER BUTTON

- Press the button all the way down to capture your shot
- Press it halfway down to autofocus and an exposure reading of the scene's lighting





## 1. PLAYBACK BUTTON

## 2. MENU BUTTON

## 3. INFO BUTTON

- Quickly change settings: shutter speed, aperture, iso, size, quality, white balance, and self timer

## 4. VIEWFINDER

## 5. LCD DISPLAY

- Displays important info such as shutter speed, aperture, iso, size, quality, white balance, and self timer

## 6. DIRECTIONAL THUMB PAD

- Navigate through menus with these directional controller buttons
- Press the OK button to set

## 7. TRASH/DELETE BUTTON

## 8. MEMORY CARD SLOT