

# Shutter Aperture & ISO

- Shutter (Controls the Speed/time of light)
- Aperture (Controls the amount of light)
- ISO (Light sensitivity)

# SHUTTER SPEED

- Shutter speed is the amount of time that the shutter is open
- Shutter speed is measured in seconds – or in most cases fractions of seconds
- Long shutter causes blur and fast shutter freezes motion

# Shutter Readings

## Range of Shutter Speeds

(and their uses)

1/8000 second

1/4000 second

1/2000 second

1/1000 second

1/500 second

1/250 second

1/125 second

1/60 second

1/30 second

1/15 second

1/8 second

1/4 second

1/2 second

1 second

2 seconds

4 seconds

8 seconds

15 seconds

30 seconds



### Fast Speeds

For stopping action



### Moderate Speeds

Handholding Generally Ok



### Slow Speeds

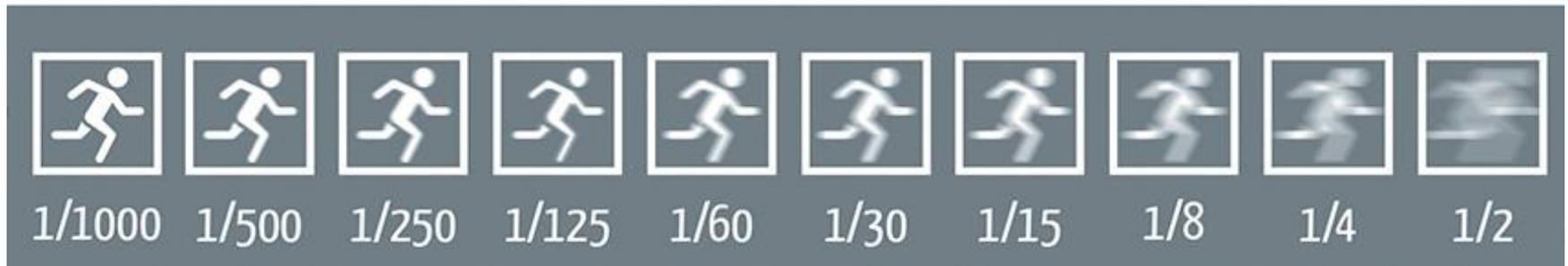
Use a Tripod



### Very Slow Speeds

For Creating Blur or Trails

# shutter



# SHUTTER SPEED





Shutter speed is used to stop action 1/1000 sec



Or shutter speed can blur motion  
1/15 sec

# FAST OR SLOW SHUTTER SPEED?



# FAST OR SLOW?



# APERTURE

- The aperture of a lens is the diameter of the lens opening
- The larger the diameter of the aperture, the more light reaches the film / image sensor
- Aperture is expressed as **F-stop, e.g. F2.8 or f/2.8**
- The smaller the F-stop number (or f/value), the larger the lens opening (aperture) (inverse relationship)
- Controls depth of field

# Aperture

What happens inside your lens when the aperture changes?



◀ f/1.4



◀ f/2



◀ f/2.8



◀ f/4



◀ f/5.6



◀ f/8



◀ f/11



◀ f/16

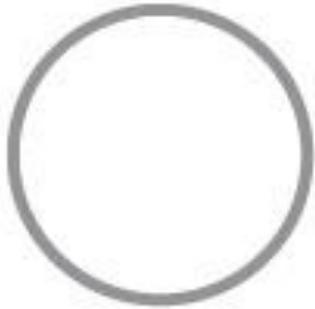


◀ f/22

# Aperture f-stop



# APERTURE



f2.8

more light



f5.6



f8.0



f11

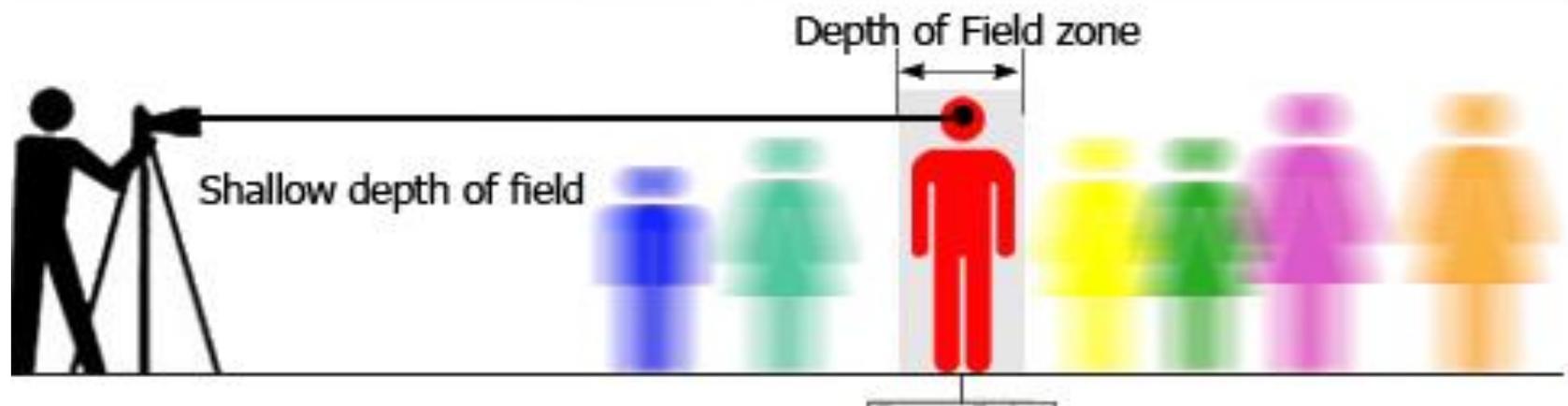
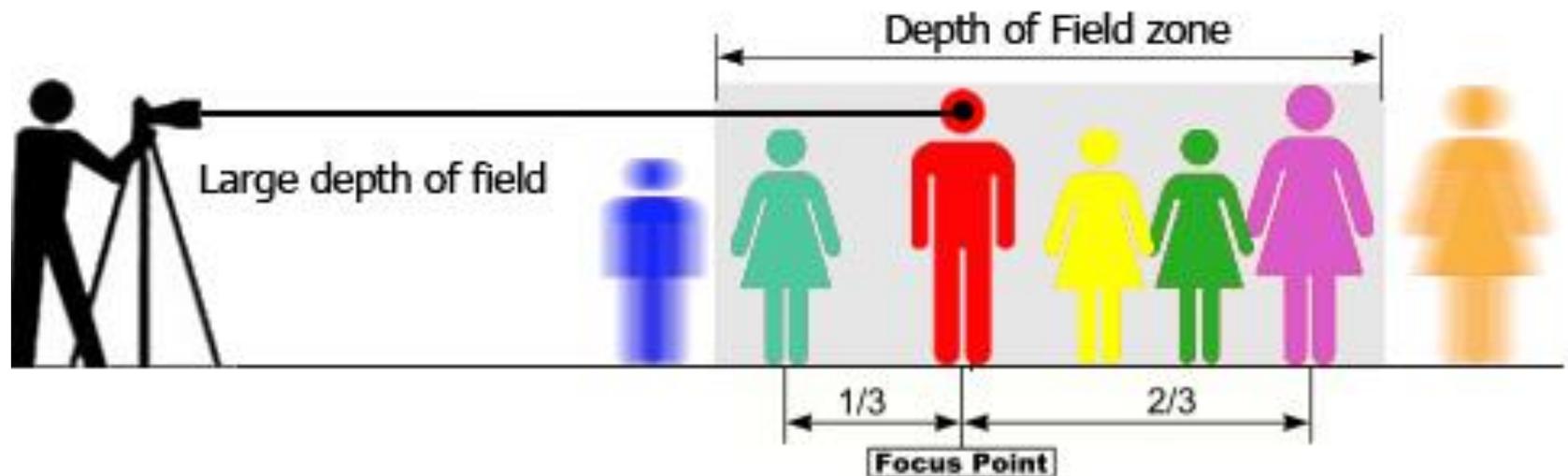
less light



Narrow



Wide







aperture....f 1.8  
shutter.....1/500  
ISO.....100  
distance...~3ft



aperture....f 4  
shutter.....1/125  
ISO.....100  
distance...~3ft



aperture....f 8  
shutter.....1/40  
ISO.....125  
distance...~3ft



Please refrain from taking such a boring image

IS THIS SHALLOW D.O.F?



IS THIS?



# SHALLOW OR DEEP D.O.F.?



# ISO

- ISO is the light sensitivity. In digital system ISO Enhances the brightness thru the camera chip which gives you the proper exposure if there is a low light.

# ISO/Film Speed

- Low light conditions use higher ISO
- The higher the ISO number the more noise is generated in your photograph
- Keep ISO lower in bright light
- When you enlarge your image you can see the noise

# ISO (light sensitivity)

## 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



ISO 50



ISO 100



ISO 200



ISO 400



ISO 800



ISO 1600



ISO 3200



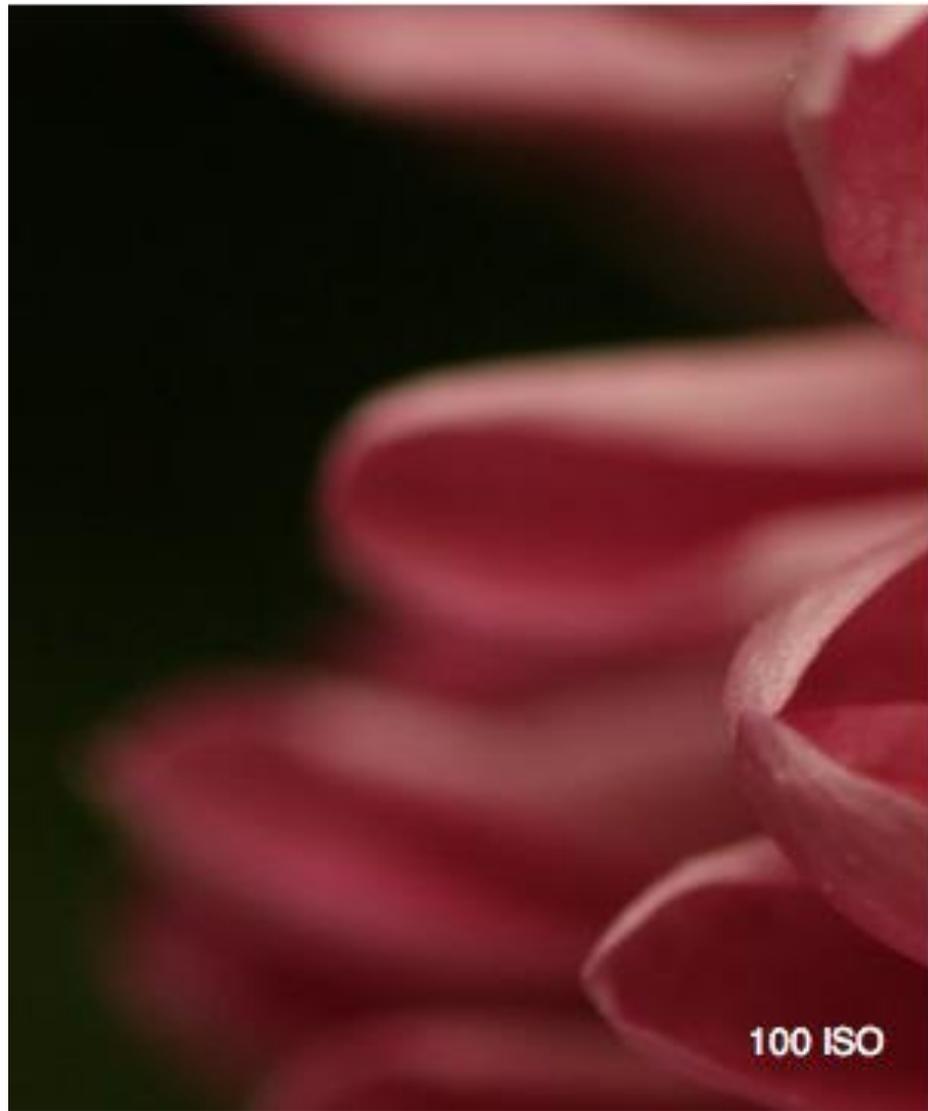
ISO 6400



ISO 12800



ISO 25600





Using ISO 1600 to capture a night scene



ISO 100  
[View Full Size Image](#)



ISO 200  
[View Full Size Image](#)



ISO 400