WEEK ONE LECTURE REVIEW SHEET

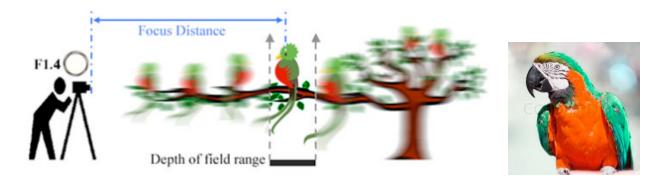
Depth of Field- range of acceptable focus

DOF – acronym for Depth of Field

Aperture (or f/stops) directly affects the control _____

Your at-a-glance guide to aperture scales and what the numbers mean **Full stops** 1/2 stops 1/3rd stops 2.8 f/2.82.8 Wide apertures 3.2 WIDE APERTURES The widest apertures have 3.3 f-stops with the smallest LESS DEPTH OF FIELD 3.5 numbers. The maximum aperture f/4 4 available depends on the lens you're MORE LIGHT 4.5 using. On many zoom lenses, for ONE STOP example, the maximum aperture 4.8 gets smaller as you zoom in. 5 f/5.6 5.6 5.6 6.3 Medium apertures 6.7 The middle apertures on 7.1 your lens tend to give you the f/8 8 8 best-quality images. However, they might not give you the amount of depth of field 9 MORE DEPTH OF FIELD you require. Think of it as a balancing act, 9.5 with some compromise required. 10 **PWOSTOPS LESS LIGHT** f/11 11 11 SMALL APERTURES 13 Small apertures 13 Most lenses have a minimum 14 aperture of f/22, although some f/16 16 16 stop at f/16 while others go down to f/32. 18 As aperture gets smaller, depth of field increases. Ultimately, though, the image 19 resolution deteriorates due to diffraction. 20 See page 76 for more on this. 22 f/22 22

<u>Depth of Field</u> - when the subject is the only thing in focus but the background is very out of focus. Like this image below:



What three things control DOF?

- 1) _____
- 2) _____
- 3) ____

What kind of aperture *opening* do you need to get a 'shallow DOF' – Large or Small

What kind of aperture *value* do you need to get a 'shallow DOF' – Large or Small

The larger the aperture ______the shallower the DOF.

Was this image shot at f/1.2 or f/22?



Was this image shot at f/1.2 or f/22?



has a huge impact on DOF. The two images below were both shot at f/2.8 (adjusting the shutter speed in each case to balance out the light using the Law of Reciprocity). Notice the huge difference in the images in regards to perspective, image compression (foreground to background relationship) and how blurry the background appears.



This image above was shot with a _____focal length at f/2.8.

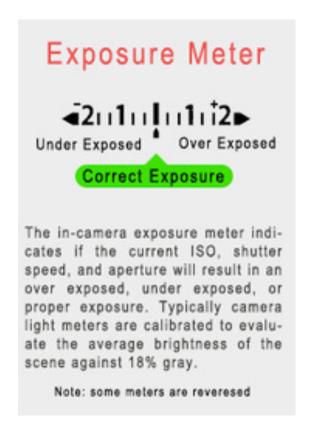
This image above was shot with _____focal length at f/2.8.

from subject also has a huge impact on your DOF.

In the images below, the two shots were taken with the same aperture and focal length and only the distance to subject changed. What changed?



becomes regardless	of lens used.	your DOF
A half as much).	is a relative measurement of light (t	wice as much or
Opening up the f/sto amount of light.	op means you are letting in	the
Closing down (or 'st1/2 the	opping down') the f/stop means you a amount of light.	are letting in
Slow down the shut much light into your	ter speed and you are letting in camera.	as
Speeding up your sh	nutter speed allows	the light into



The inside meter (when viewed through your viewfinder) in all cameras are different when shooting in manual which allows you to control the exposure

with your shutter speeds and apertures. Here is a simplified view of how they are similar.



ON this meter below (inside the viewfinder) the small lines represent _____stop increments of exposure value.

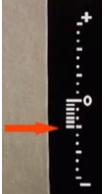


ON this meter below (inside the viewfinder) the long lines represent _____stop (or full stop) increments of exposure value.



This meter scale below indicates the image will be a full stop

. (Underexposed or Overexposed)



A small aperture value equals a large aperture opening. True or False

F/2.8 is a large aperture opening. True or False

F/22 is a small aperture opening. True or False

The aperture is found in the camera's lens; not the camera itself. True or False

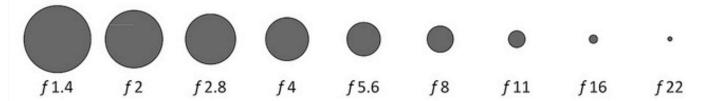
The aperture controls the amount of _____that passes through your lens by changing its size.

Lenses are described by their _____and

Zoom lenses are described with a range of focal lengths like 70-200mm, or 24-70mm or 16-35mm, etc.

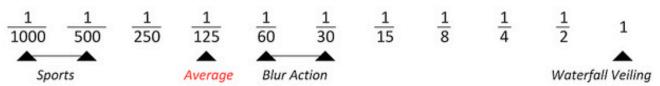
The aperture value does not stay the same on consumer zoom lenses since it costs a lot to make a fixed aperture across.

Aperture Full Stops: Higher F-Stop is Less Light



More Light Shallow Depth of Focus (DOF) Less Light Sharper Image, Deep Focus

Shutter Speed Full Stops in Seconds



Shorter Exposure Freeze Action, Handheld Longer Exposure Motion Blur, Tripod The aperture value (f/stop), shutter speed and ISO make up the ______triangle because those 3 things need to be balanced in order have proper exposure.

When you are hand-held you should choose a shutter speed at least as fast as the longest ______ of our lens to insure the image is sharply focused. (This (in an indirect way) is why a lot of phone/iPhone shots at night or in low light are so blurry. The shutter speed is not fast enough to freeze even normal scenes.)

Manual mode is a great way to totally control the creative look of your exposure choices. Typically I always try to shoot at ISO 100 to keep my noise at a minimum. Nikon shooters can only go down to 200 in a lot of cameras. If it is dark I will go to ISO 400 as my base (the ISO is the last thing I want to change if I need to). Then I decide if I want to capture DOF (shallow or maximum DOF) or motion (freeze or blur). Then I choose an extreme. So if I want to take a shallow DOF shot then I will choose the lowest f/stop on my lens (f/1.4 to f/4 depending on your lens) and balance out the exposure by turning my shutter speed dial. Remember if you go below $1/60^{th}$ then you need a tripod to maintain stability.