

DIGITAL PHOTOGRAPHY INTRO PLUS

Week #3 of 6: Aperture Mode, Exposure, Autofocus:

Aperture priority mode (“A” mode): Limited use with smaller cameras.

Use when depth of focus is the more important part of your photograph. Depth of focus (aka depth of field) is the distance in front of and beyond the main focus point that still “appears” to be acceptably sharp. Sometimes a large depth of focus is desirable, sometimes it is not. With “A mode” you select the f/stop you want and the camera finds a correct shutter speed to control exposure.

F/stops control depth of focus. The lower the number a f/stop has, the wider the opening in the lens. The lower numbered (wide) f/stops (f/2.8 for example) have narrow depth of focus. Parts of your image in front or behind the main focus point will be “soft”. Very handy for isolating a subject or blurring a distracting background. The higher numbered (small) f/stops (f/8 for example) have great depth of focus. Parts of your image in front or behind the main focus point will be very sharp.

Depth of focus varies most with larger sensors, longer lenses and wide f/stops. Small cameras typically have small sensors. These cameras always have significant depth of focus. The value of “A mode” is quite limited with these cameras.

With “Prosumer” type cameras you typically get faster maximum f/stops and longer telephoto range (but not a larger sensor). The value of “A mode” is low with these cameras.

With pro style “DSLR cameras you do have a larger sensor and can use fast maximum f/stop lenses of long length. The value of “A mode” is great with these cameras.



Shallow DOF F/4



Large DOF F/11

Canon Only:
Av (aperture value)

Typical:
A (aperture)



Autofocus

Auto focus can be turned on or off in either the lens or the body. If both are available on your camera, make sure both are set the same!



On Lens



On Camera Body

Auto Focus Switch

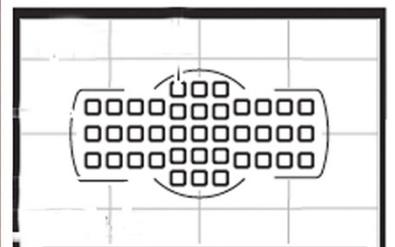
Focus point, selectable on some cameras. Many cameras are set to “guess” the correct subject, others only have one fixed center point. Your main subject must be on an active focus point when the shutter is first pushed (or half pushed) for the photo to be sharp.



Canon



Nikon



Point Display

Focus modes, different uses for continuous autofocus (fast moving subjects), single autofocus (slow moving subjects) and manual focus.



2 Press the <> AF > button.
▶ [AF operation] will appear.



3 Select the AF operation.
• Press the <<> <>> keys or turn the <DIAL> dial to select the desired AF operation, then press <SET>.

Canon



Nikon

Timing and the half pressed shutter button: Allows faster shots and moving the focus point. Aim focus point at main subject, half press the shutter, hold (do not release) shutter button, reframe and/or wait for "perfect moment", depress shutter button fully down.

"Q" or "Info" Menu

This alternative method of changing setting is only available on some cameras. The idea is to put the "most common" menu items all in one place.

Exposure Compensation

Exposure compensation forces camera to give more or less exposure than the camera thinks it needs. Use positive compensation if background is significantly brighter than your subject or if large areas of background are white (snow). Negative compensation is less used. Needed if large areas of background are dark or if subject is significantly brighter than background.



Nikon



Canon

Nikon



Canon



Metering Modes

Using Multi-Section, center weighted, and spot metering modes.



Nikon



Canon

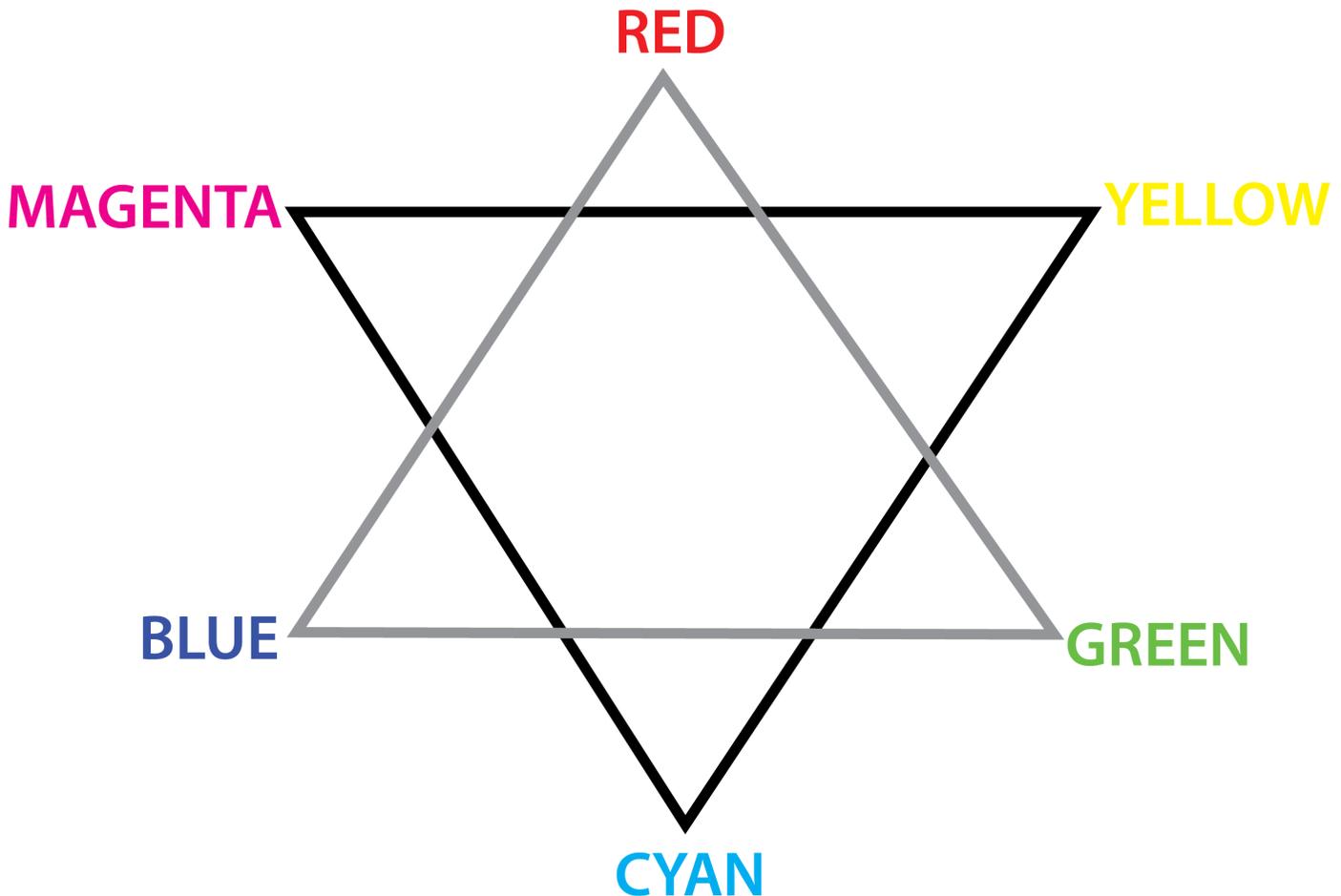
Image editing software part 3 (email, color correction, lasso selections, feathered selections)

Email sizing and compression. Images for web or email VIEWING should always be sRGB color space and 96dpi at a maximum of 1000 pixels on the longest side (600 pixels is probably safer). A direct from camera file may be as large as 3Meg, this can take a few minutes per image for a phone modem user to download. Using these instructions will reduce your file to about 1/60th that size. Photoshop Elements instructions:

- 1) Launch Photoshop Elements 14, if needed.
- 2) Select "Photo Editor", if needed.
- 3) Open image 3-7-email.jpg (File>Open). You will see image on your screen.
- 4) Make sure you are "Expert" rather than "Edit Quick" mode (Elements specific command, in upper right of screen).
- 5) Resize (Image > Resize > Image Size). Make sure both "Constrain Proportions" and "Resample Image Bicubic" are checked.
- 6) Enter 96 into the resolution box.
- 7) Select Pixels in the width drop down menu.
- 8) Enter the number of pixels you want on the longest side (height or width).
- 9) Click OK.
- 10) Save your new smaller file as a new file/name (File>Save As) to a location on your hard drive (not your camera's memory card). Chose file type as JPEG. In the next window chose Quality "6". Without this step you would "over-write" your existing file, which would permanently reduce your resolution.
- 11) Using your email program, attach this new (smaller) file to your message.

Manual color correction (best method)

- 1) Launch Photoshop Elements 14, if needed.
- 2) Select "Photo Editor", if needed.
- 3) Open image 3-8-WhiteBalance.jpg (File > Open). You will see image on your screen.
- 4) Make sure you are "Expert" rather than "Edit Quick" mode (Elements specific command, in upper right of screen).
- 5) Select Enhance>Adjust Lighting>Levels.
- 6) Note that the image is too Yellow. Note that yellow and blue are opposite each other in the color diagram below. Switch the Levels "Channel" to "Blue".
- 7) Adjust the middle (gray) slider until the image appears neutral.
- 8) Save your new corrected file as a new file/name (File > Save As) to a location on your hard drive (not your camera's memory card).



Auto color correction (quick and easy, but very little control)

- 1) Launch Photoshop Elements 14, if needed.
- 2) Select "Photo Editor", if needed.
- 3) Open image 3-9-WhiteBalance.jpg (File > Open). You will see image on your screen.
- 4) Make sure you are "Edit Quick" rather than "Edit Full" mode (Elements specific command, in upper right of screen).
- 5) Select "Hue" and then click the "Auto" button on the color pallet.
- 6) Save your new corrected file as a new file/name (File > Save As) to a location on your hard drive (not your camera's memory card).

Lasso Tool (basic, polygonal, magnetic)

- 1) Launch Photoshop Elements 14, if needed.
- 2) Select "Photo Editor", if needed.
- 3) Open image 09.jpg inside of folder 6-vacation (File > Open). You will see image on your screen.
- 4) Use basic lasso to select and lighten left twin's midriff.
- 5) Use polygonal lasso to select and lighten left twins legs
- 6) Use magnetic lasso to select left twins face.
- 7) Use "Refine Edge" to adjust and "feather" (soften) selection, then brighten left twin's face

HOMEWORK (in three parts, 4 prints):

Part #1: Know where your camera settings are (read manual).

Part #2: Shoot a backlit object or person with and without a plus exposure compensation.



Bright sky in the background fools the camera into underexposing our subjects



Using 2 stops of exposure compensations lets us see our subjects. However, the sky is now overexposed

Part #3: Aperture and Depth of Focus (optional for point & shoot)

- 1) You will see far more interesting results with a large sensor camera.
- 2) Use a slow ISO (100 or 200).
- 3) Use your camera's "Aperture Priority" mode (aka "A or Av mode")
- 4) Set your zoom between 150mm and 250mm (35mm equivalent)
- 5) Shoot a CLOSE object/person and a DISTANT background 2 ways
 - a. Shallow depth of field (typical setting F/2.8 to F/4)
 - b. Large depth of field (typical setting F/11 to F/22)
- 6) If your camera doesn't have an "A mode", try using a "landscape" mode for the large DOF and a "portrait" or "sports" mode for the shallow DOF.
- 7) This exercise is best shot outdoors or with a tripod.
- 8) Download the files to your computer.
- 9) Resize the files to your choice of print size.
- 10) Optional: Use Elements & levels adjustments to make the images look their best.



Shallow DOF F/4



Large DOF F/11

Bring your favorite of each assignment to the next class (4 prints)

NOTE: Optional: If you have an external (hot shoe) flash for your camera, then bring it along for next week's class.