Name: _____

Period_____

Term 1 Study Guide for Digital Photography

History:

1. The first type of camera was a camera obscura.
2. _____took the world's first permanent camera image.
3. _____ invented film and the prototype of the film cameras we use today.
4. _____ took pictures of the Civil War and the portrait of Abraham Lincoln that is on the five dollar bill.
5. _____ is probably the greatest photographer to ever live. He is known for his black and white landscapes of Yosemite National Park.
6. _____ invented Adobe Photoshop.

The Camera:

Types of Cameras:

1. _____(Camera Phones, Tablets, GoPro).
Benefits—You usually have mobile devices with you. Small and easy to use.
Drawbacks—Quality is usually not great. Not a lot of megapixels. Not a lot of options on settings.
2. _____Benefits—Not as expensive as DSLRs. Pretty easy to use. Drawbacks--You usually can not change apertures and shutters the way you can with a DSLR. Usually not as many megapixels as a DSLR.
3. _____Benefits—You can change lenses. You can set aperture sizes and shutter speeds. There are usually more megapixels than a digital point and shoot camera. Drawbacks—No real drawbacks.
4. _____They are smaller and more portable. They have no mirror in the body that flips up and flips back down.

Camera Modes—Green square: Fully automatic.

Person: _____
Running Man:_____
Flower_____
Mountain: _____
Star and Moon:_____

P:_____—You can set white balance and ISO.
AV or A: Aperture Priority—or Aperture Variable. You set the _____the camera sets the shutter speed.
SV, S or TV: Shutter Priority—or Shutter Variable. You set the _____the camera sets the aperture.
_____—You can set everything.

The Five Main Parts of the Camera:

1. Lenses:
   Lenses capture light reflected from the subject.

   The three main types of lenses are:_____– Focal length of 50 to 70mm. Recreates what your eye sees

   _____– A focal length of 10-35mm. Allows you to see more through your camera. It expands space. They can distort_____.
   _____– A focal length above 80mm. Allows you to see things far away. _____ space. Also known as _____ lens. Good for people

   Special group: _____– Has a variable focal length.

   _____determines how much a lens sees. It is a measurement of the length of the lens

   _____—Lens physically zooms in. It keeps the same quality and the same number of pixels.

   _____—Picture is cropped. Digital zoom lowers the quality of your picture. It cuts out pixels.

2. Apertures:
   Apertures function like the _____of an eye. They control the _____of the light getting into the camera.

   Aperture numbers are called_____.

   Apertures control _____which is how much of your picture is in focus from near to far. (The type of lens you use and how close your camera is to the subject also control depth of field).

   Larger aperture numbers (F-16, F-22)=_____ apertures sizes=larger depth of field (more in focus).
   Smaller aperture numbers (F-2, F-2.8)=_____ aperture sizes=smaller depth of field (less in focus).

   Every time you change your f-stop you _____or cut in half the amount of light getting into your camera.

   F-stops (Full Stops): f/1.4, f/2, f/2.8, f/4, f/5.6, f/8, _____, f/16, f/22, f/28

A or AV, Aperture priority setting (Also known as aperture value): You set the_____, your camera sets the shutter speed.

3. Shutters:
   Shutters function like an eye lid. They control how _____light strikes your sensor. Shutter speeds are _____of a second. Turning the shutter speed to the next lower or higher shutter speed doubles or cuts the amount of light in_____.
   Higher shutter speeds are good for _____prints. Lower shutter speeds are good for _____situations.
   You must use the appropriate shutter speed for your flash.
   Shutter speeds: 1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, _____, 1/250, 1/500, 1/1000.
   S, SV, or TV, Shutter priority (Also known as shutter value): You set the_____, your camera sets the aperture.

   _____is the minimum shutter speed where you can still hand-hold your camera.

4. Viewfinders:
   Viewfinders help you _____your picture. Viewfinders help you to _____your picture. Viewfinders display readings from your light meter.

5. Light Meters:
   Light meters read the light entering your camera and tell you what aperture, shutter speed, and _____you need to set your camera to.

Composition:

The Seven Guidelines-1._____: Keep your pictures simple. Have a clear point of interest. Have an uncomplicated background and foreground.
2._____: Divide your picture into a nine square grid (tic tac toe grid). Put your point of interest where the lines cross.
3._____: Leading lines lead your eye to the point of interest. The C curve in masculine. The S curve in feminine. Vertical lines are more active. Horizontal lines are peaceful.
4._____: Symmetrical balance- the same on both sides. Asymmetrical balance- different on both sides. Asymmetrical balance in the most_____.
5._____: Putting objects in your foreground to frame your point of interest. It makes your picture look more 3 dimensional.

6. Avoid_____: Objects that attach visually to your point of interest and look like they are apart of your point of interest.
7._____: Bird's eye view-pictures taken from above looking down. Worm's eye view-Pictures taken from below looking up.

Exposure: Exposure is how much light gets into your camera. Apertures, _____, and ISO control exposure. The basic daylight exposure system: On a nice, bright sunny day, set your aperture to F-16 and your shutter speed to 125 and your picture will be properly exposed. This is also known as the sunny 16 rule.

Lighting:
The 5 Characteristics:

1. Contrast:
   A. _____lighting has dark shadows and bright hi-lights. Colors are washed out. In the middle of the day on a sunny day you will get high contrast light. Anytime your light source is small you will get high contrast light. It is usually not the best type of lighting.
   B. _____lighting is more even. You get low contrast lighting when you take pictures in the shade, on a cloudy day or in the morning or the evening. Low Contrast lighting is the best for people.

2. Color:
   A. _____colors are yellows, oranges, and reds. These are the best colors for people and most pictures. The best time of day to take pictures that have warm light are in the morning and the evening.
   B. Cool colors are blues, greens, and purples. These are not the best colors for people. You get cool colors when you take pictures under fluorescent lights, in dark shade, or on cloudy days.

3. Direction:
   A. _____light: Light falls on the front of your subject. Also known as flat light. _____most common example. Takes away shadows and dimension.
   B. _____ light coming from the side. Light is realistic and creates dimension. You get this light in the _____and the _____.
   C. _____light: Light coming from behind your subject. Creates _____and sparkling water.

4. Intensity: The _____the light source, the more intense the light source. The more intense the light source the greater the contrast you will have in your picture.

5. Type: There are two types of light, _____light and _____light. Natural light is the sun. Artificial is everything else.

Digital Terms:

Memory cards:

1._____—Big memory card, used mainly in digital SLR cameras.

2._____—Most common memory card, used in digital point and shoot cameras and newer digital SLR cameras.

3._____—Used in older Sony digital cameras. Newer Sony cameras take SD cards.

4._____—Half the size of SD cards. Used in Olympus cameras.

Size and Resolution:

You can set size and resolution under image, image size. You can also use the cropping tool to set size and resolution.

_____is measured in pixels per inch or ppi. A good resolution for a picture that is going to be used on the internet in_____ppi. A picture that is going to be printed needs to have a resolution of at least _____ ppi.

Pixels:

_____comes from two words—picture and element. They are squares of solid color that make up a digital image. A megapixel is one _____pixels.

File Formats:

a. _____—The biggest file format. Raw data. It allows the greatest flexibility in Photoshop.

b._____. Big file format. Not compressed at all. Lossless file format.

c._____. Most common file format. It is _____. It losses data the more you open at close the image. It compresses images when you save them.

d._____. Opens only in _____. Offers greatest flexibility for working in Photoshop. Saves the layers.

_____: How images are saved. Resolution and compression control the quality of your image. Extra Fine shows the most details. It saves all data.

Other important Digital Terms:

1. LCD—Liquid Crystal Display. _____that you view pictures on.
2. CCD—Charge-coupled device. _____ at the back of the camera that captures your picture.
3. Byte: Eight bits
4. Kilobyte: About a thousand bytes.
5. Megabyte: About a thousand kilobytes.
6. _____: About a thousand megabytes.
7. _____: The amount of RAM your camera has.
8. Color Management: Making sure the way your picture _____is the way you see it on your_____.
9. Colorimeter: Measures the color on a computer monitor to make sure what you see is the correct colors.
10. sRGB: A color profile. How computers and printers see and read color. Most printers and computers at stores are set to sRGB.
11. Adobe 98: A color profile. Sees more colors than sRGB.
12. ProPhoto: The biggest color profile.
13. ISO: Your camera's _____to light. The _____the ISO the quicker your camera reacts to light. The higher the ISO the more chance you have for digital_____.

Photoshop:

1._____: Graph of the values in a picture.
2._____: Lightens a part of the print.
3._____: Darkens a part of the print.
4._____: Formal name for color.
5._____: The intensity of the color.
6._____: Blends in with the pixels around it. Good for getting rid of blemishes or zits.
7._____: Stamps the same color, the same pixels.
8._____: Allow you to work on different areas of your file while keeping other areas the same.
9. _____Pallet: Allows you to undo or redo things in your picture.
10. Selections: Allows you to select and change just a part of your picture.
_____selects pixels of the same color.
_____ allows you to draw your own selection.
_____allows you to draw straight edge selections.
_____tool tries to follow the edge of something.
_____tool makes square or rectangular selections.
_____ tool lets you make round selections.
The _____key adds to a selection.
The control key subtracts from a selection.
11. Transform and Free Transform: Changes sizes and shapes of selections or layers.
12. Color correction: Levels, Curves, Hue and Saturation, Color Balance
13. Color Photos to Black and White: Black and White, Desaturate, Grayscale
14. The bracket keys on the keyboard change brush size in Photoshop.
15. _____allow you to punch through one layer to see the layer below when you are painting with the paint brush. _____ punches through. White brings back the top layer.

_____

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