**Chapter 3 – Black and White**

Why Black and White?

Black and white photography is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ photography.

More important photographs have been created in black and white than in color.

Most of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ photographers worked in black and white photography and helped create \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as we know it.

Black and white continues to be a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ option in photography because it does certain things better than color.

Color can sometimes look \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and can distract from the content of the photograph.

Black and white film is better suited for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ because it is less temperature sensitive.

Black and white images are not as common today, so they seem \_\_\_\_\_\_\_\_\_\_\_\_\_\_ or exotic.

Black and white photography creates a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the beginnings of photography.

Elements of Exposure

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ refers to how much light is allowed to reach the film.

Three things control exposure in the camera:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - The amount of light the camera lets in

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - The amount of time light is let in the camera

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - How sensitive film is to light

Exposure is measured in increments called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Stops double or half the amount of light that reaches the film.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ an exposure by one stop will double the amount of light that reaches the film.

Decreasing an exposure by one stop will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the amount of light that reaches the film.

Each of the three variables, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, can be measured in stops.

Elements of Exposure (F-Stop)

F-Stops control the amount of light that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

This is done by changing the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the lens’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, a circular diaphragm made up of small overlapping metal or plastic blades.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ f-stop numbers let in more light.

Larger f-stop numbers let in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ light.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ refers to how much of the scene is in focus, both in front of and behind the subject.

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the aperture opening, the larger the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the depth of field in an image.

Elements of Exposure (Shutter Speed)

Shutter speeds control the amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ light is allowed to hit the film. Shutter speeds are expressed in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The length of an exposure can vary from 1/8000 of a second to many hours!

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ shutter speeds let in more light.

Smaller shutter speeds let in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ light.

Shutter speed controls the amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that is shown in a photograph.

Some shutter speeds are too slow and almost always create blurry photographs.

* The slowest shutter speed you can use without a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_ of a second.
* The number one cause of blurry photos is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Most cameras also have a shutter setting labeled \_\_\_\_\_\_.
  + This setting stands for \_\_\_\_\_\_\_\_\_\_\_\_. The camera’s shutter will remain \_\_\_\_\_\_\_\_\_\_\_\_\_ for as long as you have the shutter button pressed down.

Elements of Exposure (Film Speed)

Film speed refers to a film’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to light, or how much light is needed for a good \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

* Every film has an \_\_\_\_\_\_\_\_ (International Standards Organization) that indicates how sensitive a film is to light.
* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the ISO number, the less sensitive to light, and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ it needs to get a good exposure.
* The higher the number, the less light it needs to get a good exposure.

The larger the ISO number, the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the photograph.

Putting it all Together

Changing the f-stop, shutter speed, or film speed will for you to change at least one of the other to variables.   
There isn’t necessarily a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to get a perfect exposure!

As a photographer, you will need to decide what is important in your photograph.

Do you want to freeze motion?

If so, you must start with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and adjust your f-stop accordingly.

Do you want poor depth of field?

If this is the case, you must \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(a large aperture opening) and set the shutter speed afterward.   
These decisions will help you decide your camera’s settings.

Exposure Metering

So how do you know when a photograph will be properly exposed?

Exposure metering is determining the combination of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_ used to make a photography by using either a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or the camera’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

When you overexpose or underexpose film, it is often very difficult to get a good print in the darkroom. This can be very frustrating!

There are two types of exposure metering: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Both meters recommend the f-stop and shutter speed combination needed for a proper exposure.

Incident metering measures the light that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Photography studios, where you have the most control over the lighting, are good places to use incident metering.

Reflected metering measures the light that is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Most cameras with built in light meters work this way. This type of metering is best for making quick adjustments with moving subjects.

Reflected vs. Incident Light Metering