Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_

*Controlling light with Aperture (lens opening)*

Digital Photography I

Directions: Please read an answer the following questions about aperture and exposure.



The aperture opening refers to the size of the opening behind the lens that allows the light to enter the camera and expose the film. This is one of the controls a photographer uses every time he or she takes a picture.

A larger opening will allow for more light to strike the image sensor. SO, if you were taking a picture in bright sunshine, a small lens opening could be used to control the light. Likewise, if you were inside and there was not a lot of light, a larger lens opening would be chosen. You have to learn to make changes based upon the kind of light you will be shooting under.

The size of the lens opening is commonly referred to as the “stop” and an “f” number is used to indicate its size. Examples of lens openings are shown to the right.

A change from one f stop to another affects the amount of light entering the camera. Going to a larger opening doubles the light. Changing to a smaller opening cuts the amount of light in half.



The size of the lens opening also affects how much of the picture will be in focus both in front of and behind the subject. This is called depth of field. The smaller the aperture or opening, the larger the number of the f-stop, and the greater the resulting depth of field. In other words, more of the picture will be in focus. The bigger the aperture, the smaller the number of the f-stops, and the less depth of field you will get. In other words, the area in front of and behind the subject will be blurry.

To expose accurately, we must use a special combination of aperture and shutter speed to suit the light available. If you choose to use a large lens opening under average lighting conditions, then you would probably use a faster shutter speed to prevent too much light from hitting the sensor. Likewise, using a small lens opening may require a longer shutter speed.

Answer the following questions about lens apertures:

1. What is one control a photographer uses to control the light when taking a photograph?
2. What is its common name?
3. Give an example of a large lens opening.
4. Give an example of a small lens opening.
5. The larger the aperture number, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the lens opening will actually be.
6. You are photographing and have decided to change the aperture from an opening of f-16 to f-5.6.
	1. How will this affect the light entering the camera?

* 1. How will this affect the depth of field?
1. Circle the lens opening that would allow the most light into the camera:

f-22 f-8 f-2.8

1. If you went outside and it was a very bright sunny day, what lens opening might you use to start taking pictures?
2. If it was a very cloudy overcast day or your subject was inside a shaded area, what lens opening would you start with?
3. If you are photographing a portrait of your best friend and you want the background immediately behind his/her face to be blurry, what aperture would you have to apply in order to achieve a shallow depth of field?