



THE PHOTO BOOTH

SHOOT • STYLE • EDIT

The Connection between the Aperture and the Depth of Field

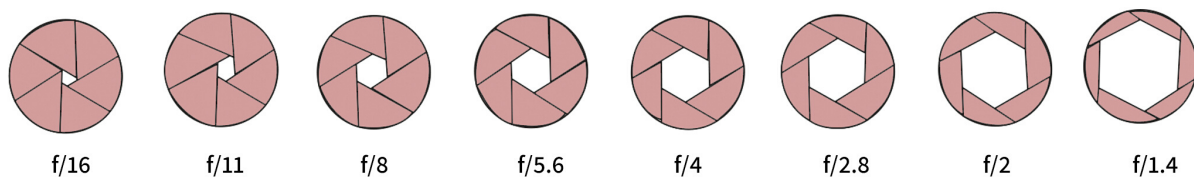
We first talked about the aperture in the basic photography concepts lesson.

In this lesson, we will understand in-depth how the aperture works, learn what f-stops are, and understand how to use them to create depth and have artistic control of photos.

What Is Aperture?

The aperture adjusts **the size of the opening** through which light passes to the image sensor.

The amount of light entering by opening the aperture is measured in units called **F-Stops** and marked by the letter **F** (written as “f/” followed by a number), such as f/1.4, f/2, f/2.8, f/4, f/5.6, f/8, f/11, f/16, f/22, or f/32.



How Does It Work?

When the aperture is open, **more light** passes through – a **low f value**.

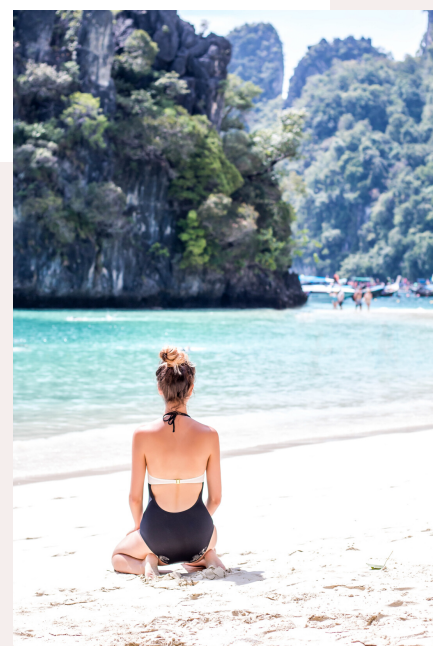
When the aperture is closed, **less light** passes through – a **high f value**.

The f value can be a little confusing at the beginning.

Keep in mind that when you're talking about aperture, it will always be inverse values.

In addition to regulating the amount of light penetrating the camera, the aperture plays an important role in determining the photo's **depth of field**.

You've probably seen pictures in which the background is totally blurred while the subject is totally in focus.



This blurry-background effect is often called "**Bokeh**".

Bokeh, also known as "Boke" is one of the most popular subjects in photography. The word comes from Japanese, literally translating to "blur". It's a very popular technique, because Bokeh makes photographs visually appealing, forcing us to focus our attention on a particular area of the image.

To me, this effect gives off a more professional vibe to photos, especially to portrait photos or close-up pictures.

I remember when I first started photographing, this was one of the effects that I wanted to learn to create the most! The good news is that once you understand the reasons this effect happens, it is very easy to create it 😊



Depth of Field (or abbreviated DOF)

The depth of field is the area within our range of focus; namely, the area chosen as the main focus of the picture. Depth of field is the distance between the closest and farthest objects in a photo that has a good level of sharpness.

How Does It Work?

- When the depth of field is large (or deep), the areas front-to-back the point of focus will look clear and sharp.
- When the depth of field is shallow, those areas front-to-back the point of focus will look blurred and faded/muddy. The "bokeh" effect is created in this mode.

The rule of a thumb is: "open aperture (low f value) = shallow depth of field = greater blurring of the background" and vice versa.



Once you understand how the F-stops work and you implement this technique on your photos, you will be able to see dramatic differences in your photos.

To demonstrate this, here are some examples of changes of f-stops that I implemented in the following photos:

F / 1.8

Please note that when aperture is open wide, the focus becomes very limited.

As I use a low F, my depth of field is shallow. Only a very small part of the image is sharp and the rest is blurred.

Low f-stop can create stunning photos if you know how to use it well; in particular, in portrait or product photos.

But if you're not careful while shooting, the picture might be blurred or not in focus on the desired object as a result of even a very slight movement of the camera.



F / 3.2

A small increase in the F-number and it is already noticeable that more extensive parts of the image are in focus.

Raising the F-number results in a higher field depth.

F / 5.6

Have you noticed that the object in the front has become sharper and clearer? The front and the background of the image start to be more in focus.





F / 11

Raising the aperture to such high F stop makes the slit of the lens smaller, which creates a greater depth of field.

As you can see, the entire picture is much sharper and in focus.

Notice the huge difference between a picture taken with f/1.8 and a picture taken with f/11.
The photos looks entirely different due to the change in the aperture.

Blurred background
F 1.8



Sharp background
F 8.0



I believe that when discussing depth of field there is no right or wrong.

Both a photo with a shallow depth of field (blurry background) and a photo with a high depth of field (the entire photo is sharp) can be stunning and deliver the photographer's message.

The beauty of using the aperture to create depth of field is that it allows us freedom and gives us more creative tools with which we can best deliver our artistic message.

When you start experimenting with the aperture of your camera, set your camera to **AV mode** and check how to change the aperture in your camera's manual, as it is a little different on every camera.

On my camera, I change the aperture by moving the dial handle of my camera.



Do you see the number 5.6? On my camera, this is where the number of the aperture is displayed. Again, the location varies a little between cameras so check your camera's manual.

The rule of thumb is: "open aperture (low f value) = shallow depth of field = greater blurring of the background" and vice versa.

Homework

Now it's time for you to experience the magic that the aperture can create in your photos! 😊

First, check your camera's manual to understand how to set the aperture on the camera and where the f-stop is displayed. Then, set the camera to semi-automatic aperture priority mode.

Now choose an inanimate object and take several photos (from the same angle) beginning with the lowest F on your lens, and raising the F by one stop in each photo until you reach the maximum F of the lens (as I did in the example of the book on the table).

Using an inanimate object, versus taking photos of people or animals, will allow you to take your time and really play with the aperture.

When taking a photo of an inanimate object there is less chance that the object you want to focus on will move and will unintentionally come in focus. 😊

Please note that the more you raise the F value, the more closed the aperture, allowing less light to enter the camera.

Therefore, I suggest that you do this exercise in a well-lighted place so that your photos will not come out dark.

After you take all the photos, transfer them to the computer and check the differences created by using the different f-stops.