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APERTURE

Today we are going to learn about Aperture. It is one of 3 parts of the exposure triangle. It is easier to learn them one at a time, then put it all together.

Aperture is the most popular setting to change because it is responsible for the blurry background behind portraits or beautiful flower photography. The blurry background is called bokeh.



Image by Tomislav Jakupec from Pixabay

The blurry background is the result of changes in **depth of field** (DoF). DoF is controlled by aperture (and some other things like lens length and distance – if you want more detail after this practice lesson go read my blog on DoF: <https://focusedcamera.weebly.com/blog/depth-of-field>)

For now, you just need the basics.

Smaller aperture (f/22 or f/32) = Larger/Deeper DoF

Wider aperture (f/2, f/4) = Smaller/Narrow DoF



The f/number seems counter-intuitive because the bigger number means smaller aperture, but keep in mind the bigger number means **more light blocked out** because the aperture is smaller (more closed). You do not need to memorize the f/stops, but you will want to rehearse the basics over and over in your head to understand how it functions.

Image by KoeppiK on Wikimedia Commons

Set your dial on your camera to the Aperture Priority mode (Av on Canon) – see your manual if you are not sure on your camera or go here: <https://focusedcamera.weebly.com/download-your-camera-manual.html>

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Find in your user manual how to set the aperture.

Unless you have changed the shutter speed or ISO in this mode recently, you can just let the camera choose those settings and ignore them.

Set your aperture to the lowest f/# for the lens you are using. This could be f/1.8, 2, 3.5, or 4 – then scroll through using your dial until you reach the highest f/# - probably f/22 or f/32. These are the maximum capabilities for your lens. Different lenses have different aperture ranges. Zoom lenses often have variable apertures. For this exercise do not zoom in and out. Pick a zoom level and then leave that alone – 35mm is generally good for this practice. If you are using a prime then a 24mm, 35mm, or 50mm, or even 85mm can work for this practice.

It is best to take your test shots outside in bright sunlight.

Set up a vase or toy on a chair or table and place the table at least 10 feet from some kind of background like bushes or trees.

Set up your camera about 10 feet from the toy – use a tripod if you have one. So your final set up is like this:

CAMERA -----8 TO 10 FEET-----OBJECT-----8 TO 10 FEET-----BACKGROUND

You just scrolled through your settings and right now it is set to a high f/# like 22 or 32. Focus on the toy or flowers and snap your first image.

Then, staying in the same place with your camera (don't move your tripod set up) go to your aperture settings and set it somewhere in a middle range, like f/8 or f/11 and focus and snap your 2nd image.

Then, again staying in same place, change settings to the lowest f/# and focus and snap your 3rd image.

Now go inside and look at those images on your computer.

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In the first image the toy or flowers should be in focus and the background will also probably be in focus, or at least is very recognizable and not very blurred out. That was your smallest aperture (most closed down). Notice in my image the flowers are in focus and the bars on the door behind them, while blurry is still recognizable.



Image by FocusEd Camera



Image by FocusEd Camera

Then look at the last (3rd) image with your widest aperture (f/1.8, 2, 3.5, or 4). Only the object should be in focus, the background should be very blurry and possibly you can't even tell what it is exactly.

In my image the iron posts of the door are no longer visible. The flowers behind the main flower are blurred. This photo was taken at f/5. If I went to an even lower f/# (as you might have done depending on your lens), you

might even notice that all of the main object isn't even in focus because the DoF is so much smaller at lower apertures.

When taking pictures of a group of people it is important to remember this f/1.8, f/2, f/3.5, even f/4 may not be able to get everyone in focus because some people's heads and bodies will be in front of or behind the DoF range.

A good rule is to use an f/# that matches the number of people in a group as a starting point. If your group has 8 people you will have better results with f/8 than you would at f/4. If you need more blur behind your group make sure there is distance between the group and the background and increase that distance if possible.

Now look at your middle (2nd) image, the one you took in the f/8 range. The background blur should still be satisfactory and it should be more blurry than the first image but less blurry than the 3rd image. That is why the middle range is better for groups.

If you want to take portraits of pets or children – 1 subject – you can use f/1.8 but f/2 or even 3.5 may still be better – lenses are actually NOT their most crisp at their extreme settings. With

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an $f/3.5$ and space between your subject and the camera/background like the setup we just used you should get great bokeh.

Always put your focus point **on the eyes**. This way you make sure the face is in focus. Your camera manual can help you figure out how to set your focus points.

If you want to take a picture of a single flower, you can also use $f/2$ or $f/3.5$; however, the closer you get to your subject the smaller and smaller the DoF becomes!

If you take a picture of a flower at $f/1.8$ that is 4 feet away from your lens, you will have approximately 4" of DoF so the whole flower should be in focus and the background nice and blurry (as long as the background is a little distance away). But that same flower – if you take a picture from 2 feet away – the DoF is only 2" so depending on the size of the



Image by FocusEd Camera

flower, some petals may be out of focus. On the side of your lens in the minimum focus distance for your lens. That number means your camera cannot focus on anything that is less than that distance away from you. If your lens says the minimum focus distance is 1.1 feet and you take a picture at 1.1 feet the DoF at $f/1.8$ is only 1".

At that close range, you won't see much difference if you changed to $f/8$ or any other setting because you are so close!

In order to have good focus on your subject **and** a blurry background you need a bit of distance from camera to subject and to background like we did in the set up for your test shots.

Depending on your camera model, you may have a Depth of Field preview button (it would be near the lens release button on the front of the camera). Check your manual to see which modes you can use it in. On my Canon I can only use this button if I set the dial to A-DEP. On my camera it is used to get the widest depth of field automatically which can be very helpful for landscapes or group photos. The camera uses your autofocus points determine the closest and farthest objects, then adjusts to get them all in focus. On my camera I cannot make any changes to settings in this mode. Your camera may be different so you would need to read about it in the manual.

Now that you have done this test, try keeping your camera in Aperture Priority mode all week and only change aperture settings as you practice. Ignore ISO and shutter speed for now. If you "have to get a shot" during this practice time – like your child is doing something so adorable or your cat's napping pose is a winner – then switch back to Auto – but then go back Aperture Priority to practice!