





## Aperture Priority Mode

An Aperture is an adjustable opening inside the camera lens that determines how much light is allowed to pass through the lens. You control how large or small this opening is by adjusting the “f-stop”. These numbers differ, depending on which lens you have fitted to your SLR, or what kind of camera you’re shooting with. In all cases, though, the larger the f-stop number, the smaller the aperture opening, and therefore the less light that enters the camera lens.

Moving from one f-stop to another either doubles or cuts in half the amount of light allowed into the lens. For example, if you’re shooting at f8 and move to the next largest opening (f5.6), you double the amount of light that will make its way to your sensor. So when will you want to shoot in aperture priority mode? When depth-of-field (dof) is your primary concern.

DOF refers to the area in a photograph that is in sharp focus. When the aperture is closed down as far as it will go, you will have the “deepest” dof available. When it is opened up as wide as it will go, it will be its most “shallow”. For example, if you’re shooting a subject (in this case, your dog) and you want only that subject to be in focus while leaving the background blurred, you will want to open the aperture wide (say, f2.8). If you’re shooting a landscape and you want everything in the frame to be in focus, you will want to shut the aperture down as far as it’ll go (say, f22). Again, your camera or lens may only go from f4 to f11...but you get the idea.



## Shutter Speed Priority Mode

Your camera’s shutter is what opens and closes to let light actually hit the sensor. How long the shutter stays open is determined by...well...shutter speed.

What shutter speed you choose is dependent on how much light is needed to expose the image at a given aperture setting. When shooting in shutter priority mode, you tell the camera “this is how fast I want the shutter to open and close...you worry about the aperture”.

So when might shutter speed be your primary concern rather than aperture? When you’re photographing action of some kind.

Let’s say you’re shooting a photo of your dog running at the dog park, and you want to get a “frozen-in-time” shot of your pup mid-stride with his or her eyes wide and legs off the ground. You’re going to want to choose a fast shutter speed to capture that moment. Say, 1/1000th of a second. But let’s say you’re trying to capture the sense of motion as your pup runs by slower dogs. In this case, you’ll want to choose a shutter speed that is slow enough to capture the feeling of motion, but be fast enough that you will be able to keep your moving subject in focus. This technique is called *panning*. The shutter speed you’ll use when panning will vary depending on just how fast your subject is moving, but for example’s sake, let’s say 1/60th-1/30th of a second. As your subject is moving, you will actually move the camera to match the subject’s speed while the shutter is open. What that does is keeps the subject in focus while blurring its surroundings.

Another common example of when you’d want to specify shutter speed is when you’re photographing moving water, such as a waterfall. If you shoot it at a fast shutter speed, you’ll see every splash and drop. But most times, you’ll see photos of waterfalls or streams shot at slow shutter speeds. This allows the water to be blurred, and conveys movement. (You’ll usually want to use a tripod when doing this.)



## Full Manual Mode

When you wanna get totally control-freaky, you can switch to the full manual setting. This setting is what you'll want to use when you're just not getting exactly what you want from aperture priority or shutter-speed priority. Cameras are smart, and generally very good at exposing photos automatically, but sometimes you just have to take the controls into your own hands.

An example of when you might switch to manual mode is when taking night shots.

Say you're shooting a city street at night, and have your camera set to aperture priority. You want just about everything in the frame to be in focus, so you choose f11 and your camera automatically sets the shutter speed to 15 seconds. You view the image on the display and notice that while the image looks pretty good, it's a little lighter than you'd like, and the lights in the signs and streetlights are completely blown out. You've got a good starting point as chosen by your camera, so switch to manual and decrease your shutter speed to 10 seconds. If it's still too light, you can go to 8...5...and so on until you get exactly what you're looking for.



## Bulb

Not all cameras have a bulb setting, but it's a nifty thing to have sometimes. You ever see those photos of a night sky where the stars look like they're zooming by in a circle? The photo was taken using the bulb setting. Back in the old days, a manual shutter lock was a cord with a bulb at the end (like the ones on blood pressure thingamawhats). You'd squeeze the bulb, which depressed the shutter, and then you'd twist a valve on the bulb closed, which left the shutter open for an indefinite amount of time. You could walk away and come back ten years later and that shutter would still be open (although the image would be a little overexposed).

The bulb setting on modern cameras is essentially the same, but without the vintage charm. When using the bulb setting, it's best to have a remote shutter control so you don't shake the camera when depressing the shutter to start and stop the exposure. Press once to open the shutter, and again to close it. Experimenting is your best bet to get the results you want.

## Get out and shoot!

Hopefully, these tips have helped you to have a better understanding of your camera's abilities. There's no better way to really learn it, though, than to shoot. So go...get outta here!

To practice using Aperture Priority, have your pooch "sit and stay" (if that's something your dog is into...mine sure aren't.) Set your aperture at the lowest numerical setting you have available (f2.8, for example), then again at a medium-sized f-stop (f5.6, for example), and again at the highest aperture setting you have (f11, for example). Then compare the depth of field on the resulting photos. You don't have to stop here...take at least three different shots with varying f-stop settings and compare the results.

To practice using Shutter Priority, try the panning technique as your pup romps and plays. Start off setting your camera at a fast shutter speed (1/500th of a second, for instance). As your dog runs past you, move the camera to match his/her movement and click the shutter just before he/she reaches you. Don't stop moving the camera at any time until the exposure has been completed. If your camera has a "burst" or "continuous shutter release" setting, this is a perfect time to use it. Each time your pup runs past, slow the shutter speed and re-shoot. By the time you get to 1/30th of a second, you'll be able to see a pretty obvious difference.

Good luck with the contest!

-Dan