

Depth-of-field preview. You can actually see the depth of field of your picture when using many SLR cameras (and view cameras), because of their through-the-lens viewing and focusing. This is potentially very useful, but it's not always evident because the lens on your SLR is always set at its widest possible setting until you take the picture, at which time the lens automatically closes down to the chosen f-stop. Because the lens is wide open during viewing, what you see when you look through the viewfinder is the depth of field the lens will produce at its maximum aperture: $f/2$, $f/3.5$, $f/4$, or however wide your lens opens. **Depth-of-field preview** allows you to see the actual depth of field at any f-stop you (or the camera) sets.

Depth-of-field preview works differently depending on the camera you use—and some models don't offer one at all. If you do have one, set the f-stop to where you want it (or allow the camera to set it automatically), then activate the control, which could be located on the camera body or on the lens. With some models you have to hold down a button or switch as you view the subject; you use an on-off switch with other models.

With the preview setting on, you should see the depth of field that the preset f-stop will produce. However, you may have trouble seeing the subject clearly, especially in dim light, if you close down the aperture smaller than $f/8$ or so, because the smaller lens aperture lets in less light to the viewfinder.

Depth-of-field scale. While not as simple to use or understand as a preview setting, a **depth-of-field scale** can be a useful tool. Not all cameras and lenses have such a scale; in fact, older cameras are more likely to have a depth-of-field scale than many newer ones. Most are located on the lens itself, but in some models it's on the camera's LCD display.

The scale indicates in feet and/or meters just how much of the image will be in focus at each f-stop setting. To understand how this works, first understand the **distance scale**, which turns as you focus the lens and measures the distance from the focused subject to the camera. (Many, but not all, lenses

have such a distance scale, whether or not they have a depth-of-field scale.) The focused distance is indicated by a marker—a line, a triangle, or some other indicator—lined up opposite the distance scale. If the focused distance is 10 feet away, “10” on the scale will line up accordingly. You can actually use the distance scale as a ruler of sorts. By focusing on any subject, you can check the scale and find out how far away that subject is from the camera.

The depth-of-field scale, if there is one, is positioned on both sides of the focus-distance marker, incorporating standard f-stop designations:

22' 11' 4' ♦ 4' 11' 22'

(Different manufacturers designate the f-stops in various ways; some don't even note numbers at all, but instead color code the depth-of-field scale to match colored f-stop numbers on the lens, used for setting the aperture.)

To determine the depth of field you will get at any focusing distance—and any f-stop—look on either side of the marker for the depth of field at each f-stop. The distance figures opposite the matching f-stop designations indicate the front and rear distances from the camera that will be in focus at that f-stop.

Let's say you focus on a subject 10 feet away. The focus-distance marker will register accordingly—at “10.” If you want to know what your depth of field will be at $f/8$, look at the distance scale opposite “8” on both sides of the marker. On one side, the scale indicates 7 feet, and on the other side 16 feet. So the depth of field at $f/8$, when focused at 10 feet, will range from 7 to 16 feet away from the camera. At smaller f-stops, such as $f/11$ and $f/16$, you can see that depth of field increases; at larger f-stops, such as $f/5.6$ and $f/2.8$, it decreases.

Estimating focus. A preview setting or depth-of-field scale can be useful, but sometimes previewing is hard to judge (or not available) and scale measurements may be difficult to decipher. For candid work, estimating the focus and the expected depth of field

(with or without the use of a depth-of-field scale) may prove most practical and accurate enough.

There are two basic ways to estimate focus. One uses a depth-of-field scale. The other is more spontaneous: With **zone focusing**, you try to make an entire area (zone) sharp rather than focusing on a particular subject. If you can do that, you can be sure that all subjects within that zone will have acceptable sharpness.

For example, suppose you want to photograph a child playing in a sandbox. Using your lens's distance scale, measure the distance from the camera to the front and then to the back of the sandbox. If the front of the sandbox is 6 feet away and

the back is 12 feet away, set the distance scale at 8 feet away, which is one-third into the sandbox. Check the depth-of-field scale, if you have one, to see exactly what f-stop you will need to provide a minimum depth of field from 6 to 12 feet away. If the scale indicates $f/11$, set the aperture at $f/11$ or smaller ($f/16$ or $f/22$). The entire zone—the sandbox and everything within it—should be sharp when you take your picture, without the need to refocus every shot, assuming you keep the same f-stop and distance and use the same focal-length lens (or focal-length setting with a zoom lens). Simply compose your picture and shoot without focusing.