

### Depth of Field (DOF)

distance along the z-axis, i.e., vertical distance out from and into the stage, that is in focus.



f/2 aperture (short DOF)



f/22 aperture (long DOF)

Both pictures were taken from the same location with the same lens (50 mm) focusing on the same location. The first picture has a short depth of field because only the first dolphin is in focus while the rest of the animals are out of focus, while the second has a long depth of field because all of the animals are in focus.

Note that the green fish on top of “Sharky” is poorly visible in the left photograph. As in the previous example with the field of view, many students lose objects under the microscope as they increase magnification because the depth of field diminishes so quickly. Only by adjusting the focus or aperture of the camera (analogous to adjusting the focus or closing the iris diaphragm on the microscope) can I bring my object back into focus.



f/4 aperture (small DOF)



f/22 aperture (large DOF)

Both of these pictures were photographed from about six inches away using a 100 mm macro. The only difference was in the depth of field. Occasionally, a small depth of field is beneficial since it focuses on a very small location (the reddish-orange dot), while a larger depth of field makes it easier to find the spot but clutters the view with extraneous information.

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