

Bio 139 Microbiology Lab #1

Protocol for using 100x (oil immersion) objective lens:

1. Visualize specimen with 40x objective (high/dry).
2. Rotate objective lens ring to a position *between* 40x and 100x objectives (neither lens will be locked in place.)
3. Remove slide from stage. Add a drop of immersion oil (found in bench rack). Return slide (with oil) to stage.
 - Or, leave the slide on the stage and add the oil drop directly.
5. Rotate the 100x objective lens into place.
6. Use coarse focus knob to raise the stage until the 100x lens *just* touches the oil.
7. While looking into the microscope, use fine focus knob (turn clockwise, to **raise** the stage) to find the plane of focus where the specimen is.

For speed, you *may* use the coarse focus knob first, *then* fine focus, with two cautionary notes:

 - If you raise the stage too much, you can unwittingly crack your slide by driving the lens into it;
 - When focusing with the coarse focus knob, the plane of focus in which you can see your specimen will flash by *very* quickly, so be alert for the flash, then fine focus *back* down to it.
8. When finished, if the slide is not to be saved, place it in cardboard waste box on benchtop (for glass & sharps), NOT in the regular trash.
9. Wipe the oil from the 100x objective lens with LENS PAPER, **never** a paper towel as it will scratch it.



Make sure oil NEVER touches the 40x objective lens. Oil will ruin the 40X objective lens!

10. Always return the objective to a “start” position (4X). Never leave the 100x objective in place when returning the microscope to the cabinet.