How to Use an Oil Immersion Lens

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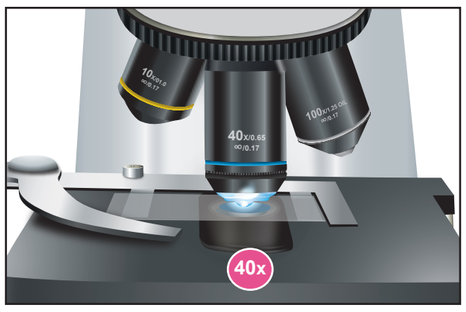
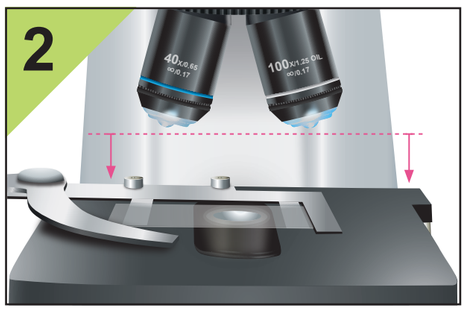
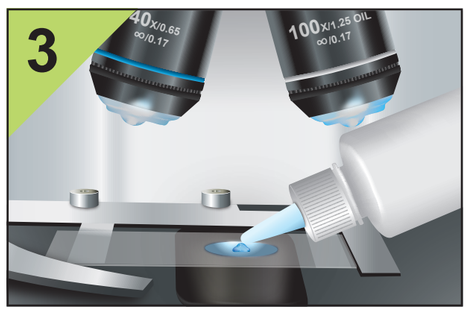
Procedure





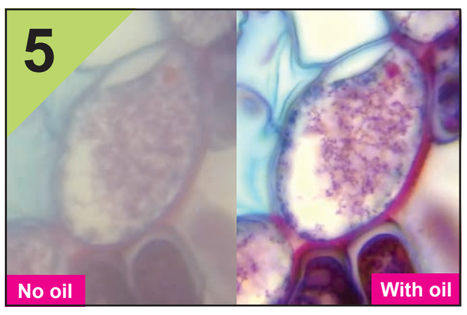
Once viewing in lower objectives is complete, rotate the nosepiece between the 40x and 100x objective. Use the coarse focus knob to lower stage completely.

Place prepared slide with coverslip onto the mechanical stage and use the lower magnification objectives (4x, 10x, 40x) to focus and view your slide.

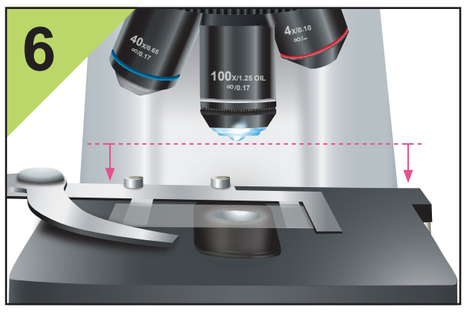


Place a small drop of immersion oil onto the cover slip, avoiding any bubbles.

Move the 100x objective into place. **SLOWLY** move the stage upward using the coarse focus knob until the objective meets the immersion oil.

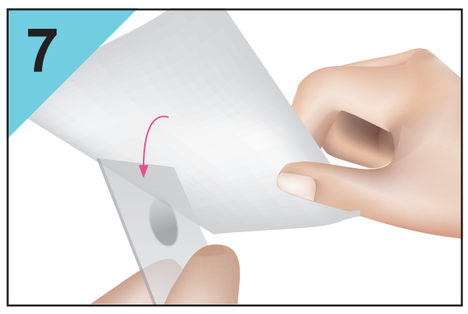


Using the **FINE FOCUS** knob **ONLY**, bring your slide into focus.

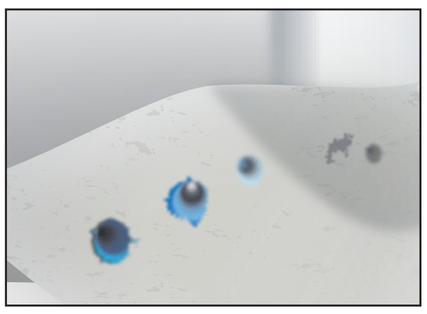


After viewing slide, lower the stage completely again with the coarse focus knob. Remove the slide.

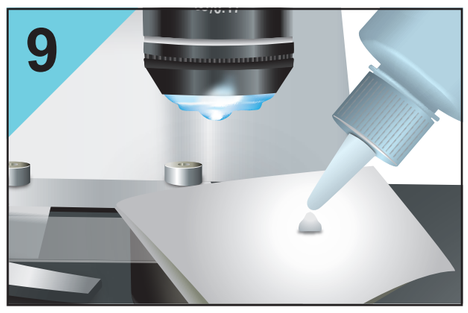
Cleaning



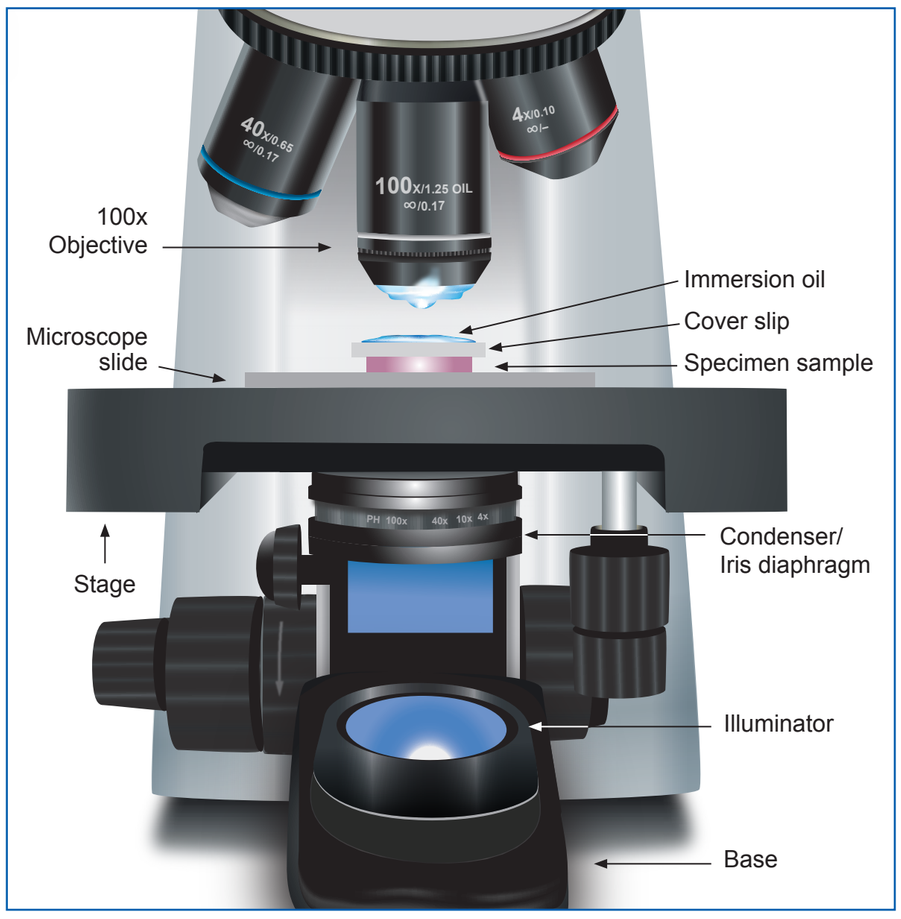
Use lens paper and lens cleaner to thoroughly clean the oil off the slide.



Take a sheet of lens paper and gently dab the 100x objective to clean the oil off the lens. Carefully shift to a clean area of the paper after each dab to ensure all oil is removed. **DO NOT ALLOW OIL TO REACH THE 40x OBJECTIVE**. **THIS WILL RUIN THE LENS**.



Use lens paper and lens cleaner to gently wipe the 100x objective of any residual oil.



Real World Connections

Anthropology

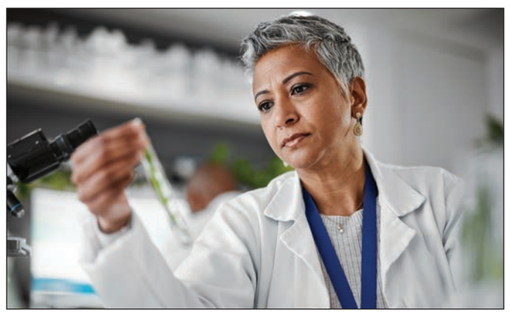
Anthropologists use immersion oil to examine skeletal and dental samples for identifying pathologies or analyzing skeletal morphology.

Pharmacology

In pharmacology, the clarity and resolution provided by oil immersion microscopy can be pivotal in identifying pathogens or verifying the uniformity of compound distributions.

Chemical Manufacturing

Chemical manufacturing uses oil immersion for quality control, identifying potential hazards, and ensuring integrity of chemical processes.



Environmental Science

In environmental science, oil immersion improves the visualization of tiny features such as microorganisms and pollutants.

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