

- **Field of view**—This term references the area of the slide that is visible while looking through the ocular. This inverse relationship states that the higher the magnification, the smaller your field of view gets (**Figure 5.3**).

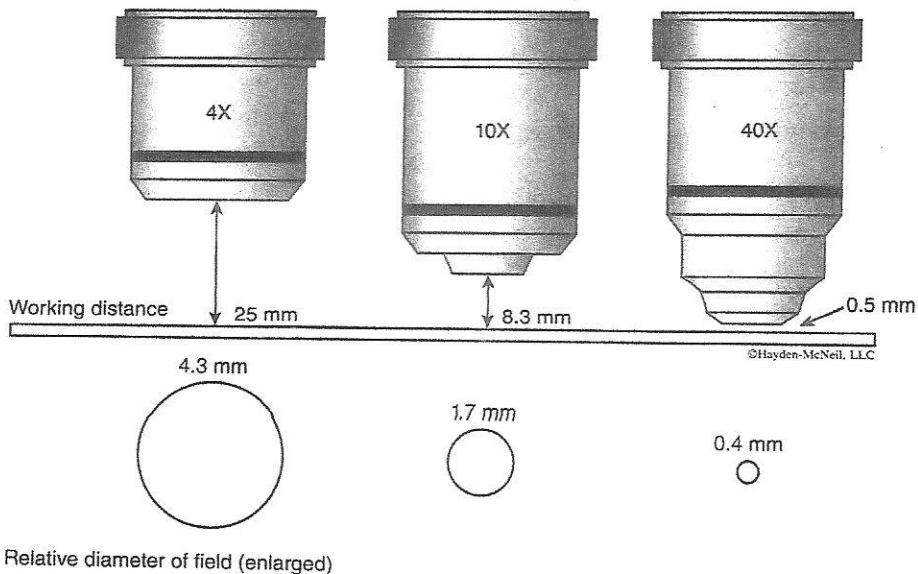


Figure 5.3. Objective strength and field of view

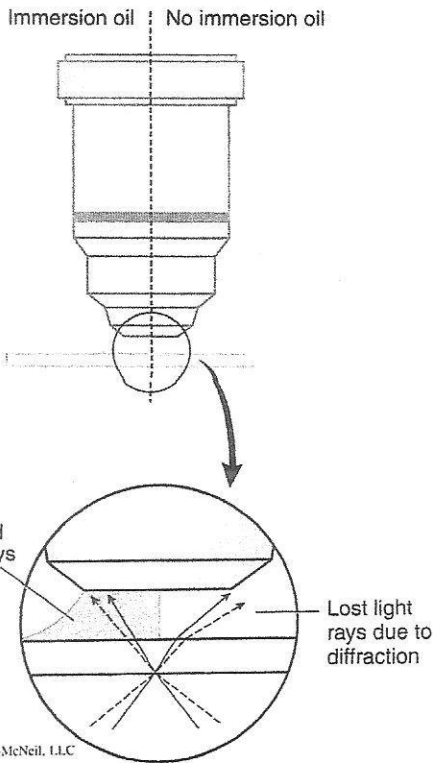


Figure 5.4. Immersion oil

Remember

- Never use an oil immersion lens without the oil.
- Never get oil on any other lens.
- Clean up all oil when finished.

Oil immersion Objective

The highest objective of the monocular compound light microscope is the 100 \times oil immersion objective. Light is refracted every time it passes through a medium with a different refractive index, i.e., air to glass or vice versa. This greatly reduces the quality of the image. To reduce the loss of light moving through a specimen we use immersion oil when using this objective. Immersion oil is formulated to have the same refractive index as glass (Figure 5.4). Simply put, the oil keeps the light from scattering.

Using immersion oil objective

- Focus as usual until you are at the high-powered objective lens.
- Rotate the nosepiece halfway between the high power and oil immersion objectives. The two objectives should straddle specimen.
- Apply a small drop of oil directly on the slide over the specimen.
- Rotate 100 \times objective into the immersion oil and make minor adjustments with the fine focus knob.
- Finally, clean the oil off the objective using lens paper.