



TOP TIPS FOR EVERY MICROSCOPIST

Microscopes are high-quality instruments and should last a long time if they are treated properly and with care. Here are a few top tips to help you keep your microscope in good working order and some tips on how to get the best from your microscope.

Keep The Microscope Packaging And Handle With Care

Microscopes need to be packaged very carefully to avoid any damage while in transit. It is a really important to keep all of the packaging for future transportation (servicing or repair).

The incorrect handling of the microscope leads to the most common problems that may occur with the instrument for example, misalignment. When moving the microscope only hold the unit by the base and the arm. Any adjustments made to the microscope should be done very gently and with finesse.

Microscope User Manual And Instructions

Reading the user manual is essential and not following the instructions may ultimately lead to damaging the instrument. The user manual will give you step-by-step instructions on how to unpack, set-up and use the microscope correctly. If there is any doubt, always contact your microscope supplier who will be able to give you expert advice and assistance. Always keep the user manuals in a safe place.

Keep Covered And Store Safely

Always ensure that the microscope is stored in a clean, dry and well ventilated area and never next to any laboratory solutions that may leak. In addition, it is vital to keep the instrument away from areas that may have potentially corrosive fumes. The microscope should always be covered with a dust cover and in the event that the eyepieces need to be removed, remember to cover the eyepiece tubes with caps and store the eyepieces safely.

Cleaning And Care Of The Microscope

The proper cleaning and care of the microscope is essential and in particular the cleaning of the optical components. Our 'How to Clean and Care for your Microscope' article gives procedures and guidelines to help keep your microscope in tip top condition.

Why Not Have 2 Microscopes?

Having a second microscope sounds extravagant however, it's a great idea to have a second basic microscope particularly for messy microscopy tasks such as, worms egg counts/flotation or skin scrapings where *corrosive liquids* are being used. As well as those messy tasks, a second basic microscope is ideal for teaching and training purposes when the microscope is in the hands of inexperienced users.

Choosing The Right Microscope

There are many different types and makes of microscopes available and choosing the right instrument is an important decision. Be clear what the microscope will be used for and the type of samples and test materials involved. Take a look at our hints and tips on choosing the right microscope.

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Slide Preparation

Be sure that the slide you are using is clean and always remember to use a coverslip unless the sample is already enclosed in a McMaster counting chamber or similar. For stained smears, why not try placing a small amount of immersion oil between the smear and coverslip. This technique will give a clean, semi-permanent mount. When using this method, take care to ensure that the immersion oil does not spread outside of the coverslip. Importantly, all objectives are designed to be used with coverslips on the sample slide. By using coverslips the 40X and 100X objectives are in '*selected image resolution*' which notably improves the quality.

Although this may seem obvious, it is important that the microscope slide is placed on the stage right-side-up. Slide, Sample, Coverslip. The coverslip is now closest to the objective. If the slide has been placed on the stage upside down, the user will not be able to focus on the slide and may think there is a fault with the microscope! In addition, the slide/specimen must be positioned on the stage so it sits over the beam of light.

How to Use The Immersion Objective (100X)

We recommend that wherever possible, a 60X Dry objective is used to avoid the need for immersion oil. When using 100X oil objective, only ever use the correct type of microscopy immersion oil as other types of oil may damage the surface of the lens.

When using the 100X ensure you focus up through all the objectives, starting with the 4X. After focussing the 40X, turn the 40X away from the slide, apply the immersion oil to the slide and then turn the 100X immersion objective over the slide, allowing it to touch the oil. When in place, refocus using the fine focus control.

Always ensure that the immersion oil is bubble free...air bubbles will affect the image quality. To remove any bubbles, turn the 100X objective back and forth until they disappear.

After using the 100X it is essential that the oil is cleaned off the objective immediately. This should be done by racking the stage down away from the objective and cleaning the objective with a lens tissue moistened with cleaning agent. In addition, also remember to remove the oil from the slide itself. Finally, it is very important that you do not leave the 100X sitting in the oil for long periods of time as the heat from the lamp will cause the oil to 'bake' on to the lens.

Servicing

Your microscope is a highly important diagnostic instrument and to help ensure that it has a long-life and is kept in really good condition, servicing should be carried out every 12-18 months depending on usage.

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