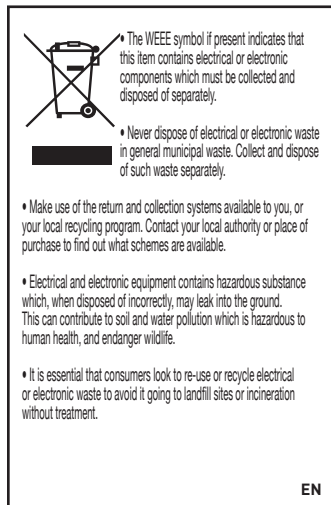


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CONFORMS TO THE SAFETY
REQUIREMENTS OF ASTM F963



40-1024X Microscope Instruction Manual



- Microscope Parts:
01. Eyepiece
 02. Focus Knob
 03. Stage
 04. Stage Clips
 05. Objective
 06. Objective Turret (40x, 100x, 400x)
 07. Illumination On/Off Switch and Mirror
 08. Battery Case
 09. USB Eyepiece
 10. WF 10x, WF 16x Eyepieces
 11. Barlow Lens
 12. (5) Prepared Slides and (5) Blank Slides with Slide Case
 13. Tweezers / Pipette
 14. Slicer
 15. Yeast / Gum Media / Sea Salt / Brine Shrimp Eggs
 16. Hatchery



Do not mix old and new batteries. Do not mix alkaline, standard (carbon-zinc), or rechargeable (ni-cad, ni-mh, etc.) batteries. Non-rechargeable batteries are not to be recharged. Please recycle batteries responsibly.

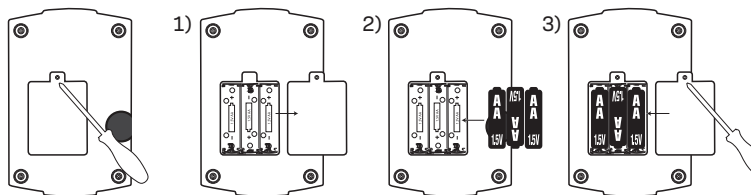
*Not suitable for children under 8 years of age. Contains functional sharp points.

How Do I Use My Microscope

Before you use your microscope, make sure that the table, desk or surface that you place it on is stable and is not subject to vibration. If the microscope needs to be moved, hold it by the arm and base while carefully transferring it. Once the microscope is in a suitable location and the batteries are installed, check the light source to make sure that it illuminates. Use a microfibre cleaning cloth to gently wipe the lenses off. If the stage is dirty with dust or oil, carefully clean it off. Make sure that you only raise and lower the stage using the focus adjustment knob.

Install Batteries

1. Remove button screws and cover.
2. Install batteries with the positive (+) and negative (-) in the correct direction indicated by the battery compartment label.
3. Replace the cover and screws.



How Do I Operate The Illumination?

Locate the mirror/light on the base of the microscope. Flip the mirror/light to the “on” position (with the light facing up) and the light will illuminate. This microscope is equipped with an incandescent light that illuminates the specimen from below.

How Do I Adjust My Microscope Correctly?

Place the microscope in a suitable location as described above, and sit in a comfortable viewing position. Always start each observation with the lowest magnification. Adjust the distance of the microscope stage so that the stage is in the lowest position — farthest away from the turret head. Turn the objective turret until it clicks into place at the lowest magnification (Objective: 4x/Magnification: 40x). Note: Before you change the objective setting, always make sure the microscope stage is farthest away from the turret by rotating the focus knob. Separating the stage and turret by rotating the focus knob will avoid causing damage to the specimen slide or microscope. When starting an observation, always start with the 5x objective in the rotating head.

How Do I Observe The Specimen?

With the Barlow lens nearly fully extended, your microscope's magnification can be doubled (fig. 1). Sitting in your location with adequate illumination chosen from the color filter wheel, the following basic rules should be observed. Start with a simple observation at the lowest magnification. Position the object or specimen in the middle of the stage under the stage clips, centered over the lower light. Focus the image by rotating the focus knob until a clear image appears in the eyepiece.

Place the prepared slide directly under the objective on the microscope stage and secure it with the stage clips. The prepared slide should be located directly over the lower illumination. Look through the eyepiece and carefully turn the focus knob until the image appears clear and sharp. Now you can select a higher magnification by rotating to the 10x/100x objective turret. Higher levels of magnification can be achieved by turning the objective turret to a higher setting (400x). Following this procedure creates a steady increase of magnification without overpowering the view of the object. The following magnification order should be used: 40x, 100x then 400x. Each time the magnification changes (due to the objective change), the image sharpness must be readjusted with the focus knob. When doing this, be careful because if you move the microscope stage too quickly, the objective and the slide could come into contact and cause damage to the slide or microscope.

Magnification Guide:

Eyepiece	Objective	Power	Barlow	Eyepiece	Objective	Power	Barlow
10x	4x	40x	64x	16x	4x	64x	102x
10x	10x	100x	160x	16x	10x	160x	256x
10x	40x	400x	640x	16x	40x	640x	1024x

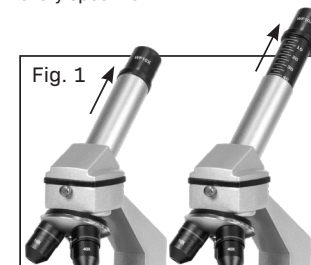
For transparent objects (e.g. sea salt), light is projected by the lower light traveling from below the stage, through the objective and eyepiece, and finally into your eye. This process of light transmission is known as microscopy. Many micro-organisms found in water, plant components and the smallest animal parts are transparent in nature. Opaque specimens, on the other hand, will need to be prepared for viewing. Opaque specimens can be made transparent by a process of treatment and penetration with the correct materials (media), or by slicing. You can read more about creating specimens in the enclosed microscope experiments booklet.

Troubleshooting Guide:

Problem	Solution
No recognizable image	Turn on light, Readjust focus, Start with the lowest power objective (5x)
No image	Centre object on slide under lowest power objective
No light	Replace batteries, Check on/off position

Did You Know?

The highest magnification is not always the best for every specimen!



USB Eyepiece

1. Slide a specimen under your microscope and focus on it.
2. Remove the eyepiece and Barlow lens from the eyepiece support and the dust cap from your MicroOcular and install same in the eyepiece supports instead of the Barlow lens.
3. Start your PC if you haven't yet and connect your USB Eyepiece to the USB port of your computer.

Showing and saving MicroOcular images on your PC

1. Start the Photomizer Software.
2. Click “Open camera”
3. In the event that you have connected more than one unit, you can choose the desired unit in the subsequent selection. Click on “USB 2.0 Webcam”. If only one device is connected, this step is omitted.
4. The camera image should now be visible on your screen. Focus the microscope image.
5. Click “Capture” to record an image. It will then be shown on the right.
6. Click on it to select it and then click “Transfer image”.
7. This takes you to the Photomizer software.
8. File - Save as

System requirements for PC eyepiece

Minimum system requirements: PC with an Intel Pentium IV processor or higher; Windows XP with Service Pack 3*, Windows Vista (32/64Bit) with Service Pack 2* or Windows 7 (32/64Bit) with Service Pack 1*; .NET Framework 4.0*; min. 1024 MB RAM (64Bit = 2048 MB); min. 500 MB free hard drive space; free USB port; CD/DVD/BD drive.

SAFETY WARNINGS

READ AND FOLLOW THE INSTRUCTIONS, SAFETY RULES, AND FIRST AID INFORMATION.

- THIS MICROSCOPE SET IS INTENDED FOR CHILDREN OLDER THAN AGE 7. CHILDREN SHOULD ONLY USE THIS DEVICE UNDER ADULT SUPERVISION. NEVER LEAVE A CHILD UNSUPERVISED WITH THIS DEVICE. ACCESSORIES IN THE EXPERIMENT KIT MAY HAVE SHARP EDGES AND TIPS. PLEASE STORE THE DEVICE AND ALL OF ITS ACCESSORIES AND AIDS OUT OF THE REACH OF YOUNG CHILDREN WHEN NOT BEING USED DUE TO A RISK OF INJURY.
- CHEMICALS: ANY CHEMICALS AND LIQUIDS USED IN CONJUNCTION WITH THE DEVICE SHOULD BE KEPT OUT OF REACH OF CHILDREN. DO NOT DRINK ANY OF THE CHEMICALS CONTAINED IN THIS SET. HANDS SHOULD BE WASHED THOROUGHLY UNDER RUNNING WATER AFTER WORKING WITH THESE CHEMICALS. IN CASE OF ACCIDENTAL CONTACT WITH EYES OR MOUTH, RINSE THE AFFECTED AREA WITH WATER. SEEK MEDICAL TREATMENT FOR AILMENTS ARISING FROM CONTACT WITH THE CHEMICAL SUBSTANCE, AND TAKE THE CHEMICALS WITH YOU TO THE DOCTOR.
- CHOKING HAZARD: CHILDREN SHOULD ONLY USE DEVICE UNDER ADULT SUPERVISION. KEEP PACKAGING MATERIALS LIKE PLASTIC BAGS AND RUBBER BANDS OUT OF THE REACH OF CHILDREN AS THESE MATERIALS POSE A CHOKING HAZARD.
- BATTERY GUIDELINES: THIS DEVICE CONTAINS ELECTRONIC COMPONENTS THAT ARE POWERED BY BATTERIES. BATTERIES SHOULD BE KEPT OUT OF CHILDREN'S REACH. WHEN INSERTING BATTERIES, PLEASE ENSURE THE POLARITY IS CORRECT. INSERT THE BATTERIES ACCORDING TO THE DISPLAYED +/- INFORMATION. NEVER MIX OLD AND NEW BATTERIES. REPLACE ALL BATTERIES AT THE SAME TIME. NEVER MIX ALKALINE, STANDARD CARBON-ZINC AND RECHARGEABLE NICKEL-CADMIUM BATTERIES. NEVER SHORT CIRCUIT THE DEVICE OR BATTERIES OR THROW EITHER INTO A FIRE. LEAKING OR DAMAGED BATTERIES CAN CAUSE INJURY IF THEY COME INTO CONTACT WITH THE SKIN. IF YOU NEED TO HANDLE SUCH BATTERIES, PLEASE WEAR SUITABLE SAFETY GLOVES. REMOVE BATTERIES FROM THE PRODUCT BEFORE EXTENDED STORAGE TO PREVENT
- LEAKING. DO NOT IMMERSE THE BATTERY COMPARTMENT IN WATER. PLEASE RECYCLE BATTERIES RESPONSIBLY.
- RISK OF FIRE: DO NOT PLACE DEVICE, PARTICULARLY THE LENSES, IN DIRECT SUNLIGHT. THE CONCENTRATION OF LIGHT RAYS COULD CAUSE A FIRE.
- DO NOT DISASSEMBLE THIS DEVICE. IN THE EVENT OF A DEFECT, PLEASE CONTACT YOUR DEALER. THE DEALER WILL CONTACT THE CUSTOMER SERVICE DEPARTMENT AND CAN SEND THE DEVICE IN TO BE REPAIRED IF NECESSARY.
- DO NOT SUBJECT THE DEVICE TO TEMPERATURES EXCEEDING 60 °C (140 °F).
- DISPOSAL: KEEP PACKAGING MATERIALS, LIKE PLASTIC BAGS AND RUBBER BANDS, AWAY FROM CHILDREN AS THEY A POSE A RISK OF SUFFOCATION. DISPOSE OF PACKAGING MATERIALS AS LEGALLY REQUIRED. CONSULT THE LOCAL AUTHORITY ON THE MATTER IF NECESSARY AND RECYCLE MATERIALS WHEN POSSIBLE.