

INSTRUCTION MANUAL
FliKO let queqr g'6lp3



WARNING! Only for use by children over 8 years old. Only for use under the supervision of adult. This toy contains functional edge.

CAUTION! Read the instructions before use, follow them and keep them for reference. Keep small children and animals away from experiments. Store the microscope set out of reach of small children. Eye protection for supervising adults is not included.

Parent Quick Start Guide

While the DigiMicroscope 4in1 is easy to install and use, the initial hardware and software setup must be done **by an adult**. Please follow the instructions below to get started.

It is important to install the software first. This microscope will work on computers equipped with a USB 1.1 port (USB 2.0 recommended) and Windows® 2000, Windows® XP SP2 or Windows® Vista. Driver installation for Windows® 2000 system is mandatory. **Driver installation for XP SP2 and Vista systems is optional and only required if your computer has issues using this microscope in driverless mode.**

1. Insert the installation CD.
2. Wait for the autoplay to start
(If Autoplay does not automatically launch the installer, go to the desktop and double-click on the icon named My Computer. Double-click the icon for the CD-ROM/DVD drive that contains the Microscope software. Sometimes this will cause Autoplay to start. If it doesn't, double-click on the autorun.exe, and follow the setup steps on this page.)
3. This step is optional for Windows XP SP2 and Vista users, you do not need to install driver. You can jump to step 4. However, you can install driver if you really want to. **For Windows 2000 users, you must install driver first:** Connect the microscope's USB plug to the USB port of the computer. Install the microscope driver by clicking "Install Driver". Follow the on screen instructions to complete the installation.

4. Install the ArcSoft camera suite by clicking "Install PhotoImpression" and "Install VideoImpression" on the menu screen. Input the license key found on the CD sleeve if prompted.
5. Follow the steps by clicking the appropriate buttons.
6. You need the Adobe Acrobat Reader software to open the manual. Click "Install Adobe Acrobat Reader" if your computer does not have this software.
7. If you have the Adobe Acrobat Reader software installed, you can read the manuals for the Digital Microscope and the camera suite by clicking "Microscope Manual" and "ArcSoft Application Software Manual" on the menu screen respectively.
8. Insert the microscope's USB plug to the USB port of the computer. A new device named "USB 2.0 Camera" will be detected on the first time the microscope is plugged in. Start the PhotoImpression or VideoImpression application to acquire image with the digital microscope.

<p>I bder the environment with electrostatic discharge, the device may malfunction and require user to reset the device.</p>

Package contents:

1. Microscope
2. Digital camera (with lens, USB cable and stand)
3. 1 Eyepiece adaptor for web camera
4. 4 prepared slides
5. 8 blank slides
6. 12 blank labels
7. 12 slide covers
8. 12 cover glasses
9. 1 pair of metal tweezers
10. 1 preparation needle
11. 1 Software CDROM
12. This manual

Minimum system requirements:

- A computer with USB port
- Intel Pentium 4 Processor or AMD Athlon XP or faster
- 256MB System RAM
- Windows 2000/XP SP2/ Windows Vista
- CD-ROM drive
- 16-bit color display or higher

Software setup guide

For Windows 2000 users, please install the microscope driver software first. However, for Windows XP SP2 or Vista users, this digital microscope does not require any driver installation. **Driver installation for XP SP2 and Vista systems is optional and only required if your computer has issues using this microscope in driverless mode.** In any case, you need to use an imaging and/or a video application software to capture the images from the digital microscope. You can use your favorite application or the ones provided on the software CDROM:

1. Insert the software CDROM to your CDROM drive
2. Wait for autoplay to start
3. If the installer screen does not come up automatically, click "Start", "Run", and execute the file "autorun.exe" of the CD to start the installation program.
4. This step is optional for Windows XP SP2 and Vista users, you do not need to install driver. You can jump to step 5. However, you can install driver if you really want to. **For Windows 2000 users, you must install driver first:** Connect the microscope's USB plug to the USB port of the computer. Install the microscope driver by clicking "Install Driver". Follow the on screen instructions to complete the installation.
5. Install ArcSoft Camera Suite by clicking "Install PhotoImpression" and "Install VideoImpression" on the installer screen. Input the license key found on the CD sleeve if prompted.

Connecting the Digital Microscope:

1. After the Microscope software has been installed, plug the microscope's USB cable into your computer's USB port.
2. Go to the Windows Start menu to launch the imaging software like Arcsoft PhotoImpression, for example.

Note:

For the location of the USB ports on your computer, please refer to your computer's user manual. To ensure that the digital microscope works normally, do not connect or disconnect the USB cable from the computer while system is starting up or shutting down. To avoid unstable system software functioning, do not connect or disconnect the USB cable while application is opening or closing.

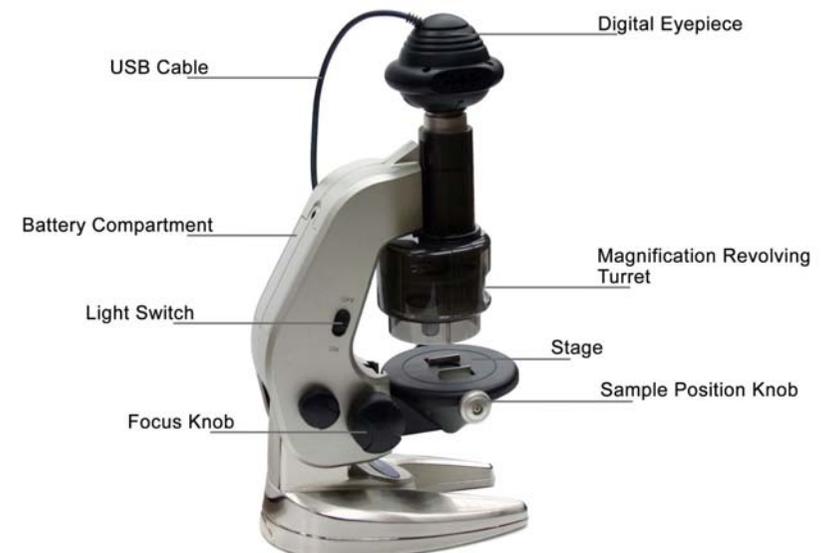
If you want to disconnect the digital microscope when the computer is on, remember to:

1. Close any software application that currently using for the microscope.
2. Disconnect the USB cable.

Never pull on the cable portion to disconnect the USB cable, always grasp the connector itself while disconnecting.

Note that the computer may not be able to recognize the microscope if it is disconnected and then reconnected while the computer is in power saving mode.

Using the Microscope in Digital Mode:



1. If you have been using the digital camera module as a web camera, unscrew the objective lens unit from the camera (figure 2a), then replace with the eyepiece adaptor (figure 2b).



Figure 2a



Figure 2b

2. Remove the eyepiece on the microscope (Figure 3a). Snap the digital camera module in the eyepiece position (Figure 3b), make sure the camera module sits properly in place.



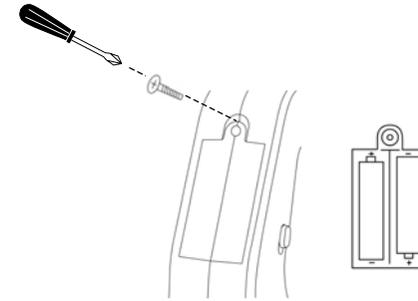
Figure 3a



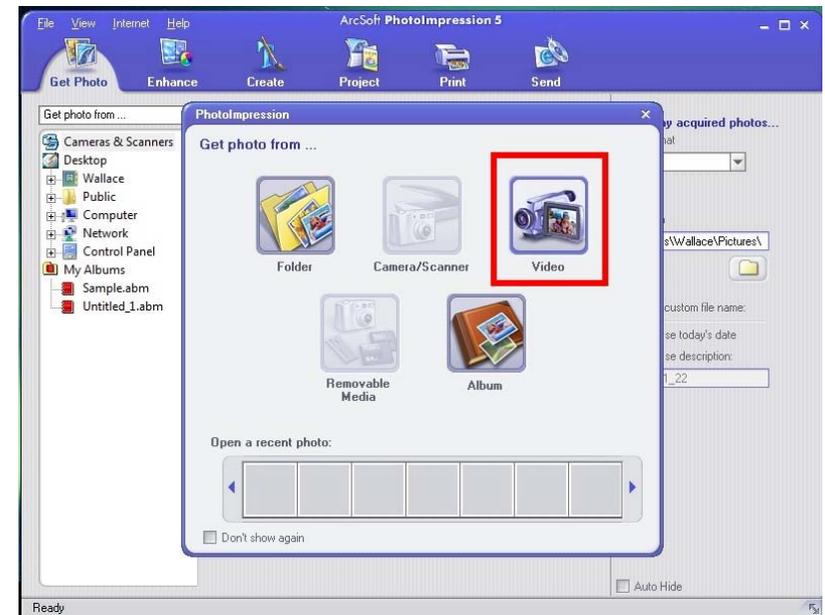
Figure 3b

3. Make sure the microscope is connected to the USB port of the computer.

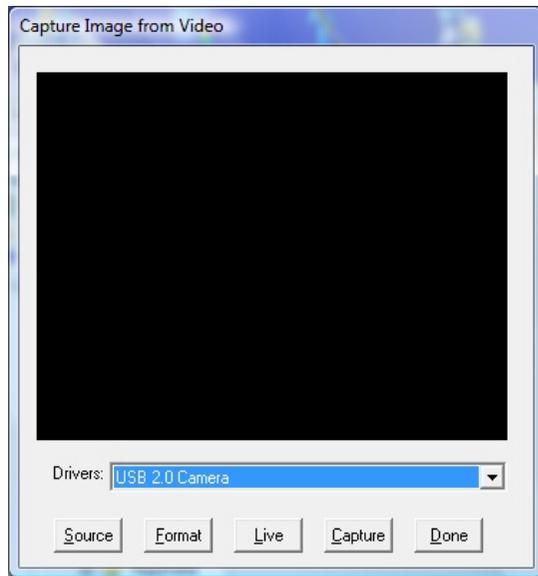
4. Install two AA size batteries (not included) in the battery compartment near the arm of the microscope.



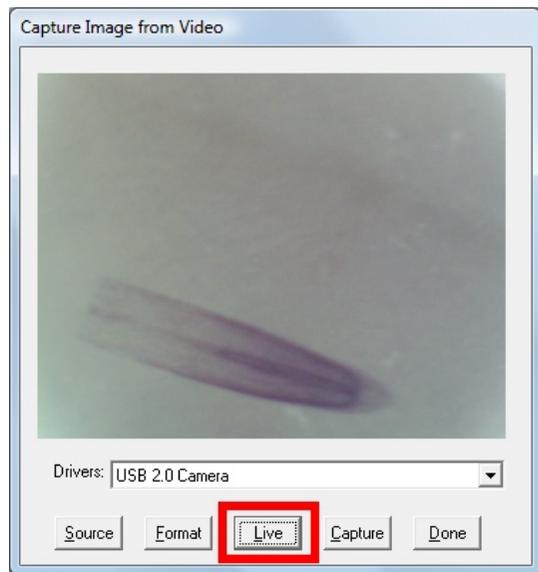
5. Place the slide on the stage, fasten it in place with the clip and switch on the illumination.
6. Start "PhotoImpression" program from the Windows Start menu. The application will start with the "Get Photo" screen. Here you can select the device which you get your photo from. If you have correctly connected the Digital Microscope, you should be able to select the "Video" icon. (On some systems, the "Video" icon may not be selectable. In such case, get photo from "Camera/Scanner" and then select "WIA-USB Video Device".)



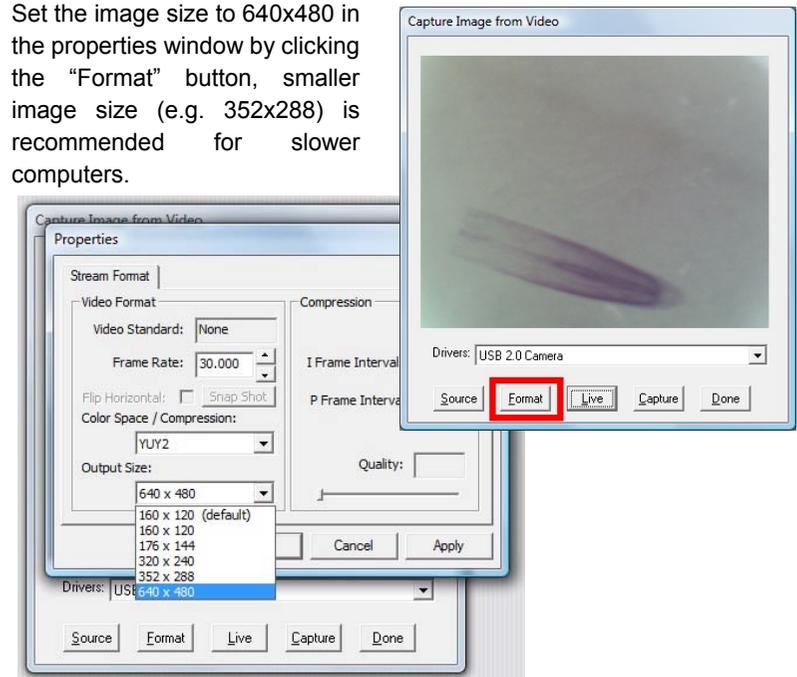
- A window "Capture Image from Video" will pop up, select "USB 2.0 Camera" from the "Drivers" list.



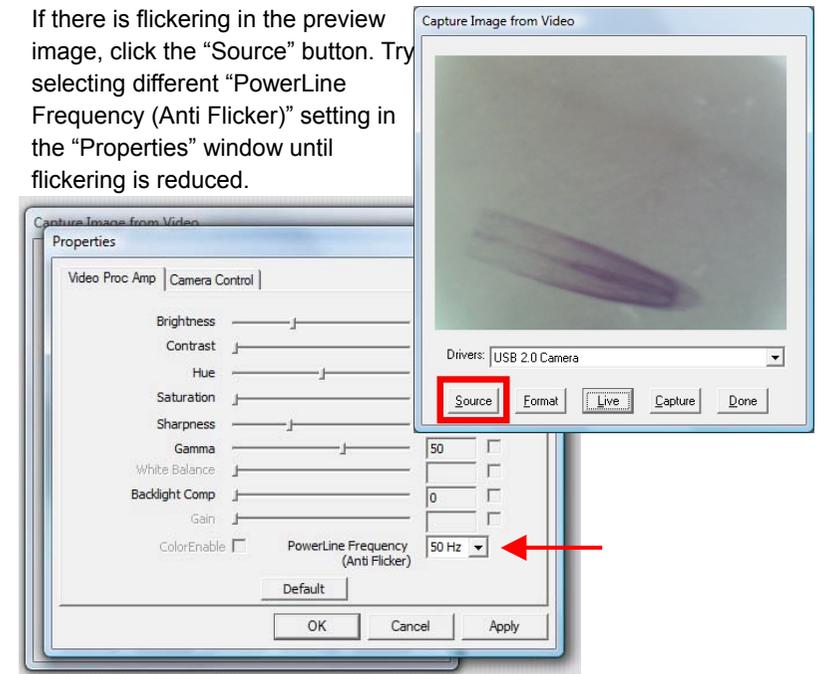
- The image window will be blank. To preview the image from the microscope, click the "Live" button.



- Set the image size to 640x480 in the properties window by clicking the "Format" button, smaller image size (e.g. 352x288) is recommended for slower computers.



- If there is flickering in the preview image, click the "Source" button. Try selecting different "PowerLine Frequency (Anti Flicker)" setting in the "Properties" window until flickering is reduced.



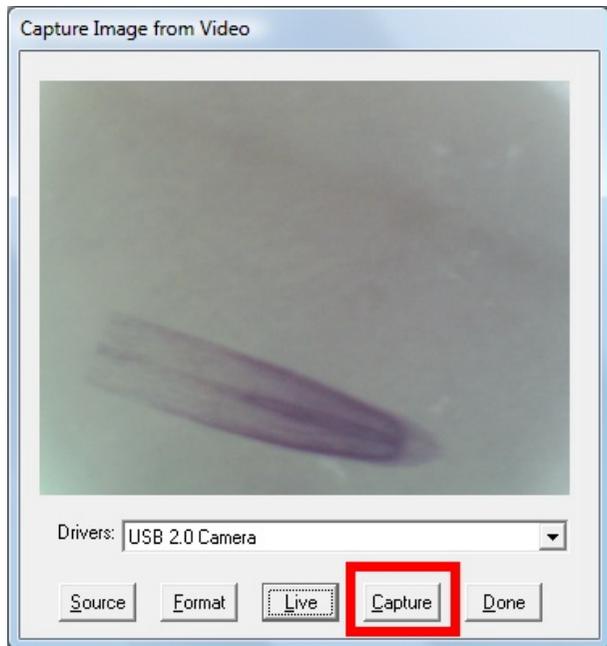
11. **Focus:**

Adjust the focus knob until the image on the computer screen looks clear. Focusing may take a little practice. Try making small changes and waiting for the screen to catch up.

Selecting different magnification:

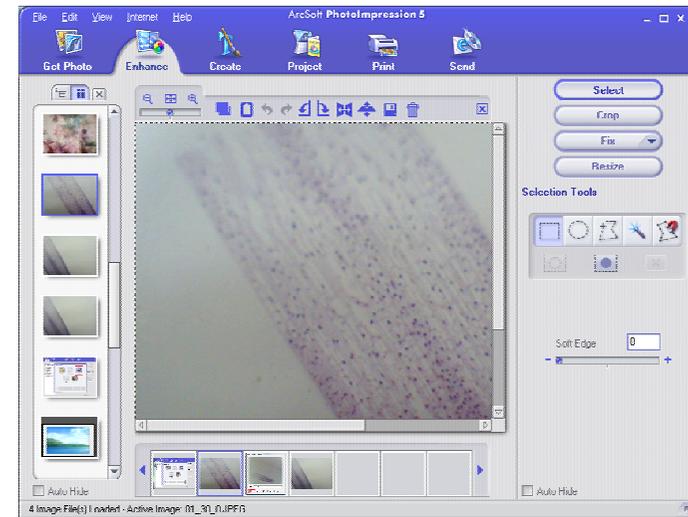
You can choose different magnification power by rotating the magnification revolving turret of the microscope. The current level is indicated on the magnification level label facing you. You will feel a click if the lens is properly aligned. Levels of 100X, 200X and 450X can be selected.

12. Press the “Capture” button to capture the current image. Press “Done” to exit the “Capture” window.



13. The captured image will appear in the main working area, select the “Enhance” or “Create” icon near the top to edit the new image, or select “Get Photo” again to capture another image. Refer to the manual of

“PhotoImpression” (in the supplied installation disc) for further details.



Using the Microscope in non-Digital Mode:

1. Replace the digital camera module of the microscope with the **removable eyepiece** for direct viewing (figure 4).



Figure 4

2. Focusing and magnification level selection are the same as in digital mode.
3. Please refer to the detail instructions of using the microscope starting from page 12.

Using the digital camera module as a PC camera:

1. Screw the objective lens unit back to the camera module if it has been removed for microscope viewing. Care should be taken not to make fingerprints or dust on the lens and the sensor of the camera.
2. Place the camera unit on the stand as shown below.



3. Connect the camera module to the USB port of the computer
4. Start "PhotoImpression" or other Imaging applications from the Windows Start menu.
5. Adjust the focus by rotating the lens until a clear image is displayed.
6. You can take still pictures and save them in the computer using the same procedure as described in the section "Using the Microscope in Digital Mode".
7. To use the camera module as a web camera for video conference, you need to install applications like "Netmeeting" or "MSN Messenger", which can be downloaded from Microsoft's web site. Please refer to the corresponding application manual.

Handling note:

The image sensor of the camera is a delicate integrated circuit and must be handled carefully. When you remove the lens from the camera, dust may fall on the sensor. Only use a blower to clean the dust. Never touch the sensor.

Technical Specifications:

Image Sensor:	1/4.5 inch color CMOS (310k effective pixels)
Color:	24 bit RGB
Interface:	USB 2.0 (backward compatible with version 1.1)
Video Preview:	30fps @320x240 pixels (QVGA) 30fps @640x480 pixels (VGA)
Video Control:	PC software provides control for brightness, contrast, hue, saturation, sharpness, gamma, 50/60Hz flicker filtering
Video Capture:	30fps @320x240 pixels (QVGA) 30fps @640x480 pixels (VGA)
Still Capture:	30fps @320x240 pixels (QVGA) 30fps @640x480 pixels (VGA)
Magnification:	100, 200, 450 (for 14" screen)

Welcome to the world of Micro-Science®

We take great pleasure in introducing you to the world of Microscope. Microscope refers to an instrument with lenses for making very small near objects to appear larger. Because there are innumerable living things that cannot be seen with our naked eyes, microscope enables these invisible living things to be seen effortlessly.

The discovery of microscope goes back many many years, and since the invention it has exposed to a new field of exploration and study as more attractive, and exquisite specimens as you ever imagined can be evidenced.

In our new world of advanced technology, every science from the most fundamental study of biology to the highly skilled fields of astro-physiology will use some form of microscope. The mission of microscope allows anyone from all walks of life to better comprehend the complex forms of living organisms or stagnant materials that construct this world which we live in.

This microscope set will be the starting point to your many hours of fruition as a hobby or broader your opportunity to a wonderful world of science.

Happy Experimenting!!!

Attention

The following information should be read carefully in order to overcome confusions.

This microscope set is appropriate for children over 8 years old. If not applied, supervision of adult is required as this set comprises of functional sharp edge.

Before using the microscope, attentively and carefully read the instructions, follow the guide, and keep them for future direction in case you need further helpful hints.

In any situation, be extremely cautious not to allow chemicals to come into contact with any part of the body, especially the eyes and mouth. Keep away young infants and animals from the experiment. Always, keep the microscope set in a place where young infant is out of reach.

Eye protection is not provided, it can be obtained from any science departments, and major shopping outlets. Remember, in case of accidents please seek medical advice.

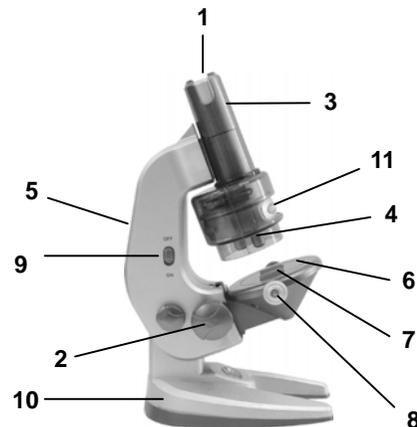
Helpful Hints

- The essential component of the microscope is the lens. Consequently, adequate care must be exercised when dealing with the lens.
- Microscope should be stored in a moisture free place. Because moisture build up on the lenses will reduce the light intensity.
- After it is utilized, protect the microscope from dust by covering the microscope or putting it back into the box.
- If the lens gets dusty or dirty, it is suggested to clear off the lens surface with a soft cotton cloth or tissue. Do not rub the lens with a finger or unclean cloth.
- If a microscope is not used for a long period of time, discharge the light source batteries.

Always keep instructions to hand.

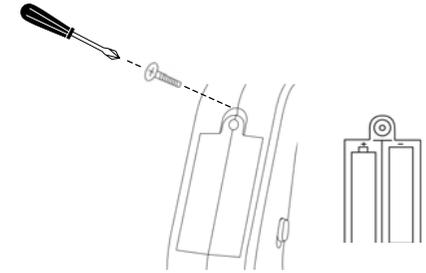
Components of a Microscope

1. Eyepiece
2. Focusing knob
3. Body tube
4. Objective lens
5. Arm
6. Stage
7. Clip
8. Clip adjusters
9. Power switches for the illuminator
10. Base
11. Magnification revolving turret



Procedures

1. Firstly, insert 2 AA penlite dry cells batteries in the arm of the microscope. You will need to use a screwdriver to open the battery case cover. (Batteries are not included)
2. Now put the prepared slide on the stage, and fasten it in place with the clip adjusters.
3. Next, choose the magnification strength you desire. In general, it is recommended to begin with lower magnification for easier focusing. To change the magnification setting, turn the magnification revolving turret until you hear a click.
4. Turn on the illuminator for viewing.
5. Look through the eyepiece and slowly adjust the focusing knob until the object on the slide becomes clear. To view different part of the slide, adjust the clip adjusters until the desired object appears through the eyepiece.



How To Make a Prepared Slide

Please note that if the given specimen is not thin and crystalline, it cannot be inspected by the microscope. This is due to the fact that light from the reflector or light source does not advance through.

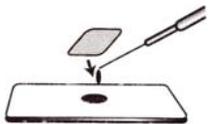
- Fibres of wool, pollen, or salt will be simple to see, and will not need a cover glass.
- Crystal-clear specimen are stain first with a drop or two drops of methylene blue. Eosin or other dyeing solutions are available on the market.

Also note these are dyeing solutions, and thus could induce staining of clothing, fabrics, and carpets. Extreme care should be handled with when dealing with these solutions.

1. Temporary Mount

- Wipe the slide and cover glass clean
- Thin the sample with a razor blade. (Be extremely careful)
- Then pick it up with tweezers, and put it on the centre part of the glass slide.
- Next, add one drop of water on the sample with a dissecting needle. If the sample is clear, add one drop of methylene blue or eosin solutions. (Be extremely careful)
- Gently put the cover glass on top of it, be sure not to let any air bubbles go in.
- Remove any excess water or dyeing solutions with blotting paper.
- Now, it is ready for observation.

Remember to wash your hands immediately after doing the preparations and dispose the dyeing solutions down the drain but not into a sink.



2. Permanent Mount

- Wipe the slide and cover glass clean.
- Continue as above but before covering the slide with the cover glass, add few drops of gum media (or Canada balsam) solution or

transparent adhesive glue with a dissecting needle to the slide.

- Place the cover glass on top with tweezers, and leave it to dry for about a day.

Safety Recommendations:

Always seek medical attention in case of any doubts.

In case of:

- Eye contact: Wash the eye with plenty of water, and if necessary hold the eye open.
- Inhalation: Remove person to fresh air.
- Cut: The wound should be washed in antiseptic solution, or clean water. Next, put on a bandage.
- Swallowed: Do not encourage vomiting. Wash mouth with water, and drink fresh water.

In any of the above situations, please contact a doctor.



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IMPORTANT: Keep these instructions. DO NOT DISCARD.



1. Requires 2 x "AA" (LR6) batteries. (Not included)
2. Only adults should install and replace batteries.
3. Alkaline batteries are recommended.
4. Do not use rechargeable batteries.
5. If the toy has not been used for a long time, remove the batteries.
6. Non-rechargeable batteries are not to be recharged.
7. Do not mix old and new batteries.
8. Do not mix alkaline, standard (carbon zinc) or rechargeable (nickel cadmium) batteries.
9. Exhausted batteries are to be removed from the toy.
10. The supply terminals are not to be short-circuited.
11. Only batteries of the same or equivalent type as recommended are to be used.
12. Batteries are to be inserted with the correct polarity.