



Micro Science® MICROSCOPE SET INSTRUCTIONS

WARNING! Not Suitable For Children Under 36 Months Due to Small Parts.
Choking hazard. This experiment kit includes sharp parts. Use with care
and only under supervision of adults.

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.



At any time in the future
you should need to
dispose of this product
please note that

Waste Electrical products should not be
disposed of with household waste.
Please recycle where facilities exist.
Check with your Local Authority or
retailer for recycling advice. (Waste
Electrical and Electronic Equipment
Directive)

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

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 of 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 evidence.

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 complexity forms of living organisms or stagnant materials that construct this world in 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 sharp dissecting needle, practical sharp edge on scalpel, spatula, and pointer tweezers.

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

In any situation, be extreme caution to not 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, reserve the microscope set in a place where young infant is out of reach.

Remember, in case of accidents please seek medical advice.

Safety Recommendations:

Always seek medical attention in case of any doubts.

In case of:

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

Components of a Microscope

1. Eyepiece
2. Focusing knob
3. Body tube
4. Revolving turret
5. Objective lens
6. Arm
7. Stage
8. Clip
9. Mirror
10. Illuminator Lamp (Light source lamp)
11. Base (Battery compartment)

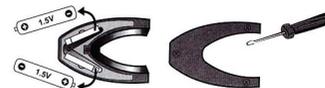


Helpful Hints

- 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 light encourages a reduction in light concentration.
- After it is utilized, protect the microscope from dust by covering the microscope or placing 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 put to use for a long period of time, discharge the light source batteries.

Procedures

1. Firstly, insert 2 "AAA" 1.5V batteries into the back of the base. To open the base you will need to either just lift off the rubber base or use a screwdriver to open it. (Batteries are not included)



2. Tilt the body and adjust the location of the reflector. Therefore, the light is fully caught by the mirror.



3. When the light is fully reflected by the mirror, which can be seen via the eyepiece, the microscope will be ready for inspection.



4. Now put the prepared slide on the stage, and fasten it in place with the clips.



5. Next, choose which magnification strength you desire. Remember, the greater the length of the objective lens, the bigger the magnification. In general, inspection is usually made at a low setting.



6. To change the magnification strength, turn the revolving turret until you hear a click.

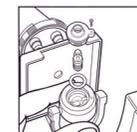
7. Using the focusing knob, let down the lens as close as possible to the prepared slide sans making interactions. Next, looking through the eyepiece, turn the knob anti-clockwise until the reflection achieves clarity.

8. If the experimenting room is dim with low intensity of light, or if the focus is unclear at extreme magnification, it is recommended to turn on the illuminator lamp by rotating it towards the stage. Automatically, the light source lights will allow for observation.

How to replace the bulb

The microscope uses one (3V, 0.2A, Type TL-3) bulb:

1. Use the provided screwdriver to loosen the screw.
2. Turn the ring anticlockwise to unlock.
3. Turn the Light Bulb anticlockwise and replace.



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.

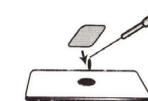
- Fiber of wool, pollen, or salt will be simple to see, and will not need a cover glass.
- Crystal-clear specimen are stain first with a drop or two drops of methylene blue. Eosin or other dyeing solutions are available on the market.

Also note these are dyeing solutions, and thus could induce staining of clothing, fabrics, and carpets. Extreme care should be handled 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 it, take care not to let any air bubbles in it.
- 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 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.
- Put down on the cover glass with tweezers or fix it in place, and leave it to dry for about a day.