



Discovery Scope Set 3 Telescope-Microscope-Binoculars User Manual

[Home](#) » [Discovery](#) » Discovery Scope Set 3 Telescope-Microscope-Binoculars User Manual 

Contents

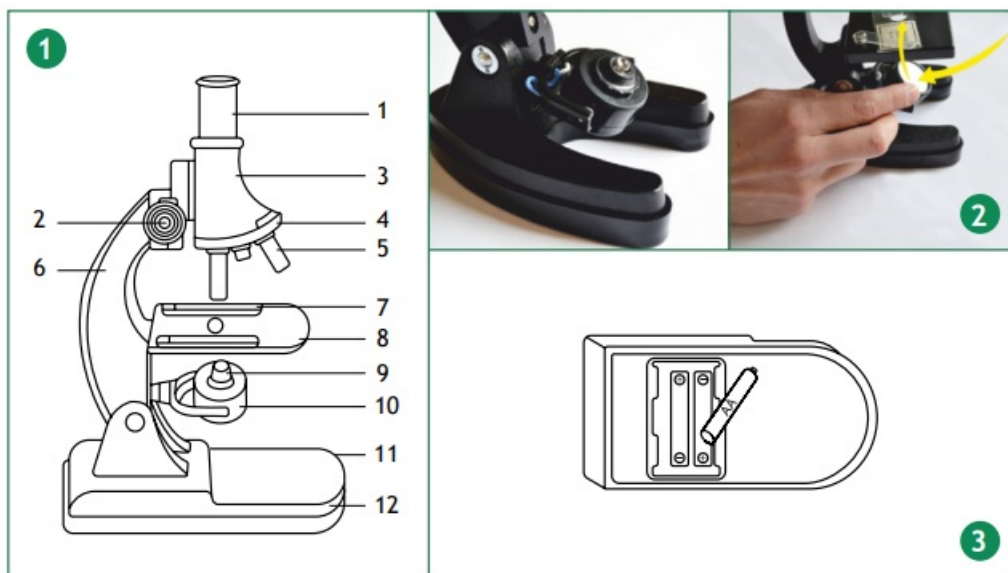
- [1 Discovery Scope Set 3 Telescope-Microscope-Binoculars](#)
- [2 Discovery Scope Set 3 Microscope](#)
- [3 Discovery Scope Set 3 Binoculars](#)
- [4 Discovery Scope Set 3 Telescope](#)
- [5 Discovery Scope Set 3 \(microscope, telescope, binoculars\)](#)
- [6 Microscope](#)
 - [6.1 Using the microscope](#)
 - [6.2 Focusing](#)
 - [6.3 Telescope](#)
 - [6.4 Binoculars](#)
- [7 Specifications](#)
 - [7.1 Battery safety instructions](#)
- [8 Documents / Resources](#)
- [9 Related Posts](#)

Discovery

Discovery Scope Set 3 Telescope-Microscope-Binoculars

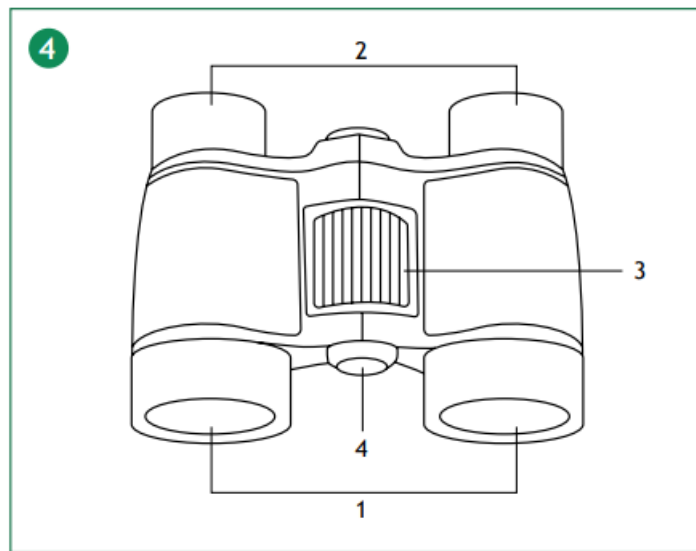


Discovery Scope Set 3 Microscope



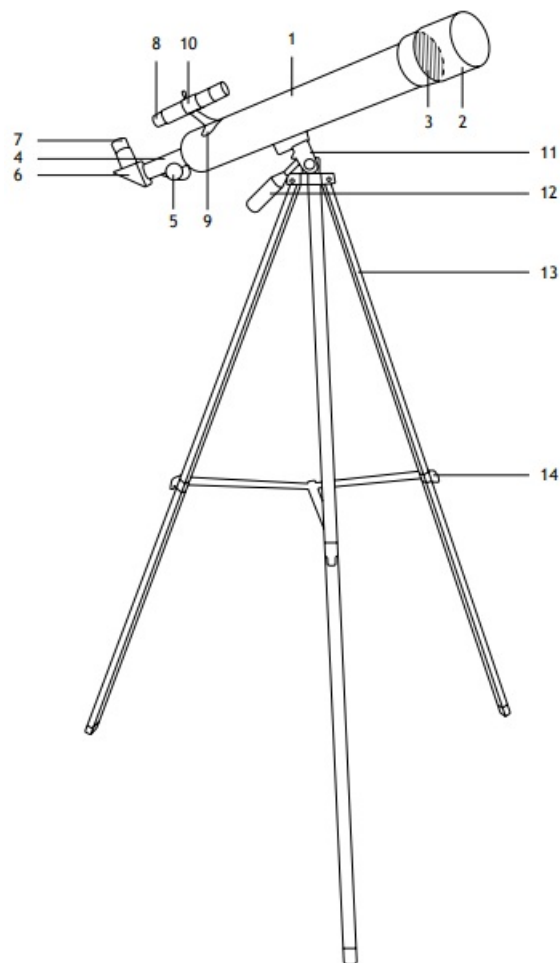
1. Eyepiece tube
2. Focusing knob
3. Microscope optical tube (monocular head)
4. Revolving nosepiece
5. Objective
6. Stand
7. Slide holder
8. Stage
9. Illumination
10. Mirror
11. Battery compartment
12. Base

Discovery Scope Set 3 Binoculars



1. Objectives
2. Eyepieces and eyecups
3. Central focusing wheel
4. Binocular axis

Discovery Scope Set 3 Telescope



1. Telescop tube
2. Dew cap
3. Objective lens

4. Focuser
5. Focusing knob
6. Diagonal mirror
7. Eyepiece
8. Finderscope
9. Finderscope bracket
10. Finderscope adjustments screw
11. Mount
12. Slow-motion control
13. Tripod leg
14. Tripod leg knob

Discovery Scope Set 3 (microscope, telescope, binoculars)

General use

Read the instructions carefully before you start using the devices. Discovery Scope Set 3 is safe for health, life, property of the consumer and the environment when properly used, and meets the requirements of international standards. The Discovery Scope Set 3 Microscope is designed for observing transparent objects in the transmitted light using the bright field method. The Discovery Scope Set 3 Telescope is an easy to use entry-level telescope perfect for kids and beginners in astronomy. The Discovery Scope Set 3 Binoculars are perfectly suited for observations both in the city and in the countryside.

Care and maintenance

- Never, under any circumstances, look directly at the Sun through this device without a special filter, or look at another bright source of light or at a laser, as it may cause PERMANENT RETINAL DAMAGE and may lead to BLINDNESS.
- Stop using the device if the lens fogs up. Do not wipe the lens! Remove moisture with a hair dryer or point the telescope downward until the moisture naturally evaporates.
- Do not touch the optical surfaces with your fingers. Clean the lens surface with compressed air or a soft lens cleaning wipe. To clean the device exterior, use only the special cleaning wipes and special tools that are recommended for cleaning the optics.
- Replace the dust cap over the front end of the telescope whenever it is not in use. Always put eyepieces in protective cases and cover them with caps. This prevents dust or dirt from settling on the mirror or lens surfaces.
- Lubricate the mechanical components with metal and plastic connecting parts. Components to be lubricated:
 - Optical tube;
 - Fine mechanics (focuser rail, telescope optical tube microfocuser);
 - Mounting;
 - Worm-and-worm pairs, bearings, cogs, threaded mounting gears. Use all-purpose silicon-based greases with an operating temperature range of $-60 \dots +180^{\circ}\text{C}$ ($-76 \dots +356^{\circ}\text{F}$).
- After unpacking your microscope and before using it for the first time check for integrity and durability of every component and connection.
- Protect the device from sudden impact and excessive mechanical force. Do not apply excessive pressure when adjusting focus. Do not overtighten the locking screws.

- Abrasive particles, such as sand, should not be wiped off lenses, but instead blown off or brushed away with a soft brush.
- Do not use the device for lengthy periods of time, or leave it unattended in direct sunlight. Keep the device away from water and high humidity.
- Be careful during your observations, always replace the dust cover after you are finished with observations to protect the device from dust and stains.
- If you are not using your microscope for extended periods of time, store the objective lenses and eyepieces separately from the microscope.
- Do not try to disassemble the device on your own for any reason. For repairs and cleaning of any kind, please contact your local specialized service center.
- Store the device in a dry, cool place away from hazardous acids and other chemicals, away from heaters, open fire, and other sources of high temperatures.
- If a part of the device or battery is swallowed, seek medical attention immediately.
- Children should use the device under adult supervision only.

CAUTION! CHOKING HAZARD! These devices include small parts. The microscope, telescope and binoculars are designed for children over 5 years of age and should only be used under adult supervision.

Microscope

Using the microscope

Getting started

- Unpack the microscope and make sure all parts are available.
- Make sure the batteries are correctly installed in the battery compartment; insert new batteries if required.
- Put the microscope on a level surface and switch on the light. You can use the microscope without the light, using a mirror. Put it next to the source of the bright light (a window or a desk lamp). Turn the mirror to the source of light a bright spot of light shall be seen in the eyepiece.

Focusing

- Place a specimen on the stage and fix it with the holders.
- Start your observations with the lowest magnification objective and select a specimen segment for detailed research. Then move the specimen to center the selected segment in the field of view, to make sure it keeps centered when the objective is changed to a more powerful one. Once the segment is selected, you should center its image in the microscope's field of view as precisely as possible. Otherwise, the desired segment might fail to center in the field of view of the higher power objective. Now you can switch to a more powerful objective by rotating the revolving nosepiece. Adjust the image focus if required.
- Move the specimen to place its thickest part exactly under the objective.
- Adjust sharpness, rotating the focusing knob, until you see a sharp image. Caution! The objective should not touch the specimen, otherwise the objective or/and the specimen might be damaged.

The microscope kit includes: microscope, 10x eyepiece, spare bulb, empty flask (3pcs), slides and cover slips (3pcs each), slide stickers (3pcs), plastic tools (scalpel, pipette, spatula, forceps, dissecting needle).

CAUTION! Never direct the mirror towards the Sun, as it may ruin your eyesight and even cause blindness.

Telescope

CAUTION! Never look directly at the Sun — even for an instant — through your telescope or finderscope without a professionally made solar filter that completely covers the front of the instrument, or permanent eye damage may result. To avoid damage to the internal parts of your telescope, make sure the front end of the finderscope is covered with aluminum foil or another non-transparent material. Children should use the telescope under adult supervision only.

All parts of the telescope will arrive in one box. Be careful when unpacking it. We recommend keeping the original shipping containers. In the event that the telescope needs to be shipped to another location, having the proper shipping containers will help ensure that your telescope survives the journey intact. Be sure to check the box carefully, as some parts are small. All screws should be tightened securely to eliminate flexing and wobbling, but be careful not to overtighten them, as that may strip the threads.

During assembly (and anytime, for that matter), do not touch the surfaces of the optical elements with your fingers. The optical surfaces have delicate coatings on them that can easily be damaged if touched. Never remove lenses or mirrors from their housing, or the product warranty will be null and void.

• Mount assembly

- On the lower part of the tube, there is a mounting plate with a threaded hole. Align it with the fastening screw of the tripod.
- Screw the tripod fastening screw into the hole on the tube mounting plate in order to secure the telescope tube.
- Do not overtighten the screw because you might accidentally damage the screw thread.

• Optical finderscope assembly and alignment

Unthread two screws in the back of the telescope tube. Place the finderscope base above the holes on the tube. Lock the finderscope base into position by tightening the screws. Optical finderscopes are very useful accessories. When they are correctly aligned with the telescope, objects can be quickly located and brought to the center of the view. Turn the scope end in and out to adjust focus. To align the finderscope, choose a distant object that is at least 550 yards (500 meters) away and point the telescope at the object. Adjust the telescope so that the object is in the center of the view in your eyepiece. Check the finderscope to see if the object is also centered on the crosshairs. Use three adjustment screws to center the finderscope crosshairs on the object.

• Optical accessories assembly

Loosen the focuser thumbscrew. Insert the diagonal mirror into the focuser tube and retighten the thumbscrew to hold the diagonal mirror in place. Then, insert the desired eyepiece into the diagonal mirror and secure it by retightening the thumbscrew.

• Focusing

Slowly rotate the focus knobs one way or the other until the image in the eyepiece is sharp. The image usually has to be finely refocused over time due to small variations caused by temperature changes, flexures, etc.

• Operating the mount

The AZ mount is an alt-azimuth mount that allows you to rotate the telescope about the vertical and horizontal axes and change its altitude and azimuth. Due to Earth's movement, the objects will be constantly shifting out of your view, so you will have to adjust the altitude and azimuth of your telescope to continue your observations.

Binoculars

Interpupillary distance adjustment

Look through the binoculars' eyepieces with both eyes. To adjust the interpupillary distance, keep varying the

angle between the binoculars' parts (relative to its central axis) until the image merges into a single circle. Remember the setting for future use.

Focusing

- Look through your binoculars at a distant object;
- Close your right eye and rotate the central focusing wheel until the view is focused.

The binoculars kit includes: binoculars, pouch, cleaning wipe, strap

Specifications

Microscope

Optics material	optical plastic
Head	monocular
Eyepieces	10x
Revolving nosepiece	3 objectives: 15x, 45x, 90x
Magnification, x	150—900
Illumination	incandescent lamp, mirror
Power source	2 AA batteries

Telescope

Optical design	refractor
Optics material	optical glass
Magnification, x	100
Aperture, mm	50
Focal length, mm	600
Focal ratio	f/12
Eyepieces	10mm (60x), 5mm (120x)
Finderscope	optical, 2x
Tripod	aluminium, 65—115mm
Mount	AZ

Binoculars

Magnification, x	4
Optics material	optical glass
Optics coating	fully coated
Objective lens diameter (aperture), mm	30
Eyecups	rubber
Central focusing	+

The manufacturer reserves the right to make changes to the product range and specifications without prior notice.

Battery safety instructions

- Always purchase the correct size and grade of battery most suitable for the intended use.
- Always replace the whole set of batteries at one time; taking care not to mix old and new ones, or batteries of different types.
- Clean the battery contacts and also those of the device prior to battery installation.
- Make sure the batteries are installed correctly with regard to polarity (+ and –).
- Remove batteries from equipment that is not to be used for an extended period of time.
- Remove used batteries promptly.
- Never short-circuit batteries as this may lead to high temperatures, leakage, or explosion.
- Never heat batteries in order to revive them.
- Do not disassemble batteries.
- Remember to switch off devices after use.
- Keep batteries out of the reach of children, to avoid risk of ingestion, suffocation, or poisoning.
- Utilize used batteries as prescribed by your country's laws.


Levenhuk Warranty

Levenhuk products, except for their accessories, carry a 2-year warranty against defects in materials and workmanship. All Levenhuk accessories are warranted to be free of defects in materials and workmanship for six months from the purchase date. The warranty entitles you to the free repair or replacement of the Levenhuk product in any country where a Levenhuk office is located if all the warranty conditions are met.

For further details, please visit: www.levenhuk.com/warranty

If warranty problems arise or if you need assistance in using your product, please contact the local Levenhuk branch.

Documents / Resources

 <p>Discovery Scope Set 3 Telescope-Microscope-Binoculars</p>	<p>Discovery Scope Set 3 Telescope-Microscope-Binoculars [pdf] User Manual Scope Set 3, Telescope-Microscope-Binoculars, Scope, Set 3</p>
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