
# Discovery Scope Set 2 Microscope User Manual

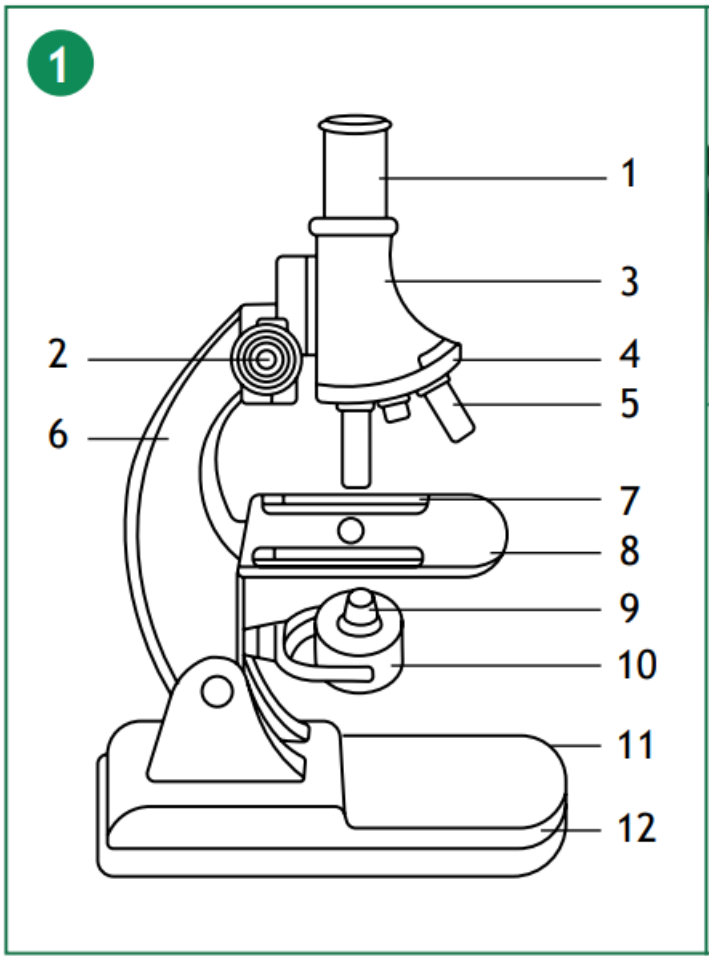


**Discovery Scope Set 2 Microscope**

Contents



## Overview



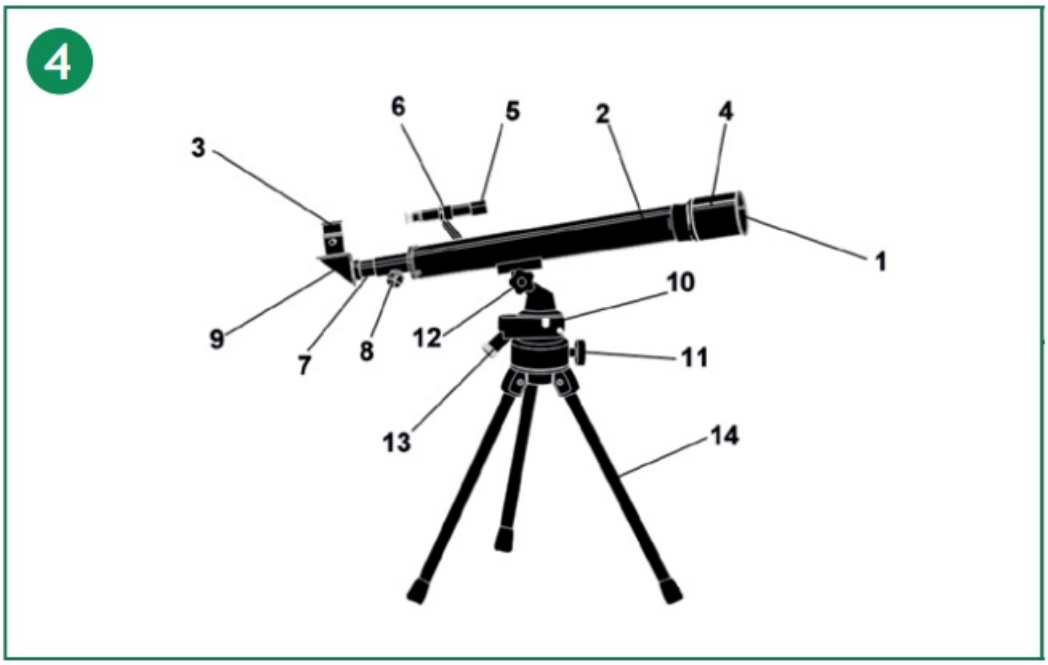

1. Eyepiece tube
2. Focusing knob
3. Microscope optical tube (monocular head)
4. Revolving nosepiece
5. Objective
6. Stand

7. Slide holder
8. Stage
9. Illumination
10. Mirror
11. Battery compartment
12. Base

**The kit includes:**

- 1 microscope
- 3 prepared microscope slides
- 3 blank slides
- 5 cover slips
- 5 slide stickers
- 1 scalpel
- 1 forceps
- 1 spatula
- 1 dissecting needle
- 2 flask with dye
- 2 backup bulb
- 1 flask with glue
- 1 pipette

### Discovery Scope Set 2 Telescope




1. Objective
2. Optical tube
3. Eyepiece

4. Sun shade
5. Finderscope
6. Finderscope bracket
7. Focuser
8. Focusing knob
9. Diagonal mirror
10. Altazimuth mount
11. Azimuth lock knob
12. Altitude lock knob
13. Slow-motion control
14. Tabletop tripod

### General use

Read the instructions carefully before you start using the devices. Discovery Scope Set 2 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 2 Microscope is designed for observing transparent objects in the transmitted light using the bright field method. The Discovery Scope Set 2 Telescope is an easy to use entry-level telescope perfect for kids and beginners in astronomy.

### 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 … +180°C (–76 … +356°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.

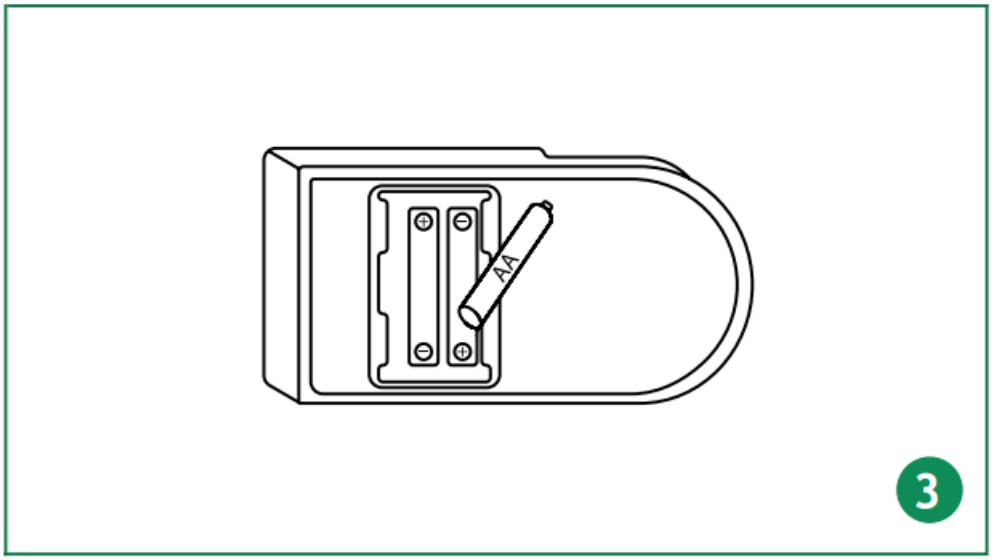
**CAUTION! CHOKING HAZARD! These devices include small parts. The microscope and telescope are designed for children over 5 years of age and should only be used under adult supervision.**

## 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 (fig. 3).




- 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 (fig. 2).


**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, prepared slides (3pcs), glass slides (3pcs), cover slips (5pcs each), slide labels (5pcs), spare bulb (2 pcs), bottle with fixative, stains (2 bottles), plastic pipette, dissecting knife, tweezers, spatula, dissecting needle.

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

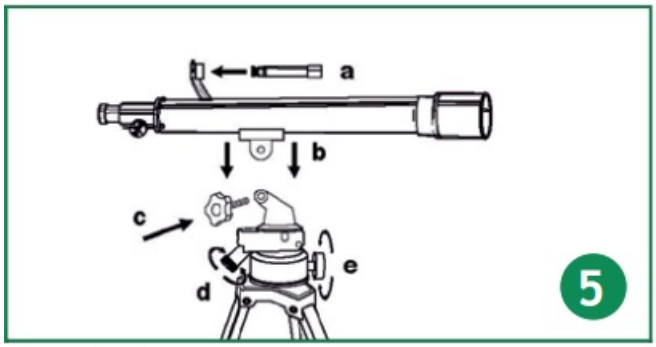
## Telescope

**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**

- Spread the tripod legs and install it on a flat surface so it is stable.
- Find the mounting screw on the telescope. Loosen it and set the telescope on the mount. Insert the screw in the holes on the telescope and the mount (fig. 5). Carefully tighten it. Attention! Do not overtighten the screw as you may 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 (fig. 6). 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.

**The telescope kit includes:** telescope, H12.5mm eyepiece, 18mm erect image eyepiece, 2x optical finderscope, diagonal mirror, tabletop tripod.

## Specifications

**Microscope**

| | |
|---|---|
| Optics material | optical polymer glass |
| Head | monocular |
| Revolving nosepiece | 3 objectives |
| Magnification, x | 75—900 |
| Illumination | LED, mirror |
| Power source | 2 AA batteries (not included) |

**Telescope**

| | |
|---|---|
| Optical design | refractor |
| Optics material | optical glass |
| Magnification, x | 100 |
| Aperture, mm | 50 |
| Focal length, mm | 500 |
| Focal ratio | f/10 |
| Eyepieces | H12.5mm (40x), erect image eyepiece 18mm |
| Finderscope | optical, 2x |
| Tripod | aluminium, 380mm |
| Mount | AZ |

## 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.

## CUSTOMER SUPPORT




**Levenhuk Inc. (USA): 928 E 124th Ave. Ste D, Tampa, FL 33612, USA, +1 813 468-3001, contact_us@levenhuk.com**
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Discovery

## Documents / Resources

| | |
|---|---|
|  | Discovery Scope Set 2 Microscope [pdf] User Manual<br>Scope Set 2 Microscope, Scope Set 2, Microscope |

## References

- Discovery Channel Shows and Articles | Discovery
- Levenhuk's official website in USA
- Доживотна гаранция на Levenhuk – Официален уебсайт на Levenhuk в България
- Doživotní záruka společnosti Levenhuk – Oficiální webové stránky Levenhuk pro Českou republiku
- Levenhuk Lebenslange Garantie – Die offizielle Website von Levenhuk in Deutschland

- Garantía internacional de por vida Levenhuk – Web oficial de Levenhuk en España
- Levenhuk Lifetime Warranty – Levenhuk's official website in USA
- A Levenhuk élettartamra szóló szavatossága – A Levenhuk hivatalos magyarországi weboldala
- Gwarancja bezterminowa Levenhuk – Oficjalna witryna internetowa Levenhuk w Polsce
- Поддержка - Гарантийное обслуживание Левенгук - Levenhuk Russia