

CELESTRON[®]
LABS
DIGITAL

ADVANCED

Wi-Fi DESKTOP MICROSCOPE
INSTRUCTION MANUAL

MODEL #44351



Tablet not included

INTRODUCTION

Thank you for purchasing the Celestron Labs Digital Wi-Fi Desktop Microscope.

Unlike traditional microscopes, this model uses a built-in 2MP digital camera instead of an eyepiece. Specimens are viewed live on your smartphone or tablet via the microscope's dedicated Wi-Fi signal. No internet connection is required.

This microscope provides magnification from 48x to 480x and is well-suited for examining prepared slides of plant and animal tissue, fibers, yeasts, molds, bacteria, and other biological specimens.

The free Celestron Labs Digital Wi-Fi App works with iOS and Android devices. With it, you can capture still images, record video, enable measurement tools, and save files directly to your device for sharing or analysis.

The microscope offers traditional high-end features, including a fully adjustable mechanical stage, three achromatic objectives (4x, 10x, and 40x), an Abbe condenser with an iris diaphragm, and coarse and fine focus controls. Also included are five prepared slides, a calibration slide, a multi-country AC adapter, and a smart device stand with safety strap.

Before getting started, read through the setup instructions and review the diagrams in this manual. A few minutes of preparation will ensure a smooth setup and the best possible performance.



Carefully unpack your Wi-Fi Desktop Microscope and verify that all items listed below are present:



- [A] Celestron Labs Digital Wi-Fi Desktop Microscope
- [B] Five prepared slides
- [C] Calibration slide
- [D] Multi-country AC adapter with four plugs
- [E] Smart device stand with safety strap
- [F] Quick Setup Guide

**CELESTRON
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WI-FI DESKTOP MICROSCOPE
QUICK START GUIDE

MODEL #44351

What's in the Box

- [A] Celestron Labs Wi-Fi Desktop Microscope
- [B] Smart Device Stand
- [C] Smart Device Stand Safety Strap
- [D] Smart Device Stand Safety Strap
- [E] Smart Device Stand Safety Strap
- [F] Calibration Slide
- [G] Multi-country 100-240V AC Adapter

Lieferumfang

- [A] Celestron Labs Wi-Fi Desktop Microscope
- [B] Smart Device Stand
- [C] Smart Device Stand Safety Strap
- [D] Smart Device Stand Safety Strap
- [E] Smart Device Stand Safety Strap
- [F] Calibration Slide
- [G] Multi-country 100-240 V AC Adapter

Contenido de la boîte

- [A] Microscopio de mesa Wi-Fi Digital
- [B] Soporte de dispositivos inteligentes
- [C] Correa de seguridad de su dispositivo inteligente
- [D] Correa de seguridad de su dispositivo inteligente
- [E] Correa de seguridad de su dispositivo inteligente
- [F] Diapositiva de calibración
- [G] Adaptador de corriente internacional de 100-240V

Contenido della confezione

- [A] Microscopio da tavolo Wi-Fi Celestron Labs Digital
- [B] Supporto per dispositivi smart
- [C] Cinturino di sicurezza per dispositivi smart
- [D] Cinturino di sicurezza per dispositivi smart
- [E] Cinturino di sicurezza per dispositivi smart
- [F] Confezione di Slides standard
- [G] Miniatore di corrente multi-paese

Contenido de la caja

- [A] Microscopio DSI de escritorio Wi-Fi Digital
- [B] Soporte de dispositivos inteligentes
- [C] Correa de seguridad de su dispositivo inteligente
- [D] Correa de seguridad de su dispositivo inteligente
- [E] Correa de seguridad de su dispositivo inteligente
- [F] Hoja de calibración de resolución
- [G] Hoja de calibración
- [H] Adaptador 100-240V CA multipaíses

SPECIFICATIONS

Type of Microscope:	Wi-Fi Desktop /w triple objectives
Head:	Head has sensor and Wi-Fi module for sending wireless streaming images
Eyepiece Type:	CMOS Sensor in lieu of eyepiece (12x magnification)
Sensor Size:	2MP 1/2.8" Sony IMX290 LQR-XC
Stage Type:	Mechanical - Double Layer, 115mm x 125mm (4.52" x 4.92")
Sensor magnification:	12x
Pixel Size:	2.9 µm x 2.9 µm
Memory Type:	No memory- uses smart device memory to save images and video
Still image capture resolution:	640x480/ 1280x720/ 1920x1080
Video resolution:	640x480/ 1280x720/ 1920x1080
Shutter trigger position:	In device APP
Software:	Celestron Labs Digital Wi-Fi APP <ul style="list-style-type: none"> ▪ Still Image ▪ Video ▪ Measurement feature
Software Compatability:	<ul style="list-style-type: none"> ▪ iOS ▪ Android
Nosepiece:	Triple with click stop
Objective(s) Type:	(3) Finite Plan Achromatic CF objectives on turret
Objective(s) Standard:	DIN 35 RMS
Objective(s) Magnification	4x, 10x, 40x
Magnification Range:	48x, 120x, and 480x (Final determined by device screen size. Spec based on 5" smartphone screen size)
FOV	<ul style="list-style-type: none"> ▪ 4x: 37.5mm ▪ 10x: 6.7mm ▪ 40x: .65mm
Objective(s) Thread:	WJ 4/5" x 1/36"

Focus Type(s):	Course and Fine Focus
Focus Travel (per rotation):	0.7mm to 35.3mm (.027" to 1.39") (est.)
Illumination Type:	LEDs (3W/4V- 220V/110V)
Illumination Position(s):	Bottom Illuminator
Illumination Adjustability Mechanism:	Adjustment dial on base
Power Source:	Universal AC Adapter* 100 to 240V, 50/60 hz multi-country plug
Battery Option:	Yes. 3AA Batteries for (2 hours) backup power- if needed
Stage:	Double layers mechanical stage <ul style="list-style-type: none"> ▪ Stage size: 115mm x 125mm (4.5" x 4.9") ▪ Moving range: 70mm x 30mm (2.75" x 1.18")
Condenser Type:	Abbe condenser with iris diaphragm & filter
Condenser N.A.:	N.A. 1.25
Port(s) In:	AC Adapter/ 5-6V DC, 200-1000mA tip positive electrical input. (Jack should be 5.5mm (.21") OD, 2.1mm (.08") ID and 12.5mm (.49") long)
Port(s) Out:	NA
AC Adapter:	5-6V DC, 200-1000mA tip positive electrical input. Jack should be 5.5mm (.21") OD, 2.1mm (.08") ID and 12.5mm (.49") long
Microscope Dimensions:	170mm x 140mm x 330mm (6.7" x 5.5" x 13")
Microscope Weight:	56 oz (1600g)
Included Items:	<ul style="list-style-type: none"> ▪ 5 Prepared Slides ▪ Calibration slide ▪ AC adapter (4 plug for International) ▪ Unique, optional smart device holder with safety strap

SET UP

STEP 1: CONNECT POWER

1. Place the microscope and other parts on a stable, flat surface



2. Insert the small connector from the AC adapter into the power socket on the back of the microscope.



3. Select the correct plug for your country and attach it to the adapter.



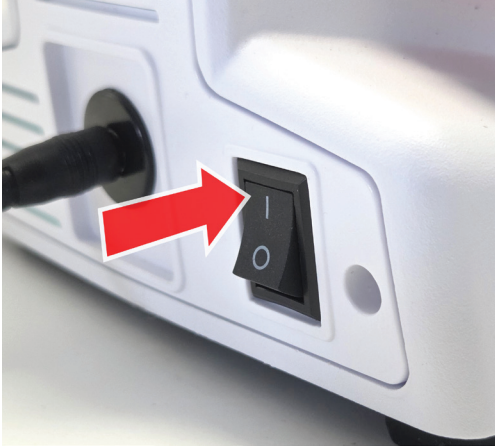
4. Plug the adapter into a 120-240V wall outlet.



STEP 2: POWER ON

Turn on the power switch located on the base of the microscope.

The illuminator should turn on. If it does not, rotate the brightness dial on the side of the base to increase illumination.



The blue LED indicator will begin blinking. This indicates the microscope is broadcasting its Wi-Fi signal.

If the blue LED does not illuminate:

- Confirm the power adapter is securely connected.
- Verify the wall outlet is active.



STEP 3: INSTALL THE APP

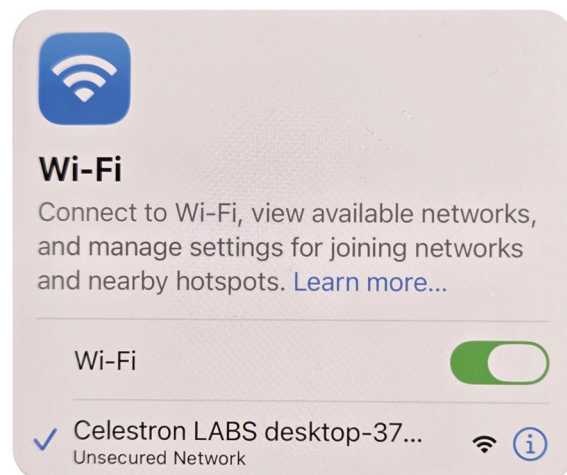
This microscope's companion app works with iOS and Android devices. Scan the QR code below or search for "Celestron Labs Digital Wi-Fi" in the Apple App Store or Google Play Store.

Download and install the free app.



STEP 4: CONNECT TO THE MICROSCOPE'S WI-FI NETWORK

1. Open the Wi-Fi settings on your smartphone or tablet.
 2. Look for a network named:
Celestron LABS Desktop-XXXX
(The four X's represent a unique letter/number combination.)
 3. Tap the network to connect.
- Once connected, the blue LED will stop blinking and remain steady. Your device may display a message stating there is no internet connection. This is normal. The microscope creates its own direct Wi-Fi connection and does not use your Wi-Fi network.



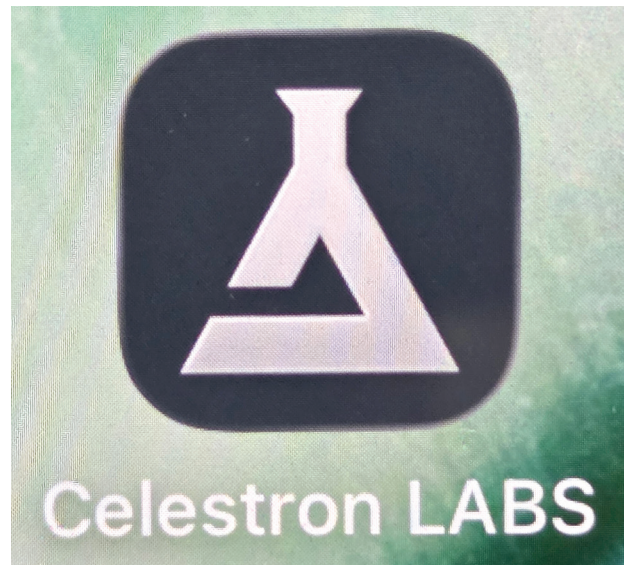
STEP 5: START VIEWING

Open the Celestron Labs Digital Wi-Fi App.

Live video should begin streaming within about 30 seconds.

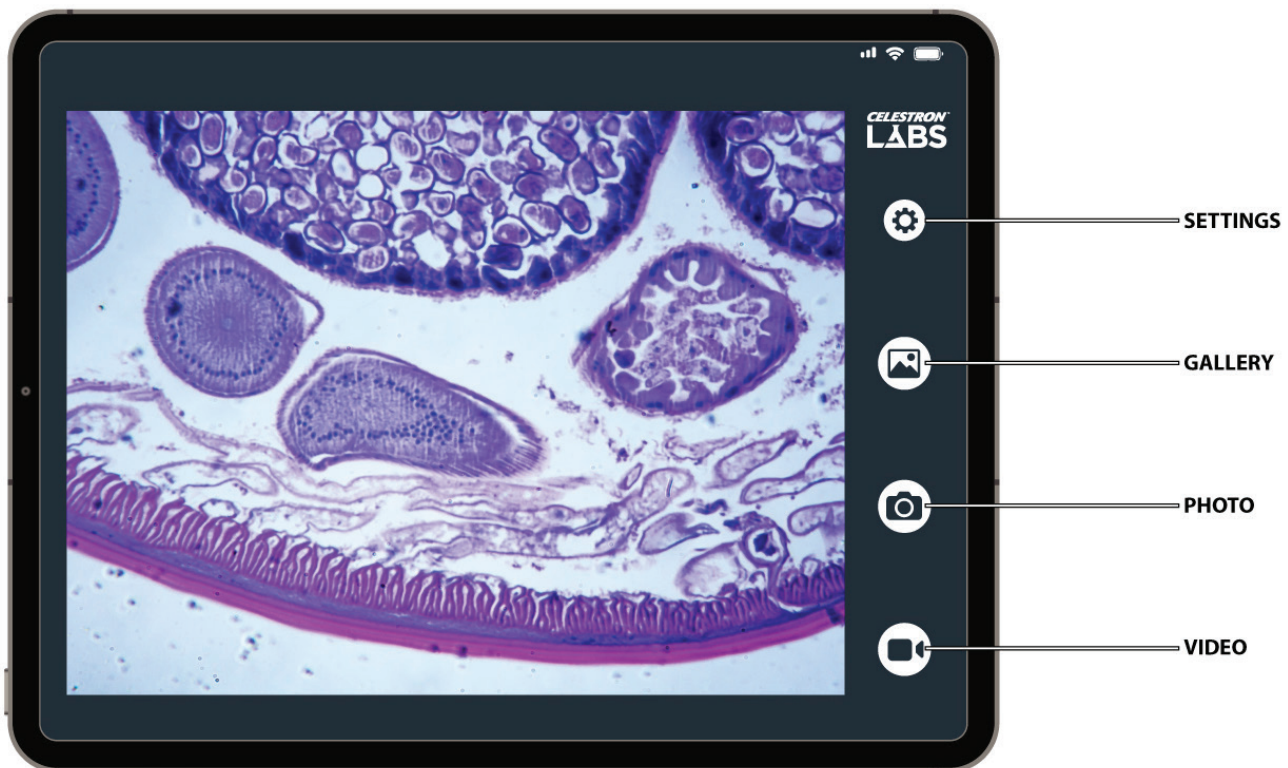
If video does not appear:

- Confirm your device is connected to the Celestron LABS Desktop-XXXX network.
- Close and reopen the app.



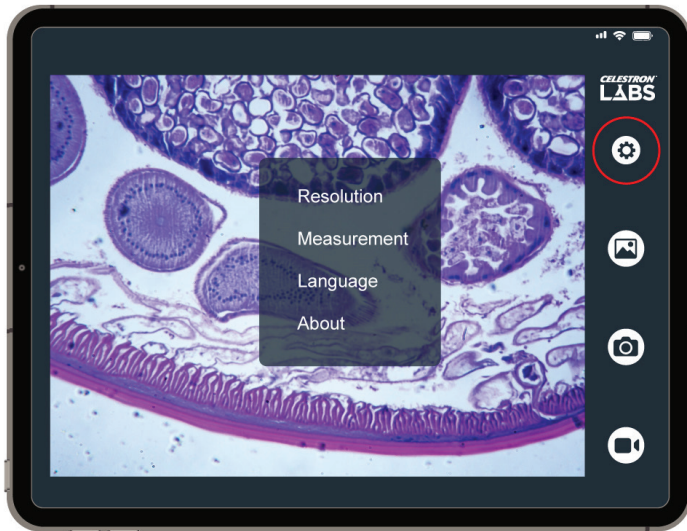
USING THE APP

The main interface is shown below. The labeled callouts identify each feature described in this section.



A. SETTINGS:

Tap the Settings icon to access the following options:



RESOLUTION:

Select the image and video resolution.

Higher resolutions provide greater detail but create larger file sizes.

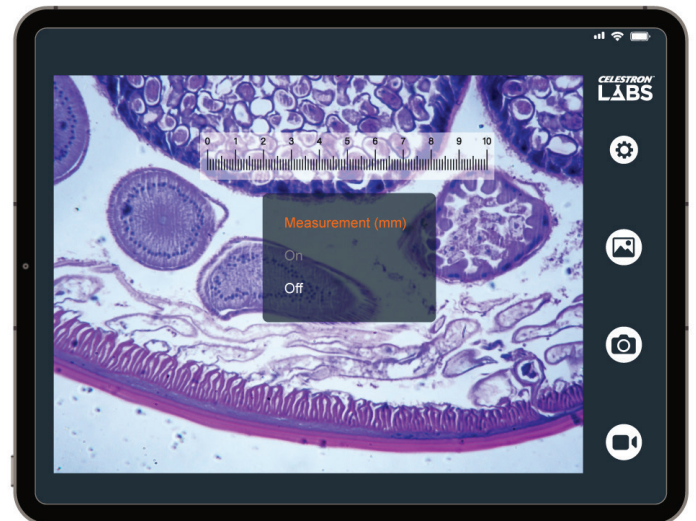
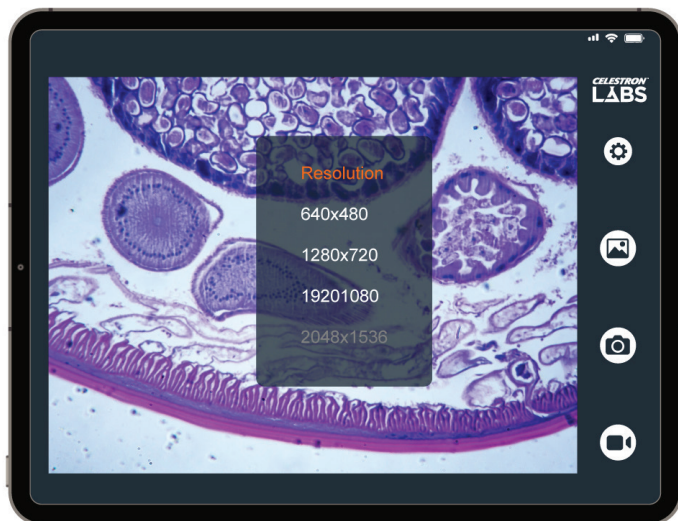
Available settings:

- 640 × 480
- 1280 × 720
- 1920 × 1080
- 2048 × 1536 (maximum resolution)

MEASUREMENT:

Turn the digital measurement reticle on or off.

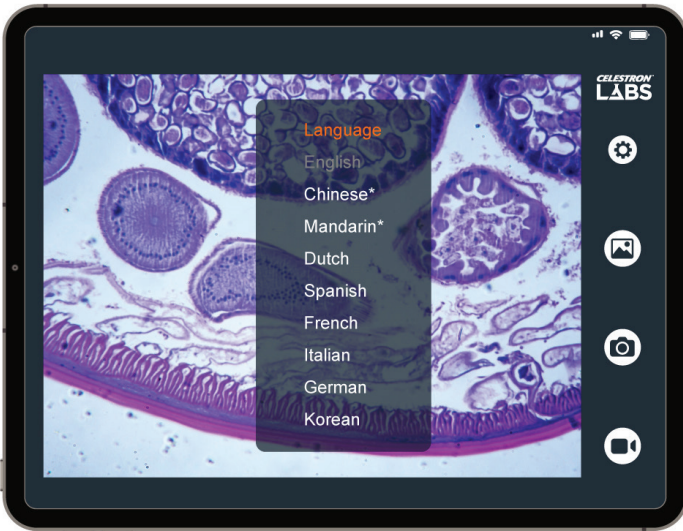
You can use this as a general guide for comparison or, when calibrated, estimate specimen dimensions directly on screen.



LANGUAGE:

Change the interface language.

Available options include English (default), Chinese (Simplified), Chinese (Traditional), Dutch, Spanish, French, Italian, German, and Korean.



ABOUT

Displays the app version number, legal information, and Celestron contact details.

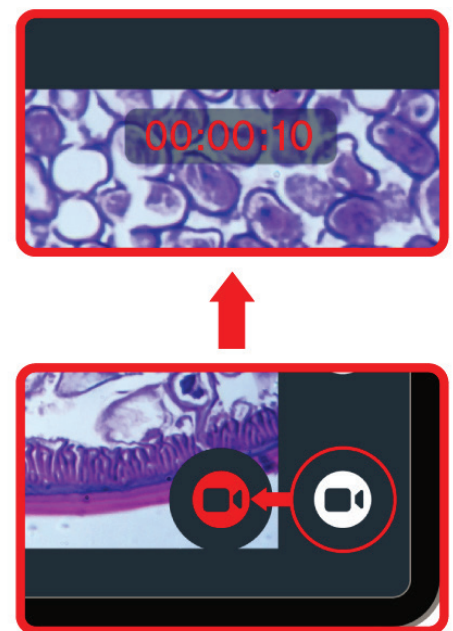
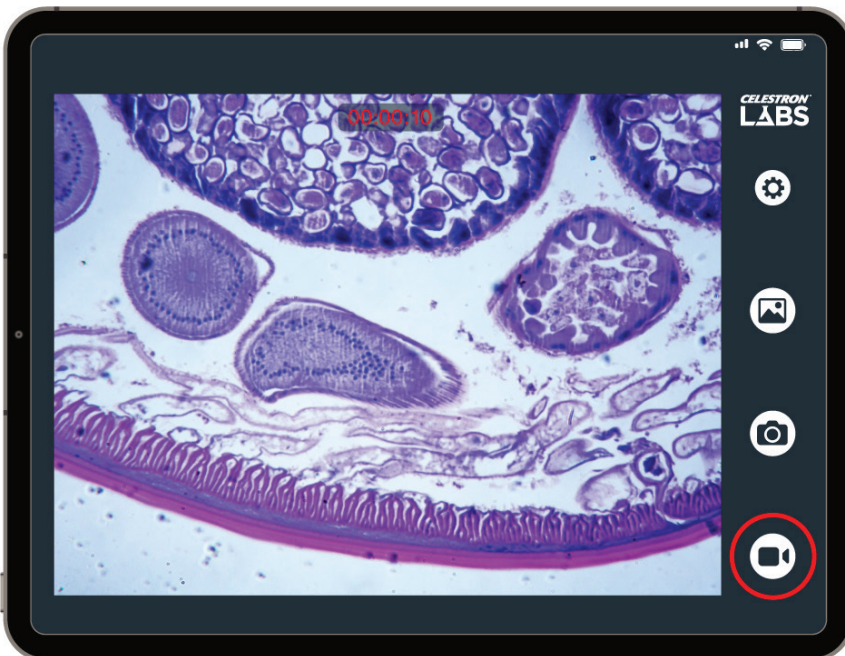


B. VIDEO RECORDING

Tap the Video icon to begin recording. A timer will appear at the top of the screen while recording is in progress.

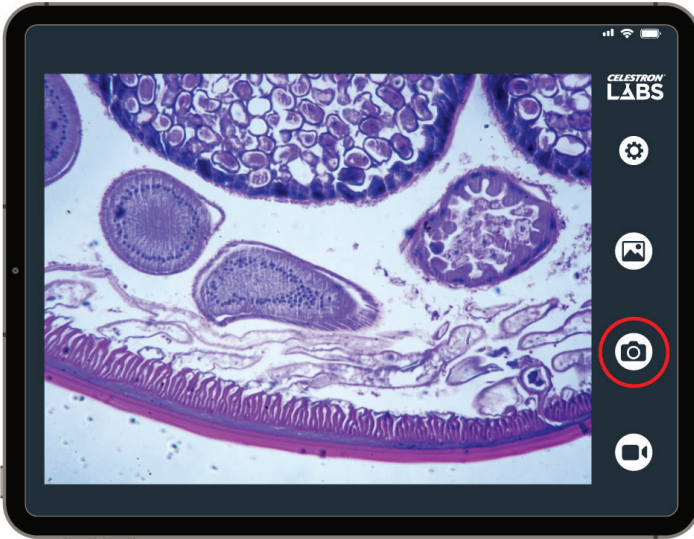
Tap the icon again to stop recording.

Videos are saved directly to your device.

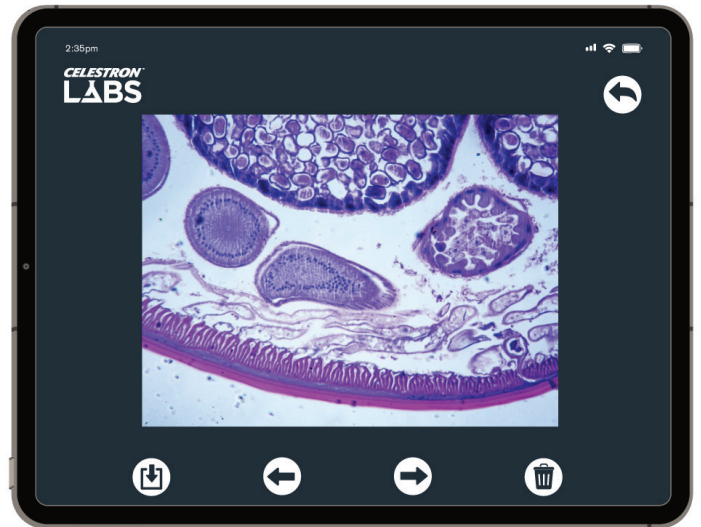
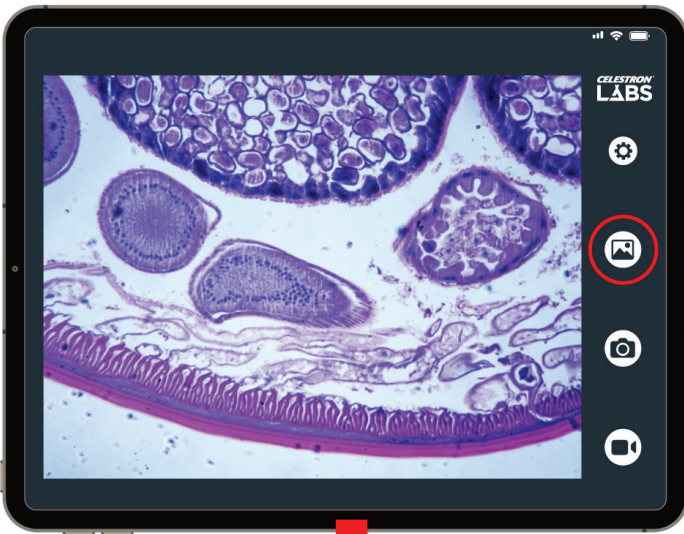


C. TAKING PHOTOS

Tap the Photo icon to capture a still image. Images are saved directly to your device.



D. GALLERY



Tap the Gallery icon to view saved images and videos.

- Tap a thumbnail to view full screen.
- Swipe left or right to scroll through saved files.
- To play a video, tap the screen and select Play.

IMPORTANT PERMISSION NOTICE

Depending on your device settings, you may be prompted to allow the app access to your photos and files. Full access is required to save images and videos.

USING THE MICROSCOPE

The Digital Wi-Fi Desktop Microscope functions like a traditional compound microscope, with the built-in camera replacing the eyepiece.

Before observing, confirm:

- The microscope is powered on.
- The blue LED is steady (Wi-Fi connected).
- The app is open and streaming.

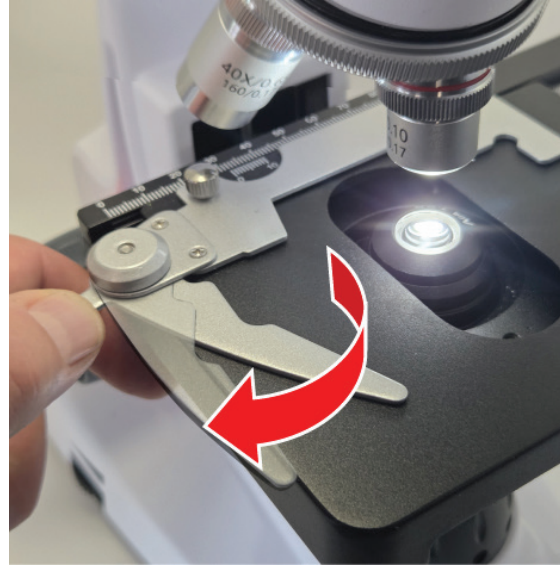
ADJUST ILLUMINATION

Rotate the brightness control dial on the base of the microscope to activate the illuminator and adjust light intensity.

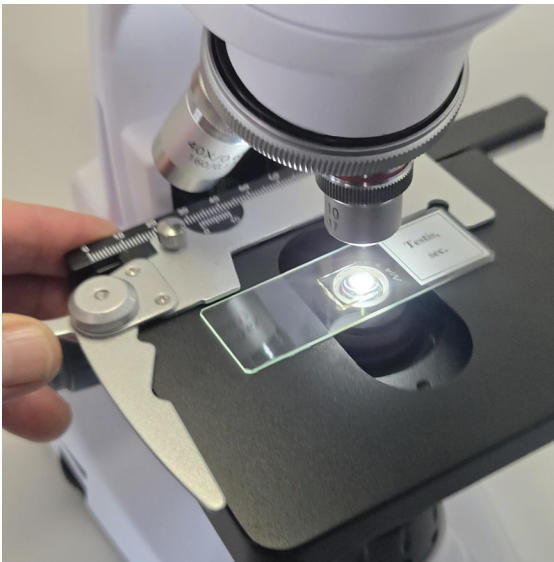


INSERT A SLIDE

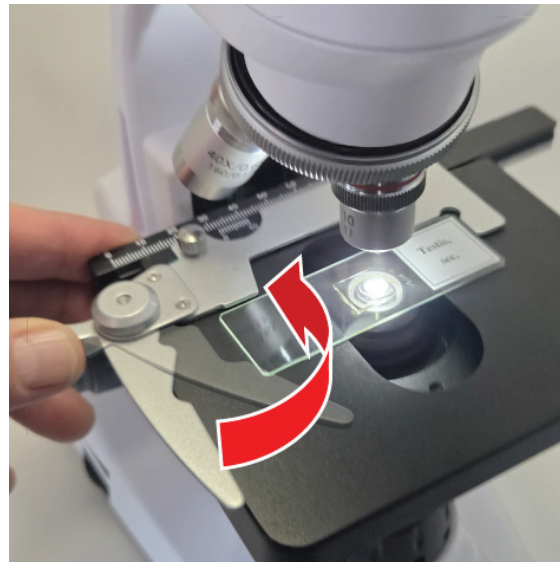
1. Pivot the slide retaining clamp arm open.



2. Place the slide flat on the stage, with the right edge touching the stationary holder guide.



3. Gently release the clamp arm to secure the slide.



SELECT THE LOWEST OBJECTIVE

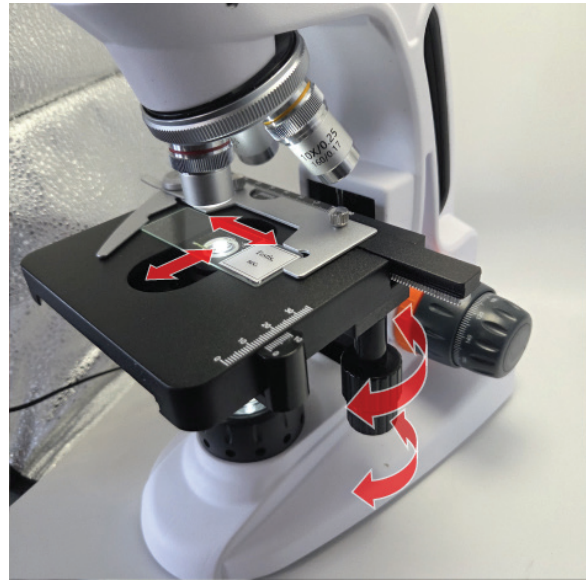
Rotate the objective turret to bring the 4x objective into position above the slide. You will feel it engage.

Starting at the lowest magnification makes it easier to locate your specimen.



POSITION THE SPECIMEN

Use the X-Y stage control knobs to move the slide until the specimen appears on screen.



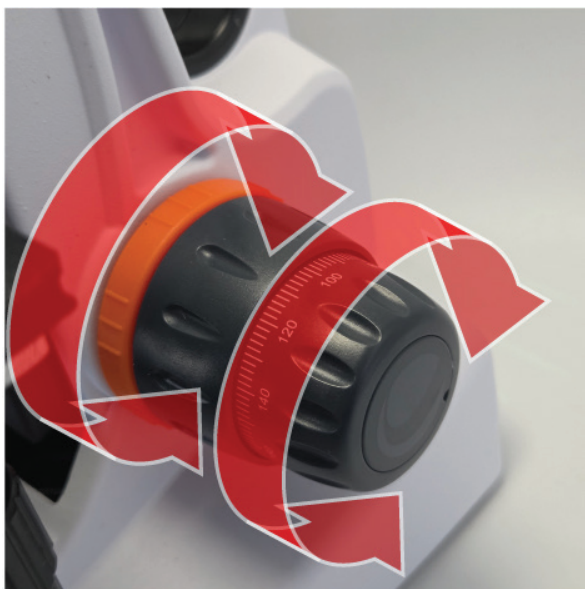
FOCUS THE IMAGE

You will find two focus knobs on the base of your microscopes, one on each side.

Start with the coarse focus knob (larger knob) to bring the specimen into a reasonably clear image.

Then use the fine focus knob (smaller knob) to bring the specimen into crisp, clear focus.

Once the image is sharp, adjust the slide position if needed to better center the specimen in the field of view. You can then capture a still image, record video, or continue observing.



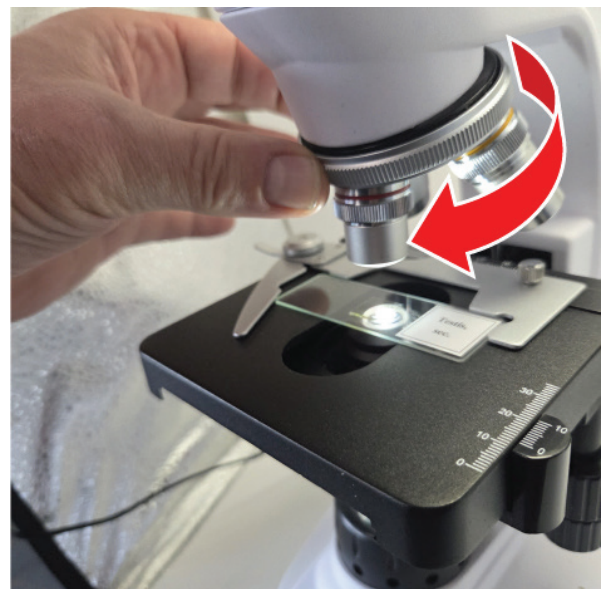
INCREASE MAGNIFICATION

To view more detail and look deeper into your specimen, rotate the objective turret to bring either the 10x or 40x objective forward. Continue turning until the desired objective engages.

Total magnification is determined by multiplying the objective lens by the microscope's built-in sensor magnification (about 12x). With the included objectives, the total magnification is approximately:

Objective Total Magnification

4x	48x
10x	120x
40x	480x

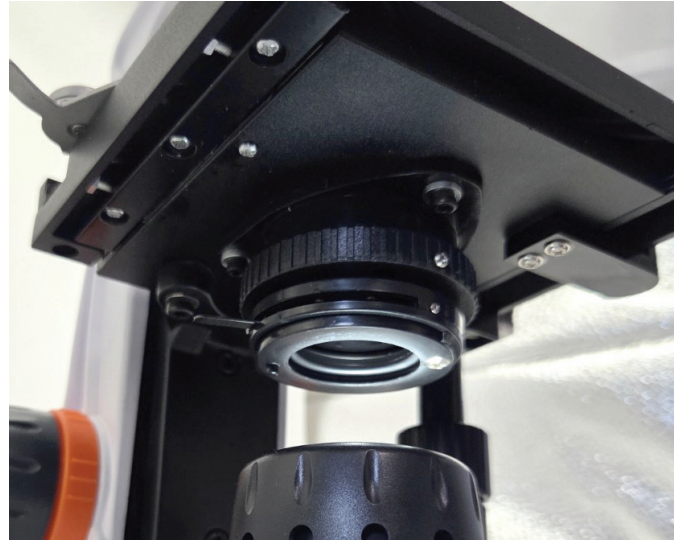


ABBE CONDENSER

Located beneath the stage, between the illuminator and the stage opening, is the Abbe condenser. The condenser consists of an optical lens and an adjustable iris diaphragm controlled by a slide arm.

The condenser gathers light from the illuminator and concentrates it into a cone that passes through the specimen on the slide.

Adjusting the iris diaphragm changes the size of that light cone, allowing you to improve contrast and resolution.



USING THE SMART DEVICE STAND & STRAP

The microscope includes a smart device stand for hands-free viewing. The stand can attach magnetically to the top of the microscope or sit on a flat surface beside it.

To use the stand without the strap, place your smartphone in the stand base. The weighted base helps keep smaller devices stable during viewing.

When using a tablet or larger device, we strongly recommend securing it with the included safety hook and strap. This helps keep the device firmly in place during use.

NOTE: The app is designed for use in landscape orientation.



PARTS OF THE SMART DEVICE STAND



1. Stand Base – Main support platform with weighted metal base
2. Safety Hook and Strap – Plastic hook attached to an elastic strap
3. Cam-Lock Latch – Secures the strap under tension
4. Booster Pad – Rubber insert that provides additional support if needed (e.g., for devices without protective cases)

USING THE SAFETY HOOK AND STRAP

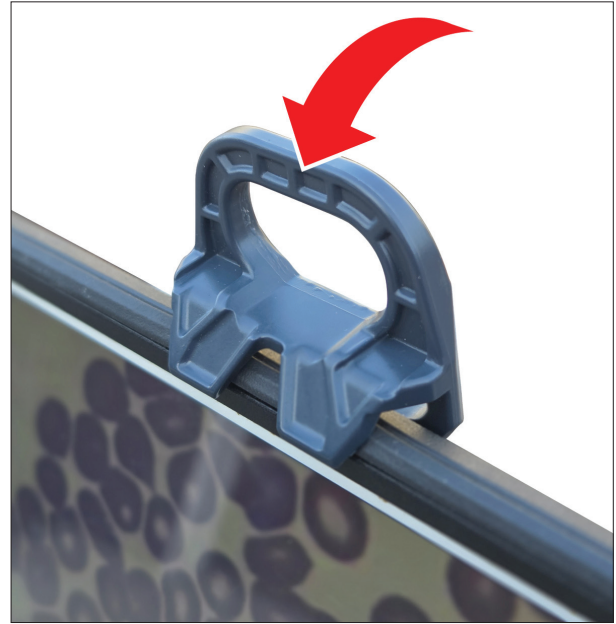
1. Place the stand base on a stable, flat surface, preferably near the edge of a table.



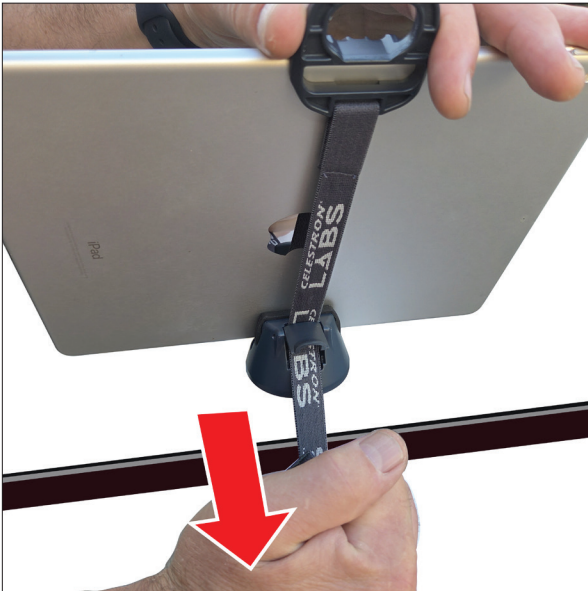
2. Thread the elastic strap through the cam-lock latch as shown.



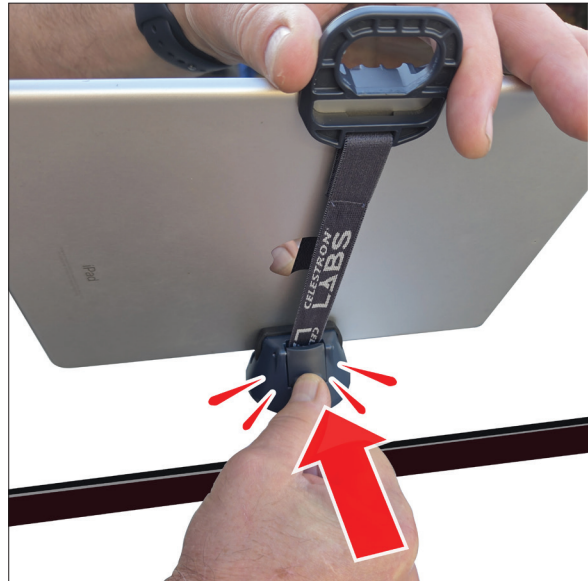
3. Place your smart device on the stand base and position the hook over the side of the device.



4. Hold the device and hook securely with one hand. With the other hand, pull the elastic strap downward to increase tension.



5. While maintaining tension, snap the cam-lock latch closed to secure the strap in place.



ATTACHING THE SMART DEVICE STAND TO THE MICROSCOPE

The microscope head contains an internal magnet. The stand base contains a metal plate.

1. Using two hands, position the stand assembly over the microscope head and align the circular stand base with the circular shape on the microscope.



2. As the stand approaches the head, the magnet will attract the metal plate and guide the stand into position.



3. Ensure the stand base is fully seated and stable before releasing your hands.

When attached, the device can rotate 360°. Rotate slowly and support the device or stand base as you turn to reduce the risk of separating the magnetic connection.



REMOVING THE SMART DEVICE STAND

You may remove either the entire stand assembly or the smart device first. For maximum stability, remove the stand assembly from the microscope first, then remove the smart device while the stand is resting on a flat surface.

TO REMOVE THE ENTIRE STAND ASSEMBLY:

Hold the stand base with one hand and the device or hook with the other. Twist and lift the stand base to detach it from the microscope.



TO REMOVE THE SMART DEVICE:

Hold the smart device and hook with one hand. With the other hand, lift the cam-lock latch to release the strap tension. Once released, remove the device from the stand base.



USING THE CALIBRATION SLIDE

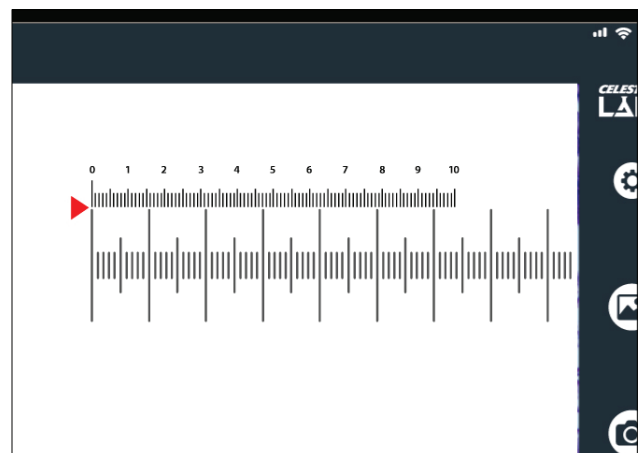
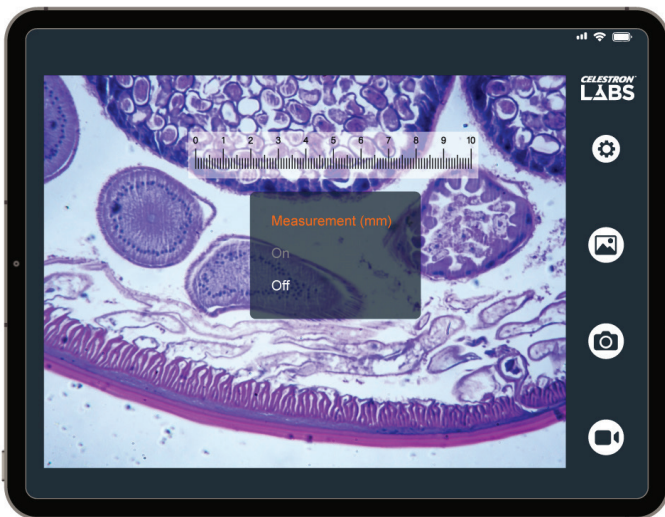
The measurement reticle in the app displays evenly spaced lines on the screen. However, the app does not automatically know how much real-world distance those lines represent at your current magnification. The included calibration slide, also called a stage micrometer, solves this.

The slide contains a precisely etched ruler. Each small division on the slide equals 0.01 mm (10 micrometers). By comparing the known distances on the calibration slide to the onscreen reticle, you can calculate the actual distance represented by each reticle division.

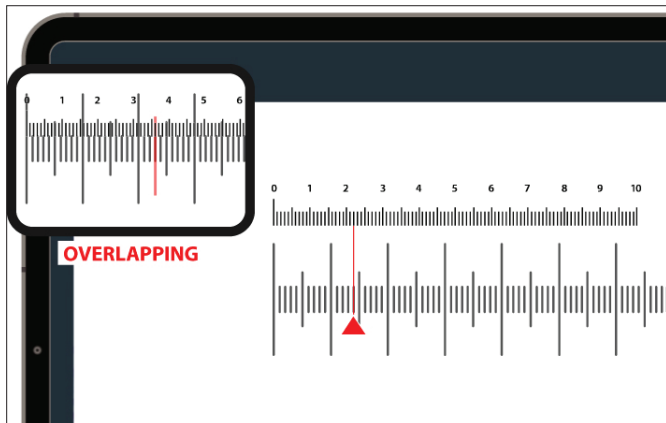
Calibration is specific to the objective lens you are using. If you change magnification, you must recalibrate before taking new measurements.

To Calibrate:

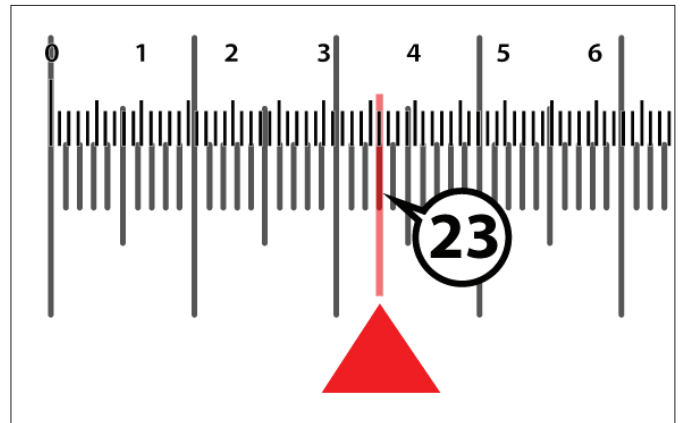
1. Place the calibration slide on the microscope stage.
2. In the app, turn the Measurement reticle ON.
3. Adjust the stage so the calibration slide ruler is visible and focus the microscope until it appears sharp on screen.
4. Align the "0" mark on the digital measurement reticle with the "0" mark on the calibration slide.



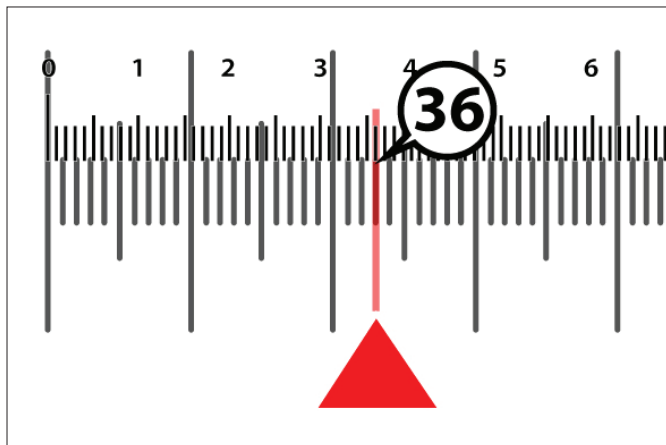
5. Without moving the slide, move across the scale and locate the next point where a line on the digital reticle aligns exactly with a line on the calibration slide.



6. Count the number of divisions on the calibration slide between the two aligned points. In this example, it's 23 divisions.



7. Count the number of divisions on the digital reticle between those same two aligned points. In this example, it's 36 divisions.



8. Calculate the size represented by one reticle division.

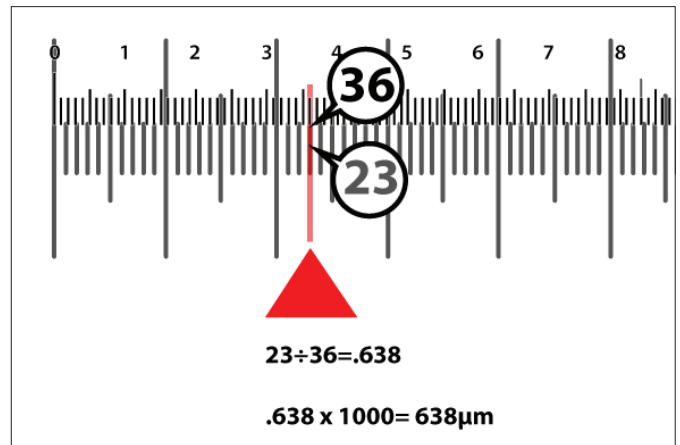
First, divide the calibration slide divisions by the reticle divisions:

$$23 \div 36 = 0.638$$

Then, multiply this result by 1000 to convert to micrometers:

$$0.638 \times 1000 = 638 \mu\text{m}$$

In this example, each division on the digital reticle equals 638 μm .



9. You can now use the calibrated reticle to estimate specimen dimensions.

Important

If you change objective lenses or magnification, you must recalibrate before taking new measurements.

CARE AND MAINTENANCE

Your Celestron Labs Digital Wi-Fi Desktop Microscope is a precision optical device. Proper care will ensure reliable performance for years to come.

- Store the microscope in a clean, dry environment when not in use.
- Do not use the microscope in environments where electronic devices are prohibited. Improper use could result in serious accident.
- Operate only within 23° to 120°F (–5° to 50°C). Avoid sudden temperature changes, as condensation may form inside the housing.
- Keep the microscope away from water and other liquids. Moisture poses a risk of fire and electric shock.
- Do not attempt to open or modify the device. Internal components should only be serviced by authorized technicians.
- To clean the exterior, wipe gently with a soft, dry cloth.



WARRANTY



celestron.com/pages/warranty

FCC NOTICE: This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



EU Note: Celestron hereby declares that the radio equipment type 44351 WiFi Desktop Microscope complies with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address www.celestron.com/productcompliance.

NEED ASSISTANCE? Contact Celestron Technical Support
celestron.com/pages/technical-support

Product design and specifications are subject to change without prior notification.
This product is designed and intended for use by those 14 years of age and older.

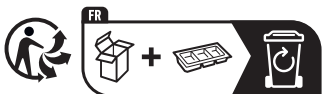
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US: Celestron, 2835 Columbia Street, Torrance, CA 90503 USA

UK: Celestron Global Ltd., Unit 2 Transigo, Gables Way, Thatcham RG19 4JZ, United Kingdom

Made in China | 03-26



Points de collecte sur www.quefairedemesdechets.fr
Privilégiez la réparation ou le don de votre appareil !



Separate waste collection. Check your local municipal guidelines.
Raccolta differenziata. Verifica le disposizioni del tuo Comune.