

User Guide



Lenovo

Lenovo Chromebook m (15", 10) , Lenovo Chromebook i (15", 10) ,
Lenovo Chromebook Plus i (15", 10)

Read this first

Before using this documentation and the product it supports, ensure that you read and understand the following:

- *Safety and Warranty Guide*
- *Setup Guide*
- [Generic Safety and Compliance Notices](#)

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Discover your Chromebook

Thank you for choosing a Lenovo® Chromebook™! We are dedicated to delivering the best solution to you.

Before starting your tour, please read the following information:

- This guide applies to Lenovo product model(s) listed below. Illustrations in this guide may look slightly different from your product model.

Model name	Machine type (MT)
Lenovo Chrome 15ITN10	83T1, 83T2, 83T3
Lenovo Chrome 15M8910	83W7, 83W8, 83W9

- For further compliance information, refer to the *Generic Safety and Compliance Notices* at https://pcsupport.lenovo.com/docs/generic_notices.
- Depending on the model, some optional accessories, features, software programs, and user interface instructions might not be applicable to your Chromebook.
- Documentation content is subject to change without notice. To get the latest documentation, go to <https://pcsupport.lenovo.com>.

Chapter 1. Meet your Chromebook

Front

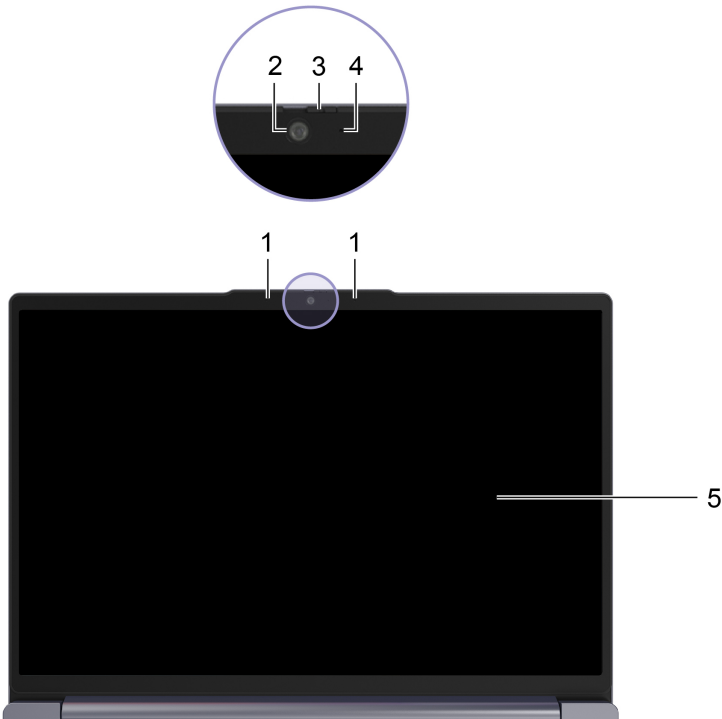


Figure 1. front view

1. Microphones	Capture or record sound and voice.
2. Camera	Capture still and moving images for taking photos, recording videos, and video chatting.
3. Camera shutter	Cover or uncover the camera lens. Note: The camera shutter helps you better protect your privacy.
4. Camera light	If the light is on, the camera is in use.
5. Screen	Display text, graphics, and videos. Selected models support multi-touch function.

Important information

Your Chromebook contains magnets. Keep a safe distance away from devices and objects that might be affected by magnets, such as credit cards.



Base



Figure 2. Lenovo Chrome 15ITN10 - base view



Figure 3. Lenovo Chrome 15M8910 - base view

1. Fingerprint reader*	Enroll and read your fingerprint for user authentication.
2. Wireless antennas	Send and receive radio waves for the built-in wireless local area network (LAN) and Bluetooth module. Note: The antennas are not visible from the outside of the Chromebook.

3. Touchpad	Perform finger touch and all the functions of a traditional mouse. Note: The touchpad also supports multi-touch function.
4. Keyboard	Enter characters and interact with programs. Note: The keyboard also includes function keys and key combinations for changing settings and performing tasks quickly.

* for selected models

Left



Figure 4. left view

1. Mini security-lock slot	Lock your Chromebook to a desk, table, or other fixtures through a compatible security cable lock. See “Lock your Chromebook” on page 15.
2. Charging light	Indicate the ac power status and the battery status. See “Charge your Chromebook” on page 14.
3. Multi-purpose USB Type-C® connector	This USB Type-C® connector is the Chromebook's power input connector. Use the included power adapter and this connector to supply power to the Chromebook. When this connector is not used by the included power adapter, it can also be used to connect: • Storage or peripheral devices that follow the universal serial bus (USB) specification for data transfer and device interconnection • Display devices Note: When connecting display devices, you need to use appropriate cables and adapters (if needed) according to the connection capabilities of the display device.
4. USB (3.2 Gen 1) Type-A connector	Connect a USB-compatible device, such as a USB keyboard, a USB mouse, a USB storage device, or a USB printer.
5. Combo audio jack	Connect headphones or headsets with a 3.5 mm (0.14 inch), 4-pole plug. Note: This jack does not support standalone external microphones. If you use headsets, choose one with a single plug.

Right

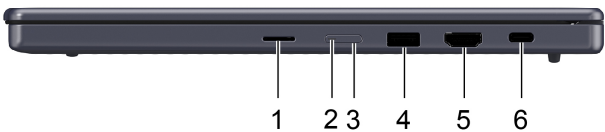


Figure 5. Lenovo Chrome 15ITN10 - right view

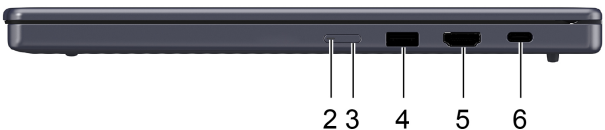


Figure 6. Lenovo Chrome 15M8910 - right view

1. microSD card slot*	Insert a microSD card into the slot for data transfer or storage.
2. Power light	• On: the Chromebook is turned on. • Off: the Chromebook is turned off or in hibernation mode. • Blinking: the Chromebook is in sleep mode.
3. Power button	Press the button to turn on the Chromebook or put the Chromebook into sleep mode. Notes: When you finish working with your Chromebook, shut it down to save power. • Click  in the system tray. • Press the power button.
4. USB (3.2 Gen 1) Type-A connector	Connect a USB-compatible device, such as a USB keyboard, a USB mouse, a USB storage device, or a USB printer.
5. HDMI™ connector	Connect to a compatible digital audio device or video monitor, such as an HDTV.
6. Multi-purpose USB Type-C® connector	This USB Type-C® connector is the Chromebook's power input connector. Use the included power adapter and this connector to supply power to the Chromebook. When this connector is not used by the included power adapter, it can also be used to connect: • Storage or peripheral devices that follow the universal serial bus (USB) specification for data transfer and device interconnection • Display devices Note: When connecting display devices, you need to use appropriate cables and adapters (if needed) according to the connection capabilities of the display device.

* for selected models

Bottom



Figure 7. bottom view

1. Speakers	Produce sound.
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Specifications

Note: Specifications might change without notice. Some specifications are model-specific and might not apply to the Chromebook model that you purchased.

Dimensions

Item	Value or specification
Width	344 mm (13.5 inches)
Depth	241.8 mm (9.5 inches)
Thickness	18.95 mm (0.75 inches)

ac power adapter

Item	Value or specification
Input	100 V ac–240 V ac, 50 Hz–60 Hz
Output voltage	20 V
Maximum current	3.25 A
Maximum power	65 W

Note: The Chromebook is available in certain countries or regions without an included ac power adapter.

Rechargeable battery pack

Item	Value or specification
Capacity	50 Wh
Number of cells	3

Memory

Item	Value or specification
Type	LPDDR5X
Installation	On-board
Slot quantity	0

Mass storage device

Item	Value or specification
Type	UFS
Interface	UFS

Display

Item	Value or specification
Size	388.62 mm (15.3 inches)
Resolution	Lenovo Chrome 15ITN10: • 1920 × 1200 (60 Hz), or • 1920 × 1200 (120 Hz) Lenovo Chrome 15M8910: • 1920 × 1200 (60 Hz)
Maximum refresh rate	Lenovo Chrome 15ITN10: • 60 Hz, or • 120 Hz Lenovo Chrome 15M8910: • 60 Hz
Screen type	LCD

Keyboard

Item	Value or specification
Shortcut keys	• Function keys • Hotkeys
Modifier keys	• alt key • ctrl key • shift key • Launcher key • fn key
Special keys or key group	Numeric keypad

Connectors and slots

Item	Value or specification
USB Standard-A connector	- Quantity: 2 - Power level (output) - Voltage: 5 V - Maximum current: 0.9 A - Data protocol: SuperSpeed USB 5 Gbps
Multi-purpose USB Type-C connector	- Quantity: 2 - Power level - Output - Voltage: 5 V - Maximum current: 3 A - Input (USB Power Delivery) - Minimum: 45 W (15 V, 3 A) - Maximum: 65 W (20 V, 3.25 A) Note: The minimum power represents the lowest acceptable power level to keep the Chromebook operational and initiate charging of the internal battery, while the maximum power allows for the fastest charging speed. Both power levels are negotiated according to the protocols specified in the <i>USB Power Delivery Specification</i>. - Data protocol - SuperSpeed USB 5 Gbps - SuperSpeed USB 10 Gbps (for Lenovo Chrome 15ITN10) - DisplayPort 1.4 - Maximum output resolution (for Lenovo Chrome 15ITN10): 3840 × 2160 @ 60 Hz - Maximum output resolution (for Lenovo Chrome 15M8910): 3840 × 2160 @ 30 Hz
HDMI connector	- Data protocol: Transition minimized differential signaling (TMDS) - Maximum output resolution: 3840 × 2160 (30 Hz) as specified in HDMI 1.4b
microSD card slot*	Card type - Standard Capacity SD (SDSC) - High Capacity SD (SDHC) - Extended Capacity SD (SDXC)
Combo audio jack	- Diameter: 3.5 mm - Supported plug: 3-pole, TRS 4-pole, TRRS (CTIA and OMTP)

* for selected models

Note: Data transmission rates are presented as maximum theoretical values in compliance with applicable specifications. The actual data transmission rates depend on various factors, including the performance of

the connected devices and the quality of the cables being used. These rates are typically slower than the maximum theoretical values listed.

Networking

Item	Value or specification
Wi-Fi	• 802.11a/b/g • 802.11n • 802.11ac • 802.11ax (Wi-Fi 6, Wi-Fi 6E) Note: Different Wi-Fi standards may operate on different frequency bands. In some countries or regions, certain frequency bands may be prohibited for unlicensed use or may require specific conditions. Wi-Fi 6E on this Chromebook are disabled in some countries or regions in accordance with local regulations.
Bluetooth	Bluetooth 5.3

Statement on USB transfer rate

Depending on many factors such as the processing capability of the host and peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and will be slower than the data rate listed below for each corresponding device.

USB device	Data rate (Gbit/s)
USB 3.2 Gen 1	5 (for Lenovo Chrome 15ITN10 and Lenovo Chrome 15M8910)
USB 3.2 Gen 2	10 (for Lenovo Chrome 15ITN10)

Tips for selecting a certified charger

When selecting or reusing a third-party USB Type-C charger for this Chromebook, choose a product that is safety-approved or certified.

Attention: An uncertified charger may damage your Chromebook or pose an electrical hazard.

In many countries and regions, manufacturers or importers of electric chargers can submit their products to certification authorities or approved and recognized testing laboratories. These products typically bear a mark indicating that they meet the relevant quality and safety standards. In some countries and regions, this certification process is mandatory.

If you live in mainland China, choose a charger with the "CCC" mark. For users in many European countries, select one with the "CE" mark. For users in the United States and Canada, choose a charger listed by one of the Nationally Recognized Testing Laboratories (for example, the "UL Listed" mark). For people living in other countries or regions, consult a qualified electrical engineer to learn how to select a safety-approved electric charger.

Operating environment

Maximum altitude (without pressurization)

3048 m (10 000 ft)

Temperature

- Operating: 5°C to 35°C (41°F to 95°F)
- Storage: 5°C to 43°C (41°F to 109°F)

Note: When you charge the battery, its temperature must be no lower than 10°C (50°F).

Relative humidity

- Operating: 8% to 95% at wet-bulb temperature 23°C (73°F)
- Storage: 5% to 95% at wet-bulb temperature 27°C (81°F)

Chapter 2. Get started with your Chromebook

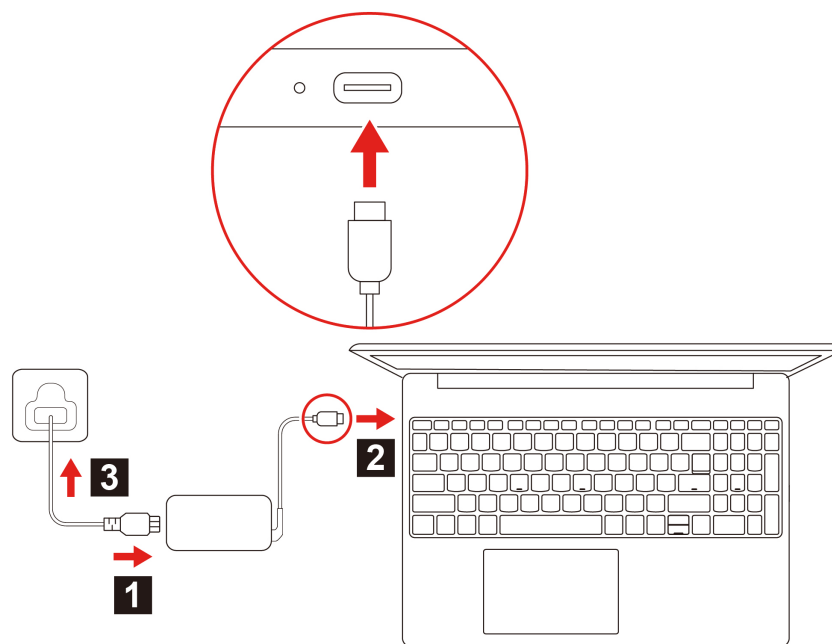
Charge your Chromebook

The USB Type-C connector on your Chromebook works as the power connector. Plug in the ac power adapter to charge the built-in battery pack and provide power to the Chromebook.

Connect to ac power

CAUTION:

All plugs must be firmly and securely inserted into receptacles.



1. Connect the power cord to the ac power adapter.
2. Plug the power adapter into the USB Type-C connector of the Chromebook.
3. Plug the power cord into an electrical outlet.

AC power status indicator behavior

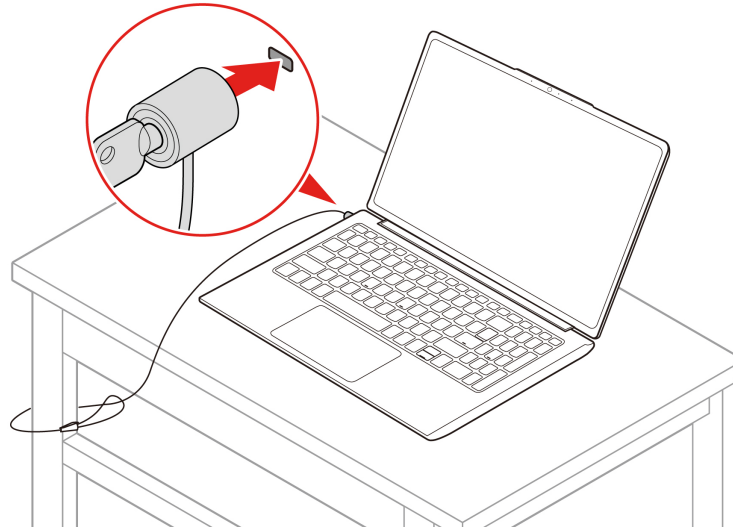
The ac power status indicator is next to the USB Type-C connector. The following table shows the indicator behaviors and the indicated power and battery status.

AC power status indicator	Power status	Battery status
on (white)	plugged in	being charged, remaining power is more than 90%
on (orange)	plugged in	being charged, remaining power is between 0% and 90%
off	unplugged	discharging

Lock your Chromebook

Lock your Chromebook to a desk, table, or other fixtures through a compatible security cable lock.

Note: The slot supports cable locks that conform to the Kensington NanoSaver® lock standards using Cleat™ locking technology. Do not attempt to use other types of cable locks that use a rotating T-bar™ locking mechanism. You are responsible for evaluating, selecting, and implementing the locking device and security feature. Lenovo makes no comments, judgments, or warranties about the function, quality, or performance of the locking device and security feature. Cable locks for your product are available from Lenovo at <https://www.lenovoquickpick.com/>.



Connect to Wi-Fi

To connect your Chromebook to Wi-Fi:

1. Click your system tray.
2. Click the network icon and turn on the wireless feature.
3. Select an available network to connect. Provide required information if needed.

Use the touch screen (for selected models)

If your Chromebook display supports the multi-touch function, you can navigate the screen with simple touch gestures.

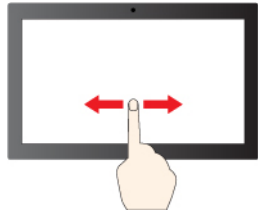
Note: Some gestures might not be available depending on the app you use.



Tap once to single click



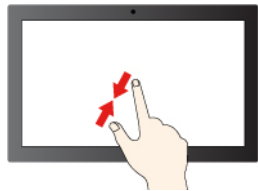
Tap and hold to right-click



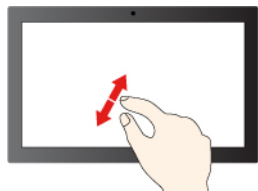
Slide to scroll through items



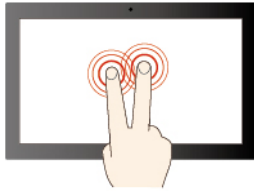
Drag



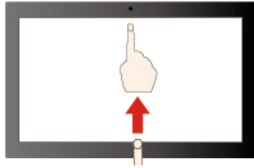
Zoom out



Zoom in



Tap with two fingers to open a shortcut menu



Swipe upwards to unfold the app Launcher

Maintenance tips:

- Turn off the Chromebook before cleaning the multi-touch screen.
- Use a dry, soft, and lint-free cloth or a piece of absorbent cotton to remove fingerprints or dust from the multi-touch screen. Do not apply solvents to the cloth.
- The multi-touch screen is a glass panel covered with a plastic film. Do not apply pressure or place any metallic object on the screen, which might damage the touch panel or cause it to malfunction.
- Do not use fingernails, gloved fingers, or inanimate objects for input on the screen.
- Regularly calibrate the accuracy of the finger input to avoid a discrepancy.

Use the keyboard shortcuts

The function keys on the keyboard help you work more easily and effectively.

←	Go to the previous page
↺	Reload your current page
□	Hide the tabs and the App Launcher in full-screen mode
☰	Show all windows in overview mode
📷	Take full screenshot or screen recording
⚙️	Decrease the brightness of the Chromebook screen
⚙️	Increase the brightness of the Chromebook screen
▶	Start/pause the media
🔇	Mute/Unmute the microphones
🔇	Mute/Unmute the speakers
🔊	Decrease the volume
🔊	Increase the volume
🧑	Open the Accessibility panel

	Turn on dictation
	Quickly insert links and files to your context
	Open the App Launcher

Your Chromebook also supports some key combinations.

ctrl + shift + 	Take a screenshot
fn + 	Switch the Caps Lock function
 + l	Lock your Chromebook screen
 + ctrl + s	View all keyboard shortcuts

To change the keyboard settings:

1. Click the setting icon in the system tray, and then click **Device → Keyboard and inputs**.
2. Follow the on-screen instructions to change the settings as you prefer.

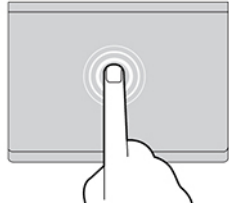
Use the touchpad

The entire touchpad surface is sensitive to finger touch and movement. You can use the touchpad to perform all the pointing, clicking, and scrolling functions of a traditional mouse.

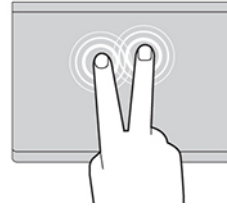
Use the touch gestures

Notes:

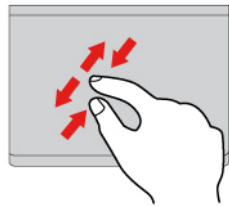
- When using two or more fingers, ensure that you position your fingers slightly apart.
- Some gestures are only available when you are using certain apps.
- If the touchpad surface is stained with oil, turn off the Chromebook first. Then, gently wipe the touchpad surface with a soft and lint-free cloth moistened with lukewarm water or Chromebook cleaner.



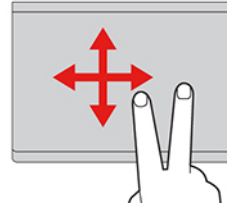
Tap once to select or open an item.



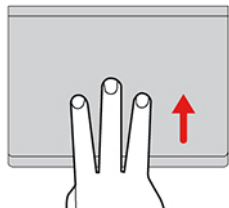
Tap twice quickly to display a shortcut menu.



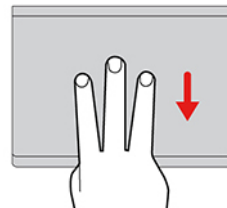
Two-finger zoom in or zoom out.



Scroll through items.



Open the task view.



Show the current window.

To change the settings:

1. Click the setting icon in the system tray, and then click **Device → Touchpad**.
2. Follow the on-screen instructions to change the settings as you prefer.

If **Tap to click** is turned on, you can tap or press the touchpad. Otherwise, you can only press the touchpad to achieve the clicking function of a traditional mouse.

Use the camera

The built-in camera can be used for video calling or video conferencing. The indicator next to the camera turns on when the camera is activated.

To take photos with the camera:

1. Click the Launcher button.
2. Click **Camera** and take photos.

Use audio

You can connect headphones or a headset with a 3.5-mm (0.14-inch), 4-pole plug to the audio connector to listen to the sound from your Chromebook.

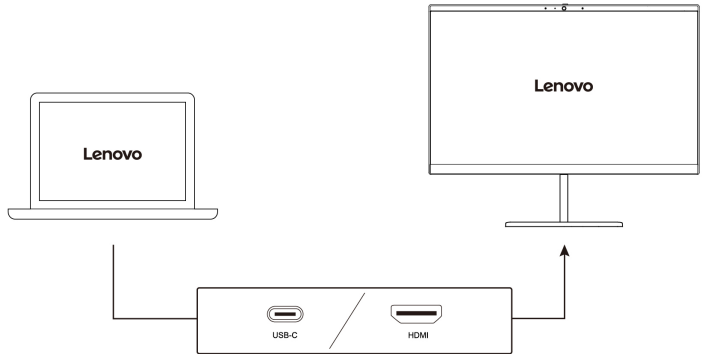
To play a saved audio or video:

1. Click the Launcher button, and then select **Files**.
2. Double-click a file to open it in the media player.

To adjust the volume, click the system tray, and then adjust the volume as you prefer.

Connect to an external display

Connect your Chromebook to a projector or a monitor to give presentations or expand your workspace.



Supported resolution

The following table lists the supported maximum resolution of the external display.

Connect the external display to	Supported resolution
Multi-purpose USB Type-C connector	Up to 3840 x 2160 pixels @ 60 Hz (for Lenovo Chrome 15ITN10)
	Up to 3840 x 2160 pixels @ 30 Hz (for Lenovo Chrome 15M8910)
HDMI connector	Up to 3840 x 2160 pixels @ 30 Hz

To change display settings:

1. Click the setting icon in the system tray, and then click **Device → Display**.
2. Follow the on-screen instructions to change the display settings as you prefer.

Connect to Bluetooth devices

Your Chromebook supports Bluetooth feature. You can connect your Chromebook to a Bluetooth keyboard, mouse, speakers, or other Bluetooth devices.

Note: The Bluetooth devices must be within a short distance, usually 10 meters (33 feet), from the Chromebook.

1. Click your system tray, and then click the Bluetooth icon.
2. Turn on **Bluetooth**.
3. Select the device you want to pair and follow the on-screen instructions.

Set the power plan

For ENERGY STAR® compliant Chromebooks, the following power plan takes effect when your Chromebooks have been idle for a specified duration:

Table 1. Default power plan (when plugged into ac power)

- | |
|--|
| <ul style="list-style-type: none">• Turn off the display: After seven minutes and 30 seconds• Put the Chromebook into sleep: After eight minutes and 30 seconds |
|--|

To reset the power plan to achieve the best balance between performance and power saving:

1. Click the setting icon in the system tray, and then click **System preferences → Power**.
2. Follow the on-screen instructions to change the settings as you prefer.

Turn on night light

The night light feature in ChromeOS enables users to switch to warmer color tones, reducing blue light emission to alleviate eye strain or fatigue.

Step 1. Click the setting icon in the system tray, and then click **Device → Display**.

Step 2. Select the button for night light to turn it on or off.

For more tips on reducing eye strain or fatigue, visit <https://www.lenovo.com/us/en/compliance/visual-fatigue>.

Adjust color temperature

If ChromeOS night light mode is turned on, you can adjust the color temperature of the screen.

Step 1. Click the setting icon in the system tray, and then click **Device → Display → Night light**.

Step 2. Move the slider to adjust the color temperature.

Note: Selected Chromebooks are low blue-light certified. These Chromebooks undergo testing with the night light turned on and the color temperature value set at 48 or above.

Data erasure for reusing or recycling a Chromebook

It is advisable to reuse or recycle your Chromebook when it is no longer needed. Options include selling, donating, or using a reputable recycling service. Proper reuse and recycling of a Chromebook can help minimize its environmental impact.

When reusing or recycling a Chromebook, data security is a major concern due to the potential storage of personal and sensitive information. Before selling, donating, or recycling your Chromebook, it is essential to erase all personal data from its storage device to protect your privacy and prevent security breaches.

Data may be stored in the following media:

- Solid-state drive
- Hard disk drive
- eMMC
- nano-SIM card
- UFS (Universal flash storage)
- NAND Flash
- Trusted Platform Module (TPM)
- Wireless WAN card

You can erase data stored in the media via the ChromeOS or use the Powerwash reset.

Erase data via ChromeOS

If your Chromebook has a wireless wide area network (WAN) card and a nano-SIM card installed, you need to erase the nano-SIM card profile via the ChromeOS.

Erase the Wi-Fi network data

1. Navigate to **Settings → Network**.
2. Select **Wi-Fi** from the network option list to display all the Wi-Fi networks that your Chromebook has connected to.
3. Select the network that you want to remove, and click **Forget** to remove the network data. Repeat this step until all the Wi-Fi networks are removed.

Remove the nano-SIM card profile

1. Navigate to **Settings → Network**.
2. Select **Mobile data** from the network option list.
3. Select **eSIM** to display the SIM-card list.
4. Select the SIM-card that you want to remove, and click **Remove Profile** to erase the card profile. Repeat this step until all the profiles are removed.

Erase data via Powerwash

The Powerwash reset is provided on every Chromebook to reset the ChromeOS and erase personal files from the local storage device. For data stored in the solid-state drive, hard disk drive, eMMC, UFS, NAND Flash and TPM, use Powerwash to erase them.

How data is erased by Powerwash

The data stored on a Chromebook's local storage device is encrypted using encryption keys. When you reset a Chromebook using Powerwash, the encryption keys stored on the local storage device are deleted, leaving only the ciphertext on the storage device. As a result, the data becomes inaccessible and is effectively erased. The cryptographic data erasure provided by a Chromebook complies with the “purge” method of data sanitization as defined by *IEEE Standard for Sanitizing Storage*.

Reset a Chromebook using Powerwash

When you reset a Chromebook using Powerwash, all personal settings of ChromeOS and data stored on its local storage device are erased.

- Step 1. Sign out of the ChromeOS.
- Step 2. Press ctrl + alt + shift + r.
- Step 3. Select **Powerwash**.
- Step 4. On the Confirm Powerwash page, select **Continue**.

Note: Before selecting **Continue**, ensure that you have backed up personal files you wish to keep to Google Drive or an external storage device.

You can also reset a Chromebook by navigating to **Settings → System preference → Reset → Powerwash** and follow the on-screen instructions.

Note: If you're using your Chromebook at work or school, you can't reset it. Ask your administrator to wipe the data on your Chromebook and re-enroll the device on your work or school network.

Chapter 3. CRU replacement

Customer Replaceable Unit Service

Customer Replaceable Unit Service is a type of warranty service offered by Lenovo. One or more components of a Chromebook may be designated by Lenovo as Customer Replaceable Units (CRUs) based on their ease of replacement. During the warranty period, if a part designated by Lenovo as a Customer Replaceable Unit becomes defective, and if this service is available for your model and geographic location, the warranty service may be performed using this service type.

CRU type	Description
Self-service CRU	Parts that can be installed or replaced easily by customer themselves or by trained service technicians at an additional cost.
Optional-service CRU	Parts that can be installed or replaced by customers with a greater skill level. Trained service technicians can also provide service to install or replace the parts under the type of warranty designated for the customer's machine.

If you intend to install a CRU, Lenovo will ship the CRU to you. You might be required to return the defective part that is replaced by the CRU. When return is required: (1) return instructions, a prepaid shipping label, and a container will be included with the replacement CRU; and (2) you might be charged for the replacement CRU if Lenovo does not receive the defective CRU within thirty (30) days of your receipt of the replacement CRU. For full details, see the [Lenovo Limited Warranty](#) document.

What are CRUs

Refer to the following CRU list for your Chromebook.

Note: Laws and regulations in certain countries are enacted to protect customers' rights to independently service a product both during and after the warranty period. The designation of CRUs for your product model is intended solely for performing warranty service and does not affect customers' statutory rights. Parts not classified as CRUs are not eligible for CRU service but may still be replaceable by customers in accordance with applicable laws and regulations.

Self-service CRUs

- ac power adapter*
- Power cord*

* for selected models

Note: The Chromebook is available in certain countries or regions without an included ac power adapter.

Optional-service CRUs

- Base cover assembly
- Battery
- Speakers
- USB Type-C connector bracket
- USB Type-C connector

Note: Replacement of any parts not listed above, including the built-in rechargeable battery, should be done by a qualified repair technician or by ensuring that you carefully follow all instructions provided by Lenovo. You can also find Lenovo-authorized repair facilities by going to <https://support.lenovo.com/partnerlocation> for more information.

Replace a CRU

Follow the replacement procedure to replace a CRU. Prepare the tools listed below before the replacement:

- Pry tool
- Screw driver
- Tweezers

Base cover assembly

Prerequisite

Before you start, read [Generic Safety and Compliance Notices](#) and print the following instructions.

Note: Do not remove the base cover assembly when your Chromebook is connected to ac power.

For access, do the following:

1. Disable the built-in battery. Press  together with the power button for about five seconds, and at the same time detach the ac power adapter from the Chromebook.

Note: Power supply from the built-in battery will resume after you reconnect the Chromebook to the ac power adapter.

2. Close the Chromebook display and turn over the Chromebook.

Removal procedure

Note: The screw labelled **1a** is a special screw. After all screws are loosened, remove the base cover starting from the point of screw **1a**.

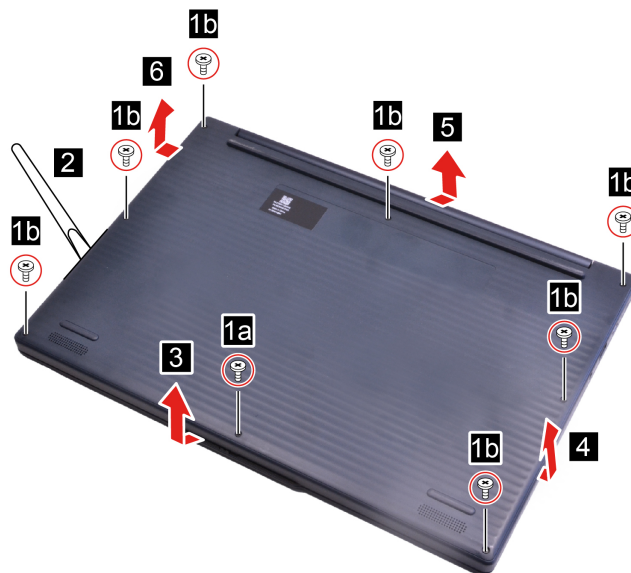


Figure 8. Remove the base cover assembly

Troubleshooting

If the Chromebook does not start up after you reinstall the base cover assembly, disconnect the ac power adapter and then reconnect it to the Chromebook.

Battery

Prerequisite

Before you start, read [Generic Safety and Compliance Notices](#) and print the following instructions.

Note: Do not remove the battery when your Chromebook is connected to ac power.

For access, do the following:

1. Disable the built-in battery. Press **C** together with the power button for about five seconds, and at the same time detach the ac power adapter from the Chromebook.

Note: Power supply from the built-in battery will resume after you reconnect the Chromebook to the ac power adapter.

2. Close the Chromebook display and turn over the Chromebook.
3. Remove the base cover assembly. See “Base cover assembly” on page 24

Removal procedure

Attention: Use your fingernail to pull the connector to unplug it. For new battery pack replacement, you need remove the battery pack cable from the cable guide.

Removal procedure

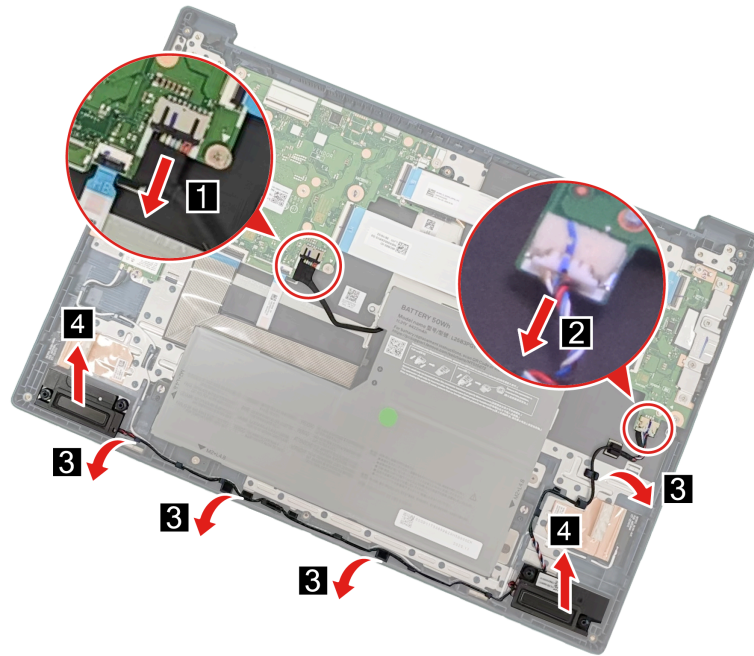


Figure 10. Remove the speakers

Troubleshooting

If the Chromebook does not start up after you reinstall the speakers, disconnect the ac power adapter and then reconnect it to the Chromebook.

USB Type-C connector

Prerequisite

Before you start, read [Generic Safety and Compliance Notices](#) and print the following instructions.

Note: Do not remove the USB Type-C connector when your Chromebook is connected to ac power.

For access, do the following:

1. Disable the built-in battery. Press **C** together with the power button for about five seconds, and at the same time detach the ac power adapter from the Chromebook.

Note: Power supply from the built-in battery will resume after you reconnect the Chromebook to the ac power adapter.

2. Close the Chromebook display and turn over the Chromebook.
3. Remove the base cover assembly. See “Base cover assembly” on page 24

Removal procedure

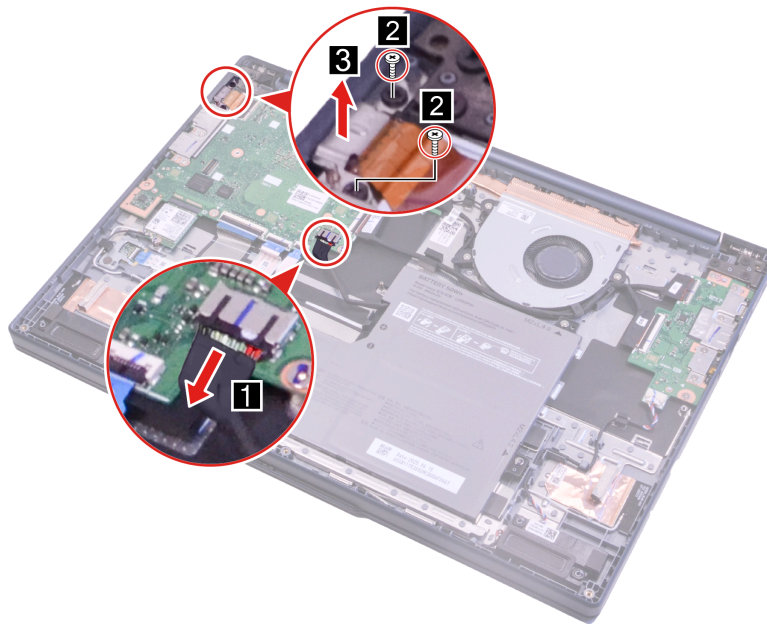


Figure 11. Disconnect the battery pack cable and remove the bracket

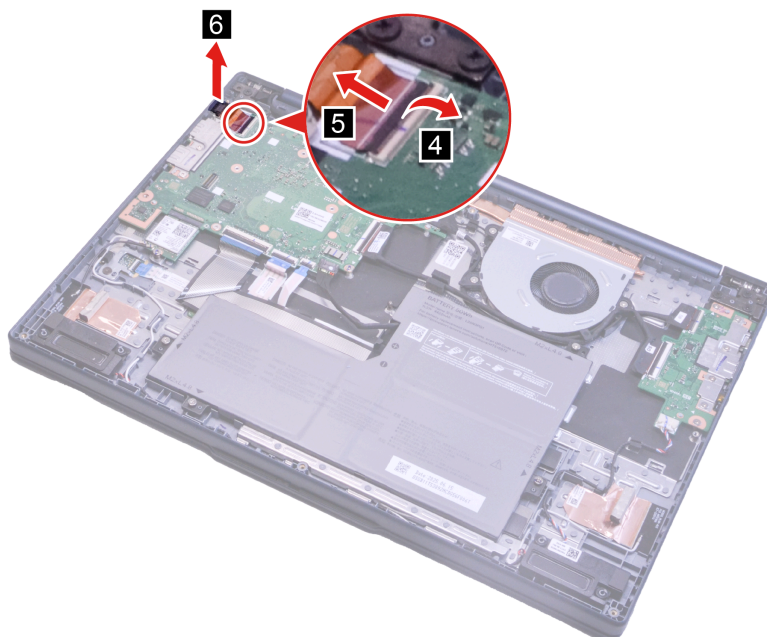


Figure 12. Remove the USB Type-C connector

Troubleshooting

If the Chromebook does not start up after you reinstall the USB Type-C connector, disconnect the ac power adapter and then reconnect it to the Chromebook.

Chapter 4. Help and support

Frequently asked questions

What do I do if my Chromebook stops responding?

1. Press and hold the power button until the Chromebook turns off. Then, restart the Chromebook.
2. If step 1 does not work:
 - For models with an emergency reset hole: Insert a straightened paper clip into the emergency reset hole to cut off power supply temporarily. Then, restart the Chromebook with ac power connected.
 - For models without an emergency reset hole:
 - For models with the removable battery, remove the removable battery and disconnect all power sources. Then, reconnect to ac power and restart the Chromebook.
 - For models with the built-in battery, disconnect all power sources. Press and hold the power button for about seven seconds. Then, reconnect to ac power and restart the Chromebook.

What do I do if I spill liquid on the Chromebook?

1. Carefully unplug the ac power adapter and turn off the Chromebook immediately. The more quickly you stop the current from passing through the Chromebook the more likely you will reduce damage from short circuits.
Attention: Although you might lose some data or work by turning off the Chromebook immediately, leaving the Chromebook on might make your Chromebook unusable.
2. Do not try to drain out the liquid by turning over the Chromebook. If your Chromebook has keyboard drainage holes on the bottom, the liquid will be drained out through the holes.
3. Wait until you are certain that all the liquid is dry before turning on your Chromebook.

How do I disinfect my Chromebook?

1. Squeeze out excess liquid from wipe or disinfecting cloth before using. Recommended wipes are hydrogen peroxide wipes and alcohol based wipes. Do not use wipes containing sodium hypochlorite (bleach).
2. Gently wipe the Chromebook thoroughly, being careful to ensure no liquid drips into the Chromebook. Do not wipe on connector pins.
3. After disinfecting, follow the cleaning procedure from the wipe supplier to minimize chemical buildup of disinfectant residue.
4. Always allow the Chromebook to completely dry prior to any use.

For more information about cleaning and disinfecting, go to <https://support.lenovo.com/in/en/solutions/ht035676>.

How do I find accessibility information?

<https://www.lenovo.com/accessibility>

Lenovo Customer Support Center

If you have tried to correct the problem yourself and still need help, you can call Lenovo Customer Support Center.

Before you contact Lenovo

Record product information and problem details before you contact Lenovo.

Product information	Problem symptoms and details
• Product name • Machine type and serial number	• What is the problem? Is it continuous or intermittent? • Any error message or error code? • What operating system are you using? Which version? • Which software applications were running at the time of the problem? • Can the problem be reproduced? If so, how?

Note: The product name and serial number can usually be found on the bottom of the Chromebook, either printed on a label or etched on the cover.

Telephone numbers

For a list of the Lenovo Support phone numbers for your country or region, go to <https://pcsupport.lenovo.com/supportphonenumberlist> for the latest phone numbers.

Note: Phone numbers are subject to change without notice. If the number for your country or region is not provided, contact your Lenovo reseller or Lenovo marketing representative.

Services available during the warranty period

- Problem determination - Trained personnel are available to assist you with determining if you have a hardware problem and deciding what action is necessary to fix the problem.
- Lenovo hardware repair - If the problem is determined to be caused by Lenovo hardware under warranty, trained service personnel are available to provide the applicable level of service.
- Engineering change management - Occasionally, there might be changes that are required after a product has been sold. Lenovo or your reseller, if authorized by Lenovo, will make selected Engineering Changes (ECs) that apply to your hardware available.

Services not covered

- Replacement or use of parts not manufactured for or by Lenovo or nonwarranted parts
- Identification of software problem sources
- Configuration of UEFI BIOS as part of an installation or upgrade
- Changes, modifications, or upgrades to device drivers
- Installation and maintenance of network operating systems (NOS)
- Installation and maintenance of programs

For the terms and conditions of the Lenovo Limited Warranty that apply to your Lenovo hardware product, go to:

- https://www.lenovo.com/warranty/llw_02
- <https://pcsupport.lenovo.com/warrantylookup>

Get help from Google

After signing in to your Chromebook, start Get Help from the app Launcher. The Get Help app provides comprehensive instructions on using your Chromebook.

In addition, if you are interested in visiting the Chromebook Help Center and Community, go to <http://support.google.com/chromebook>.

Chapter 5. Chromebook and accessibility

Chromebooks are a new type of computer that run ChromeOS, a proprietary operating system developed by Google. With a Chromebook, you can access information, connect with friends, pursue education, conduct research, and complete work tasks. This reliance extends to individuals with vision, hearing, cognitive, or mobility impairments, as well as to those whose abilities may decline due to illness or aging.

This chapter explores the accessibility features available on your Lenovo Chromebook, including both hardware components and those offered by the pre-installed operating system. By gaining a comprehensive understanding of the available accessibility features and how to activate and configure them, you can enhance your Chromebook's usability for individuals with disabilities.

Accessibility features of the Chromebook hardware

Lenovo Chromebooks are designed with accessibility in mind. Throughout the design process, special considerations are prioritized for individuals with disabilities and best industry practices are implemented in hardware design.

USB connectors for connecting assistive technology devices

Several types of assistive technology devices are available on the market that can be connected to a Chromebook to enhance its accessibility. For example, a refreshable braille display is an assistive technology device that enables individuals who are both deaf and blind to use a Chromebook. When connected to a Chromebook, a refreshable braille display can work in conjunction with a compatible screen reader to provide tactile output in braille characters. Blind individuals who have been trained to read braille can run their fingers over the display to comprehend the information presented on the Chromebook.

Many assistive technology devices utilize USB technology for connectivity. Most Lenovo Chromebooks are equipped with at least one USB connector that adheres to the relevant USB specifications and is backward compatible. A Lenovo Chromebook may feature a USB Standard-A connector, a USB Type-C connector, or both. If the plug type of the assistive technology device does not match the USB connector on your Chromebook, you can easily purchase and use a USB adapter to resolve the issue.

Keyboard accessibility

The keyboard serves as the primary input device for many Chromebook users. Chromebook keyboards are designed and manufactured with accessibility in mind. This section highlights the accessibility features of the keyboards that benefit all users, including those with disabilities.

Keyboard layout

The alphabetic keys on a Chromebook keyboard are arranged in a qwerty layout, which is standard for input devices featuring alphabetic keys. The f and j keys have bumps that make them tactilely distinguishable from other keys. This feature serves as an orientation aid for skilled typists, allowing them to rest their index fingers without looking at the keys. Some Chromebook keyboards include a separate numeric keypad. The numeric keys are organized in four rows and three columns, arranging in ascending order from left to right and bottom to top. Additionally, the 5 key features a bump to make it tactilely distinguishable.

Standard modifier keys

Chromebook keyboards are equipped with standard modifier keys, including:

- the alt key
- the ctrl key

the shift key
the Launcher key

These keys are extensively used as the modifier key for shortcuts by the operating system and other applications.

The tab key

The tab key is located in the leftmost column of the keyboard. For operating systems, applications, and web documents that are designed with accessibility in mind, users can press tab and alt + tab (in reverse order) to cycle through the interactive elements.

Hotkeys

Many Lenovo Chromebook keyboards feature hotkeys in the top row, offering convenient access to frequently used settings.

The fn key

The fn key, short form for function, is a modifier key. It can be used with the top-row dual-function keys to switch their functionalities. It can also be used with several other keys to access defined settings.

Keyboard backlight

Many Chromebook keyboards are equipped with backlights to help you use the keyboard in dark lighting conditions. The backlights can be controlled by pressing the backlight key on the top row of the keyboard.

Biometric devices

Some Lenovo Chromebooks are equipped with biometric devices that facilitate easy and secure identity authentication. If your Chromebook includes a fingerprint sensor, you can use your fingerprint for authentication. Biometric identity authentication can be particularly beneficial for users who find it difficult typing passwords.

Note: When biometric devices are used for device authentication, they are not the only available method for this purpose. If biometric authentication fails, you can use a password or PIN to sign in to ChromeOS.

Accessibility features of ChromeOS

An operating system is a crucial piece of software installed on a Chromebook. It plays a vital role in the Chromebook's basic functionality by providing a user interface, various tools for system management, and a foundation upon which additional specialized applications can be installed.

ChromeOS is a Google-built operating system that comes preinstalled on many Lenovo Chromebooks. It offers a rich set of accessibility features designed for individuals with diverse disabilities. This section outlines the accessibility features available in ChromeOS, explains how to activate them, and discusses the benefits they provide.

For the latest and comprehensive information on ChromeOS accessibility, go to Chromebook Help Center at <https://google.com/support/chromebook/> or Chromebook Accessibility website at <https://www.google.com/chromebook/accessibility/>.

Configuring accessibility features

ChromeOS provides a centralized location within the Settings app for activating and configuring all accessibility features. You can access this section by selecting **Launcher → Settings → Accessibility**. With **Show accessibility options in Quick Settings** turned on, pressing alt + shift + s, or selecting the time at the

bottom right opens a quick setting panel, where accessibility features can be turned on and off. Additionally, you can open the **Accessibility** panel by pressing the accessibility key on the top row of the keyboard.

Text-to-Speech

Text-to-Speech is ChromeOS' built-in text reading and spoken feedback application. It consists of two major functions: ChromeVox and Select-to-speak. ChromeVox provides spoken feedback to user input, and Select-to-speak reads selected text aloud. These functions allow individuals with visual impairments to navigate effectively within ChromeOS, use applications, and browse the web.

Start and stop ChromeVox and Select-to-speak

You can start and stop ChromeVox and Select-to-speak by selecting the toggles in the centralized Accessibility section of the Settings app. Additionally, you can also use the keyboard shortcuts: press ctrl + alt + z to turn on and off ChromeVox, while highlight the text, then press Launcher + s to start the Select-to-speak settings.

Customize the Text-to-Speech voices

Text-to-Speech offers a variety of controls that allow you to customize it to suit your preferences. For example, you can select your preferred voice for the languages you need. You also have the option to preview and adjust the selected voices. All Text-to-Speech settings are conveniently located in the centralized Accessibility section of the Settings app.

Adjusting the Display and magnification

For individuals who find it difficult to see text clearly on the screen, ChromeOS offers the options of adjusting the display settings and text sizes and magnification.

Adjust the Display and text size

If you find the items on the screen are too small, you can scale up the size of the display on your Chromebook.

- Step 1. Select **Launcher → Settings → Accessibility → Display and magnification → Display settings**.
- Step 2. Find **Display and text size** under **Built-in display**, and drag the slider to adjust the size you want.

Apply Color inversion

For individuals with low vision, ChromeOS offers contrast themes that enhance text readability by using a background color that sharply contrasts with the text.

- Step 1. Select **Launcher → Settings → Accessibility → Display and magnification**.
- Step 2. Find **Color inversion**, select the toggle, or use the keyboard shortcuts, Launcher + ctrl + h or Search + ctrl + h to turn Color inversion on and off.

Enable the magnifier

The magnifier makes the items on the screen easier to see. In ChromeOS, the magnifier consists of **Full-screen magnifier** and **Docked magnifier**, you can enlarge the entire screen by **Full-screen magnifier** to make the items on the screen bigger, and use split-screen view by **Docked magnifier** to see the magnified area of the screen.

- Step 1. Select **Launcher → Settings → Accessibility → Display and magnification**.
- Step 2. To enable or disable the magnifier, you can select the toggles or use the keyboard shortcuts, Launcher + ctrl + m or Search + ctrl + m for **Full-screen magnifier**, and Launcher + ctrl + d or Search + ctrl + d for **Docked magnifier** respectively.

When the magnifier is enabled, you can press ctrl + alt + Brightness up to zoom in and ctrl + alt + Brightness down to zoom out.

Sticky keys

ChromeOS offers numerous keyboard shortcuts that require users to hold down a modifier key (such as shift, ctrl, alt, or the Launcher key) before pressing one or more additional keys. While these shortcuts provide significant convenience for many users, they can pose accessibility challenges for individuals who have difficulty holding down multiple keys at the same time.

Sticky keys is an accessibility feature in ChromeOS that, when enabled, allows users to press keys in sequence to activate shortcut functions. For example, instead of holding down the ctrl key and the c key simultaneously, users can press each key individually to copy text to the clipboard.

To enable or disable Sticky keys, press the accessibility key on the top row of the keyboard, or use the keyboard shortcuts alt + shift + s or select the time at the bottom right to open a quick setting panel, select **Accessibility**, and then select the Sticky keys toggle.

Accessible user documentation

Documentation containing instructions for the use of the product, including its accessibility features, is available in accessible formats (such as HTML and PDF) on the Lenovo Support Website. When creating documentation, a series of industry standards and best practices are followed to ensure that the content is useful to as broad an audience as possible. Additionally, automated testing tools are employed to identify issues that may hinder the accessibility of information. These issues are addressed to the extent permitted by commonly available technologies.

Accessibility features of user documentation

By adhering to industry standards and best practices, Lenovo documentation offers numerous features that facilitate the perception and understanding of the content. Additionally, several of these features are specifically designed to ensure that users of assistive technology devices can access information comparable to that available to those who do not rely on such devices.

Perceivable content

Text content is presented using popular and easy-to-read fonts. Text colors are in high contrast with the background. Non-text elements, such as graphics and videos that convey important information, are accompanied by alternative text descriptions. Users with visual impairments can utilize screen readers to access information comparable to that available to sighted users.

Understandable content

The documentation is presented visually in a well-structured and simple layout. It also includes hidden tags or other markup information that store the content's structure, which can be utilized programmatically by assistive technologies to convey this structure to users.

Operable content

Documentation includes industry-standard tags for sectioning and interactive elements, such as titles, headings, various structural components, links, buttons, and input fields. Screen reader users can utilize standard modifier keys on the keyboard to effectively navigate and interact with the documentation.

Testing documentation accessibility

Before being officially released, Lenovo documentation undergoes testing with automated tools to evaluate its accessibility. HTML documents are assessed for compliance with the success criteria outlined in the *Web*

Content Accessibility Guidelines (WCAG), a widely accepted set of standards designed to enhance web document accessibility. PDF documents are evaluated for accessibility using the accessibility checker in Adobe Acrobat for the same purpose. Automated testing tools help identify elements within a document that may present challenges when rendered by screen readers and other assistive technology devices. Accessibility issues identified by these automated tools are subsequently analyzed manually and corrected as needed.

Appendix A. Open source information

Your Chromebook may include software made publicly available by Google and other third parties, including software licensed under the General Public License and/or the Lesser General Public License (the “open source software”).

You may obtain a copy of the corresponding source code for any such open source software licensed under the General Public License and/or the Lesser General Public License (or any other license requiring us to make a written offer to provide corresponding source code to you) from Lenovo for a period of three years without charge except for the cost of media, shipping, and handling, upon written request to Lenovo. This offer is valid to anyone in receipt of this device. You may send your request in writing to the address below accompanied by a check or money order for \$5 to:

*Lenovo Legal Department
Attn: Open Source Team / Source Code Requests
8001 Development Dr.
Morrisville, NC 27560*

As part of your request, please include a “UNAME” and a “CHROME VERSION” of this device available by typing: “Chrome://system” in a Chrome Browser’s address bar. Be sure to provide a return address.

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In regard to section 79.18 of Quebec's Regulation respecting the application of the Consumer Protection Act, Lenovo in no way guarantees the availability of (a) replacement parts; (b) repair services; and (c) information necessary to maintain or repair the goods. For up-to-date information on the technical support and parts available for your purchase, please consult <https://support.lenovo.com/ca/en>

En ce qui concerne l'article 79.18 du Règlement d'application de la Loi sur la protection du consommateur du Québec, Lenovo ne garantit en aucune façon la disponibilité des éléments suivants : (a) les pièces de rechange; (b) les services de réparation; et (c) les renseignements nécessaires à l'entretien à la réparation du bien. Pour obtenir des renseignements à jour sur le soutien technique et les pièces disponibles pour votre achat, veuillez consulter <https://support.lenovo.com/ca/fr>.

Appendix C. Notices and trademarks

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