

Android For Beginners

Get started with smartphones & tablets

Over
450
Tips & Hints
inside



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Welcome to Papercut Ltd's "For Beginners" series,
your first and only choice if you are a new adopter
and want to learn everything you'll need
to get started with your new device.

This independent manual is crammed with helpful
guides and step-by-step fully illustrated tutorials,
written in plain, easy to follow English.

Over the pages of this new user guide you will clearly
learn all you need to know about out of the box set up,
getting to grips with the more advanced features and
discover a huge array of amazing apps.

With this unofficial instruction manual at your
side no problem will be unsolvable, no question
unanswered as you learn, explore and enhance
your user experience. Let the fun begin...





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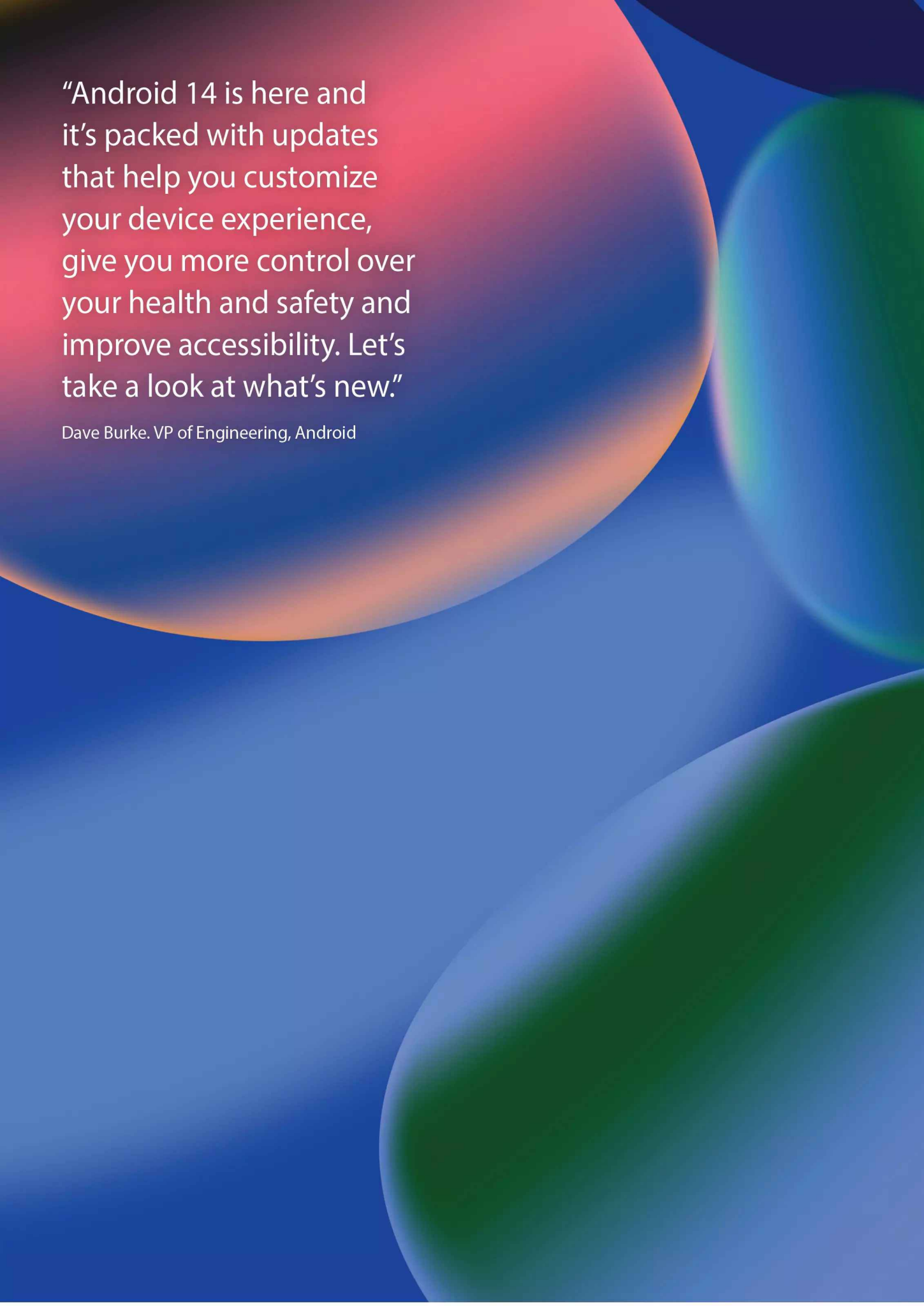
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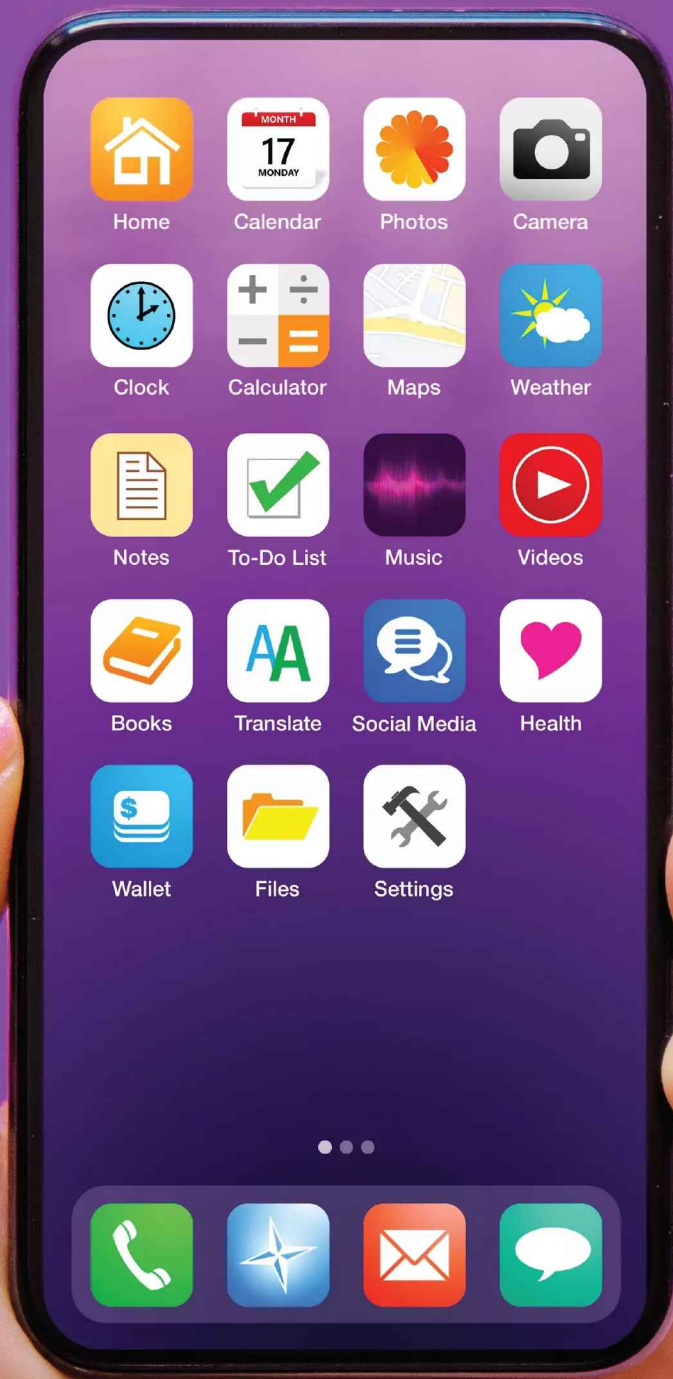


“Android 14 is here and it’s packed with updates that help you customize your device experience, give you more control over your health and safety and improve accessibility. Let’s take a look at what’s new.”

Dave Burke. VP of Engineering, Android

Getting Started with Android

Using our step-by-step guides, learn how to get started with your Android device, including sending emails, customising the Home screen and choosing widgets. Find out the best way to set up your device and the easiest way to get online. Discover how to customise the device and how to share images with friends.



Android Controls and Connections

Although the exact buttons and connection ports on your Android device may vary, there are standard features common to all models in the Android series of smartphones and tablets. Let's take a look at those buttons, connections and controls and see what they can do.

Connections

Whichever model of Android device you have, it has several ports and other such facilities to connect it to peripherals and also to charge and connect to a computer. It will also, of course, have a SIM card drawer to house the SIM card provided by your mobile service provider. Not every Galaxy model has every port described here.

USB-C/Micro USB

➤ Most modern devices, including recent Android device models, use USB-C connections for charging the phone or tablet and as a data cable, for connecting it to your computer. Older Android phones and tablets might use Micro USB instead. Either way, it's usually found at the bottom of your device.



3.5mm Audio Port

➤ The most recent Android devices forego the headphone or 3.5mm port, as most users today use Bluetooth earbuds instead of cabled connections. If your phone or tablet is an older model, though, you use this port to plug in cabled headphones or earbuds, or to connect to a speaker set's AUX port with a 3.5mm-to-3.5mm cable.



SIM Card Tray

➤ To open your SIM card tray and put in the SIM, insert the thin pin-like tool supplied with the device or a straightened paperclip into the hole at the side of the closed tray. An older Android model might house the SIM next to the battery. If this is the case with yours, remove the battery cover to fit and remove the SIM.



Wireless Charging

➤ As well as charging your phone using a supplied USB cable, if it's Qi-compatible, you can charge it by placing it on a wireless charger instead. 'Qi' is pronounced 'key', and is a wireless charging standard. You will find that most current and previous generations of Android smartphones will enable this function.



On Your Android Phone

Different Android phones have buttons and features in different places, but as a general guide, here's where to find them on the Google Pixel 8 Pro. Your own phone might vary, but probably not by too much.

1 The Google Pixel 8 Pro has a triple-lens camera system, featuring a 50 MP main Camera, a 48MP Telephoto Camera and a 48 MP Ultra-Wide Camera.

2 This is the LED flash, for indoor and low-light photography.

3 The Pixel 8 Pro has a 6.7-inch screen, while the standard Pixel 8's screen is 6.2 inches. Other high-end Android phones can have even larger screens.

4 The front camera is an improved 10.5 MP device. Your selfies are optimised for social media feeds, and the camera captures more light than before, giving excellent low-light selfies with great colour and detail.

5 These are the volume-up and volume-down buttons. On most devices, pressing volume down along with the Power button or Home button will take a screenshot.

6 The Power button. Tap it to sleep and wake your phone, and hold it for the menu for shutting down and restarting.

7 The charging/data port is found at the foot of the phone here. A modern Galaxy phone can be charged wirelessly too.

8 The SIM tray is next to the charging/data port. The closed tray is a long oval shape, and it has a small hole in the left-hand side. Push the ejector tool or a straightened paperclip into this hole to eject the tray.

On Your Android Tablet

Just as with the smartphone controls, Android tablet controls and connections follow a fairly standard layout plan. This one's the Galaxy Tab Active4 Pro – the exact position of the buttons may vary slightly between devices.

1 Use this Side key to wake and sleep your tablet. Hold it to start a conversation with Bixby.

2 These are the Volume keys. As well as changing the volume, hold Volume-Down and press the Side key to take a screenshot.

3 The Active key. Press or press and hold to launch preset apps.

4 The front-facing selfie camera is 8MP, f/2.0 and can capture 1080p video at 30fps.

5 The tablet's stylus is slotted into a space on the left-hand side of the device.

6 The tablet's built-in microphones are found at the top and on the right-hand side of the device.

7 This is the USB-C port. Use it to charge your Android tablet, or to connect it to your computer for both charging and data transfer.

8 You can use Bluetooth earbuds with your tablet, but if you prefer old-school cabled headphones, plug them in here. You can also connect to a speaker's AUX port using a 3.5mm-to-3.5mm cable.

9 The device's stereo speakers are found on its left side (behind the stylus caddy) and the right side of the tablet.

10 The Recents button. Press it to be shown a list of apps you've recently used.



11 The Home key takes you back to the Home screen, where you can see the app icons. It contains a fingerprint sensor so you can unlock your tablet with your fingerprint.

12 The Back key. Press it to return to the previous screen on your tablet.

13 This is the keyboard dock port, which you can use to connect a compatible keyboard to your Android tablet.

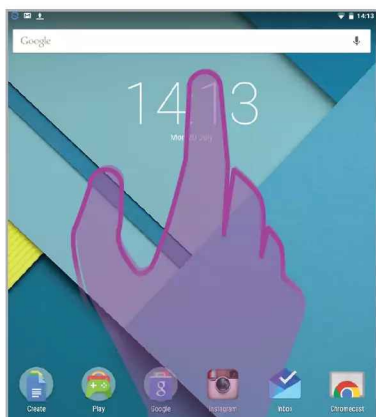
14 The NFC (Near Field Communication) antenna is found inside the tablet here. Use it for contactless payments.

15 The Galaxy Tab Active4 Pro's rear-facing camera is 13 MP, f/1.9, with HDR, panorama and 4K and 1080p video at 30fps. On its right is an AF LED flash. It can't match the Galaxy phones' cameras for power, but it's still very capable nonetheless.



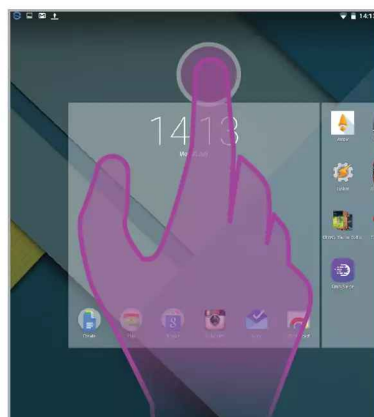
Touch Screen Controls

Modern Android devices no longer rely on physical pressure to register a touch, instead relying on tiny electrical charges in our fingers. This allows for some great touchscreen gestures that help you interact with your tablet.



Single Touch

➤ To activate items on the screen such as application and settings icons, to type letters using the on screen keyboard, or to press on screen buttons, you simply (gently) touch them with your finger. The touch screen is capacitive, meaning it is sensitive to the tiny electrical charge in our bodies. This means you only have to tap the screen, not press down hard with your finger.



Touch and Hold

➤ Touch and Hold means to tap an item on the screen and not lift your finger until a secondary action occurs. This could be a menu opening, allowing you to customise the Home screen, or an icon lifting off the screen and showing that it can be moved. Another useful tip is that when typing using the Android keyboard, touch and hold will reveal alternative uses for several keys.



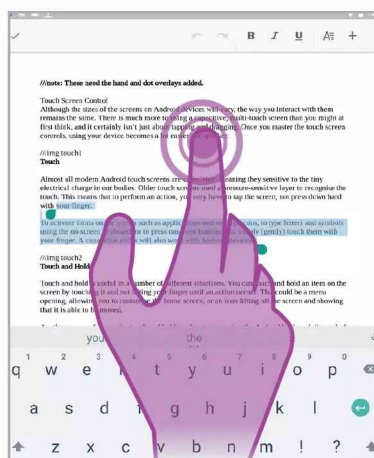
Touch and Drag

➤ To drag items around the screen touch and hold an item for a moment and then, without lifting your finger, move it across the screen until you reach the required position. Lift your finger off the screen and the item will drop into that location, if it's free. You can drag items on the Home screen to reposition them and you drag down the screen to open the Notifications panel.



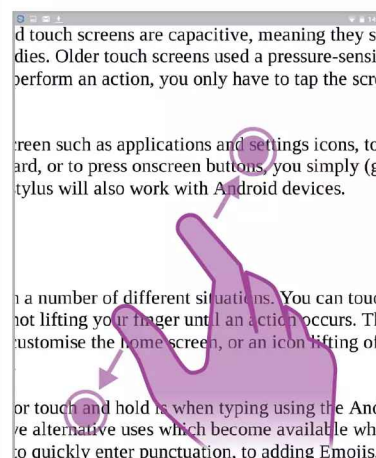
Swipe or Scroll

➤ Many of the menus or web pages that you can access on Android require you to scroll. To swipe or scroll, quickly move your finger across the surface of the screen, without pausing when you first touch it. For example the app drawer lets you slide the screen up or down to scroll through the list and in Calendar, you can swipe quickly across the screen to change the range of time visible.



Double Tap

➤ There are several situations where a double-tap results in an action. For example, tap quickly twice on a web page, map or other screen to zoom. You can double-tap a section of a web page in the Browser to zoom that section to fit the width of the screen. Double-tapping after pinching to zoom in some applications such as the Browser, refocuses a column of text to fit the width of the screen.



Pinch and Rotate

➤ In some applications such as Maps, Browser and Gallery, you can zoom in and out by placing two fingers on the screen at once and pinching them together to zoom out or spreading them apart to zoom in. Two fingers can also be used to rotate the view of a picture or map for example, in several apps. The picture follows the rotation of your fingers and turns clockwise or anti-clockwise.

Android Out-of-the-Box Setup

Before you use your Android smartphone, you must set it up out of the box. First of all, make sure it's charged by connecting it to a power source using the supplied cable. You must then insert your Nano-SIM card and follow the setup procedure to get started. This guide helps you along the way through the entire, step by step.

Inserting Your Nano-SIM Card

Before you get started with your Android smartphone, you need to insert the Nano-SIM card you got from your mobile phone service provider. If you have the wrong size card, go to your provider's store and get it exchanged.



1 To activate your Android smartphone, you must first insert the SIM card provided by your mobile phone network provider. If you don't have one, or have the wrong size, go to their store.



2 Use a SIM eject tool like the one pictured here, or maybe a straightened paper clip, and insert it into the small hole next to the SIM slot. The tray then pops out as shown.



3 Place the SIM card in the tray (there's only one way it can go in) and slide the tray back in the slot. Push it in firmly so it snaps into place. Your Android device should recognise it.

SIMs Explained

➤ There are three different sizes of SIM cards available. An older phone might use a standard SIM. Some phones still use the smaller Micro SIM, but most modern phones, such as smartphones, use a Nano SIM, which is smaller still. Because the chip on the SIM is the same size regardless of the type of card, you can convert a small SIM to a larger size with an adapter. But if you have a larger SIM and need a Nano, you must go back to your phone provider's store and get it exchanged, or maybe cut down to Nano size.



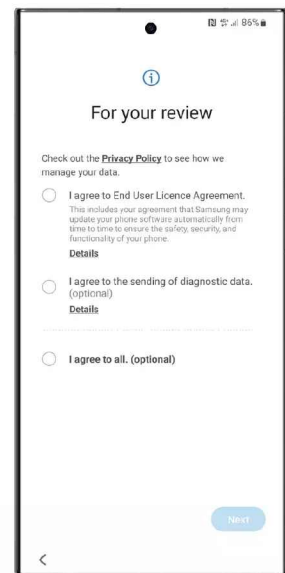
The Initial Setup of Your Android Smartphone



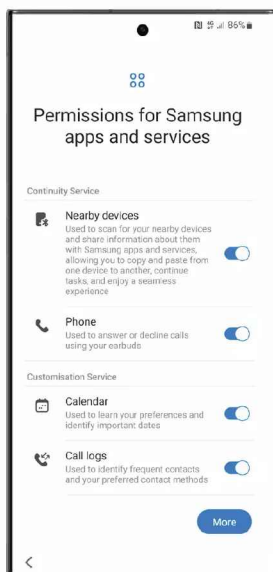
1 Switch on your phone using the button on the side. When it boots up, you're shown a screen showing 'Welcome' and a button marked 'Start' in several languages. Tap the blue Start button; it doesn't matter when.



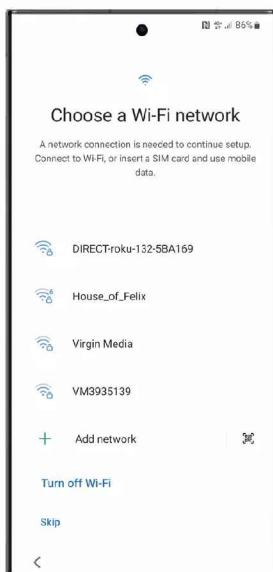
2 On the next screen, set your phone's language. Scroll up until you see the one you wish to use; it might already be ticked. If it isn't, tap it and then tap the blue Next button in the bottom-right corner of the screen.



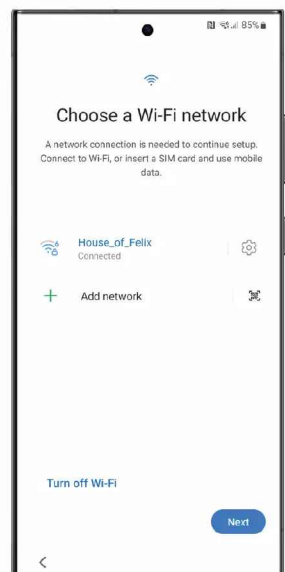
3 Now review a couple of privacy settings. To continue, you must agree to the End User Licence Agreement. You can allow the phone to send diagnostic data too. It's sent privately, though doing so is optional. Tap Next.



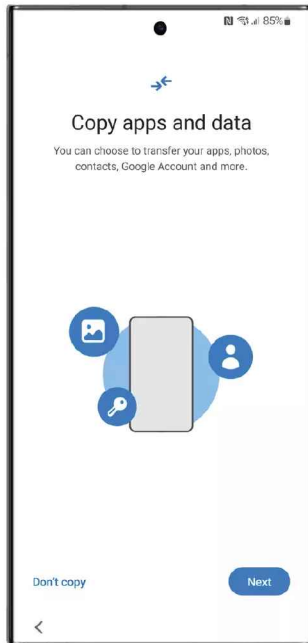
4 Now it's time to set permissions for Android apps and services. Unless there's a specific reason you don't want to use a particular service, leave them all ticked. Tap More to see the rest of the page, then finally tap the Agree button.



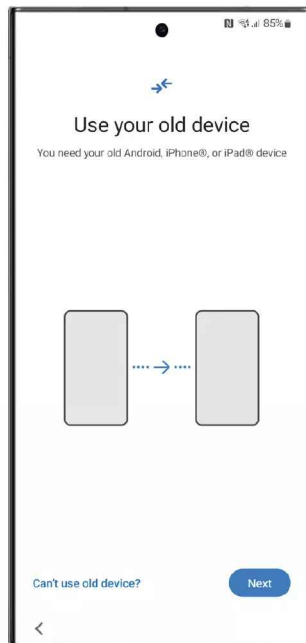
5 The phone then scans for local Wi-Fi networks. Your own should appear on this screen. When it does, tap it. Enter your router's passcode, and leave the Auto Reconnect switched on, before tapping the Connect button.



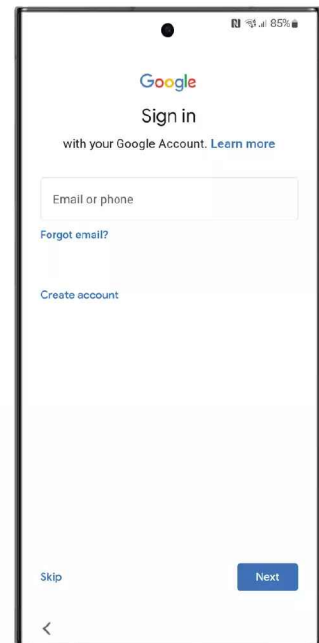
6 When your phone has successfully connected, the Wi-Fi icon appears at the top of the screen, and the network list shows which one you're currently connected to. Now tap the Next button (bottom right).



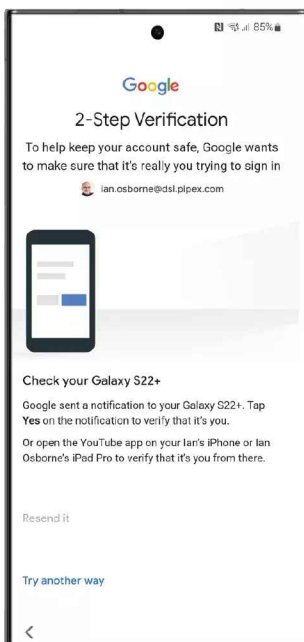
7 The phone then takes a few minutes to get itself set up, before inviting you to Copy Apps and Data from your existing phone (iPhone or Android). Tap Don't Copy if you don't have a phone, or don't want to copy data.



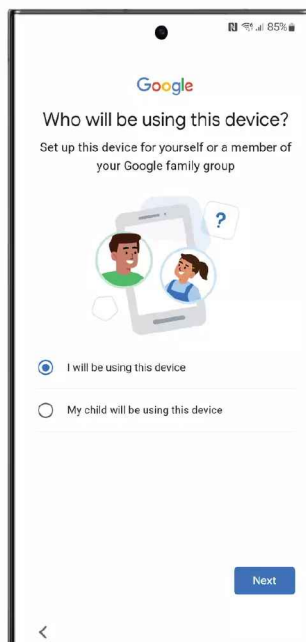
8 If you tapped Next in the previous step, follow the on-screen instructions to copy data such as contacts, calendar events, notes and in some cases, apps from your old phone to your new one. You might need a cable.



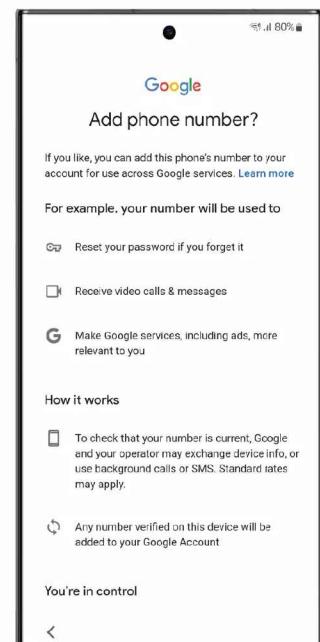
9 Whether you copy your data from an old phone or not, you must sign into your Google account. If you don't have one, tap Create Account. If you do, enter your Google email; tap Next, then the password; tap Next again.



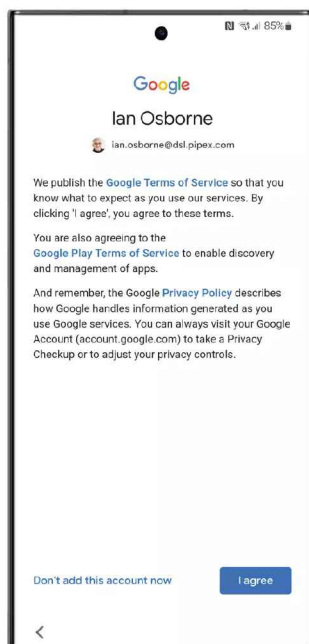
10 You may be asked to verify that it's actually you who's trying to log in. If so, open the YouTube app on one of the devices listed, and confirm. If you can't, tap Try Another Way and follow the on-screen instructions.



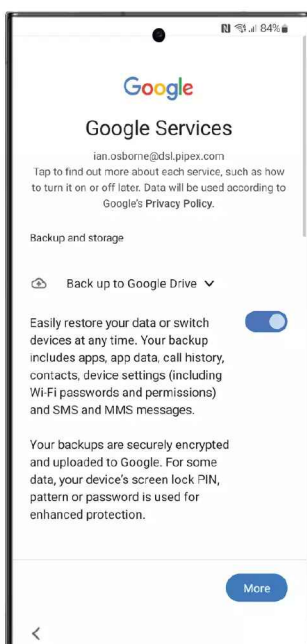
11 After this confirmation, you're asked whether you're setting up the phone for yourself or for a child. If the latter, follow the on-screen instructions for parental controls. If it's for you, select that option and tap Next.



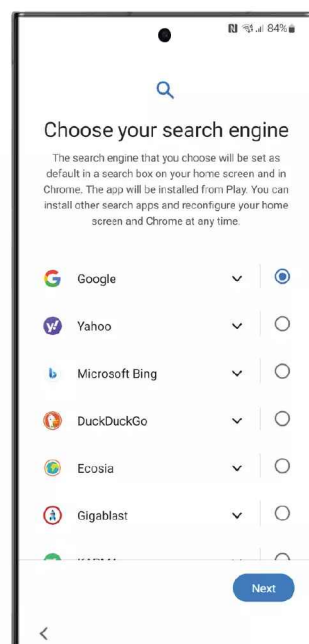
12 If the phone number on your SIM isn't associated with your Google account, you can have it added now. Read about the services this offers, and if you'd like to do this, scroll up and tap 'Yes, I'm In'.



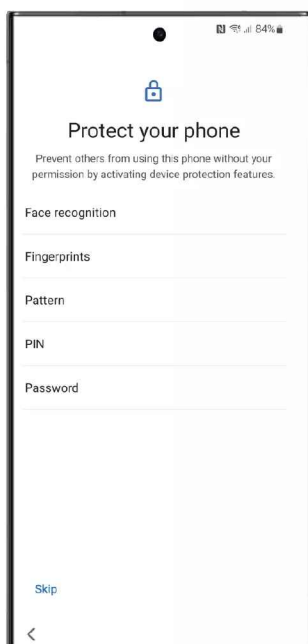
13 The next step is simple enough. Tap 'I Agree' to accept the Google terms and conditions. You can tap the link in the text to take a look at those terms and conditions and those for Google Play if you want.



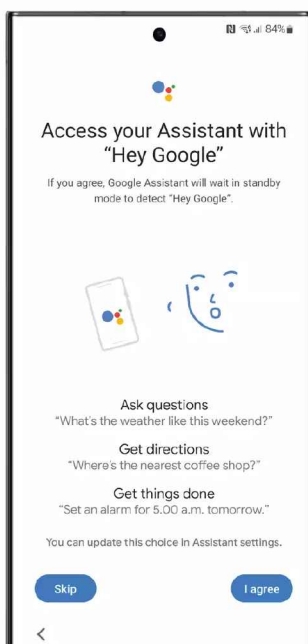
14 You must now decide on a series of options, such as backing up to Google Drive and sending usage and diagnostic data. Make your choices, tap More, and make some more choices before tapping Accept.



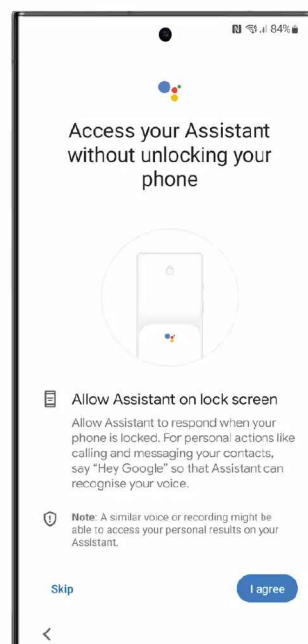
15 Which search engine do you want to use as your default for web searches? Most people choose Google, but there's no obligation to do so. Tap your choice from the list offered, and then tap the Next button.



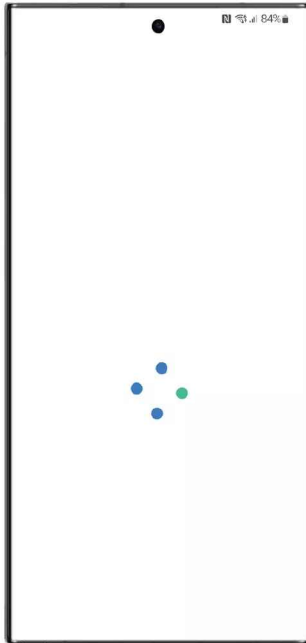
16 How do you want to protect your phone against unauthorised use? They're offered in descending order, the top one being the best. Choose one, and set it up by following the on-screen instructions.



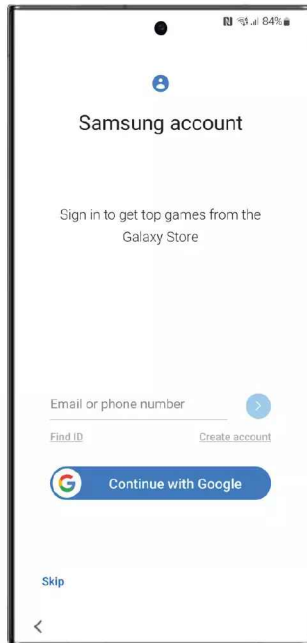
17 You can interact with your phone using Google voice commands, something we cover later in the book. To set this up, tap I Agree and go through the steps offered on the screen to help it recognise your voice.



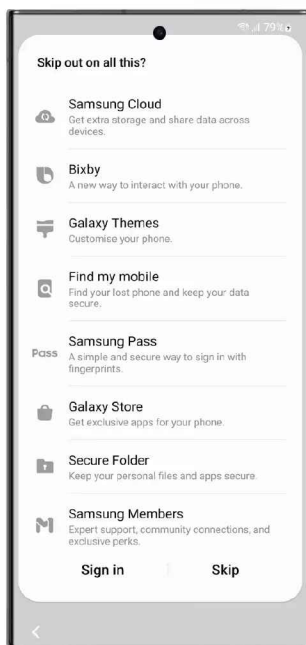
18 Do you want to be able to access the Google Assistant without unlocking your phone, so you can use 'Hey, Google' when your phone is locked? If you think this is too much of a security risk, tap Skip. Otherwise, tap 'I Agree'.



19 We're almost finished now. There follows a lengthy setup time, which can take several minutes. Don't interrupt it; leave the buttons alone and wait. The phone eventually moves on to the next set in the setup.



20 Do you want to be able to pay for goods and services with Android Pay? This allows you to make a contactless payment on one of your cards by holding the phone near a card reader. Sign in here to activate it.



21 You're now presented with a long list of services and features for your Android phone. You can set them up now by tapping one and following the instructions, or you can tap Skip and set them up later if you wish.

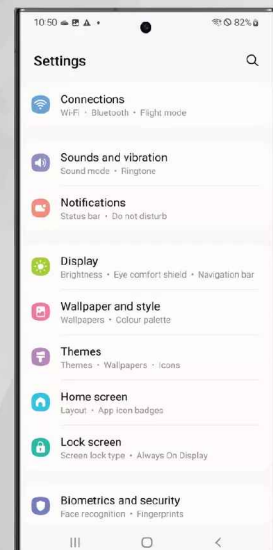


22 You're done! Tap Explore your Galaxy for some tips and hints about using your new Android-powered phone, or tap the Finish button to go straight to the phone's desktop and start using your Android device.

Changing Settings



➤ If you want to change settings you made during the setup process, you can do so afterwards. First of all, open the Settings app; the one with the cog icon on a grey background. You can change a lot of the phone settings here.



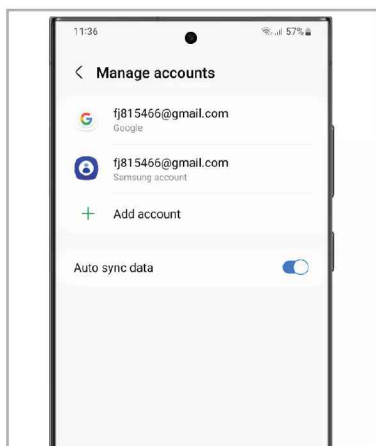
➤ You can make all sorts of changes here, not just to the settings you set up when you first powered up your phone. These include Bluetooth connections, Wi-Fi networks, Privacy permissions, backup services and more.



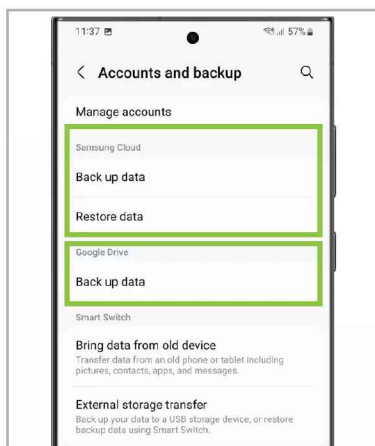
Resetting Your Android Device

If you want to sell or give away an Android device, perhaps because you bought a new one and have no need for the old model, you should first reset it to factory conditions to remove your personal data. Here's how.

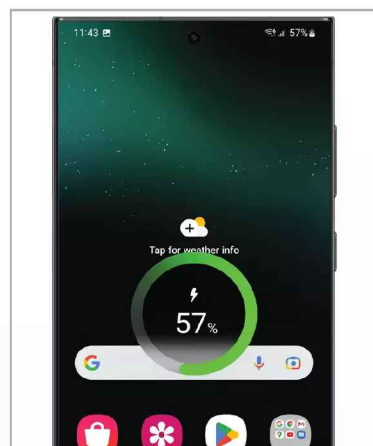
Preparing to Reset



1 To show that it's you doing the reset, you'll need to enter security information. If you can't enter the information, you won't be able to restore your data to the device. Therefore, you will need to know the Google account information that is currently being used on the device.

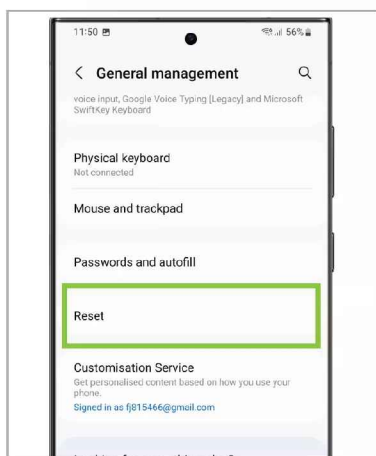


2 A factory data reset erases your data, so you should back up what you want to keep. Google account data can be restored, but all apps and their data on the device will be uninstalled. Open your device's Settings app, tap System > Accounts and Backup. Tap Back Up Data, on both Google Drive and any third party Cloud.

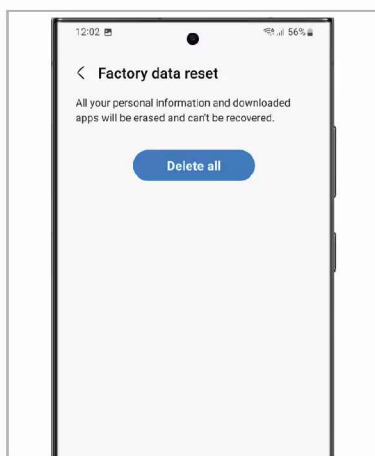


3 A full factory reset can take a long time (up to an hour), so plug your device into a power source and keep it plugged in until the reset completes; connect your device to Wi-Fi or your mobile network too. When the reset completes, you'll need to be connected to sign in to your Google account.

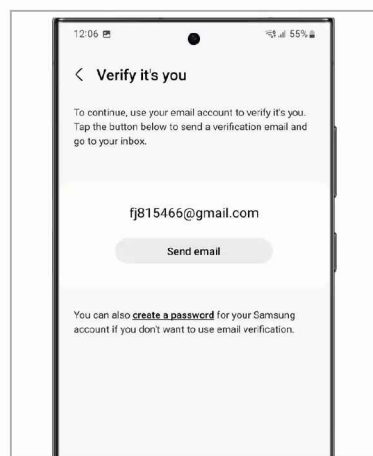
Factory Reset Your Device



1 Open the Settings app and tap General management > Reset. If you have one set up, you may need to enter your PIN, pattern or password at this point, to tell Android that it is you trying to reset the device. On some devices, factory reset may be found under the Backup & reset heading.



2 Tap Factory data reset then tap the button. In some cases, this is where you will need to enter your PIN, pattern or password. To erase all data from your device's internal storage, tap Delete all. When your device has finished erasing, pick the option to restart.



3 You may need to verify it's you trying to reset your phone. Tap Send email, and you're taken to the Gmail app, where you can verify your identity. When you're done, tap the three-lines icon in the bottom-left, swipe to the open Settings app and tap it to open. Your device is then reset.

Add and Use a microSD Card

Many Android devices, unlike Apple's range, offer the ability to expand the storage by inserting a microSD memory card. On modern devices, the capacity can be as much as 1TB, although this may vary and you should check before you buy a large SD card. Inserting the card is relatively simple, however it might not be obvious to someone doing it for the first time.

Choosing a microSD

Some memory cards may not be fully compatible with the device. Using an incompatible card may damage the device or the memory card. If you buy your memory card from a well known mobile store, you should be OK.



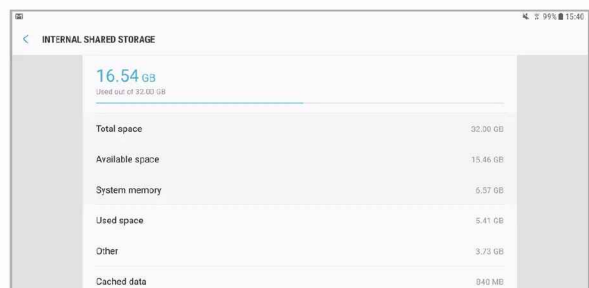
Card Capacity

➤ As already mentioned, not all devices can read all sizes of microSD card. The most recent Android devices can use a card of up to 1TB, but your particular model might be limited to a smaller capacity, or not be able to use a memory card at all. Check this before buying a microSD card for your device.



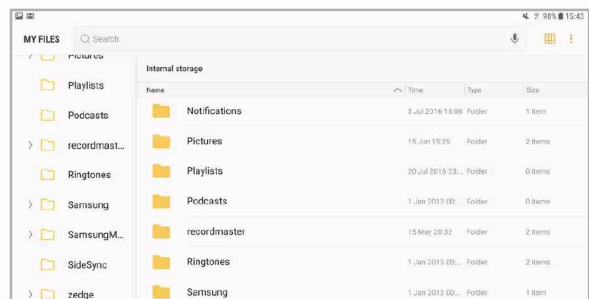
Recycling Cards

➤ You may have a microSD card in an old device you can use. Be aware that some memory cards may not be compatible with your device depending on the memory card manufacturer and type. To view your device's maximum memory card capacity, refer to the producer's website.



File Systems

➤ The device supports the FAT and the exFAT file systems for memory cards. When inserting a card formatted in a different file system, the device will ask to reformat the card or will not recognise the card. If the device does not recognise your memory card, format it on your computer.



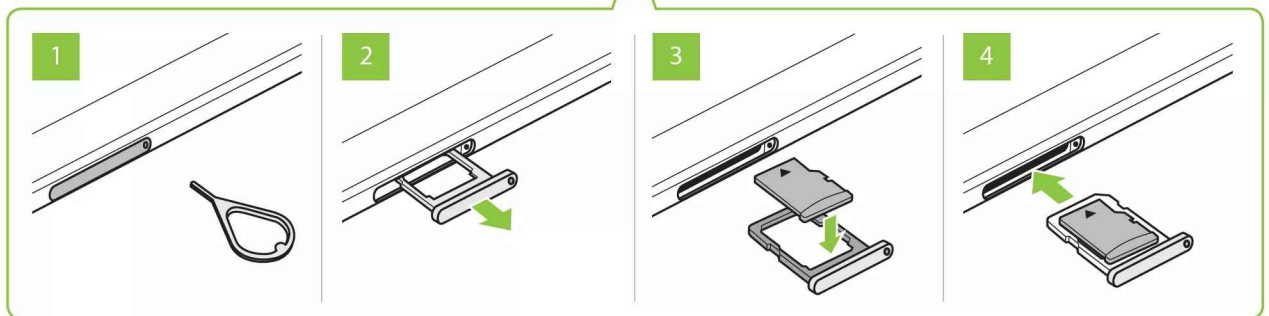
Card Maintenance

➤ Once you have chosen a microSD card, remember that frequent writing and erasing of data shortens the lifespan of memory cards. When inserting a memory card into the device, the memory card's file directory appears in the My Files > SD card folder. You can manage files from here.



Inserting the microSD

Many Android devices with an SD card slot use the same mechanism for inserting and removing it: a sliding tray which needs to be opened with a special tool (should have been supplied with the device).

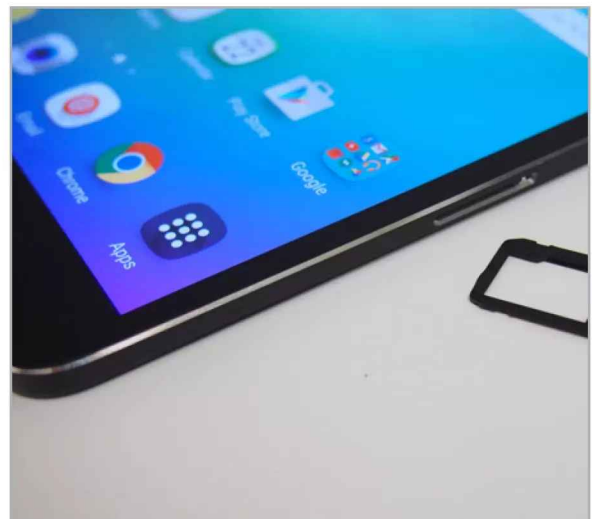


Removing a microSD Card

Here's how to remove your Android device's SD card. Never do this while the device is transferring or accessing information, because doing so can cause data to be lost or corrupted or damage to the memory card or device.



1 Before removing the memory card, first unmount it. To unmount a working microSD card, head in to the device Settings > Device maintenance > Storage > Storage settings > SD card > UNMOUNT. Wait for the message to appear on screen telling you the card is safe to remove.



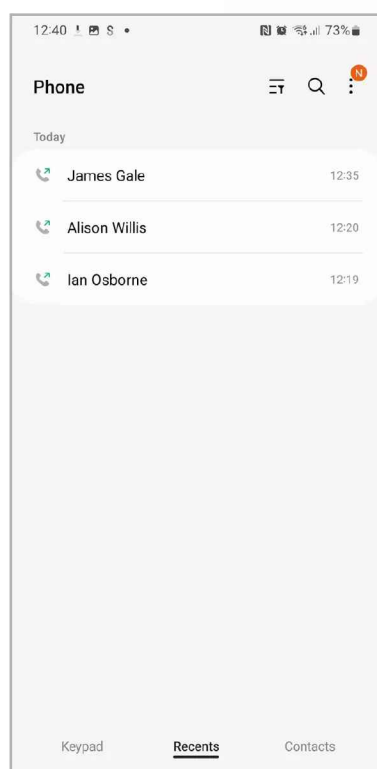
2 Insert the ejection pin into the hole on the memory card tray to loosen the tray. Pull out the memory card tray gently from the memory card tray slot. Remove the memory card. Insert the memory card tray back into the memory card tray slot. If concerned, turn off your device before doing this.

Making and Receiving Calls

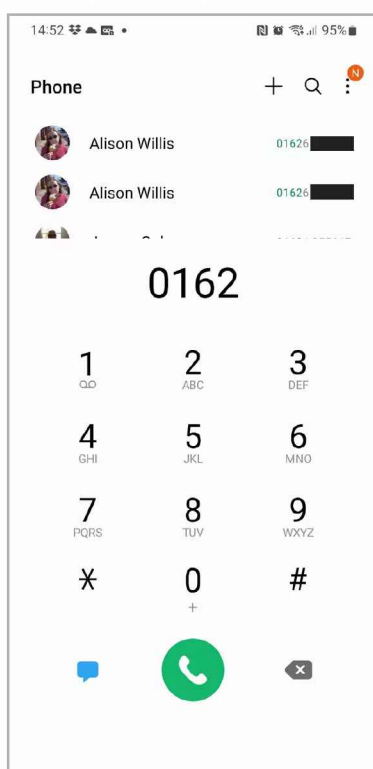
While your Android device is an incredibly powerful device with lots of bells and whistles, let's not forget that its main function is as a phone to make and receive phone calls. Making a call on your new Android device might seem like the most simple of things but there are actually several ways to initiate a call, as well as control over who calls you. Plus there are a few settings you can change to make this simple phone function even simpler.

Dialling a Number

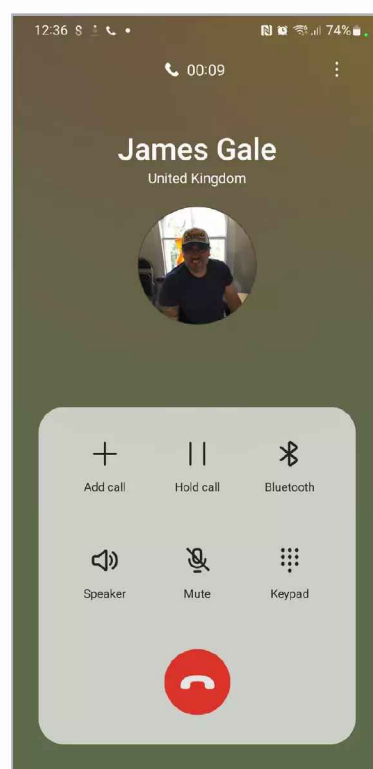
There are lots of different ways to initiate a call on your Android phone, but if you know the number you want to contact, it's usually fastest to simply open the keypad and type in the number on the screen.



1 To begin making a call on your Android device, tap the phone icon on your Home screen and, by default, the call log screen (Recents) will open. This lets you quickly return a call to a recent caller. If the person you want to call is not in the call log, tap the Keypad button at the bottom of the screen to enter a number manually.



2 The Android phone dialler is pretty much standard and should be familiar to anyone who has used a phone in the last twenty years. Simply use the keypad to enter the number for the contact you want to call. As you type matching numbers from your contacts list will be displayed for their instant selection.

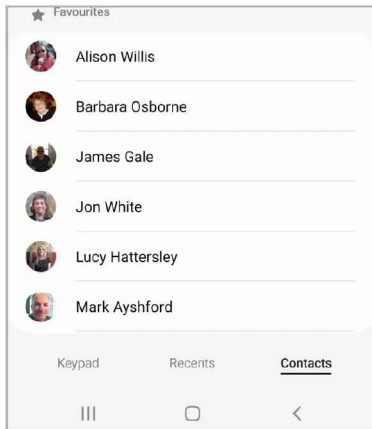


3 When you have entered the number tap the green Call button to start the call. Tapping the green video camera button (if there is one on your device) next to the call button will initiate the video Call option instead of a voice call. The number will then be dialed. You can cancel the call by tapping the red phone button.

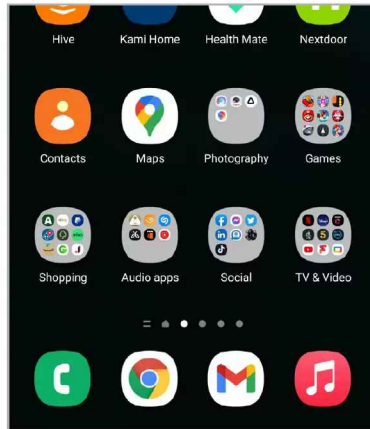


Dialling From Contacts

On your Android device there are a couple of different ways to call a number in your contacts list.



1 Tap the phone icon on the Home screen and then tap the Contacts tab to display your contacts list. Scroll down to the contact you wish to call and touch their name to see the available options: call, video call or message. Alternatively, swipe to the right across the contact itself.



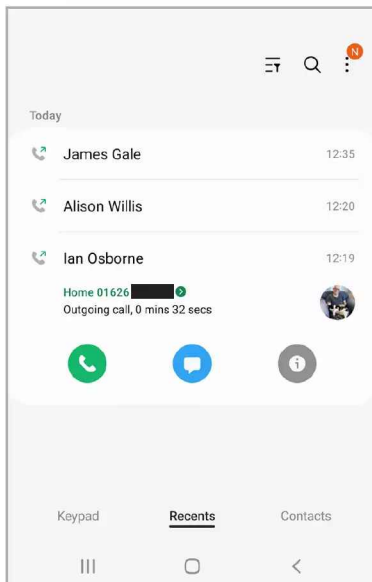
2 You can also open your contacts list directly rather than going through the dialling screen. Open the main apps list from your Home screen and look for the Contacts app. Once Contacts is open you can scroll to or search for the contact you wish to call. You can even search by voice by tapping the mic.



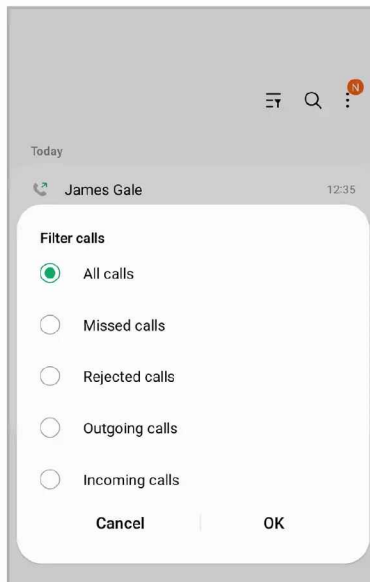
3 When you find the contact you want to call, tap their name to see the information screen. Here you can see the number and any associated numbers, email addresses, etc. You will also see buttons to call, video call or message the contact. Tap the phone button to make the call.

Viewing Call Logs

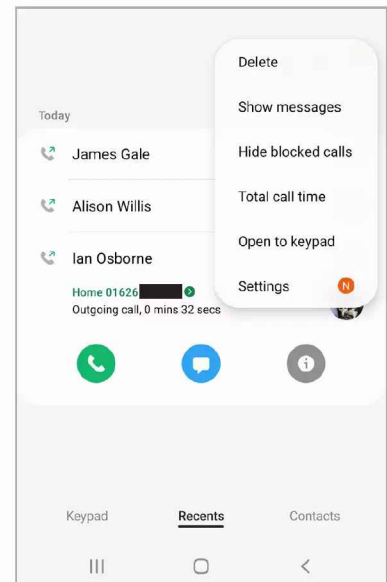
Your calls are logged for future reference. You can view these missed and received call logs at any time.



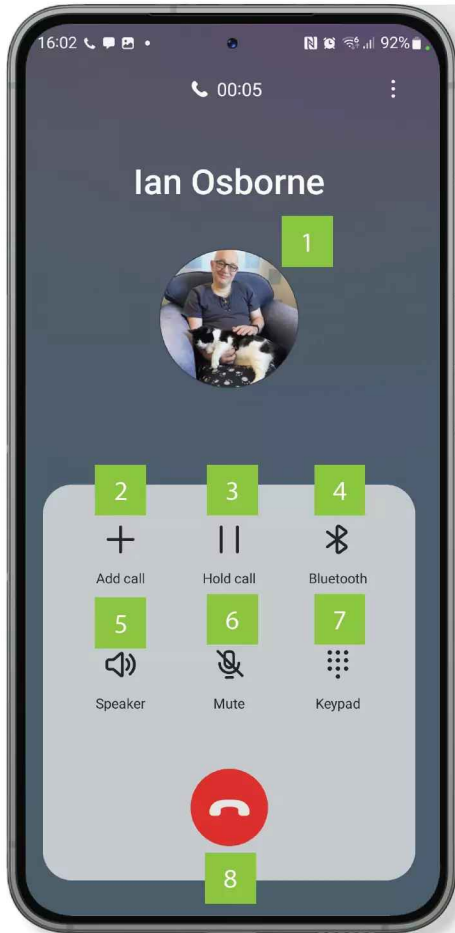
1 Either touch the phone icon at the bottom of the Home screen and use the tabs to open the call log (Recents) or open the main apps list and look for Call History. By default the initial view is a full list of all calls and messages received, made and missed, listed with name and number.



2 You can change this view by pressing the Menu/More button and selecting "View By" or "Filter". You can then choose from All Calls, Missed Calls or Rejected Calls. Just as with your contacts list, you can quickly dial a number in the Log by swiping it to the right or swipe left to message.



3 To protect your privacy you can delete your call log. To do this press the Menu/More button while viewing it and then select "Delete". You can then select all of the history or just individual calls and messages by tapping the appropriate checkboxes.



Call Options

During a call you have several useful options, including the ability to mute the call, all easily accessible from the dialler call screen. Exact options may vary between devices, but they're all roughly like this one here.

1 Call Details

> The name (if known) and possibly number of the person you're talking to is displayed at the top of the screen, along with a contact photo if one is available.

2 Add Call

> Dial and call a second number whilst keeping the current call open. Once you tap the Add Call button, the dialler pad opens on your screen.

3 Hold Call

> Tap this icon to put a call on hold for a while, maybe if someone's at the door or you need to look for a pen. While holding the icon changes to Resume Call.

4 Bluetooth

> This icon allows you to quickly switch the call to a Bluetooth headset or microphone if you have one set up and paired with your device already.

5 Speaker

> Activate or deactivate the speakerphone. When using the speakerphone, speak into the microphone at the top of the screen and keep the device away from your ears.

6 Mute Mic

> If you need to talk with someone without the person on the other end of the call being able to hear, you can use this button to turn off the internal microphone.

7 Keypad

> Hides or shows the dialler keypad on screen. Useful if you need to enter an extension number or enter options in an automated caller system.

8 End Call

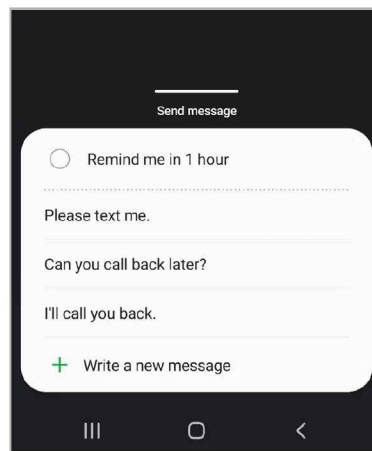
> Tap the red phone icon to end the current call (not all calls, if connected to more than one). This button is the same when you're currently in a video call.

Reject a Call

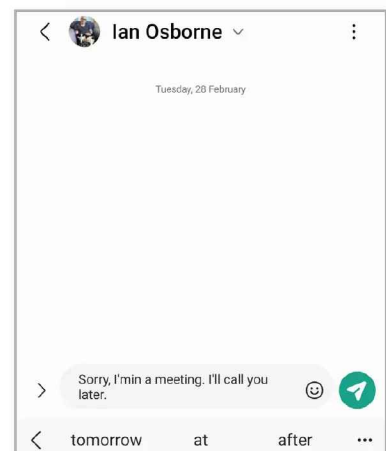
You can reject calls in three ways: ignore it, tap the red Reject Call button or reject it with an explanatory message.



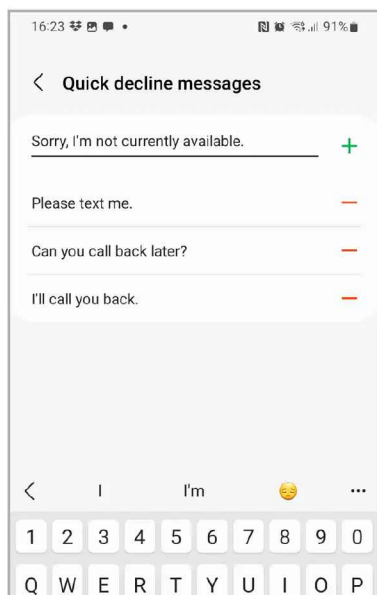
1 You can reject any call by dragging the red Reject button out of the circle. This will result in the caller hearing a message explaining you are unable to take their call. If you just want to silence your ringtone without rejecting the call, you can simply press the Down Volume button.



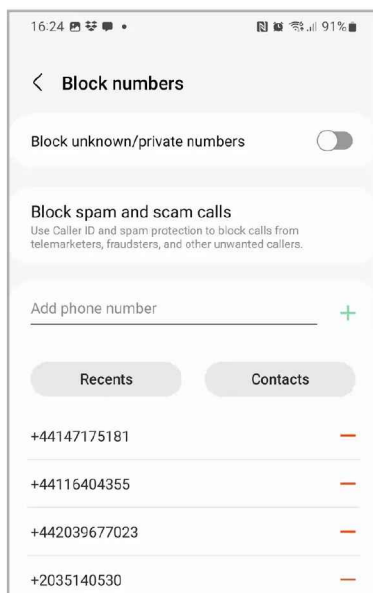
2 If you want to reject a call with an SMS message, drag the Reject Call with Message tab up over the screen. You will see a list of pre-set messages that you can choose from. Tap one of these messages or tap Create Custom Message. You can then write a message of your choice.



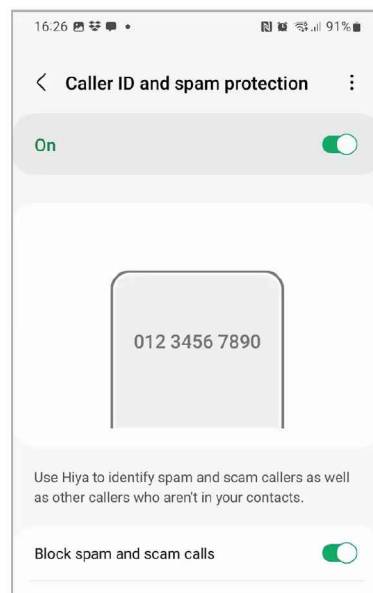
3 As soon as you select a message or start a custom message, the call will be rejected and the message will be sent to the caller within a few seconds. If you don't like the pre-set messages and don't want to have to write a custom message each time, you can create new ones in the settings.



4 To create new or additional call rejection messages, open the Apps screen and tap Phone > More > Settings > Quick decline messages, enter a message and then tap the + button. To remove the pre-set messages, tap the – button next to each one.



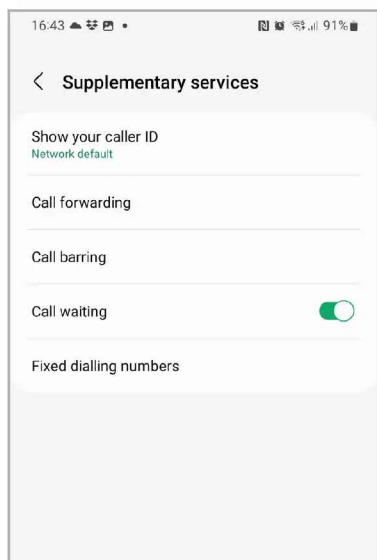
5 You can also select phone numbers for Automatic Rejection. Tap the Block Numbers option and enter a number that you want to reject or tap the Contacts icon to choose from contacts. Tap the + button to add the number to the list. Tap the – button to remove a number from the list.



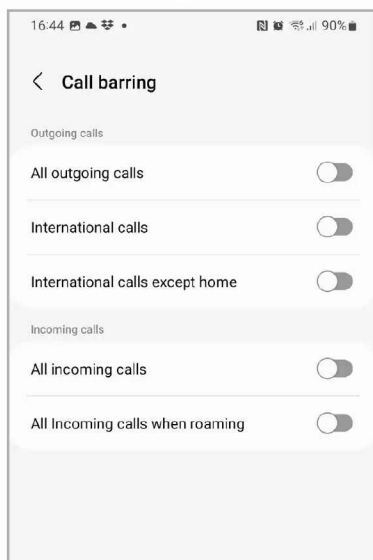
6 You can also reject all unknown numbers by tapping the slider above the reject list. Tap 'Block spam and scam callers' to turn on spam protection, and choose whether to block all spam calls or only those deemed a high risk. It's not perfect, but it helps.

Call Barring

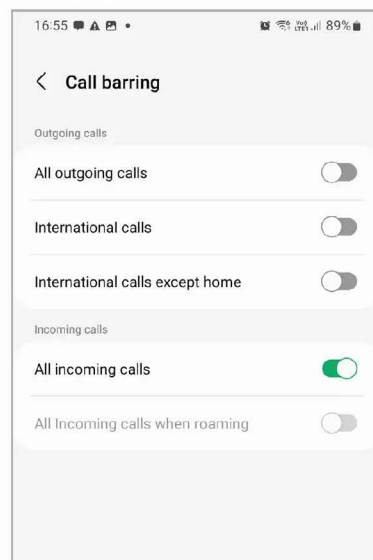
You have complete control over all outgoing and incoming calls thanks to the Call Barring option.



1 Call barring options can be found by pressing the More button while on the phone dialler and then Call Settings > Supplementary services > Call barring. You can then choose to set the call barring options for either voice calls or video calls independently. The exact options will vary by device/OS.



2 You're now shown the various call barring options open to you. Here you can choose to block all incoming calls, all outgoing calls, outgoing international calls and incoming calls while roaming. Use the sliders next to each option to activate and deactivate it.



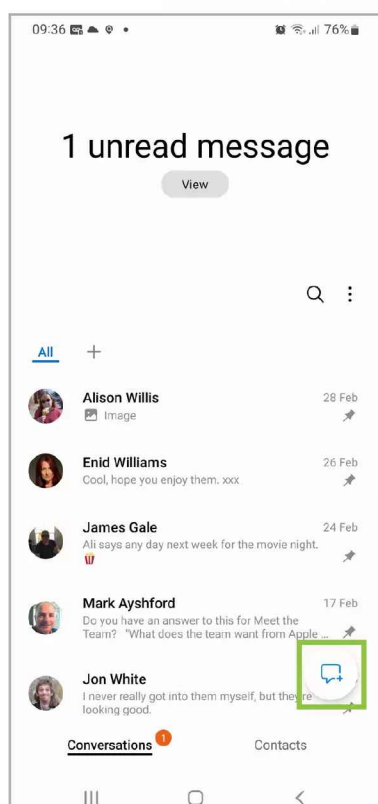
3 The Call Barring settings might be password protected, meaning that you're asked to set a password when you first activate one of the barring options. Password protection is useful if you want to limit the call options on a phone being used by your children for example.

Sending SMS Messages

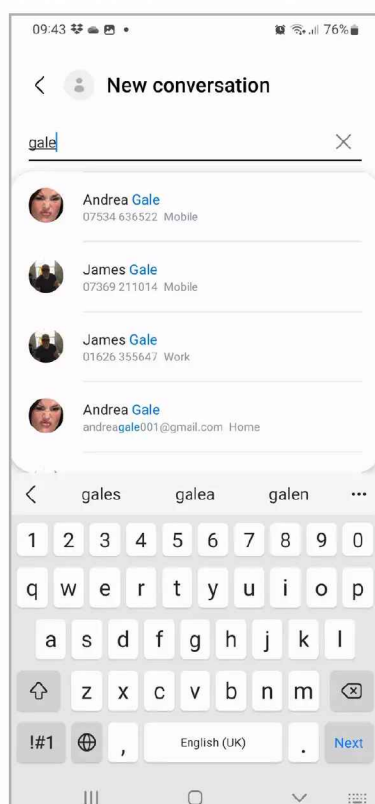
Sending text messages doesn't change much from phone to phone, so if you have sent an SMS message in the past, you shouldn't have any problems doing so on your Android device. However, there are a few useful extras that the Galaxy can do that you might not have seen before; many of them will almost certainly become an essential part of sending text messages. Let's take a look at how you can make SMS messaging a breeze.

Create a New Message

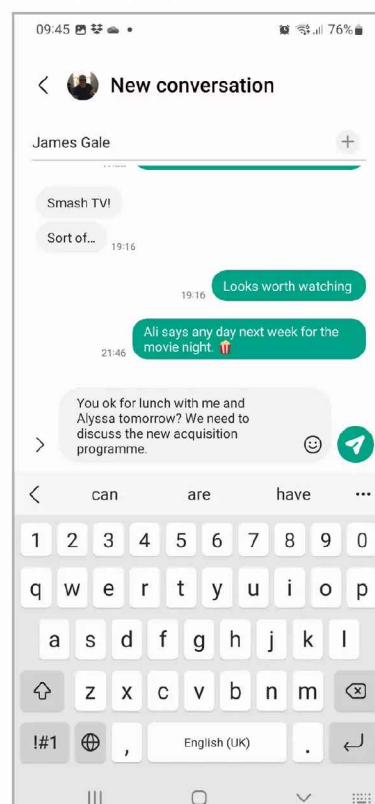
Despite how simple an act it might seem, there are a number of options to consider when composing and sending SMS messages on your Android device. Let's take a look at the Android Messages application.



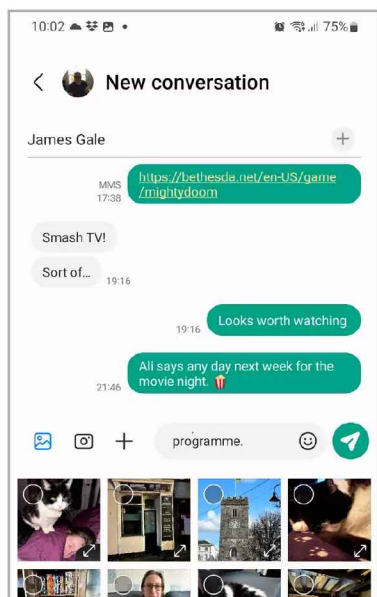
1 To start a new message, first of all, tap the Messaging app icon on the Home screen. On many Android devices, the Messages app icon is in the dock at the bottom of the screen. Tap the New Message icon at the bottom right of the screen to begin composing the message.



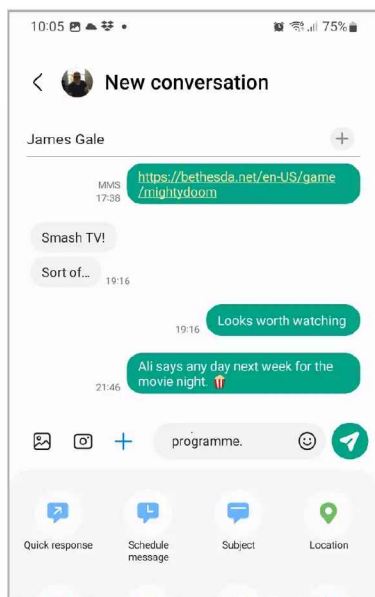
2 In the top box, either type the phone number that you want to message, the name of the contact, or tap the Contacts icon beside the box and choose who you want to message from the contacts list. You can add more than one contact as a recipient of the message.



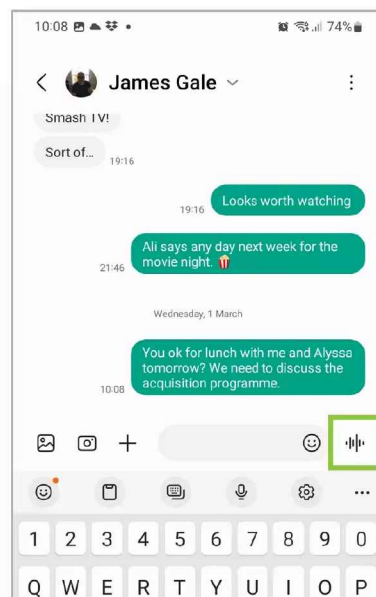
3 You can then start to type your message in the text box just above the on-screen keyboard. For more information on operating the on-screen virtual keyboard, take a look at the tutorial on using the keyboard elsewhere in this book. When finished, tap the Send icon, showing the paper dart.



4 If you want to attach a photo to the message, tap the chevron to the left of the text field, then tap the Photo icon. The photos on your phone are shown. Tap the ones you want to send, and choose whether to send as a link or a picture.



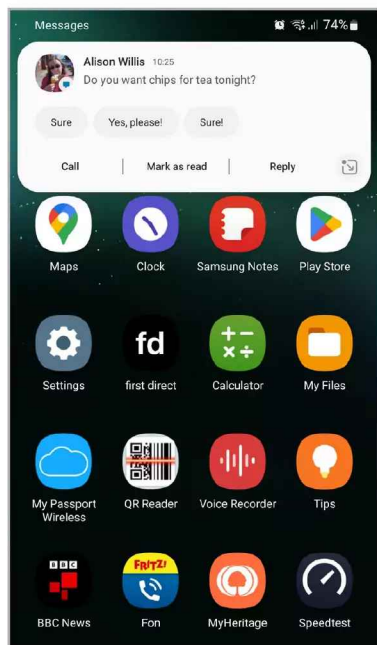
5 Alternatively, tap the Camera icon to take a new photo or video to attach to the text message. Tap the Plus icon and you're presented with a window full of options such as scheduling the message, adding another sort of attachment and more.



6 The screen then returns to the conversation view. This shows your recent messages to that contact, as well as replies. Note the waveform icon to the right of the text input field. Tap and hold it to record an audio message to send.

Reply to Messages

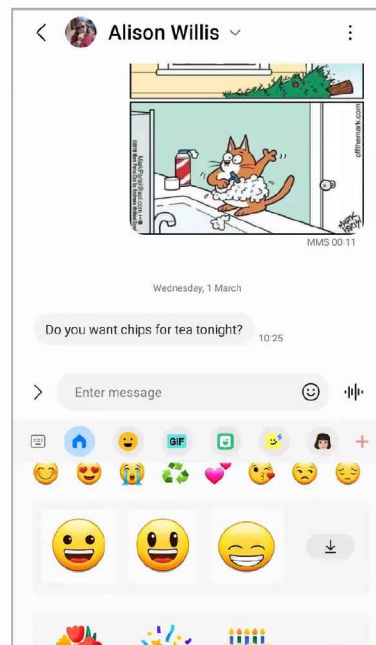
You can reply to messages from a conversation or the notification when it appears in the status bar.



1 When you receive a message, a notification will appear in the status bar at the top of the screen. Drag the bar down to see your notifications. To reply to a message, tap it in the Notification panel.



2 To reply to an older message, tap the Messaging app icon and you will see a list of your messaging conversations. Tap the name of the person you want to reply to and you will see a history of your messages.



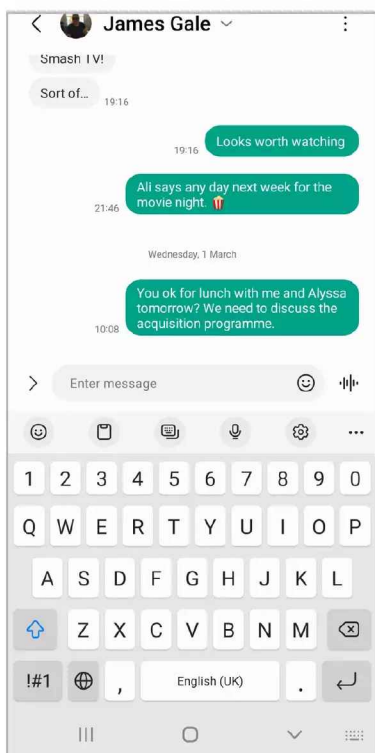
3 Tap in the Enter Message box and the keyboard will pop up. You can then type your reply, attach a file and send the message as normal. Your reply will appear in the message conversation view.

Master the Android Keyboard

If you are not used to typing on a phone or tablet, using the tiny keyboard can seem like a challenge at first. However, the keyboard found on most Android devices has been evolving and improving ever since the first touchscreen phone appeared. If you just want to type a quick email, it can be as simple as it needs to be but explore a bit further and you will see that it is packed with features designed to make it easy to use.

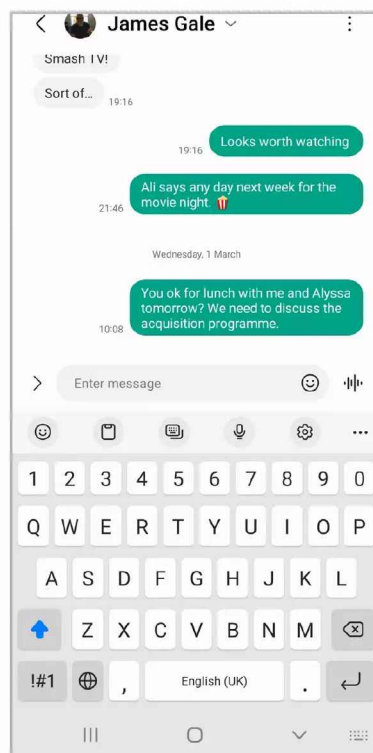
Essential Keyboards Tips

The keyboard is updated almost every time Android is updated, so the exact features you have access to on your device might vary, depending on the version you are using. Here's a guide to the newest version.



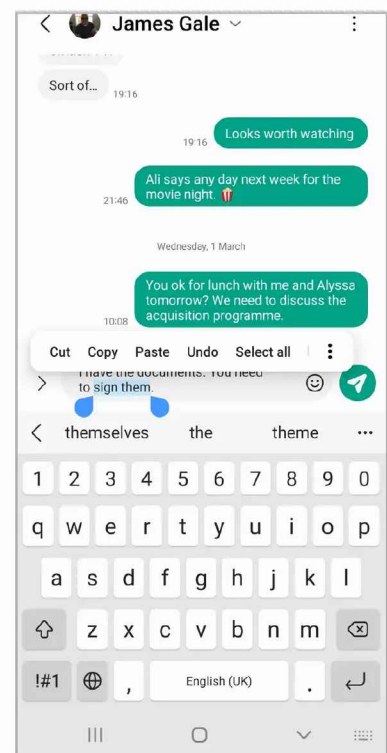
Tip 1 – Hide or Reveal

➤ Tap anywhere you can enter text, such as the text box in the Messages app or the Search field in just about any app, and the virtual keyboard appears. If you want to hide it again, tap the down-pointing chevron at the foot of the screen, which has replaced the Back button and it disappears.



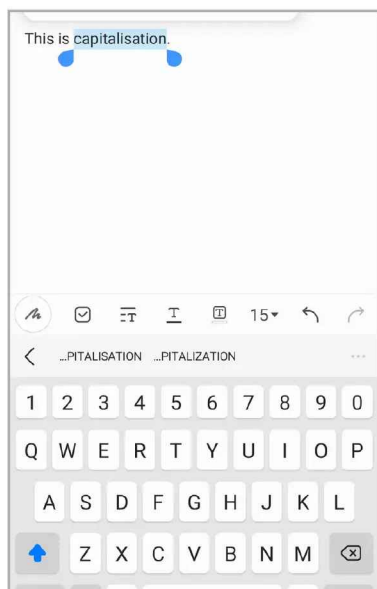
Tip 2 – Toggle Caps Lock

➤ To type a capital letter in any app, tap the Shift key once. The next letter you type will be upper case, after which it will automatically switch back to lower case (this is Sentence Case) as you type. If you need to type all in upper case, either tap and hold or double-tap the Shift key.



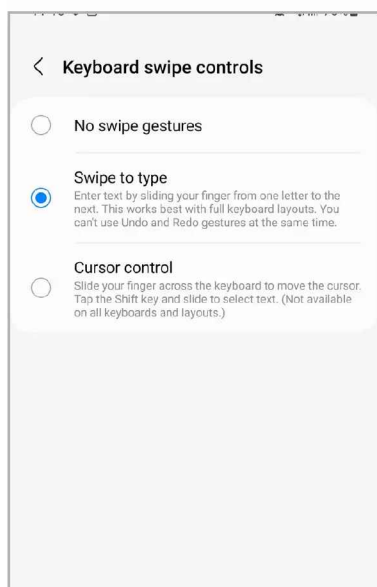
Tip 3 – Selecting Text

➤ To select a single word or section of text, touch and hold or double-tap on screen within the text. The word will be highlighted, with a tab at each end of the selection. You can then drag the tabs to increase the text selected. To place the cursor within a word, just tap where you want it to appear.



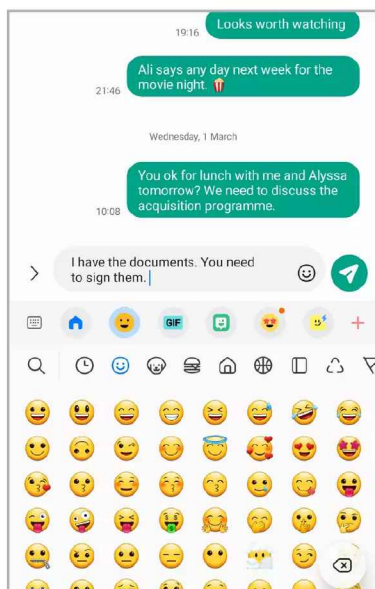
Tip 4 – Capitalisation

➤ To change the capitalisation of a word you've already typed, you can simply select it (see the Selecting Text tip) and tap the Shift key once to capitalise the first letter, or twice to capitalise all the text. You're offered the capitalisations as replacements in the strip above the keyboard.



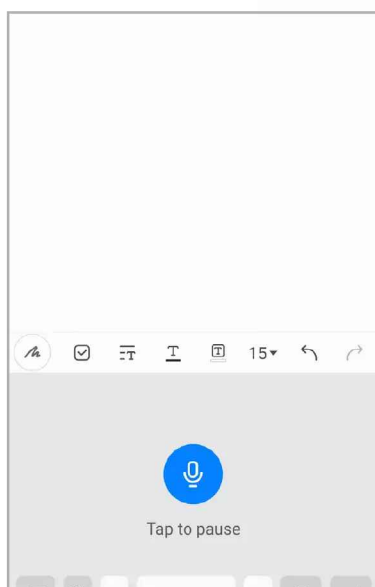
Tip 7 – Gesture Typing

➤ You may need to enable this feature in Settings > General management > Keyboard settings > Swipe, Touch, and feedback > Keyboard swipe controls. You can then slide your finger across the keyboard instead of tapping the keys. Lift your finger when the word appears.



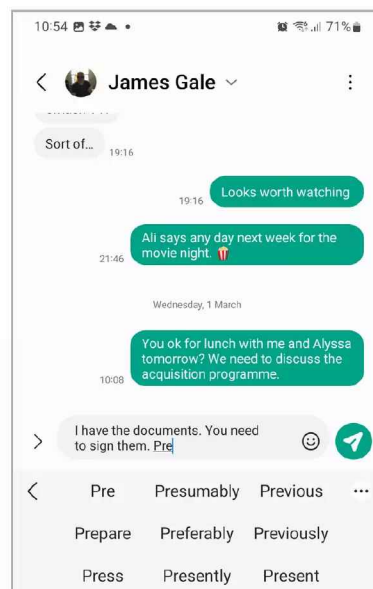
Tip 5 – Using Emojis

➤ Most Android device keyboards now have a dedicated emoji icon in the quick access bar along the top but there might also be an emoji key on the keyboard. Each section of the emoji menu will have multiple pages, swipe left or right to move between them. Different apps feature different emojis.



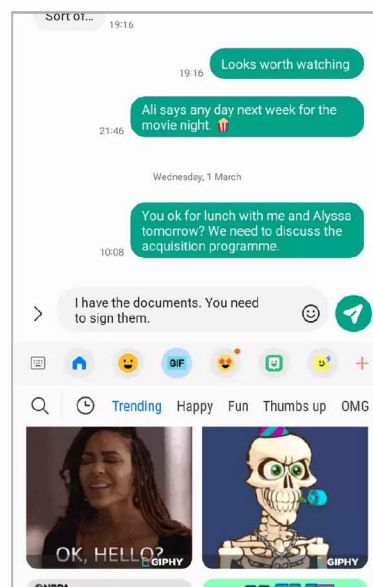
Tip 8 – Voice Typing

➤ On Android devices, you can input text by speaking. To type with your voice, tap the mic icon above the keyboard and say what you want to type. In some languages, you can enter punctuation by saying it, for example "comma", "full-stop", "question mark" or "exclamation mark".



Tip 6 – Alternative Words

➤ Android will try to guess which words you are typing and show them as suggestions above the keyboard. You can speed up your typing by tapping the correct word as it appears, to insert it into the text. Tap the small arrow (or the three dots icon) to see a bigger list of alternative words.



Tip 9 – Stickers and GIFs

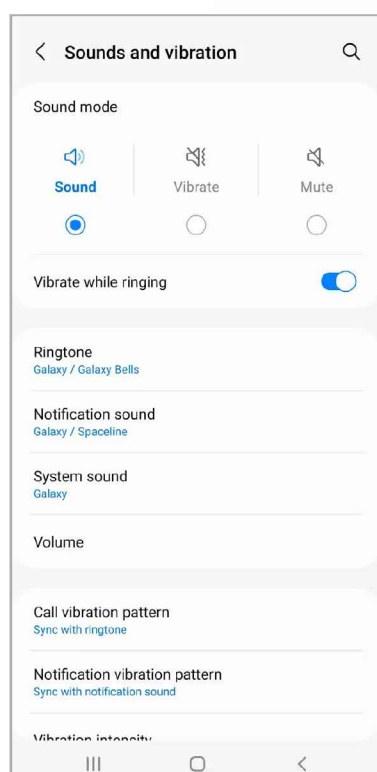
➤ The newer Android keyboards gives you quick access to several additional elements with a bar across the top, including animated pictures to use. Tap the three-dots icon, then select GIFs and choose what you want to add to the keyboard. You can then add GIFs to your text messages and more.

Customise Alerts and Ringtones

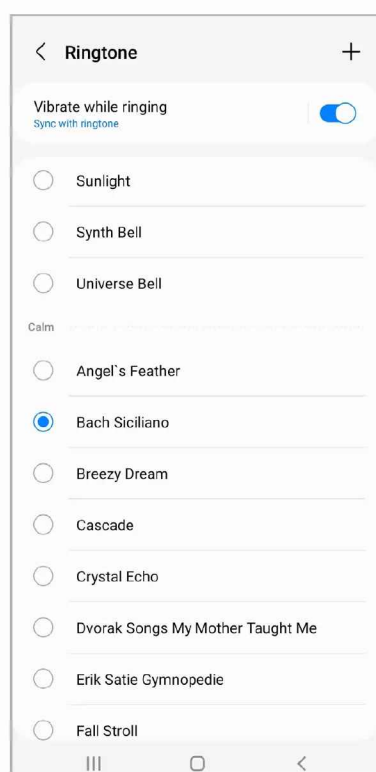
Head to Settings > Sounds and vibration on your device and in the Ringtones, Notification Sound and System Sound sections there are dozens of presets available; they range from simple bells and beeps, to ethereal melodies and dance tunes. You can even set individual sounds to specific contacts. In the event that you aren't happy with the standard ringtone and alerts, you can change almost every element of the sound profile on your device.

Change the Default Ringtone

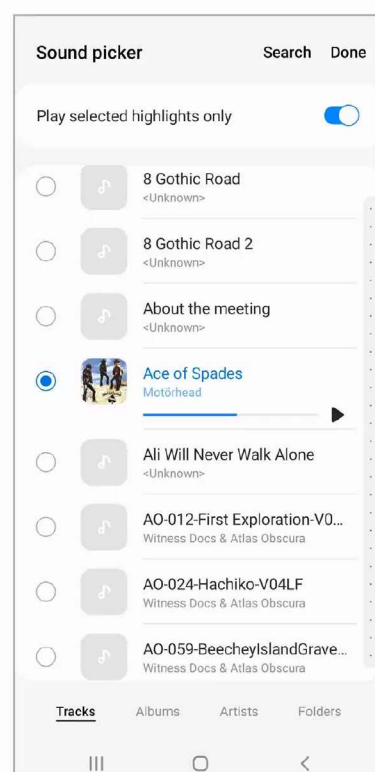
You can customise most of the various sounds used on your device, even if that just means turning them on or off, from the ringtone to keypad tones. Here's a guide to personalising the sounds on your Android device.



1 Open the main Settings app and look for “Sounds” or “Sounds and Vibration”. You can access almost all of the sound options on your device from this settings menu. Scroll down until you see the Ringtone heading, tap it and you will see a list of all of the available ringtones.



2 Select a ringtone and a preview of it plays. Tap the Back button if happy with your selection. Scroll down to the bottom of the list to see the option to 'Add from phone' or 'Add ringtone' (depending on device). If it's not there, tap the + icon in the top-right corner to get there.

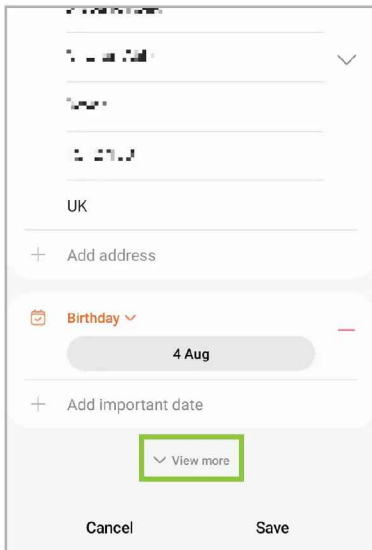


3 This lets you use music and sound files as your ringtone. Tap the option and then choose where you want to look for the audio file, that links to the default ringtone. Select a song or audio file to use as a ringtone. You can also choose whether it plays from the beginning or just a highlight.

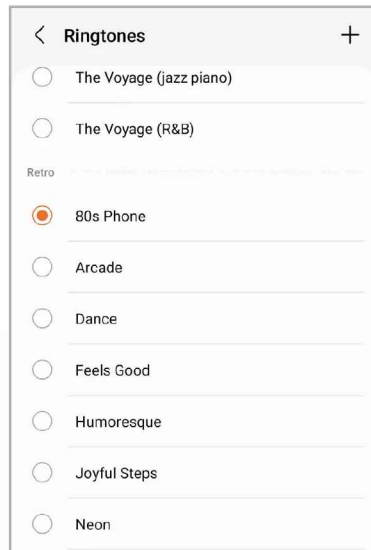


Assign a Ringtone to a Contact

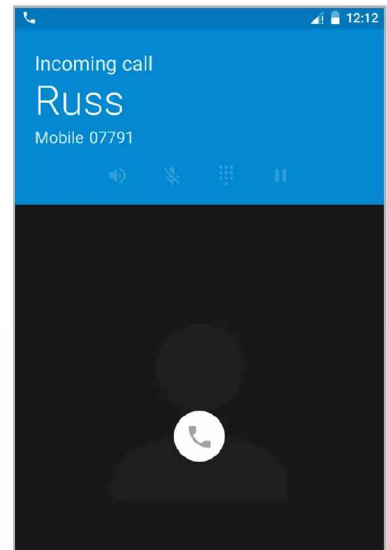
You can assign a different call ringtone to every single person in your contacts if you wish.



1 Open the People or Contacts app on your device. Scroll down to and select a contact from the main list to see that contact's details. Tap Edit at the foot of the screen, scroll all the way down and tap the 'View more' link.



2 Scroll down again and tap the newly-revealed Ringtone link. You're shown the Ringtone picker again. Tap one to preview it, and when you've found one you like, tap Back to see that ringtone associated with the contact in question.



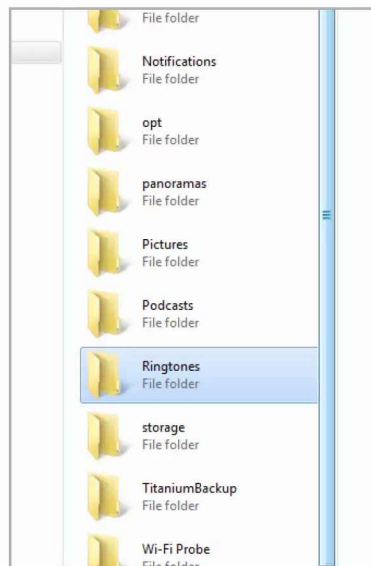
3 When the contact calls you from now on, the newly selected ringtone will play instead of the standard ringtone. This is a great way of screening calls without even needing to take your phone out of your pocket or bag.

Adding New Ringtones

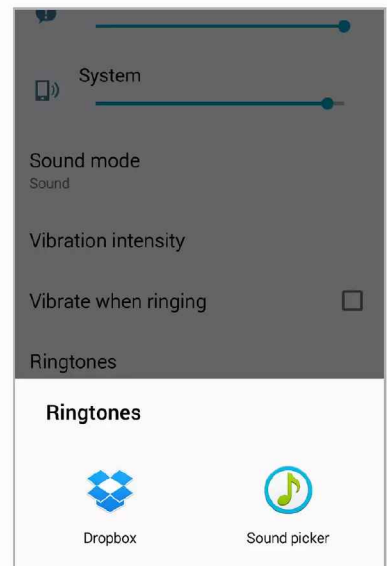
There is no reason why you need to stick with the standard ringtones which come with your device.



1 To transfer a ringtone from your computer, connect your phone to your computer using a USB cable. Your PC should automatically download the drivers you need. Mac users will need to download Android File Transfer.



2 In the window that pops up, you'll see the Ringtones folder. Copy your music file (mp3) into the Ringtones folder. Disconnect your phone from your computer. The music track should now display in the normal Ringtone selection menu.



3 Some devices offer a different method for adding MP3s as ringtones. You may see an Add button on the ringtones selection screen. Tapping this will allow you to choose any mp3 file currently on your phone as a ringtone.

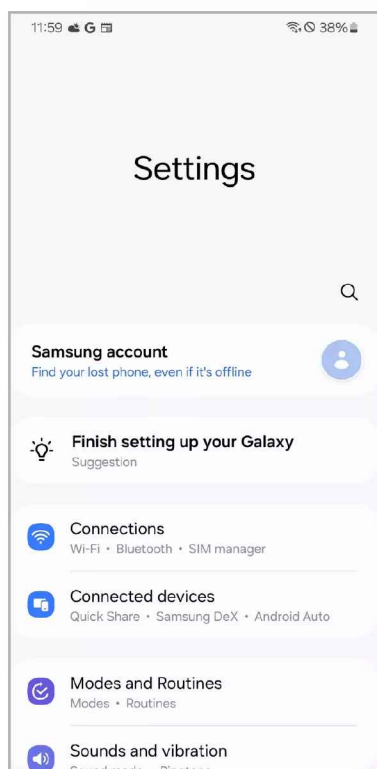


Personalising the Lock Screen

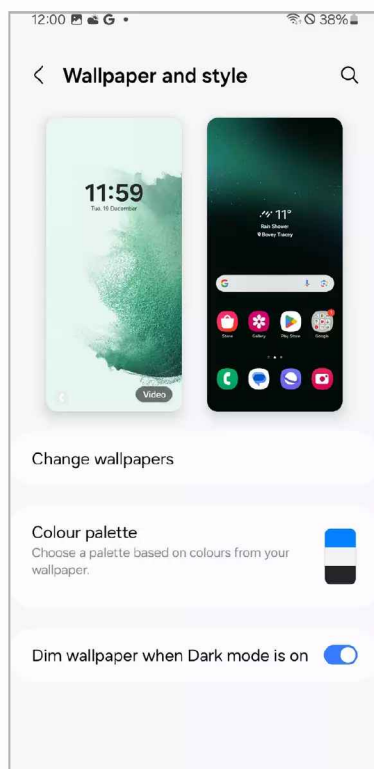
There's a lot you can do to customise and modify your Android device's Lock Screen, and we've had these options for far longer than Apple users. To really make your Lock Screen work for you, so it looks good and gives you the exact information you want in your Lock Screen widgets, follow this guide. You'll soon have your Lock Screen set up just the way you want it.

Improving the Lock Screen

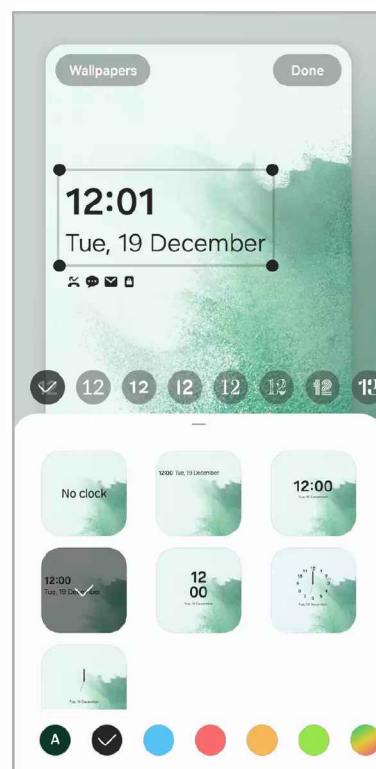
With the introduction of widgets and quick access short cuts, we actually spend far more time interacting with our device's lock screens than we actually realise. So let's make it the best it can be.



1 To follow this guide, you need to have Android 14 installed. If you haven't, check for updates on your phone. When it's installed, to begin with, open the Settings app from the Home Screen and go to the Wallpaper and Style option.



2 On the left of the screen you see a Lock Screen preview. Tap it to go to the Lock Screen Customisation View. You can change the appearance of the clock in the centre of the screen, including its style, shape and position on the screen.



3 Tap the Clock widget in the centre of the screen and you see a range of options for different styles and shapes of clock. Tap one to change the clock – you can select a regular digital clock showing the hour and minutes, or an analogue clock face.



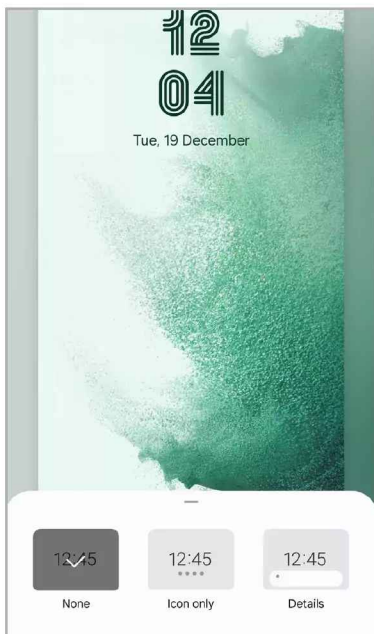
4 If you choose to use a digital clock, that is, one with digits instead of a clock face and hands, you can choose from nine fonts for the numbers. Do this by tapping one of the options above the clock window, as you can see here.



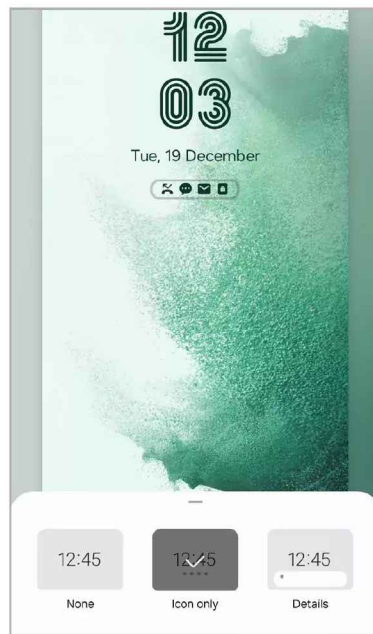
5 When you place a new clock, you see a shape with handles in the corners. You can drag and drop the clock to a new position on the screen, and also resize it by dragging one of the handles, that is, the dots in the corners of the frame.



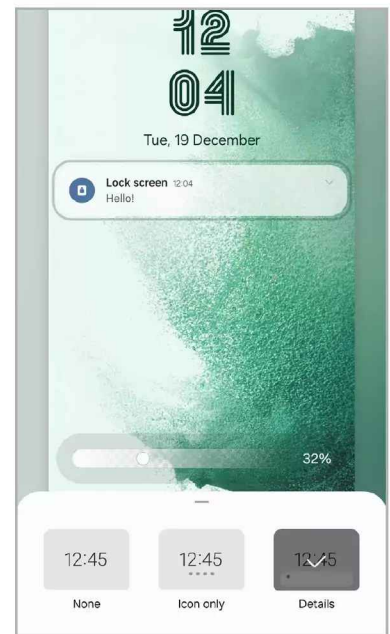
6 These colour options at the foot of the clock window let you choose the colour of the clock. By default a colour that complements your wallpaper is chosen, so you might not want to change it for something else, but the choice is yours.



7 One of the remaining options is choosing how to show notification indicators appear on your screen. If you don't want them to appear at all, choose the None option in the bottom left of the screen as shown.



8 If you want icons to appear under the time, showing the apps that have sent you notifications, choose the Icons Only option in the middle. You can see these icons in the screenshot above, underneath the clock display area itself.



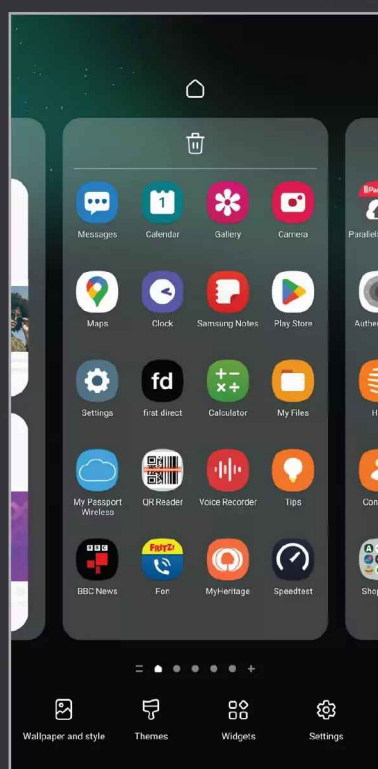
9 Finally, if you want to see the details of the incoming notifications, choose the Details option on the right. With this choice, you get a slider that sets how opaque the notification preview appears on your new and improved Lock Screen.

Personalising the Home Screen

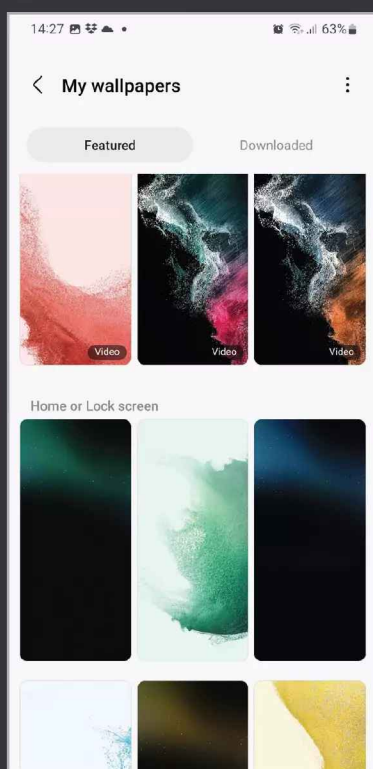
Changing the Home screen, whether that means a new wallpaper, moving icons into folders or choosing widgets, is one of the first things most new Android users want to do. The Home screen is an extremely flexible area, particularly on Android devices, and can be used to make your device much more usable, unique and personal to you. Here's how you go about it.

Changing the Wallpaper

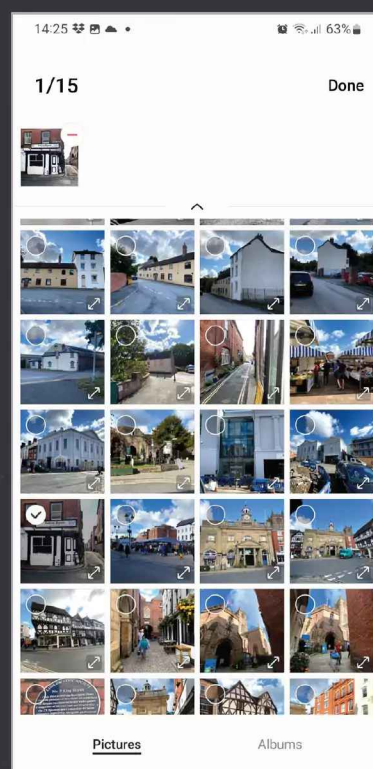
The exact steps for changing the wallpaper may vary between devices, depending on how new the device is, and which version of Android is currently being used.



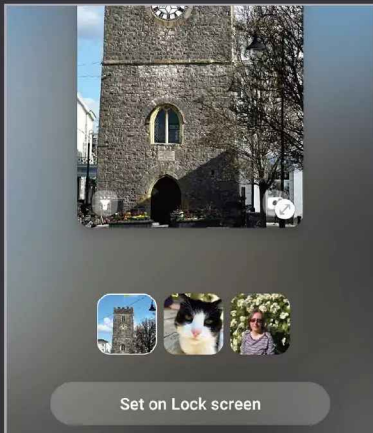
1 Tap and hold in any blank area on the Home screen until it shrinks and options appear. Exact options will vary but you will usually see Wallpapers, Widgets and Settings. Tap the Wallpapers option and the Wallpaper selection screen will show under the "My wallpapers" heading.



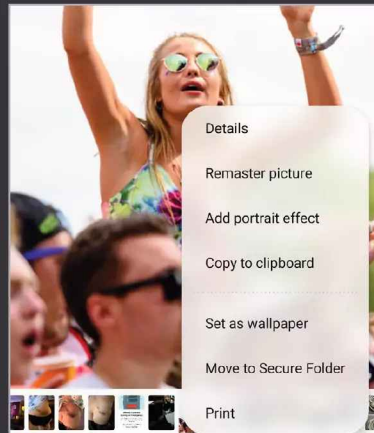
2 Tap the 'View all' or 'My wallpapers' option and then scroll through the wallpaper thumbnails to see all system wallpapers available on your device. If you like the look of one of them, tap on the thumbnail and then choose whether to apply it to Lock screen, Home screen or both.



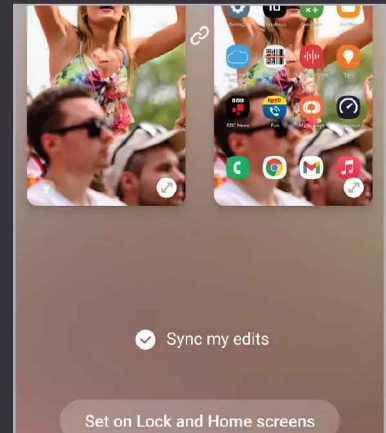
3 The wallpaper chooser also gives you the option to use an image from your Photo Gallery. Tap the Gallery option and a selection of recent images appear. Scroll up and down for more. These can be displayed from multiple locations, depending on what apps you have installed.



4 If none of the recent images shown appeal to you, tap the Albums tab and choose the album you want to browse. When you see an image or images you want to use, select them. When you're finished, tap Done and they're made available to add to your Lock/Home Screen.



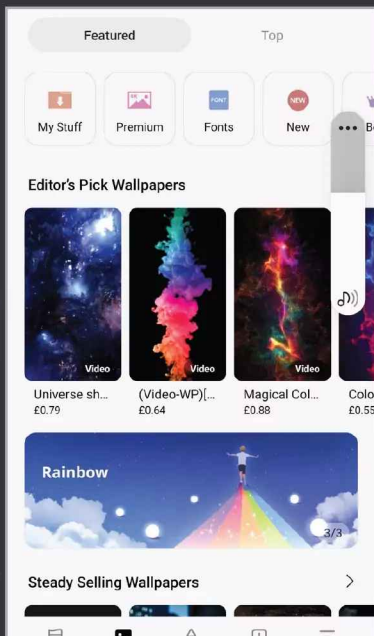
5 An alternative way to set an image as a Home screen wallpaper is to open the application where the image is located (the Gallery app for example), view the image and tap the Three-dots or Menu button. From the menu, select the Set As option and choose Wallpaper.



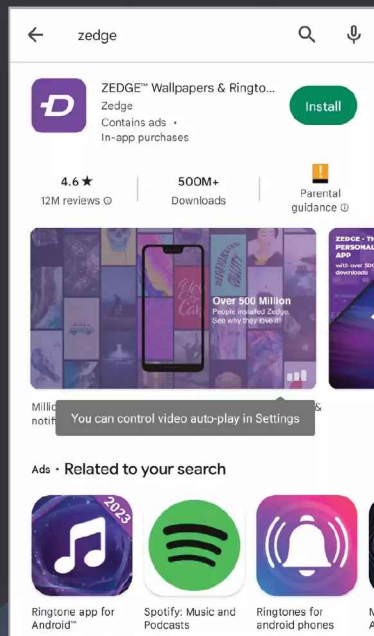
6 Once you have chosen an image and chosen where you want it displayed, you will see a preview of how it will look. You can then move the image around to better fit the frame. You can also choose to turn on the motion effect (if available on your device).

Finding New Wallpapers

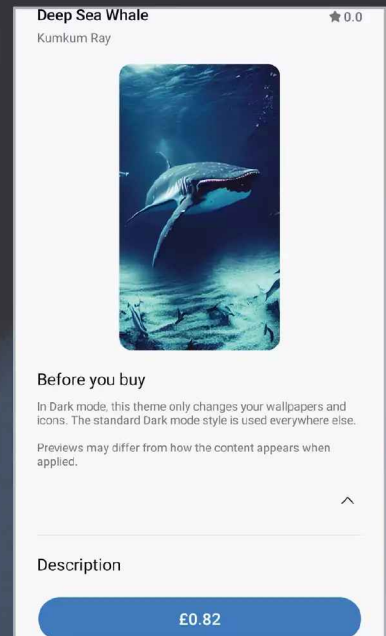
You can use almost any image as a wallpaper, but if you want a custom wallpaper, you must know where to look.



1 Android makes it easy to find new wallpapers by having its own wallpaper store. You can find this by tapping and holding on the Home screen, choose Wallpapers and then scroll down and tap Explore more wallpapers. Many of the wallpapers cost money, but some are free.



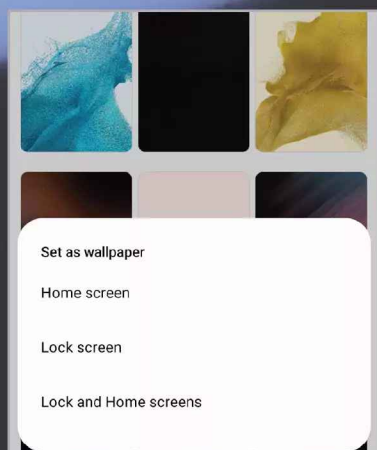
2 You can also find lots of wallpapers elsewhere. Open the Play Store app on your device and search for Zedge. There are a couple of different options, but the free wallpaper repository is the one with the purple logo. When the app is installed, tap to open it and start browsing.



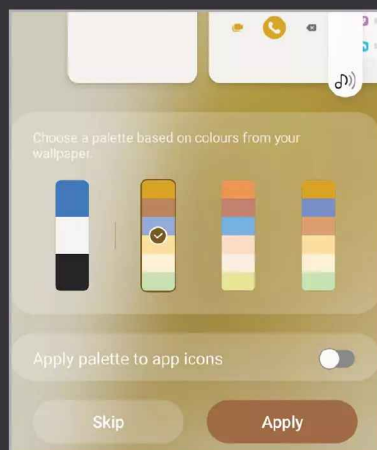
3 When you find a wallpaper you like, tap the thumbnail to view it on screen. Not all wallpapers will be suitable for your device, so use the preview to make sure before you download. Use the tabs to see details of the image. Tap Download to finish and the image is downloaded.

Wallpaper-based Dynamic Theming

You can change the colour theme of your Android phone, based on your chosen wallpaper.



1 When you change your wallpaper, you can select a new theme, that is, a set of colours that are applied throughout your phone. This includes on menus, buttons, backgrounds and apps. First, choose a new wallpaper for your phone.



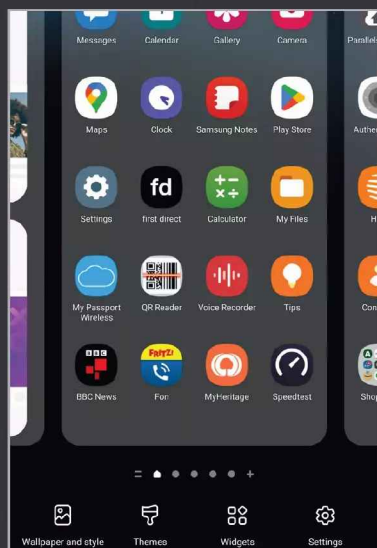
2 Having set it as your new wallpaper, you're invited to choose a colour palette for your phone based on the colours in the wallpaper. Pick one, and flick the switch if you also want the new palette to be applied to the phone's app icons.



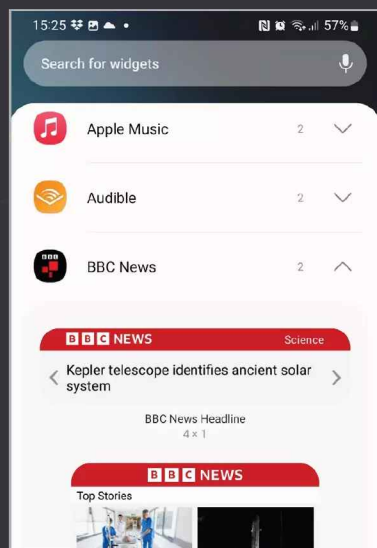
3 Tap the Apply button and the colour palette is applied to your phone. All sorts of things change their appearance. If you don't like it, go back to the 'Wallpaper and style' screen and tap 'Colour palette' to change it for something else.

Home Screen Widgets

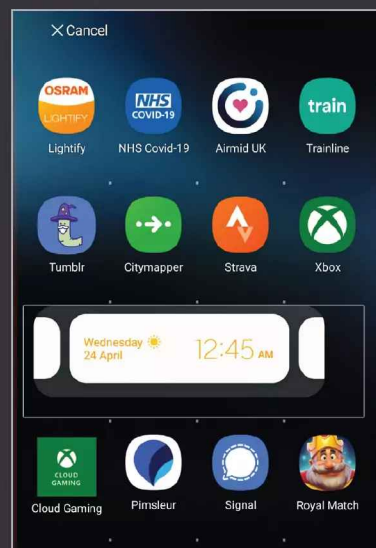
Widgets are an important and useful part of the Android OS, allowing you to access app info instantly.



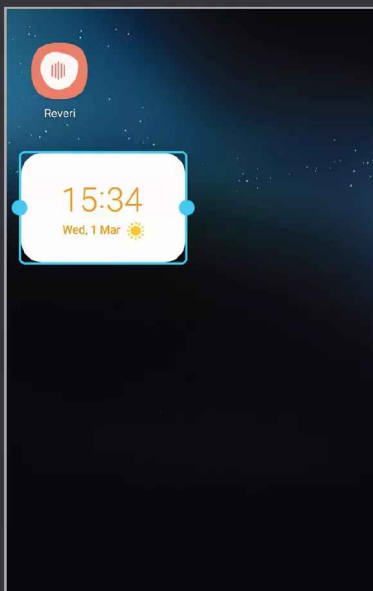
1 Your device may already have a few widgets placed on the Home screen when you first set it up. These can be removed or moved to suit your needs. See more on removing widgets further down the page. To begin adding new widgets, tap and hold on any blank area of the Home screen.



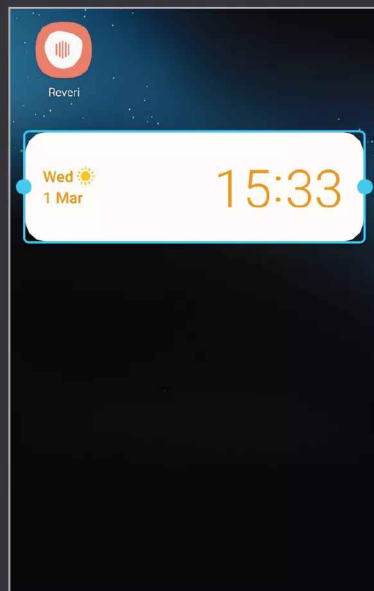
2 From the Menu, tap the Widgets option. You will now see a grid containing all available widgets currently installed. If there are different widgets available for the same app, different sizes for example, you can see the options available by tapping on the image in the grid.



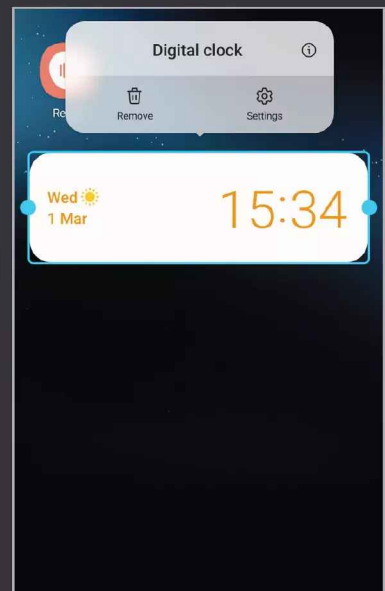
3 To add your chosen widget to the Home screen, tap and hold on the image in the grid until the view shifts back to the Home screen. Keeping your finger on the screen, you can drag the widget into position, even dragging it on to a new Home screen panel. Lift your finger to place the widget.



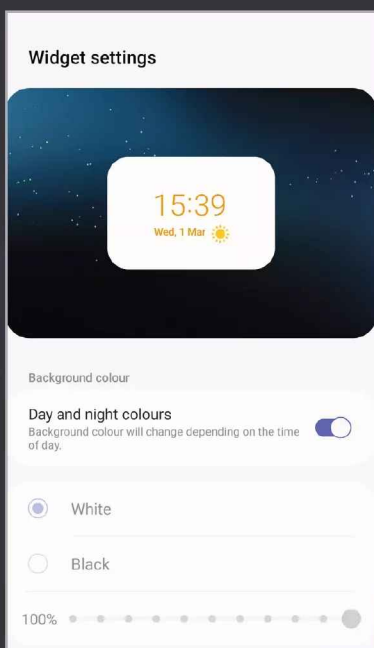
4 Some widgets can be made bigger or smaller to better fit your available Home screen space. To resize a widget, tap and hold on it for a couple of seconds and then let go. If the widget can be resized, an outline and tabs will appear around the edges. Drag these tabs to shrink or expand the size of that widget.



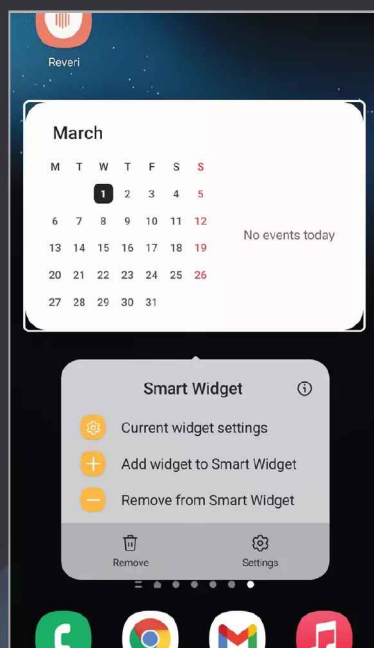
5 When made larger, some widgets will expand to display more information automatically. Some widgets will stay the same size but their active area, the one that opens the app when tapped, expands to cover more of the Home screen panel. Tap away from the widget to stop editing.



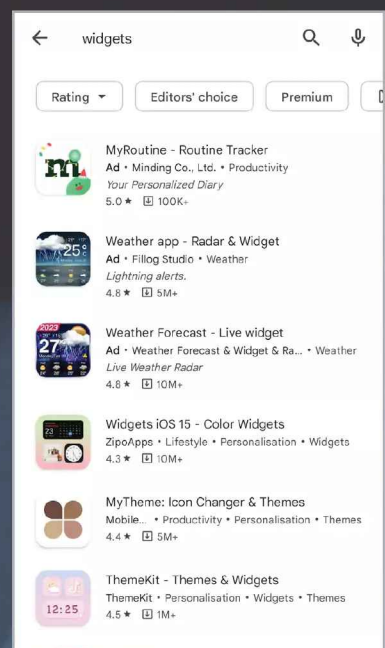
6 Removing widgets is easy and can be repeated as many times as needed. Removing a widget from the Home screen doesn't mean it has been removed from the device; it will be in the Widget menu if needed. Tap and hold a widget and then tap the Remove icon that appears in the Action menu.



7 Tap and hold a widget and tap the Settings option to customise that particular widget. What you can do depends on the widget in question, but here we can change the background colour, fade out the background area and more.



8 If you add a Smart Widget to the home screen, you can swipe it left and right to show different widget information. To edit a smart widget, tap and hold it and from the menu, select the Add to or Remove from option.



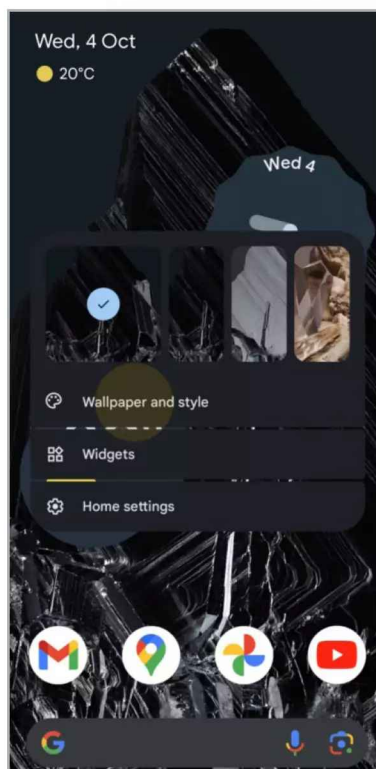
9 If you open the Google Play app and do a search for 'Widgets', you can find more widgets for your Home screen. Some are paid for, others are free. There's a lot of widgets out there, so browse them and find ones you like.

How to Generate AI Wallpapers

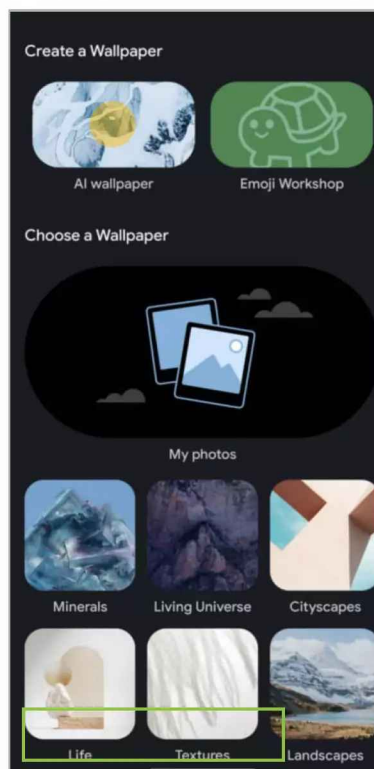
Artificial intelligence is technology's next great leap forward, and you can use it today to create stunning wallpapers for your Android 14 smartphone. At the time of writing it's only available on a Google Pixel 8 or Google Pixel 8 Pro running on Android 14, but eventually it will be available on any device running Android 14. Here's how it works.

Creating Your Own Wallpapers

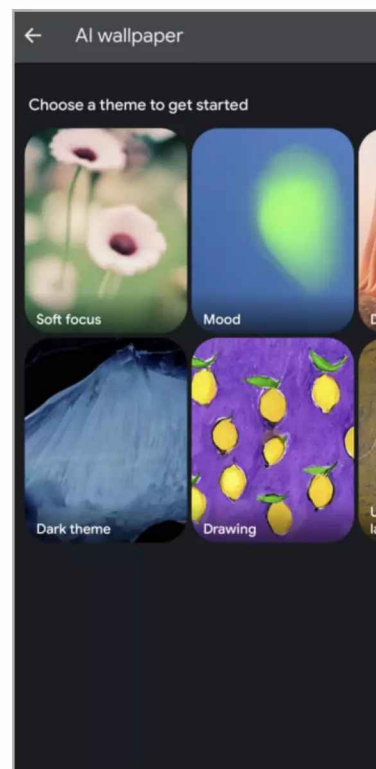
Using AI for creative purposes is something of a controversial subject. Although one could argue that using AI to generate art is the opposite of what art is, does this apply to your Android device's wallpaper?



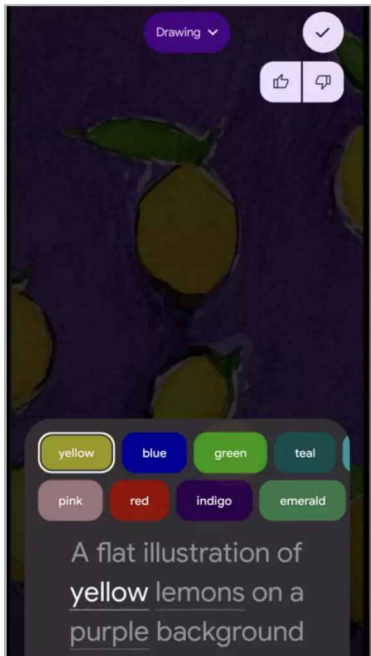
1 First of all, you must access your Wallpaper & Style settings. There are two ways to do this. You can either open the Settings app and look for it there, or you can tap and hold on your current Android wallpaper until this window pops up.



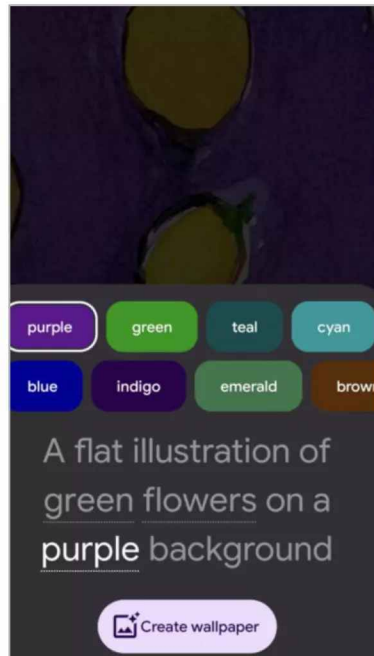
2 With the Wallpaper & Style settings open, tap the More Wallpapers option and then select the AI Wallpaper link. You can find it under the Create a Wallpaper option near the top of the screen. You can see it in this screenshot in the top-left corner.



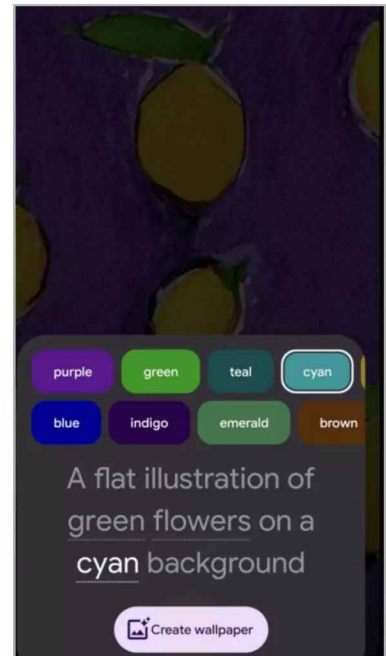
3 Before you ask your device's AI to construct a new wallpaper, you have to pick a theme. These themes can be things like soft focus, dark theme, drawing, mood and more. Slide them to the left for more options, and choose one.



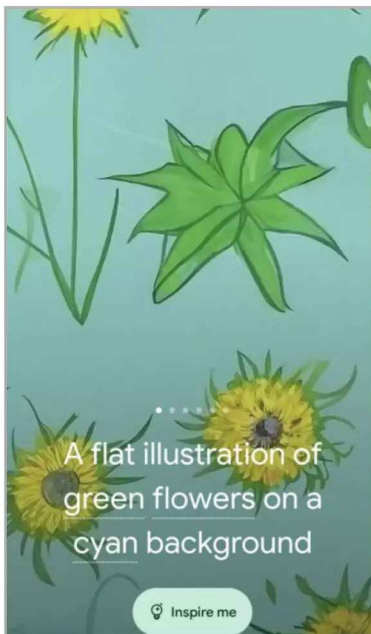
4 If you want to change your theme after you've started, tap the button at the top of the screen which displays your currently selected theme. You get a menu in which you can change it to another option. Experiment, and have fun.



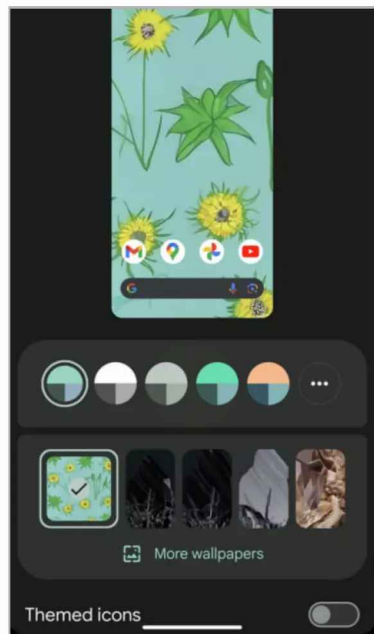
5 You're offered a bank of words you can use to create your AI wallpaper. Look out for items such as 'Lemon', 'Flower' or 'Spaceship', and colours as you can see here, that let you change the colour scheme. Tap the buttons to use the words.



6 Now's the time you've been waiting for. It's time to create the AI-driven wallpaper! At the bottom of the screen there's a button titled (appropriately enough) 'Create Wallpaper'. It's now you get to press it and start the process.



7 After a few seconds, the AI presents you with options, which are dependent on the theme and keywords you chose earlier. Check them out and choose one you like. Tap the checkmark on the top right to automatically make it your wallpaper.



8 Your phone's colour scheme automatically adjusts to match your new wallpaper. Of course, if you want to tweak things, you can go into Settings > Wallpaper and Style and customise your phone's appearance to suit your wishes.



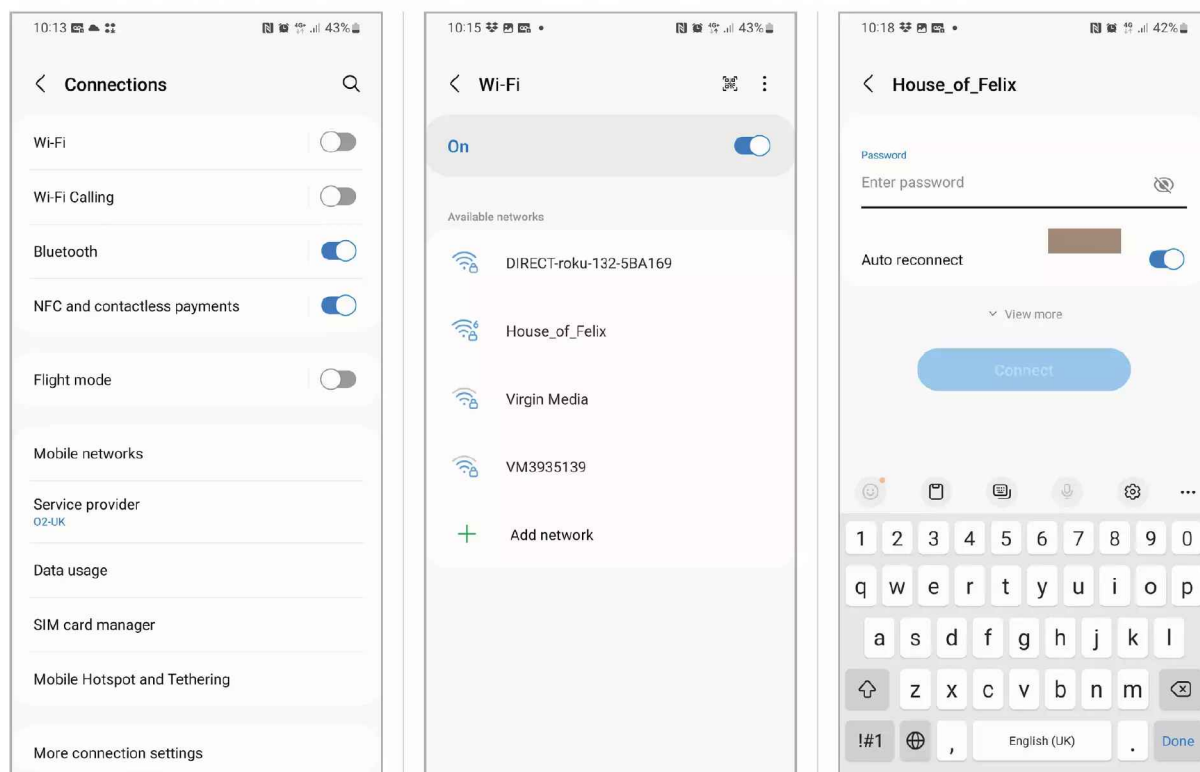
9 There is also an option in the AI Wallpaper Creator called 'Inspire Me'. Look for the button at the foot of the screen. If you choose this option, the wallpaper generator makes you an AI wallpaper at random, using completely random elements.

Connecting to Your Wi-Fi

A large amount of the content you will want to access on your Android device will require a flexible and fast Internet connection, which usually means a Wi-Fi connection. Here you will learn how to use your device's wireless networking capabilities to activate Wi-Fi and connect to any wireless local area network (WLAN) to which you have access.

Connecting to a Network

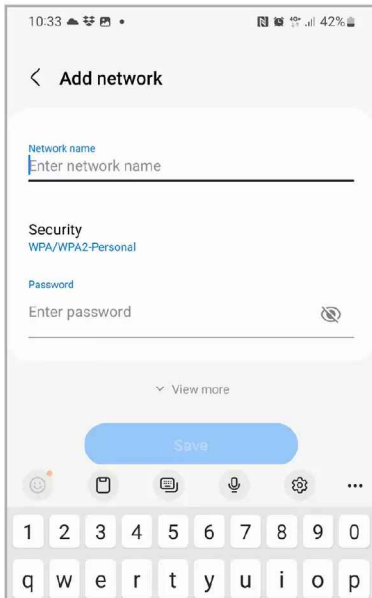
Before trying to connect to a Wi-Fi network, you should make sure you know the SSID (its name) of the network you want to connect to, as well as the password needed. These should be supplied with your router.



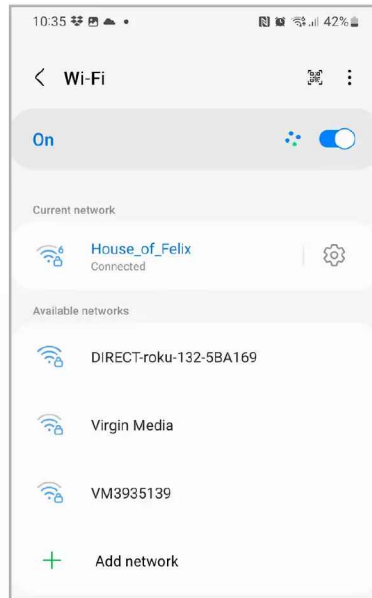
1 Open the Settings app and look for the Wi-Fi heading. It's probably under 'Connections'. First of all, you must turn your Wi-Fi connectivity on. Drag the slider to the right, then tap Wi-Fi. Your device begins to scan for and displays any networks within range, in a list.

2 Next to each available network, you will see an indication of signal strength and whether the network is secured. Hopefully you will see your Wi-Fi network in the list. If not, make sure that the Wi-Fi router is working and then tap Scan or pull the screen down to try again.

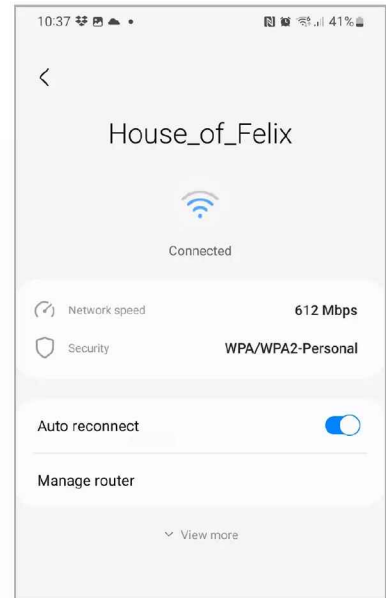
3 When the name of your network is shown, tap it and you will be prompted to enter your Wi-Fi password (your Wi-Fi password is provided by your service provider). If you don't know your current one, try looking for an information sticker on your router hardware.



4 If you can't see your network in the list of networks, tap More > Add Wi-Fi network. You will then need to type in your Network SSID (the name of the Wi-Fi network you want to connect to) and select the security type (normally WEP or WPA).



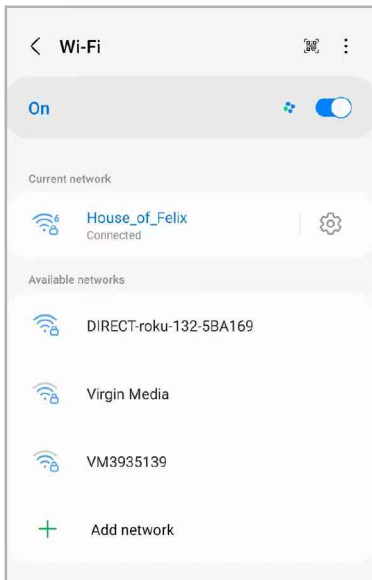
5 Following either of these connection methods, your phone or tablet should now connect to the Wi-Fi network. The Wi-Fi icon will now appear in the top status bar and when you next turn Wi-Fi on, it will automatically choose this network, if in range.



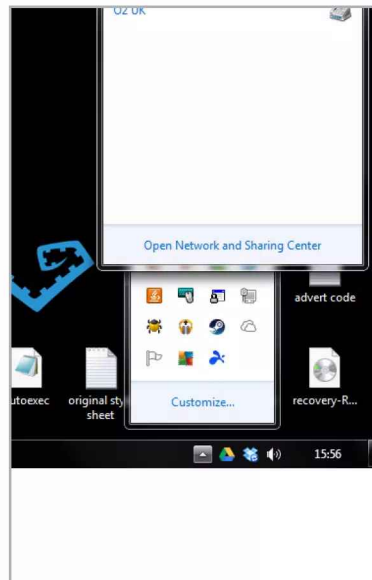
6 To forget a network, go to the networks list and tap the Settings icon next to the SSID. The next screen should offer a 'Forget' option, maybe illustrated by a bin. Other Android phones might have you tap the SSID and choose Forget from a menu.

Using Wi-Fi Direct

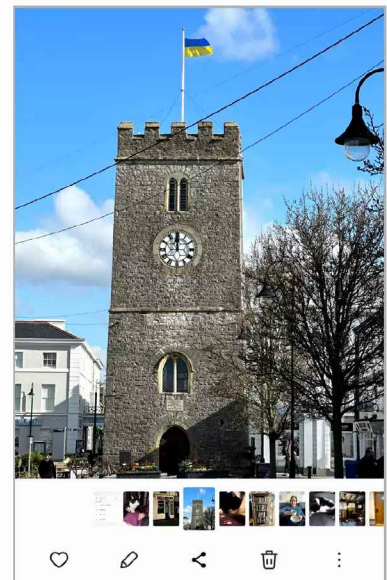
Wi-Fi Direct is a way for users to transfer data to and connect to devices on the same Wi-Fi network.



1 Open Settings > Connections > Wi-Fi and wait for nearby devices to be shown. Look for something prefixed with 'DIRECT'. Both devices need to be connected to the same Wi-Fi network. Select a device and when its owner accepts the connection, the devices are connected.



2 To receive data via Wi-Fi Direct, you just need to accept the transfer request. When you receive data, it is saved to your device automatically. Received files are normally saved to the My Files. You can also search for files in the Finder search, in the app drawer, if you can't find them.



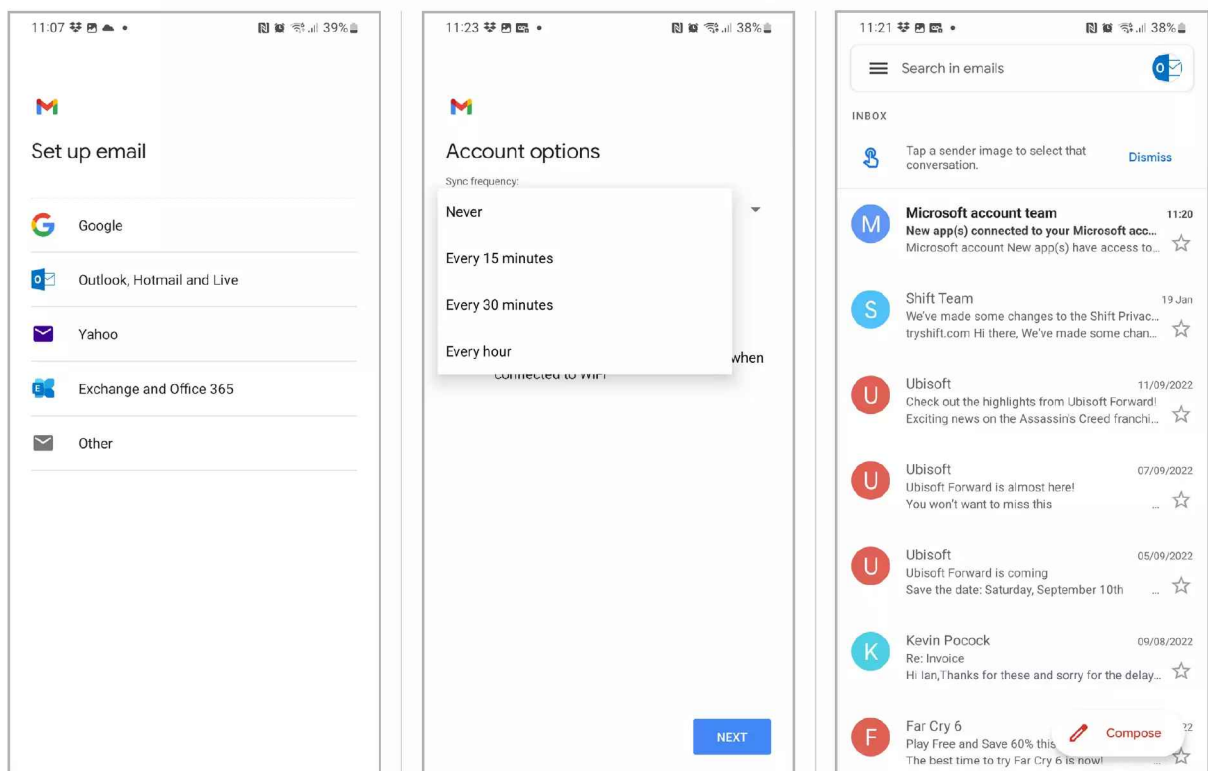
3 To send a file to a device with which you are currently connected, simply open the image in the Gallery app and tap the Share button. From the Share menu, you will be able to select Wi-Fi Direct and then choose the correct device to send to from the list of available devices.

Setting Up and Sending Emails

Being able to sync your Gmail account easily to your Android device is great, but there are sure to be lots of users who use different email accounts. Setting up your phone to pull emails from these POP3 or IMAP accounts is relatively easy, but you will need your username and password details and possibly the names of your incoming and outgoing mail servers.

Automatic Email Setup

For most users, the automatic email setup wizard will take any hard work out of configuring your email app and should be able to find the relevant email server details from the email address you provide.



1 Open the Gmail app from the Apps menu on your phone and choose 'Add email address' then the type of email you're setting up to start the setup process. Enter your email address, along with the password. Tap Next and wait to see if the Email app can pull the email settings from your ISP automatically.

2 Once the automatic setup is complete, you can choose if and when the app checks for new emails. You can set a higher frequency for peak times and a lower frequency for off-peak times. If happy with the default settings, you can just leave this for now. You can always change these settings later.

3 Your emails should now begin to load on to your device from your mail server. This can take a while, depending on both how many emails you have on the server and which type of email account has been set up by default (POP3 or IMAP). You can simply repeat the process to add more email accounts.



Manual Email Setup

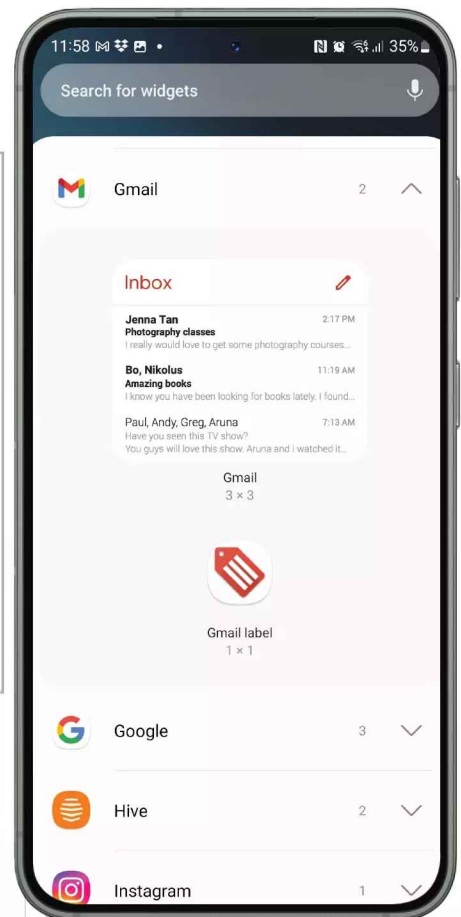
In some cases, the automatic email setup will fail and you will have to set up manually. If you have set up email accounts before, this should be fairly familiar to you. If not don't worry, it isn't too difficult.

1 Open Gmail, tap 'Add another email address' then choose the email service you want to add (if it's not listed, tap 'Other'). Enter your details and tap Manual Setup. You need the email server details (from your ISP or their website). Choose the type of email you use (POP3, IMAP or Exchange).

2 IMAP is generally better, as this type of account keeps the message on the server after reading on your phone; useful if you access emails in multiple places. Tap Next and the server settings should be pre-filled for most of the major ISPs, but if not, fill them out with the information you have.

3 Tap Next and let the email client attempt to automatically configure the incoming server settings. Repeat for the outgoing server. If the manual setup fails, you may need to change the security type to SSL/TLS. The port for incoming emails is usually 993 and usually 465 or 587 for outgoing emails.

4 If you're still having problems, double-check email server settings with your ISP or email provider. On the next screen, or later in Settings > Accounts and backup > Manage accounts, you can change some of the account settings. These include the frequency at which the app checks for new emails.



Email Widget

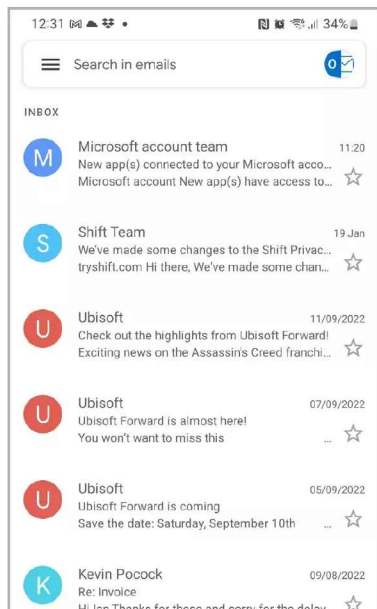
➤ If you want to add the Gmail widget to your Home screen, open the Home screen and tap and hold any empty part of the screen. A row of icons appears at the foot of the screen. Tap Widgets, scroll down to Gmail and tap the chevron to its right. You see two options.

The larger of the two widgets available for Gmail allows you to have your email inbox (or another box of your choice) appear in the widget, so you can see arriving emails on your Home screen. This widget is resizable, so you can make it smaller or larger by tapping and holding, then dragging the handles.

The second widget is the same size as an app icon. Use it to get directly to an inbox or other folder in an email account of your choice. You can rename that mailbox on the widget without effecting the mail account itself.

Sending Emails

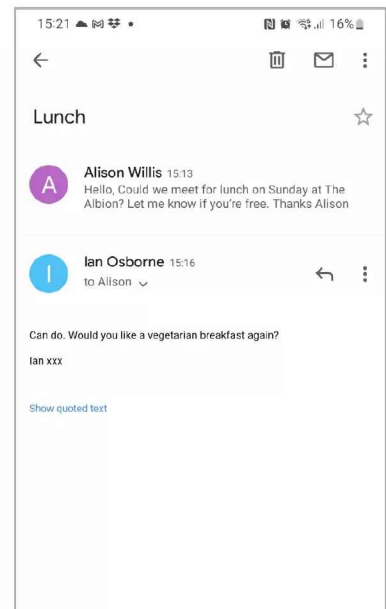
If you are not familiar with using your phone to send and receive email, getting started can seem a bit of a chore. By following this essential guide, you will learn how to compose, send and receive your emails anywhere.



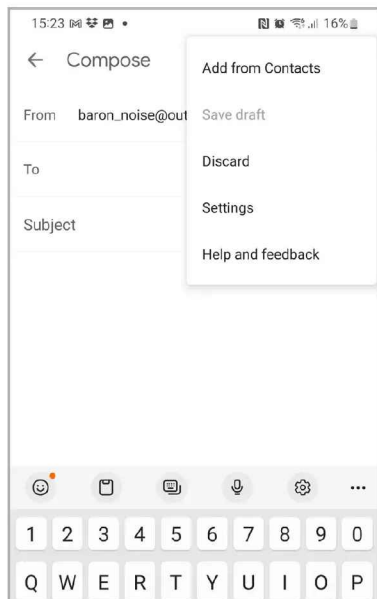
1 Open the Gmail app from either the shortcut on the Home screen or by browsing the main apps list. You can also start a new email or reply to a recent email by tapping the email widget, if you have one set up on your Home screen.



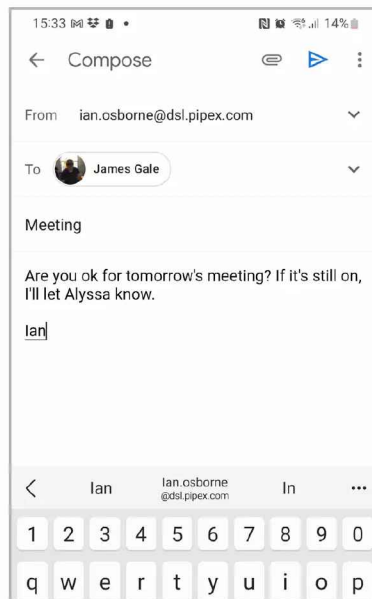
2 If you want to compose a new email, tap the Compose button at the foot of the screen. If you want to reply to an email you have received, simply select the email in the list and then tap the Reply button (the curved arrow).



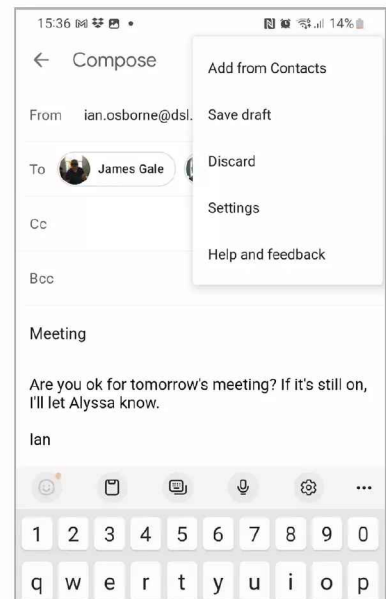
3 Received emails always show with the most recent at the top of the inbox. If you have had more than one email in a conversation, you can open it and read all associated emails on one screen before replying.



4 If composing a new email, tap the three-dots icon and choose 'Add from Contacts' to find a contact in your main list. Or enter the email address manually into the To box if you're emailing someone not in your contacts. You can add more than one recipient.



5 Add a subject, then tap the Main Message box and start to type your email message. When you're typing, the predictive text works equally well in emails as elsewhere and you can add special characters such as emoji to your emails.

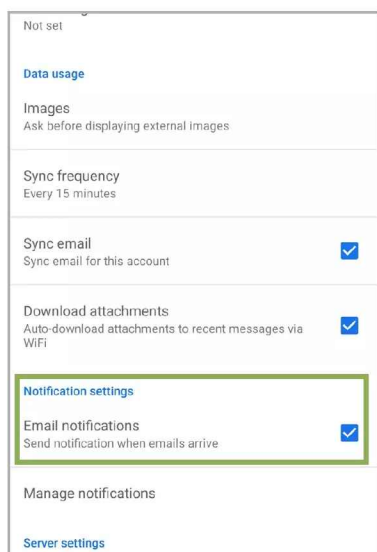


6 When you have finished composing your email, tap the Send button at the top of the screen (usually a paper dart icon). You can also tap the Menu button and choose to Save as Draft, if you don't want to send the message straight away.



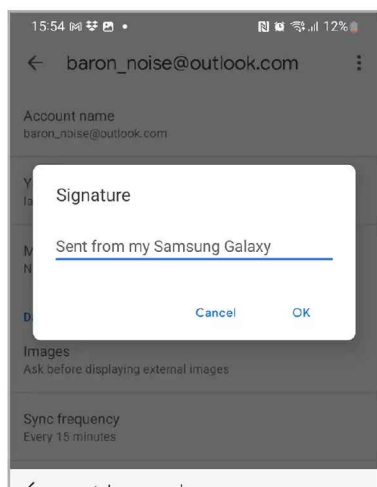
Email Settings

You can change some of the default settings to suit your particular needs for that account.



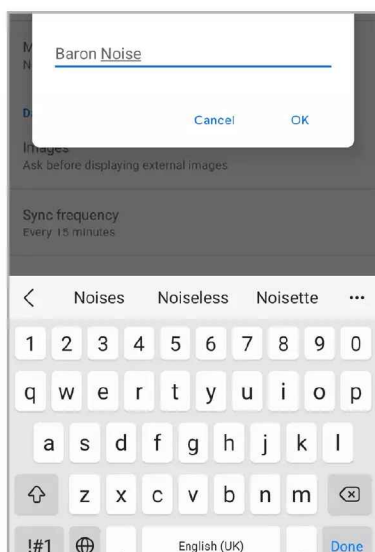
Notifications

➤ In the email app, tap the three-lines icon (top left) and choose Settings from the sidebar. If necessary, tap the account you want to modify. On the next screen configure how you're notified of new emails. If you turn notifications on, a New Mail icon appears in your notifications bar.



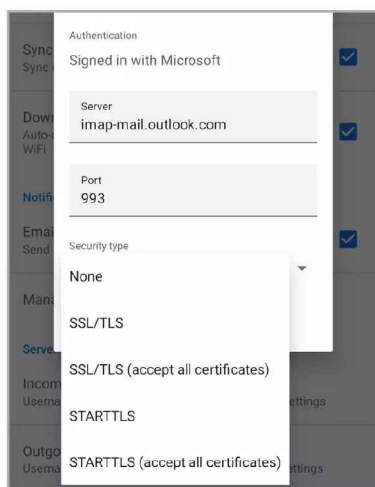
Email Signature

➤ When you compose a new email, you should see some text already in the message box. This will be something like 'Sent from My Mobile' or my Branded device and is your default signature. This is automatically added to emails but can be removed or changed if you tap Signature.



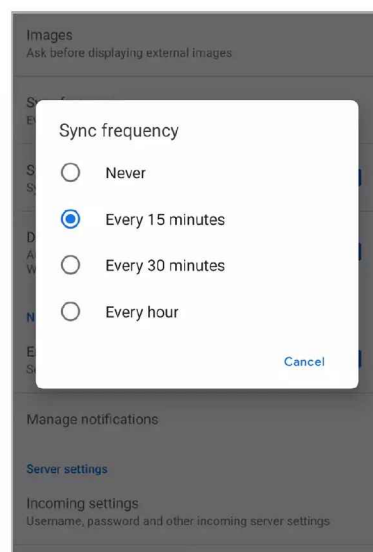
Your Name

➤ To change the name linked with outgoing emails on the account you're editing, tap your name in the settings. A window opens, in which you can edit your current name, changing it to whatever you like. When someone gets an email from you, it's listed as coming from this name.



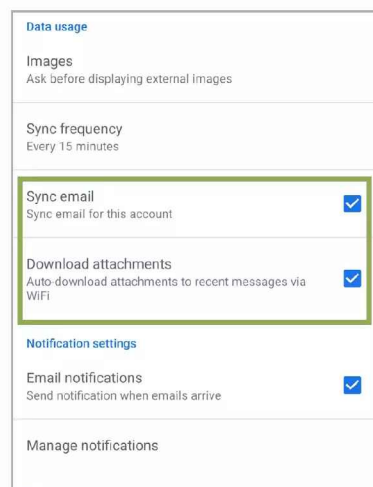
Server Settings

➤ Tap the Server settings option for the incoming or outgoing server and you see the advanced settings used when sending or receiving email. Leave these alone unless you're having problems with your email account. Correct settings are available from your ISP or email service.



Sync Frequency

➤ How often do you want your email app contact your server and download new emails? Tap the Sync Frequency option and you can choose between Never, Every 15 minutes, Every 30 minutes or Every hour. If you choose 'Never', you can only download emails manually.



Sync Email/DL Attachments

➤ The next to options are checkboxes. The Sync Email checkbox turns off the syncing of that account with the email server. The Download Attachments checkbox sets whether email attachments are downloaded automatically, or only manually when on Wi-Fi.

Browse the Internet with Chrome

The mobile version of Google Chrome is now the standard browser on most Android smartphones and tablets and is widely considered to be the fastest and safest browser around. The app will be preinstalled on your Android device but you should check for the latest updates on Google Play before you use the browser on your device. Android device devices may also have a second web browser app that is called simply Internet.

Browsing the Internet

The Google Chrome browser is far from the only option for getting onto the Internet but unless you need very specific features offered by other browsers, Chrome is a great all round choice. Here's how to use it.

1 Search Field

➤ Type your search terms or URL here. You will also see a microphone icon, which when tapped will allow you to search by voice.

2 Chrome Menu

➤ The Menu button should always be visible and gives you access to the bookmarking button, page refresh and the forward and back buttons.

3 Bookmarks List

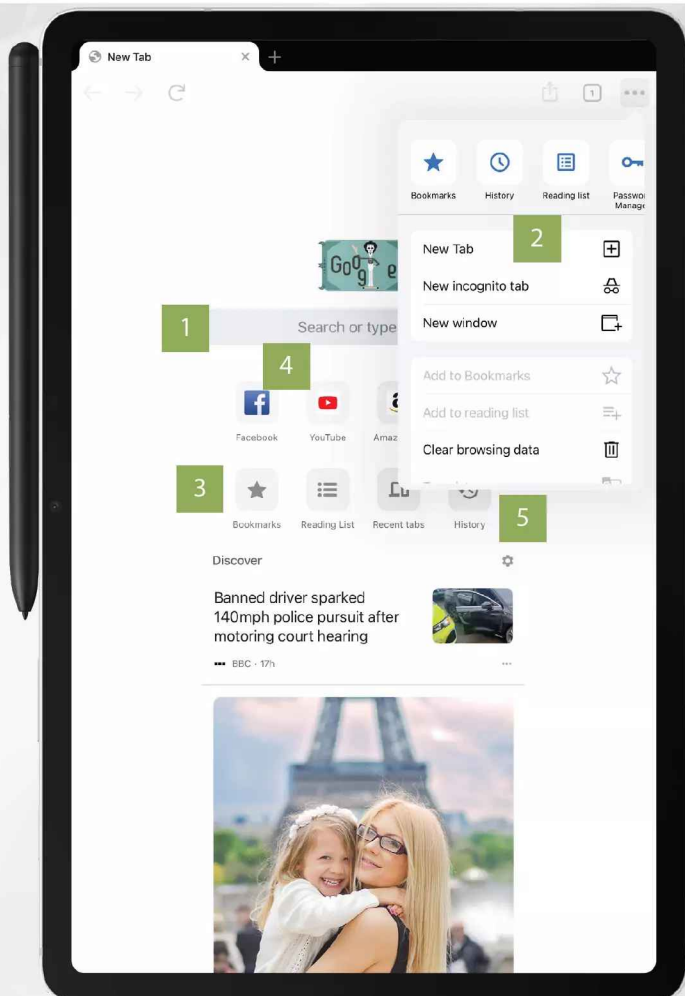
➤ Tap the star at the bottom of the Chrome Home screen to see your bookmarked websites. You can also access bookmarks through the menu.

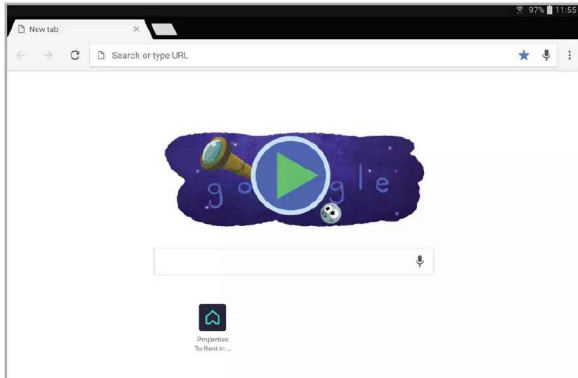
4 Recent Sites

➤ Recently visited websites will be displayed as thumbnails on the opening screen of Chrome. Tap any to open that website.

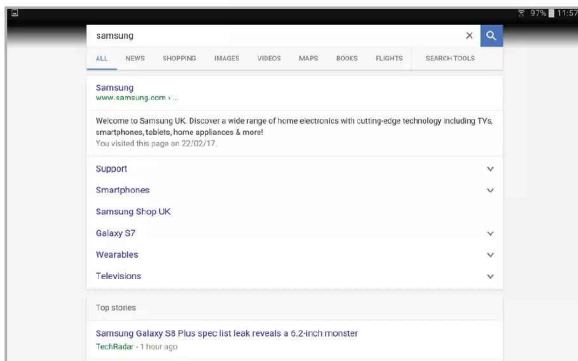
5 History

➤ For a full browsing history tap the clock icon. The browsing history from your other devices will also be shown if they use the same Google account.

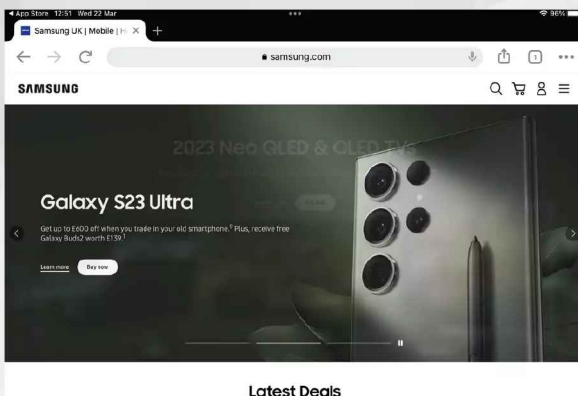




1 Tap the Chrome icon to open the app. The familiar Google search screen should open first, with recently opened or frequently opened websites as thumbnails below. If you're using the app for the first time the screen will be blank. To start searching for websites, type in the search field.

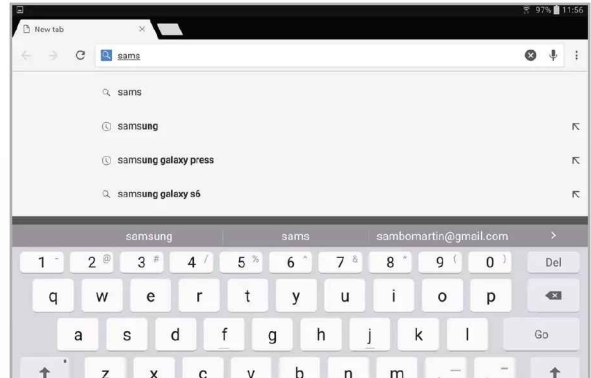


3 By default Chrome will use Google as the search engine, so results for your search query will be displayed in a familiar Google format, albeit slightly adapted for small screens. If you don't want to use Google, you can change the default search engine in the settings. Tap Menu > Settings > Search Engine.

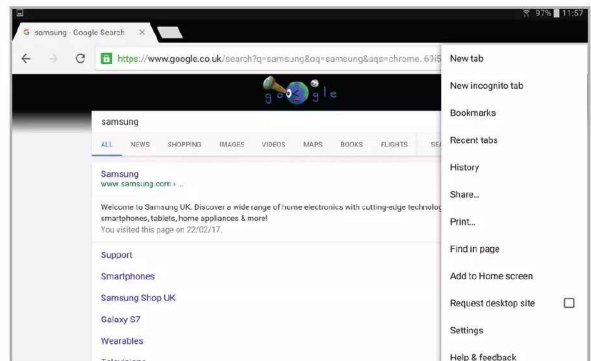


Request Desktop Site

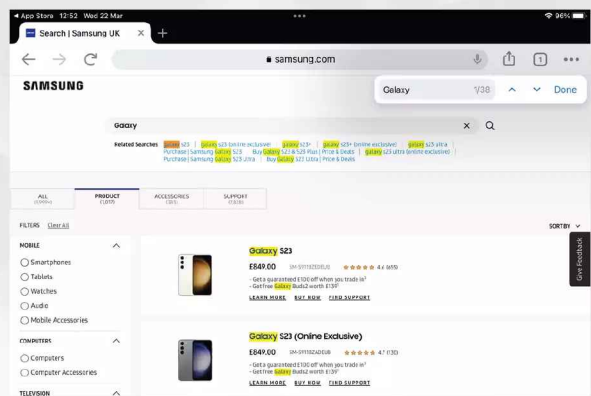
➤ Chrome will automatically detect if a website has a mobile version and display the version appropriate to your device. If you prefer to view the original version of a website, you can force Chrome to do so. Open the site tap the Menu button and check the box next to Request Desktop Site.



2 You can either type a search term or a URL if you know the address of the website you want to visit. As you type Chrome will offer suggestions based on the words entered. Tap any of these to enter the word as your search term. If Location Services are active, local results will be shown.



4 To begin a new search and view another website whilst keeping the first one open, you can create a new tab. On larger tablet screens tap the New Tab button at the top; you can also tap Menu > New Tab. You can then do a new search. If not browsing on a tablet you switch tabs by tapping the Overview button.



Find in Page

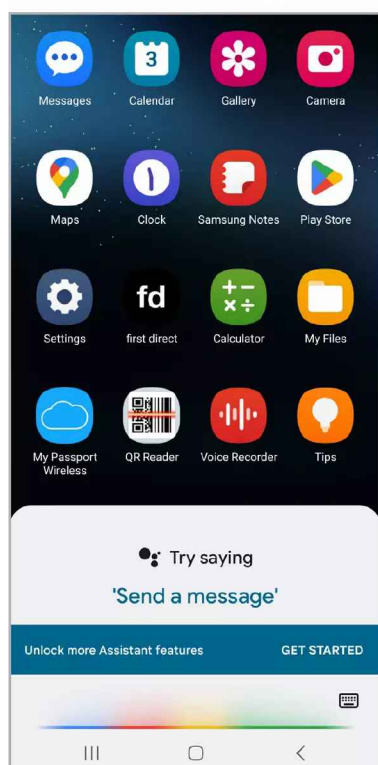
➤ This feature, accessed through the Chrome menu, allows you to search an individual open web page for specific words or phrases. Tap Menu > Find in Page and then type the word in the search field that opens. The number of times the word appears is displayed and the arrows let you switch between instances.

Getting the Most From Google Assistant

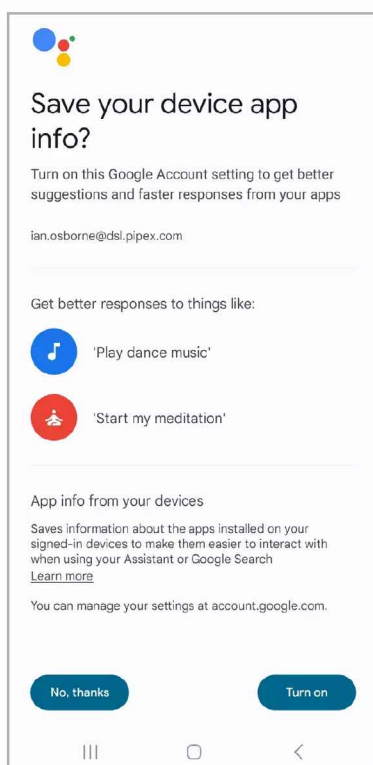
Google Assistant is part of the company's push to take on Amazon's Alexa, Apple's Siri and Microsoft's Cortana personal assistants, and has been slowly evolving over the last few years. As the name suggests, Google Assistant can help out in your everyday life, and become available in even more ways if you invest in one of the many household devices compatible with the Google Home service. So let's take a look at how you can use the assistant on your Android device.

Set Up Google Assistant

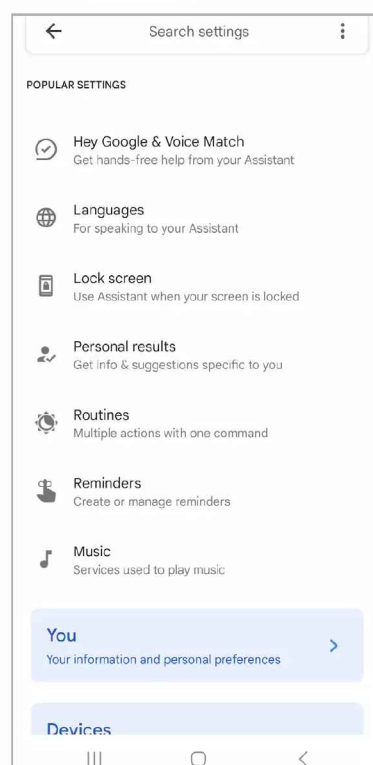
The Google Assistant is really rather clever, and it makes sense to take advantage of it. After all, its complete design is entirely based on making your life easier, so why not let it? Here's how to get started with your Google Assistant.



1 You can access Google Assistant at any time, by pressing and holding the Home button. This opens a small panel at the bottom of the screen, with the assistant immediately ready to listen to voice commands, or react to typed searches or queries. You can even take photos for Google to identify.



2 When you open Google Assistant for the first time, you will see a link to "Unlock more Assistant features". This allows you to turn on screen context, which changes what the assistant does depending what is on screen when it is opened. You can also set this in the assistant settings.

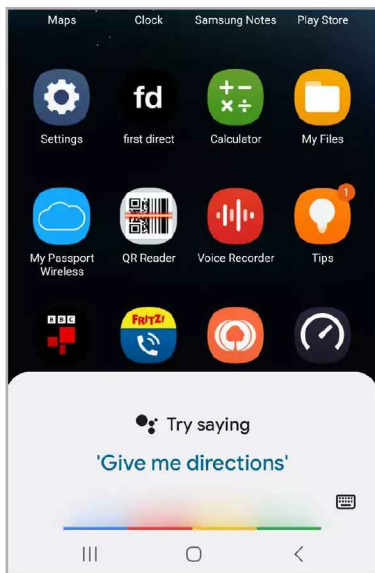


3 To open the settings, open Google Assistant and swipe up to make it full screen. Then tap your profile picture at the top of the panel. Here you can set privacy controls, add your name, address, and other personal details, change the language of the assistant, and teach Google to recognise your voice.

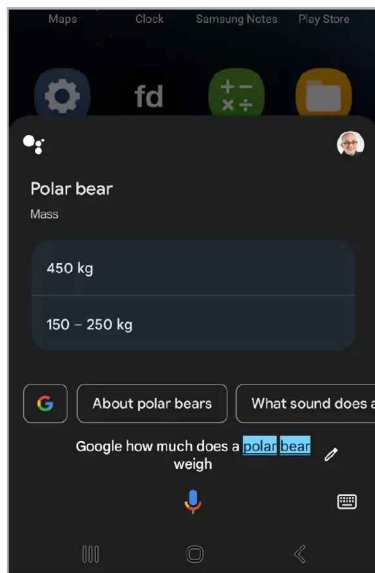


Using Google Assistant

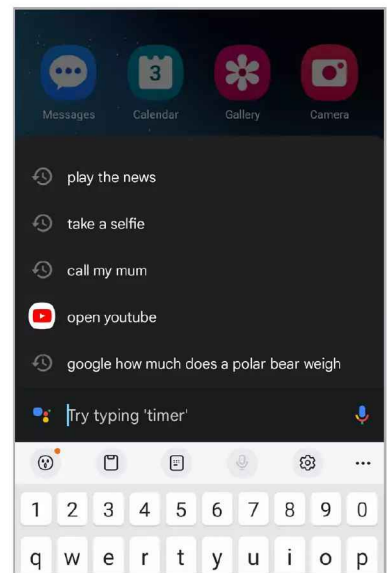
Now you have Google Assistant set up, and have added the information you want it to have, you can start using it.



1 Open Google Assistant by pressing and holding the Home button. Each time the assistant opens, it displays an example task. You can activate this task by tapping it or speaking a command, as appropriate. These examples offer a good way of learning what the assistant can do.



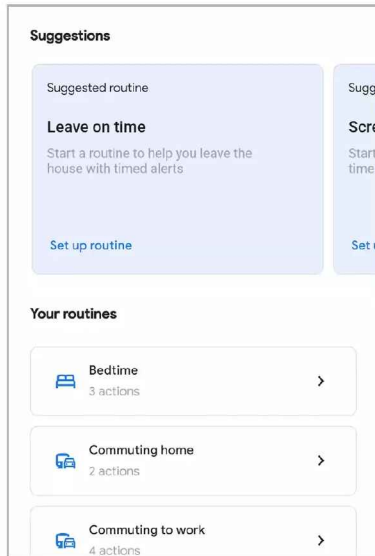
2 When the Voice command mic is open and listening, you will see four coloured lines at the bottom of the panel. You can then give a voice command, such as "Google, open the Messages app" or ask Google to search for something online, e.g. "Google how much does a polar bear weigh?"



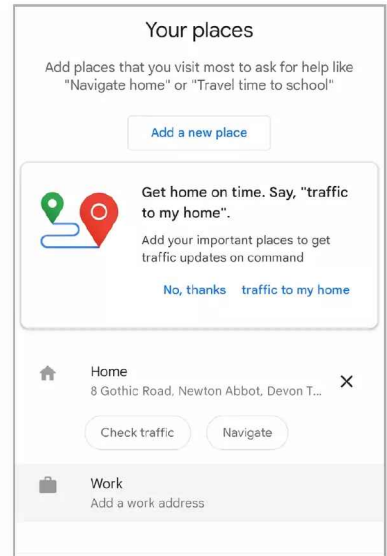
3 If you want to type an instruction instead of speaking it, tap the keyboard icon found in the Google Assistant panel. If you change your mind and want to speak an instruction after all, tap the mic icon in the text field. This takes you back to the screen where you speak to the assistant.



4 The camera in Google Assistant is quite clever. It can scan text and look up specific terms or words, identify and compare the price of a product you photograph, help you explore an area by showing places of interest, and more. Take a selfie for a countdown timer and a front-camera snap.



5 If you have a Google Home speaker, and have set up Routines, you can access them from Google Assistant. Just open the assistant and type or say the routine name (e.g. "Good Morning"). You can set up Routines even if you don't have a Home speaker. Open Google Assistant, say 'Google Assistant settings' and tap Routines.



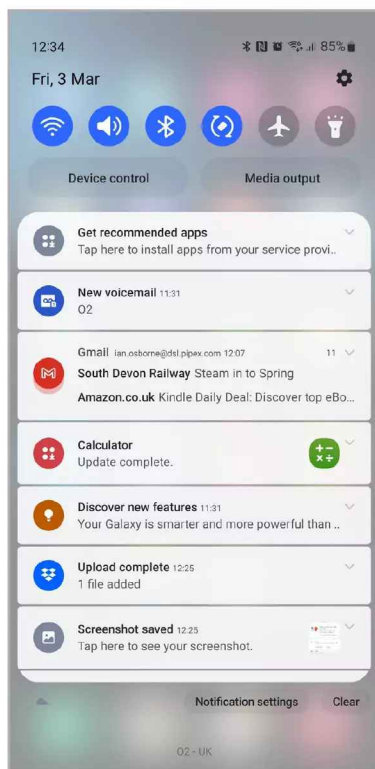
6 The more you use the Google Assistant, the better it will get at recommending tasks and commands. And the more information you feed into it, the more useful it will become. If you have added your home or work addresses, for example, you can just say, "Show me the best route home/ to work".

Managing Your Notifications

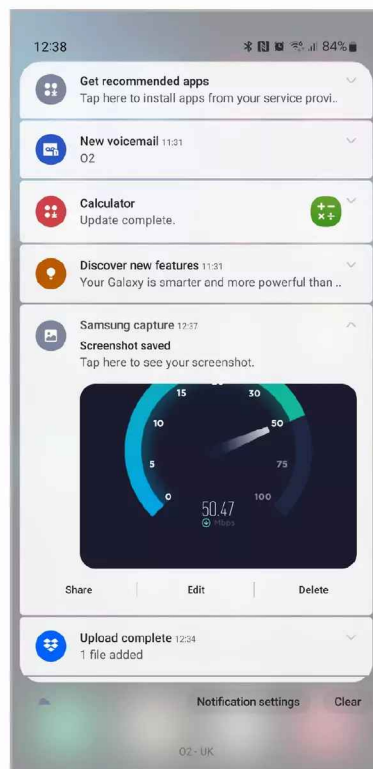
Notifications are used by your phone, or tablet, to alert you when new things happen on your device, from a new email arriving to the latest breaking news story from your favourite news app. You have a high level of control over your notifications, but if you don't know how to properly manage them, they can become annoying and sometimes intrusive. Let's take a look at how to organise your notifications so they work for you, not against you.

Notification Panel

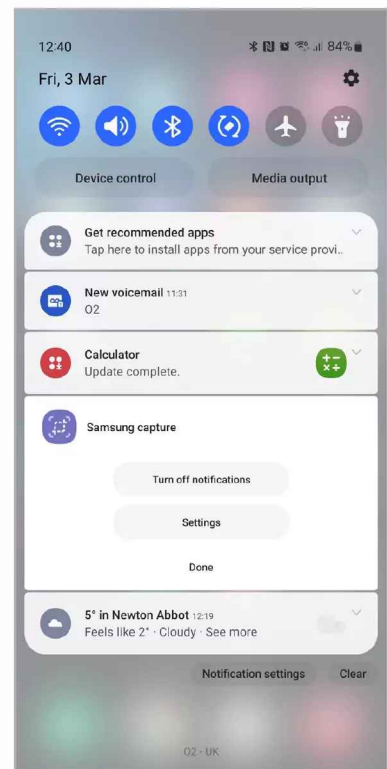
The Notification panel is the quick way to view and interact with alerts on Android. If you learn how to use this properly, you might never need to view notification settings. Here's how to go about using your Notifications panel.



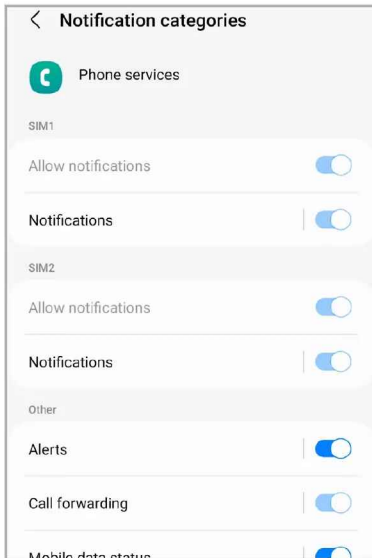
1 Notifications will appear as small icons in the status bar at the top of the screen. To open the Notification panel, drag your finger down over the status bar. They are grouped together so, for example, if you have several Gmail messages, they will be displayed in a single list.



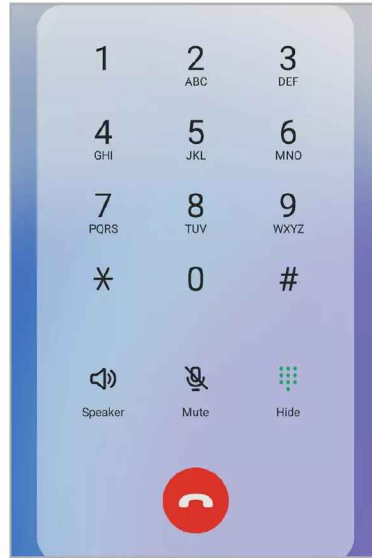
2 Notifications are usually displayed with a small amount of information in the panel. However, you can expand most of these by dragging your finger down the notification group. This will allow you to see more information while staying within the Notification panel.



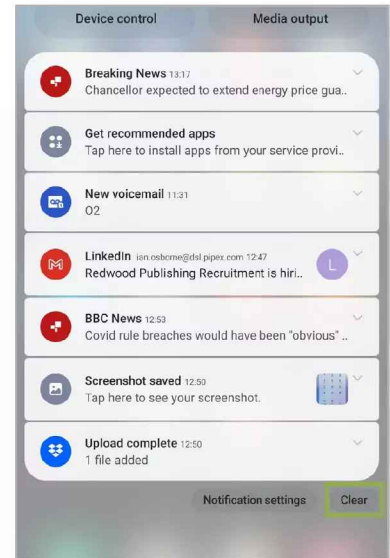
3 Drag a notification to the left or right to remove it. Tap and hold a notification for options to turn off notifications for that particular app, or to go to the settings for that app, from where you can change how notifications arrive, whether they should appear when the phone is locked and more.



4 Also on the app's Notification Settings screen is an option titled 'Notification categories'. Here you can set what app actions result in a notification. For example, in Phone services, you can choose whether to get notifications for Wi-Fi calls, Alerts, Mobile data status and more.



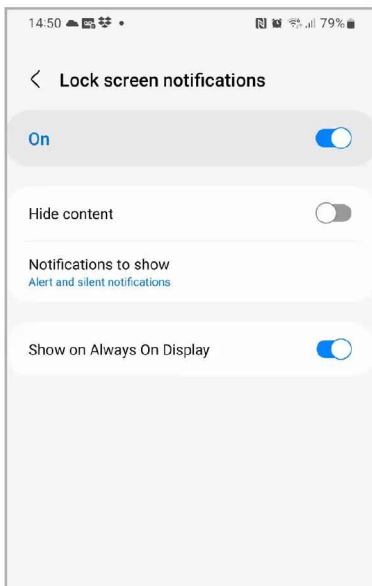
5 Tap a notification to open it in the app that created it. For example, here we tapped a notification about an incoming voice message. The notification opened our voice messages and played the message in question. An email notification opens that email in your email client.



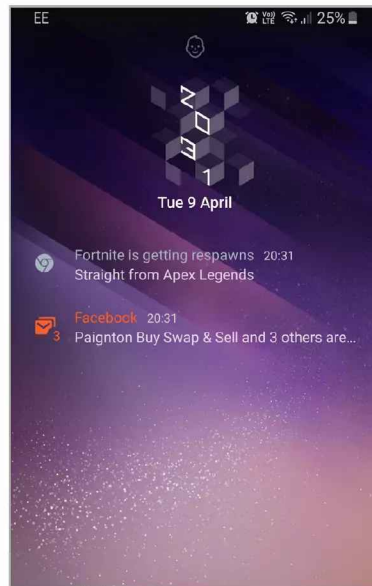
6 You can clear all notifications from the panel in one fell swoop by tapping the Clear option, which is usually found at the bottom of the open Notifications panel. Alternatively, you can swipe away individual notifications one at a time if, for instance, you want to keep some in the panel.

Lock Screen Notifications

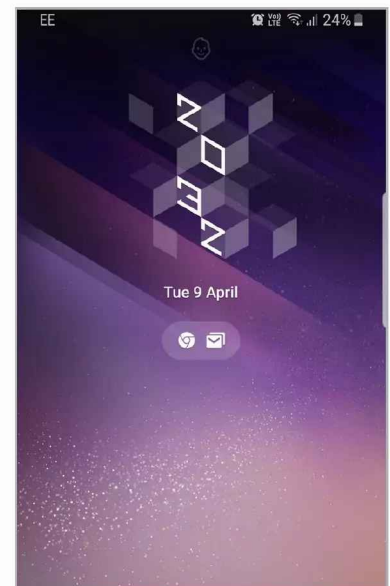
You can allow Android to display notifications on the Lock screen, and control how much information is shown.



1 You can block all notifications from your Lock screen in Settings > Notifications > Lock screen notifications. With this disabled, you only see them in the Notifications panel. If you pick this option as your default, the setting applies to all apps, however you can also choose to apply it on a per-app basis.



2 If you choose to show complete notifications on the Lock screen, you will see a similar display as you see in the Notifications panel, including some detail on the notification. If you pick this option as your default, you can still restrict certain apps on your Lock screen by 'hiding sensitive content'.



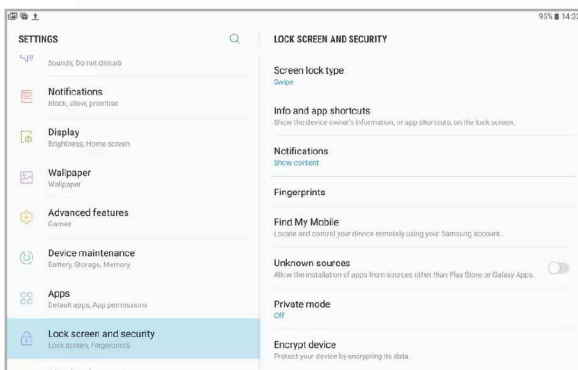
3 When you allow notifications on the Lock screen but block sensitive content, you will see icons or a heading telling you what sort of notification it is; but you will not be able to preview it until you unlock the device and open the panel. Again, you can restrict certain apps and not others.

Locking the Home Screen

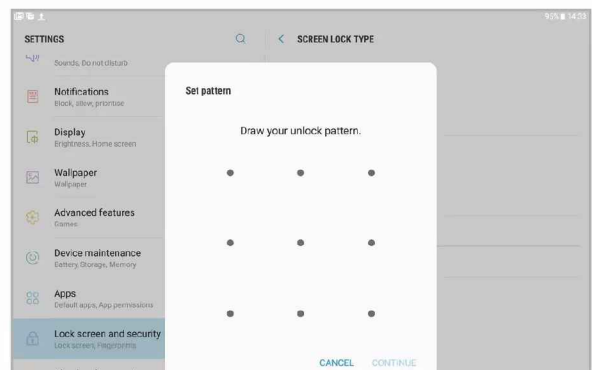
Taking care of the security on your Android device is very important, and should not be overlooked by any new user. Setting up a simple screen lock, whether that is a PIN, pattern or password, is one of the first things you should do to make your device more secure. Adding a lock screen also enables more advanced security features to be activated.

PIN, Pattern or Password Locks

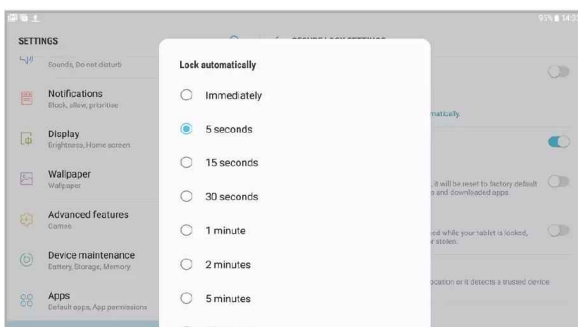
Choosing between PIN, Pattern and Password lock is down to personal preference, and also your security concerns regarding the level at which you want to protect your data. Here's how to go about making that choice.



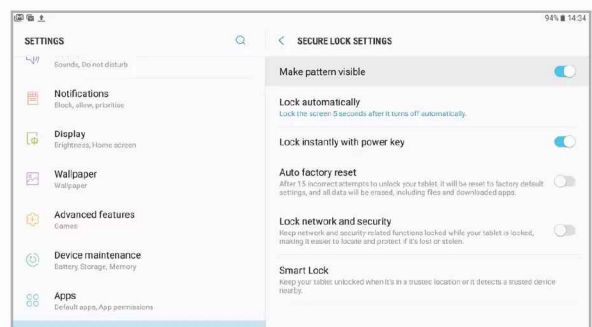
1 Open the main Settings and scroll down to the Security section. Screen Security is the first section, with Screen Lock the first option. Within the Screen Lock settings you will see five options: None, Swipe, Pattern, PIN, and Pattern. Swipe and None can be ignored for now.



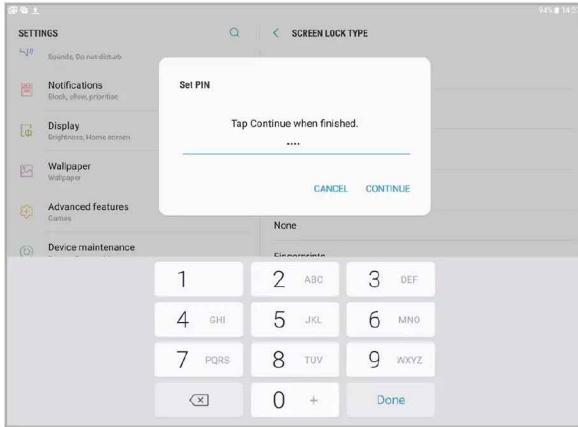
2 To set up a pattern lock, tap Pattern and choose whether you want to add an extra sign in on start-up. Tap Continue and draw your pattern out on the dots. The lines of your pattern can cross over each other, allowing you to make the pattern lock quite complicated and hard to guess.



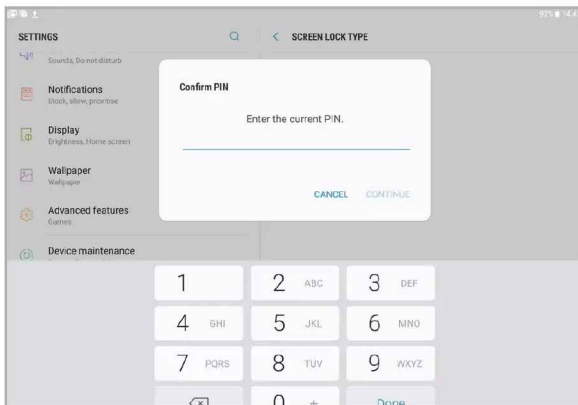
3 You will have to repeat the pattern on the next screen to confirm it. Once you are back on the Security Settings screen, take a look at the Automatically Lock option and change it to a period which best suits you. You should choose Immediately or a short period for the best security.



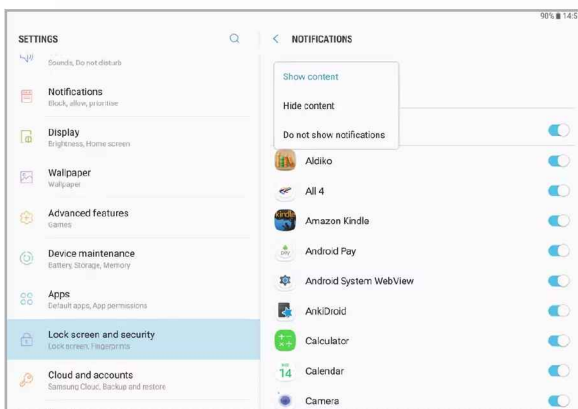
4 To add an extra level of security, use the slider to make the pattern invisible when you input it. This stops someone looking over your shoulder and easily seeing the pattern drawn. To check your pattern lock, turn off the screen and then turn it back on again. Enter your pattern.



5 Both PIN and password locks are inherently more secure than a pattern lock, although they are not quite so quick to input. As when setting up a pattern lock, when you set up a PIN lock, you will be asked if you want to add a PIN on start-up for extra security.



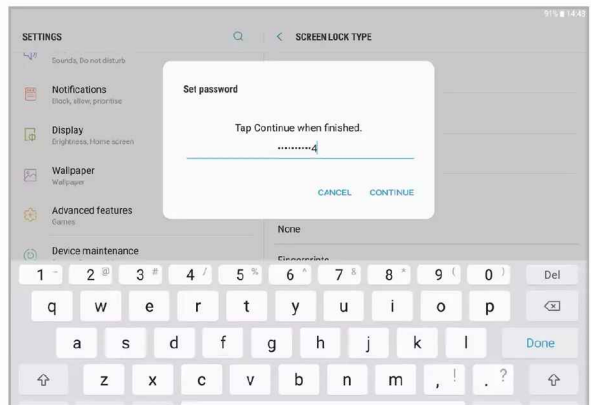
7 As when setting a pattern lock, you will have to repeat the PIN to confirm it. Once this is done and you are back on the Security Settings screen, take a look at the Automatically Lock option and change it to a period which best suits you. Choose Immediately or a short period of time for the best security.



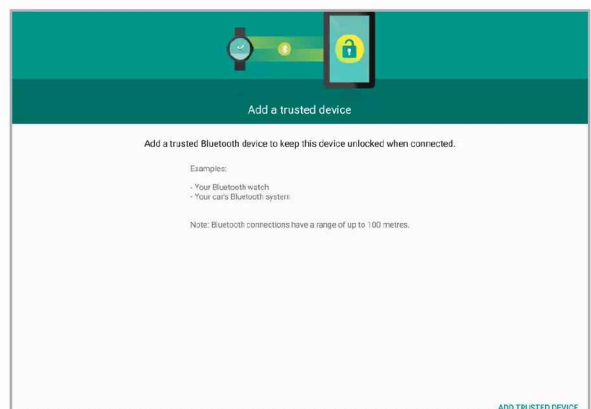
9 You can also choose how much of your notifications are shown on the lock screen once you have a lock set up. You can choose to show all of the notification content, or just show that there are notifications (without showing content). You can also disable notifications.



6 Your PIN needs to be four numbers (PIN locks are always numerical only), but steer clear of repetition or runs of numbers such as 1111 or 1234, as these are easy to guess. You should also avoid using your birth date or any other easily guessed number.



8 A password lock is the most secure type available on your Android device. Passwords can be alphanumeric and therefore the most difficult to guess if you choose well. As with a PIN lock, don't choose an easily guessed word such as your surname. The hardest passwords to crack use letters, numbers and symbols.



Smart Lock

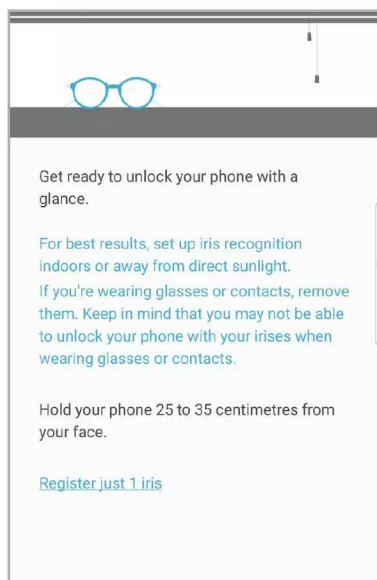
➤ If you are running Lollipop on your device, you can make unlocking easier using Smart Lock for Android. You will need to have a screen lock set up before you can activate Smart Lock.

Unlocking with Your Iris

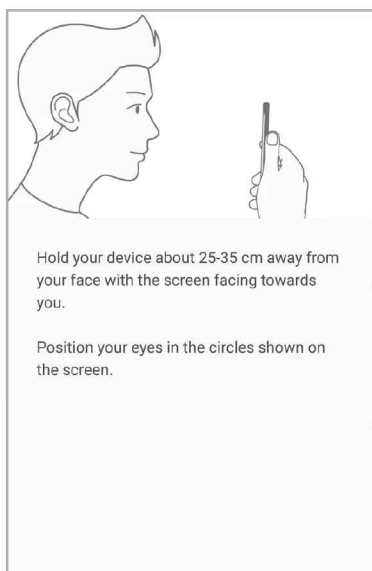
Some of the newer Android device devices allow you to not only unlock with your fingerprint but also with your eyes (or more precisely, your irises). Here's how you set up and use this feature on a compatible Android device.



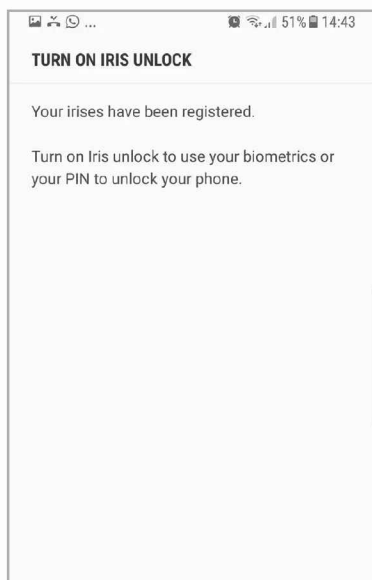
1 You can use iris recognition as an alternative to entering passwords in certain apps, just like you can use your fingerprint. You can also use your irises to verify your identity when logging in to your account. It does involve some flashing light, so be wary if you suffer from epilepsy, etc.



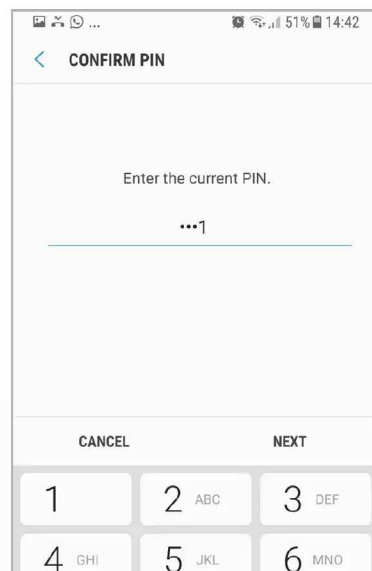
4 Enter your PIN or Password and read the instructions for best results. Tap continue and hold the phone about 25-35cm in front of your face. When the circles appear on screen, line them up with your eyes (also shown on screen) until they are recognised. Try to keep your eyes open naturally.



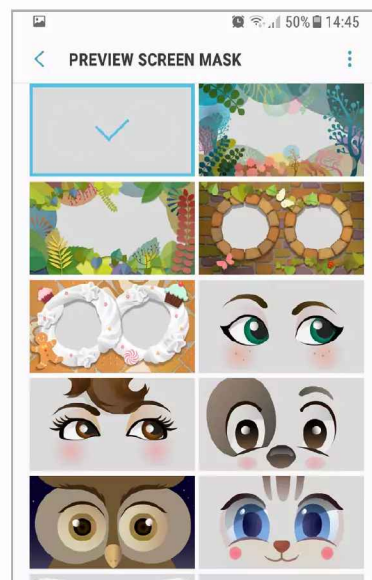
2 For best results, remove your spectacles. Do not use the Iris Scanner in bright sunlight or areas with excessive reflected light (for example, by a river); similarly, don't use the Iris Scanner in low light. Look straight at the device, not up, down or sideways and keep your head still for the scan.



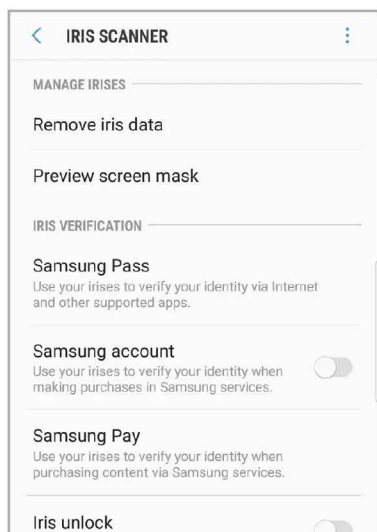
5 You can turn on Iris Unlock now, or you can use the slider back in the main Lock screen settings at any time, now that your eyes have been registered. Back in the main iris scanner settings you will also see a new section labelled Manage Irises. In this you will see the option to Preview Mask.



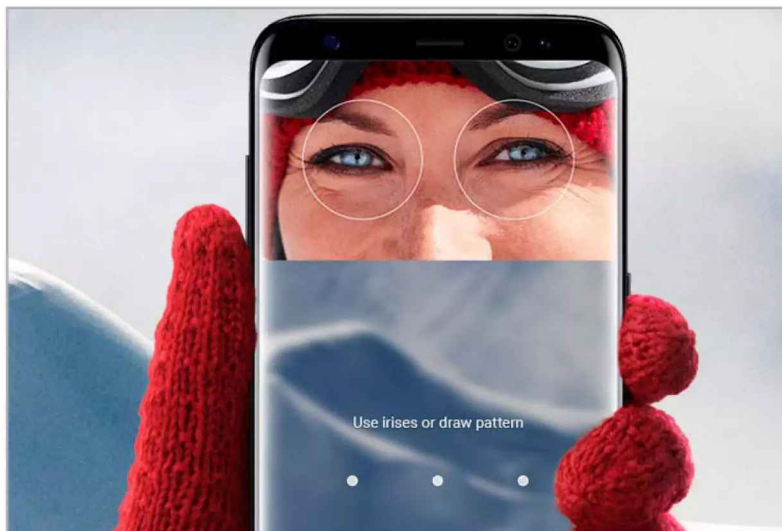
3 Just as with setting up fingerprint unlock, you will need to register your eyes so that they can be recognised when you unlock; and you must set a pattern, PIN, or password before the option is available to use. Once you have done this, tap Iris Scanner in the Lock screen settings.



6 This is a fun addition to the iris scanner that you can use or ignore. It simply adds a cartoon mask over the scanner window when it appears on screen (e.g. robot or animal eyes). If you choose a mask and then change your mind, simply come back to this option and choose the blank mask.



7 Once you turn on Iris Unlock, you will have the option to show the iris scanner as soon as you wake the screen or leave it on the default setting, which requires you to swipe the screen first before the scanner appears. Try both options and see which works best for you if you are not sure which to choose.

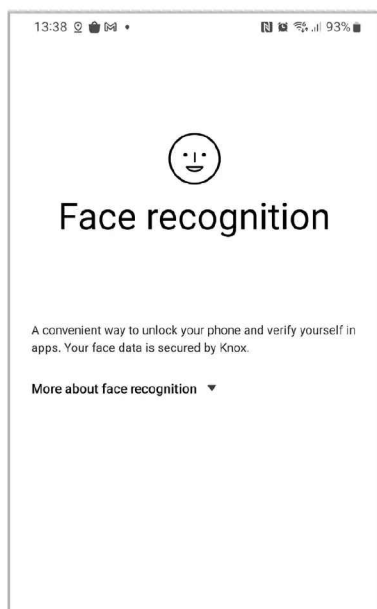


8 To use the scanner, lock your phone and then press the power button to wake the screen. Line your eyes up with the circles (or the mask if you set one). Assuming proper setup, your phone should unlock almost instantly. Your alternative unlock option (PIN, etc.) is always available to use also.

If you want to be able to use the iris scanner to authorise Android Pay transactions, use Gift Pass or to make purchases through your Android account, you will need to set up these options in the Iris Scanner settings. You always need to unlock these settings from the Lock screen settings.

Face Recognition

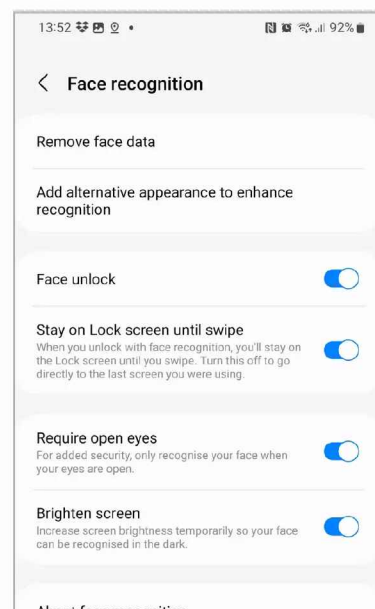
You can also use face recognition as an alternative to entering passwords in certain apps.



1 Be aware that Face recognition is less secure than Pattern, PIN or Password unlock. When registering your face, ensure that you are in a well-lit area and the camera lens is clean. To use your face to unlock your device, you must set a pattern, PIN or password first, as a backup method.



2 Tap Settings > Security and privacy > Biometrics > Face recognition. You might need to enter your PIN, pattern or password. Tap continue and then line up your face with the circle that appears on screen. Hold position until the circle is highlighted and the screen changes.



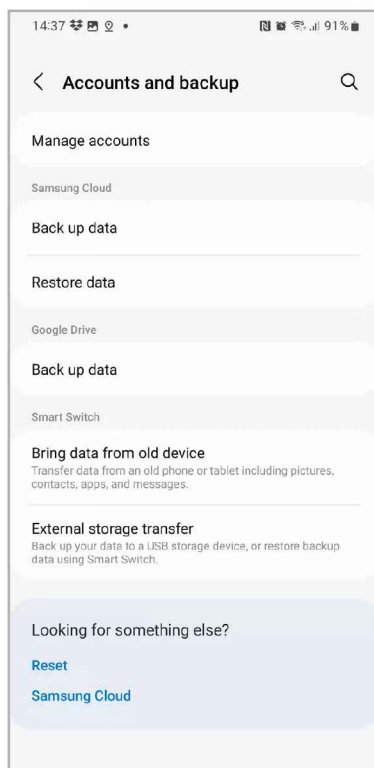
3 After registering your face, an options screen is presented to you. You can, if you wish, remove your face data from here. If you regularly change your appearance, add an alternative face with a different haircut, makeup and so on. There's also a series of on-off options that speak for themselves.

Back Up & Sync Your Android Device

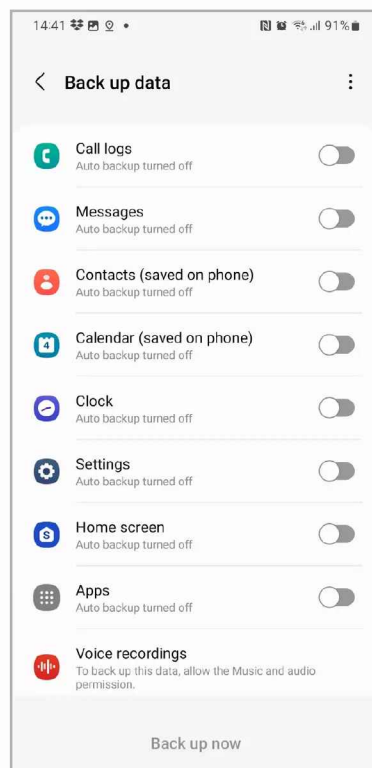
With Cloud backups, users have a backup option that works independently of USB cables and computers. It backs up native apps such as Calendar and Contacts, as well as select third-party apps; so users can start right where they left off on a new device. Your data is backed up too, so if the worst happens and you need to wipe your device or if you need to reinstall the current version of Android, you don't lose anything.

Cloud Backing Up and Restoring

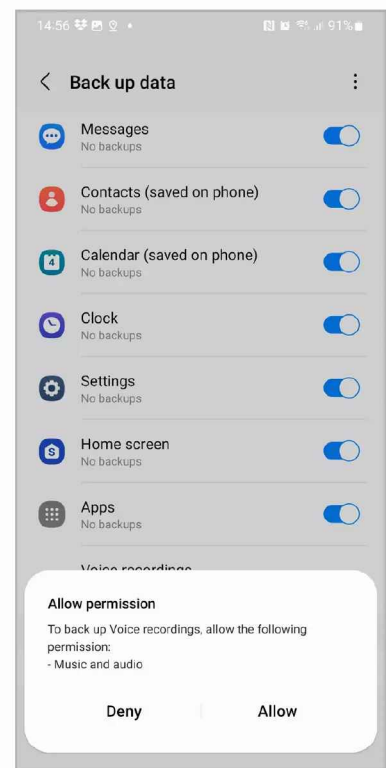
Several cloud backup options are available to Android device users. To get to them, open the Settings app and go to Accounts and Backup. From there, proceed with the following steps to back up and sync your device.



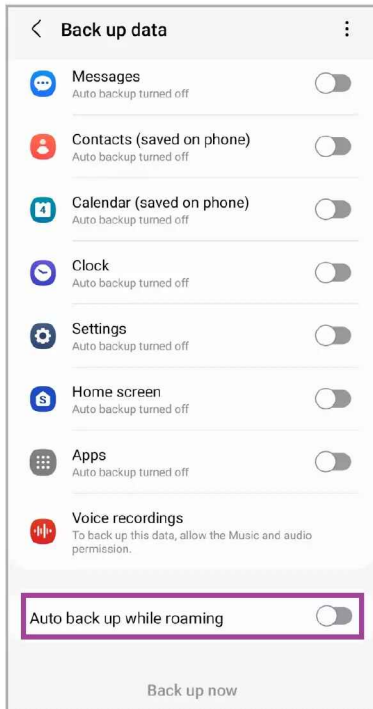
1 Open the Settings app, and go to Accounts and backup. Here you see the backup options that are available to you. In this case, we can back up to your choice of Cloud or Google Drive. We're using Samsung Cloud, which is why there's no Restore option for Google Drive.



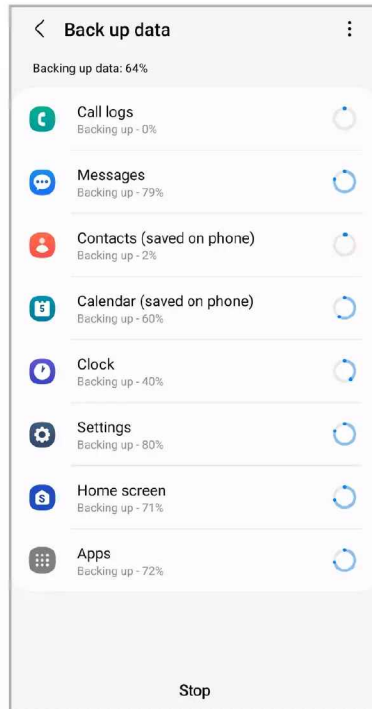
2 Tap Back up data, listed under the service you want to use. Once again, we're using Samsung Cloud. On the next screen, you're given a list of things that are optional in a backup. Switch on every item you want to include in your backup; they're off by default.



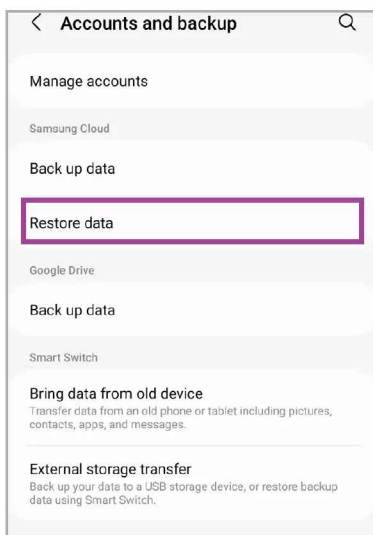
3 Some options require permissions before you can switch them on. If you have one listed, tap it and a pop-up window asks if you want to give permission for the phone to back up that particular item category. Tap Allow, and you can then switch that option on.



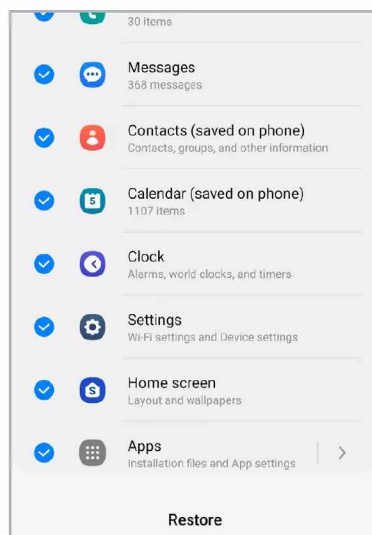
4 Scroll this screen up, and at the foot of the options list, you see an option called 'Auto back up while roaming'. Roaming charges are the additional price you might pay while using your phone abroad, and can be expensive. We suggest you leave this off.



5 When you're ready, tap the 'Back up now' link at the foot of the screen. Your Galaxy device is backed up. It takes a while first time you do it, but after that, only files that are new or have changed are copied to the cloud, so it works a lot quicker.



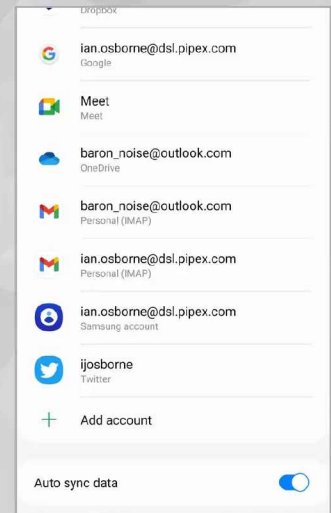
6 To restore your phone or tablet from a cloud backup that you've previously made, open the Settings app, and go to Accounts and backup. Look for the cloud service you're restoring from, and tap 'Restore data'. Review the list of backups, and choose which you want to use.



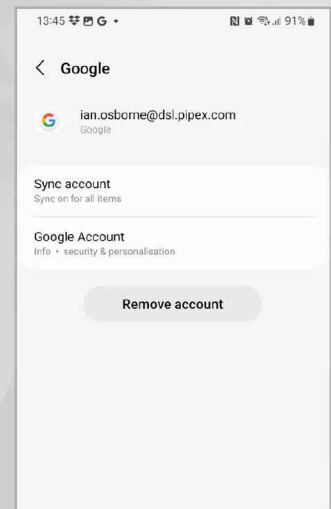
7 On the next screen, you can decide what data you want to restore. Everything's ticked by default, but if you only want to restore (say) Calendar, to retrieve an event you deleted accidentally, untick everything except the Calendar. Tap Restore at the foot of the screen.

Syncing Using the Cloud

You can also use the cloud to sync your Android devices.



➤ If you have more than one Android device, you can keep their data in sync using the cloud. That way, a note, calendar event, message and more created on one device also appears on the other. Go to Settings > Accounts and backup > Manage accounts.



➤ At the foot of the screen is a switch that lets you auto sync all data. Otherwise, tap on a category and choose what you sync. After syncing, all devices signed into your Android account are kept in sync. Tap Add account for a list of more things you can sync.

Multi-window and Smart Capture

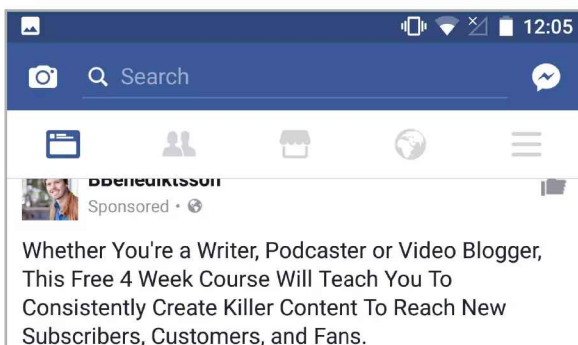
Thanks to a recent update to the Android operating system, you can run two apps side-by-side or one above the other in split-screen mode. Android device devices have had this feature for longer, but the way multi-window works on Android devices has also changed slightly. This guide looks at multi-window and then the screen capture tool, Smart Capture.

Multi-window on Android

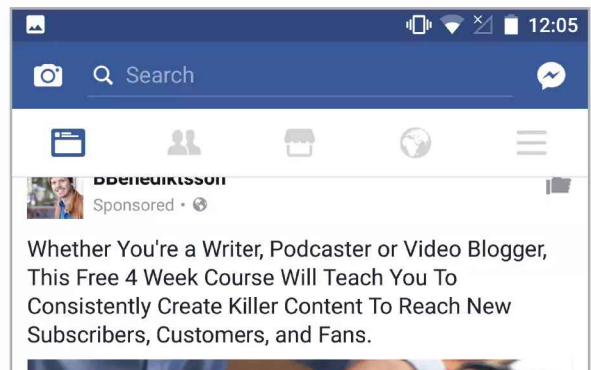
Multi-window mode on Android devices has been available for some time, and works very slightly differently to most other devices, even after updating to the latest version of Android. Here's a guide to how it works.



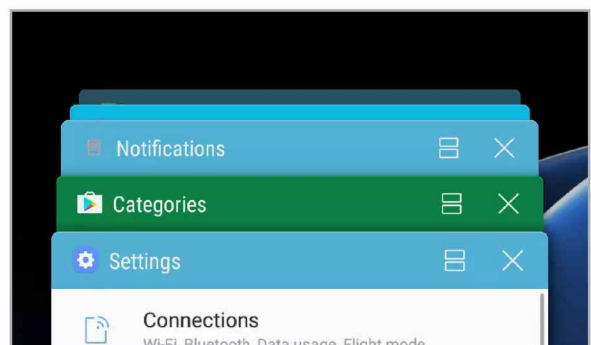
1 On your Android device, tap the Recents button to view the thumbnails of recently opened apps. On the top bar of each app thumbnail is a multi-window icon. Tap this to open the first app in the top half of the screen. You will see that the bottom half still shows Recent Apps.



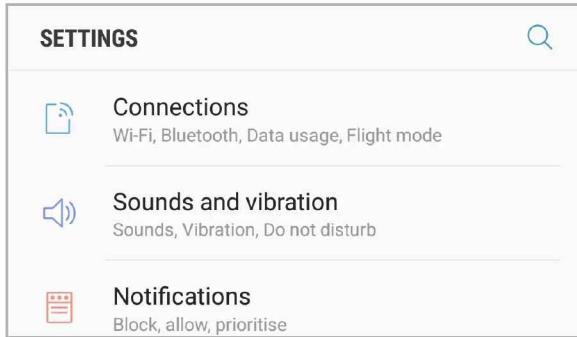
3 If you leave multi-window mode by pressing the Home button, it will stay active. A notification in the status bar will display the multi-window icon, and tapping it will switch back to the split screen view. You can cancel the split screen by tapping the X in the notification.



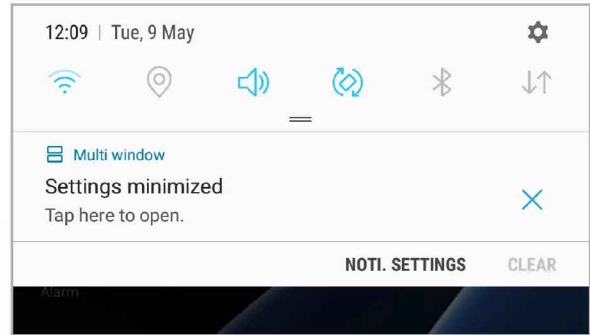
2 You can then tap the thumbnail to open an app in the bottom half of the screen. To change the ratio of the split, touch and hold on the dividing line and drag it up and down. If you drag the divider all the way up or down, you will drop out of multi-window back into single window mode.



4 You can also open an application in a pop-up window on some Android devices. To move an application to a floating pop-up window, open the application, touch a top corner of the screen and swipe diagonally toward the centre of the screen. This feature works better on tablets than phones, but may be available on both.



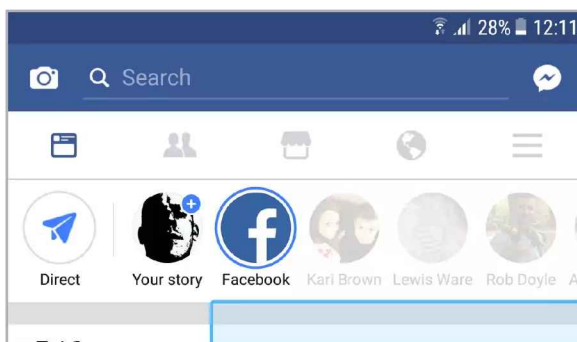
5 Touch and drag the blue outline to resize the pop-up. Touch and drag the control dot at the top of the pop-up window to move it around the screen. You can tap the arrow controls at the top of the box to change back to full screen or shrink the window down to app icon size.



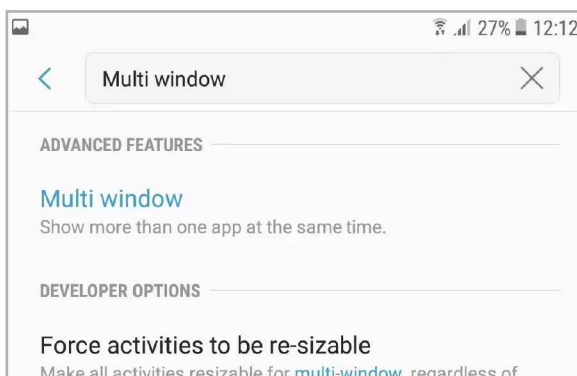
6 If you search for 'multi-window' in the settings on your Android device, you will find that there are a few options for the split screen mode. You can turn certain features on and off, and change how the mode is accessed. There is also a developer option to force apps to split screen.

Using Smart Capture

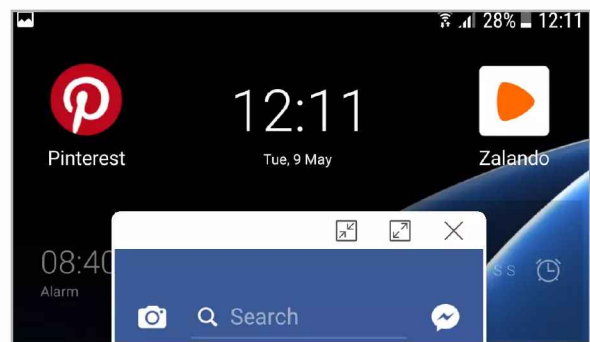
Sharing what is being displayed on your Android device screen is now easier than ever, with the addition of Smart Capture tools for most devices. Here's a guide to getting the most from Smart Capture on your Galaxy device.



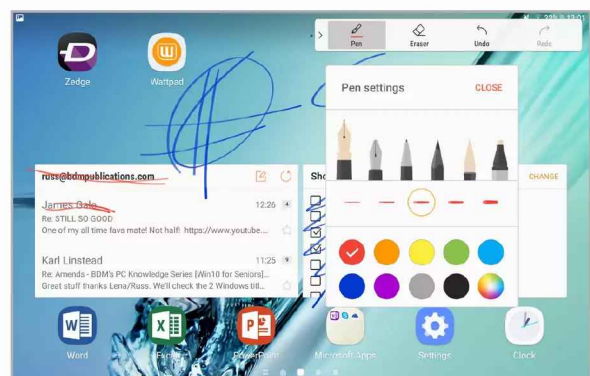
1 If you didn't already know, you can capture a screenshot of your device by pressing and holding the Home key and the Power key simultaneously. You can view captured images in Gallery. You can also capture screenshots by swiping your hand to the left or right across the screen.



3 Once activated, the Smart Capture tools appear along the bottom of the screen in a transparent bar for a few seconds each time you take a screenshot. You need to be fairly quick to choose the Smart Capture tool you want to use, so it is good to know what each tool does.



2 With Smart Capture switched on, you can capture the current screen and scrollable area. You can also immediately crop and share the captured screenshot. If this feature is not activated, open Settings > Advanced features > Smart capture and tap the switch to activate it.



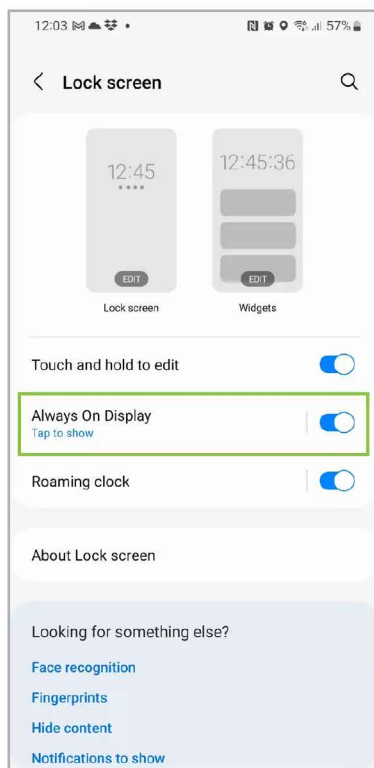
4 On the far left is Scroll Capture. Next to that is the drawing option, which brings up a selection of drawing tools, as well as crop, save and share buttons. Crop lets you trim your screenshot down immediately, rather than making you open it in Gallery. Share lets you share the image.

Always On and Display Widgets

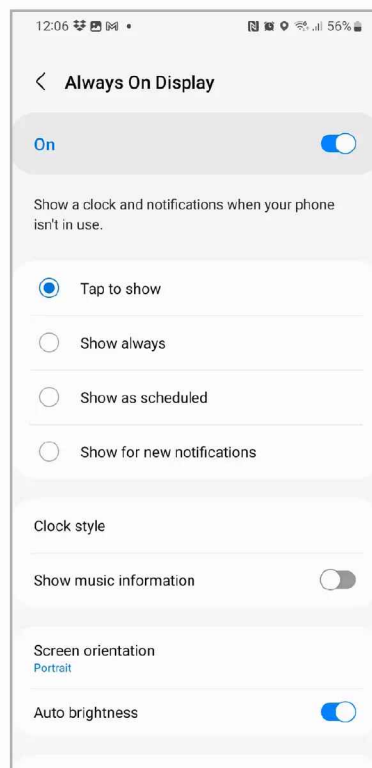
The Always On Display (AOD) feature allows users to check the time and date with ease and also keep an eye on missed calls and message alerts, even when the phone is not in use and just on standby. There's no need to tap the screen. The Always On Display can be customised to include clocks, images or calendars of different styles. Let's take a look at some of the ways you can use and adapt the Always On Display on your Android device smartphone.

Always on Display

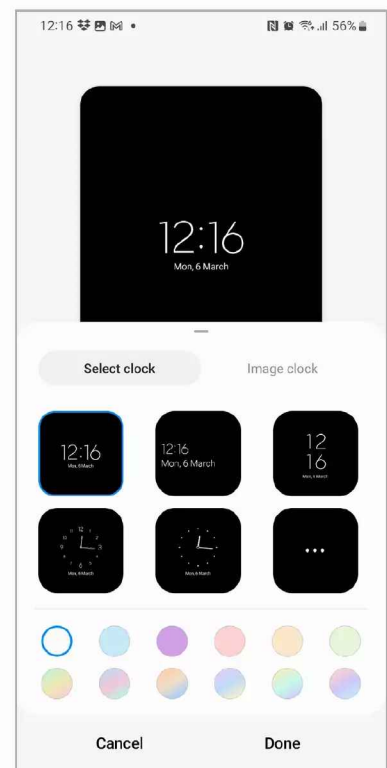
The Always on Display shows information in a very low power way, using less than one percent of your battery life per hour. If your battery power drops below five per cent, the display turns off. Here's how to set up your AOD.



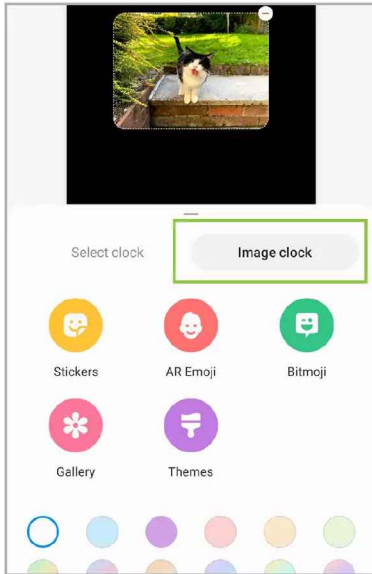
1 Head into the main Settings app on your Android device and look for the Lock Screen settings. About halfway down the list of settings you see 'Always on display'. Tap the switch to turn this option on. The lock screen is now shown even when the Galaxy device goes to sleep.



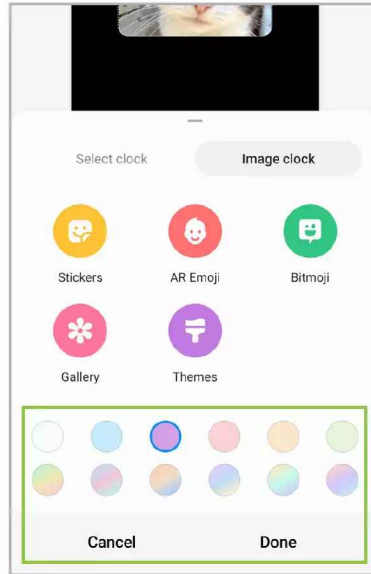
2 Tap the Always on Display option to show its settings. You can change how the Always on Display behaves, such as whether you need to tap it to show or it's shown always or according to a schedule. You can also show information about music being played on the Always on Display.



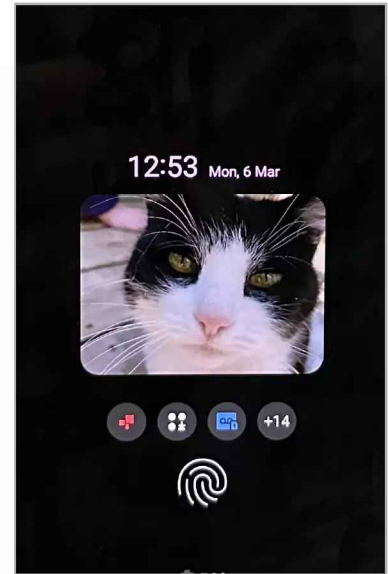
3 Tap the Clock style option and you can choose how your Android device clock is configured on your Always on Display. You can choose between a digital or analogue clock, with day and date options available too, including forthcoming Calendar events.



4 After choosing your clock, you can add a GIF or a photo if you want. Tap the Image Clock bubble, and you can then add a sticker, an AR Emoji, a Bitmoji, a picture from your Gallery or choose from a Galaxy Theme. You can use gestures to fit a picture in the frame.



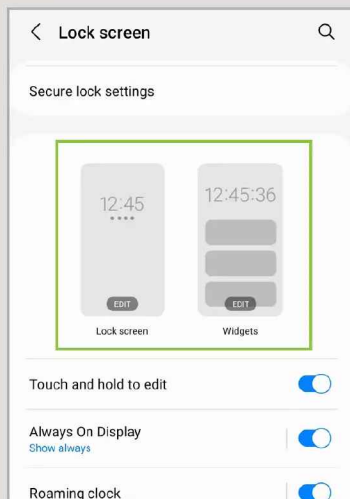
5 You can change the colour of the clock using the colour pickers lower down the screen. These can be solid colours, or a gradient involving multiple colours, depending on which colour picker you choose. As you can see in the preview atop the screen, the clock colour changes.



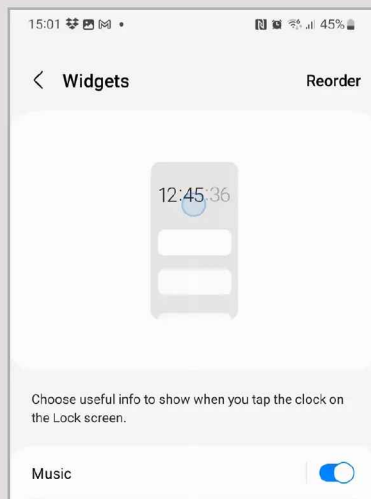
6 To save your new layout, tap the Done link in the bottom-right corner of the screen. Your settings are saved, and next time your Android device sleeps, it shows your new lock screen with your clock and if applicable, your picture in place on the always-on screen.

Display Widgets

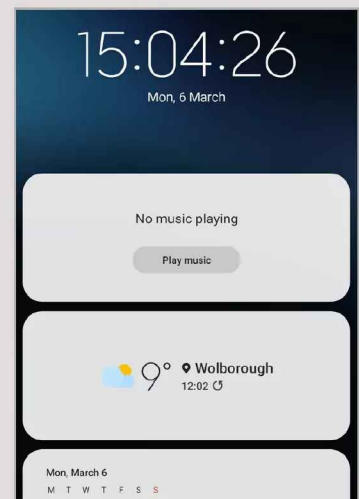
You can add and remove widgets to your always on display too, and activate them by double-tapping the clock and then swiping it down, without even unlocking your device. Here's how to go about it.



1 Open the Settings app and then tap the Lock screen option. Scroll up until you see the Lock screen and Widgets graphics. Tap the Lock screen graphic to edit what you see on the Lock screen when the phone is awake. Tap Widgets to edit Lock screen Widgets.



2 After tapping the Widgets graphic, you see this screen. You can choose which widgets to add to this screen, and which to remove – simply tap the switch next to each widget to turn them on or off. Tap Reorder (top right) and you can change the order in which they appear.



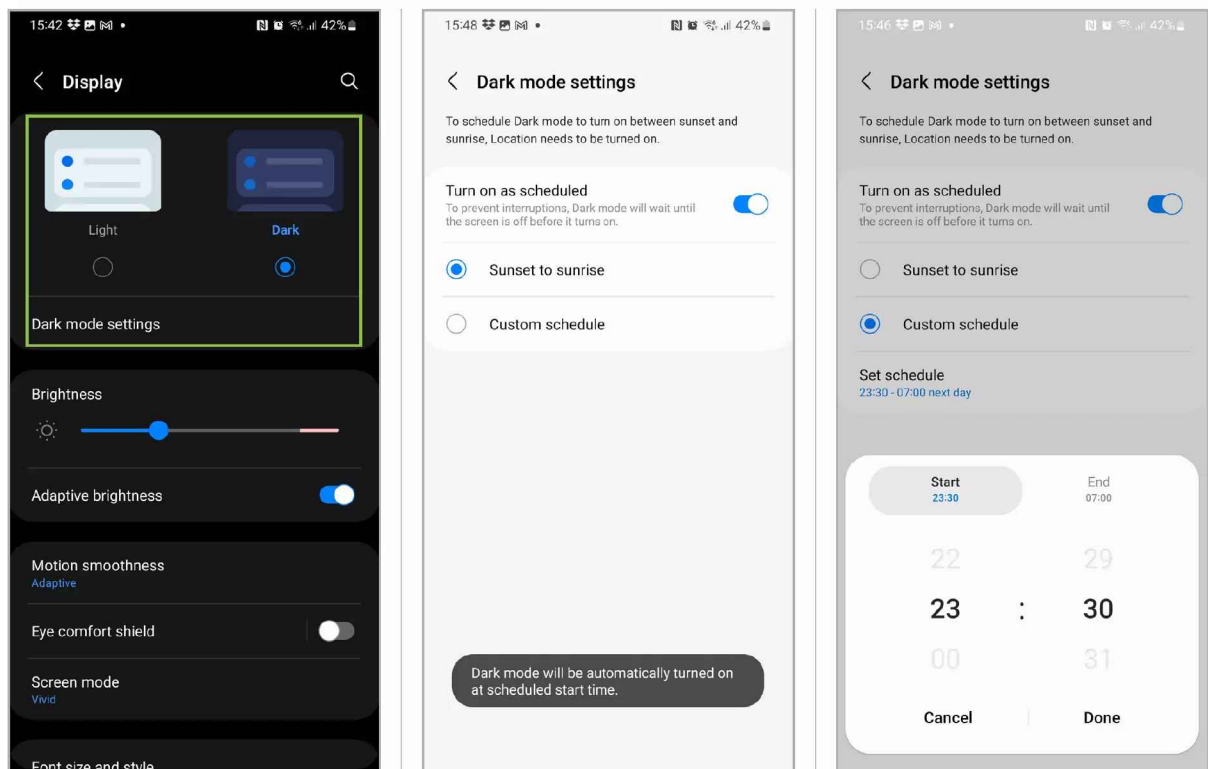
3 Now, when you're looking at the always-on screen, you can double-tap the clock and then swipe the screen down. Alternatively, on the Lock screen, simply tap the clock. You're shown the Widgets screen, with your chosen widgets on display.

Dark Mode, Blue Light and Brightness

Your Android device gives you a lot of control over your display and brightness settings. Each display option is designed for a different reason, but getting any and all of them set up to your liking makes using your Android device a much nicer experience and may even help you save some battery power. Here's a guide to setting up your screen options.

Dark Mode

Dark mode, which turns much of the interface black instead of the default white, can be scheduled to turn on and off at regular times as well as being enabled as and when you want to. This is how to do it.



1 Open the main Settings app and look for the Display settings. Here you can find the option to enable Dark mode, as well as the options to configure it. If you just want to turn Night mode on straight away, just tap the Dark graphic and you see the Settings screen change to black.

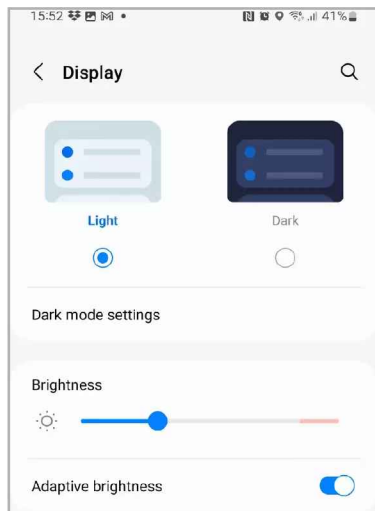
2 If you want to schedule Dark mode, tap Dark mode settings underneath the graphics. You have the choice of scheduling Dark mode for sunset to sunrise, or you can choose a custom schedule. If you choose sunset to sunrise, Location needs to be enabled to detect the right times.

3 When you choose a custom schedule, you have to pick a start time and an end time for Dark mode. Dark mode is very useful for saving battery life when combined with Adaptive Brightness, as it gets rid of most of the white on screen, which uses more power to display.

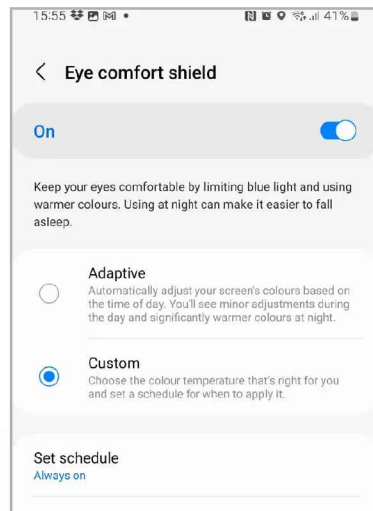


Blue Light Filter

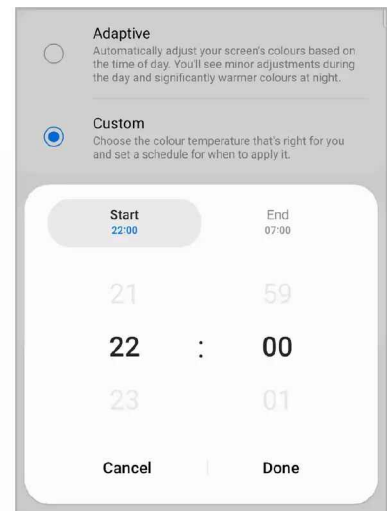
The Blue light filter is designed to help reduce eye strain and can also help to promote restful sleep.



1 Open the main Settings app and look for the Display settings. Here you can find the slider to enable the Eye comfort shield which filters the blue light from the screen, as well as the options to configure it. Tap the switch to turn it on; the screen is given a yellow tinge.



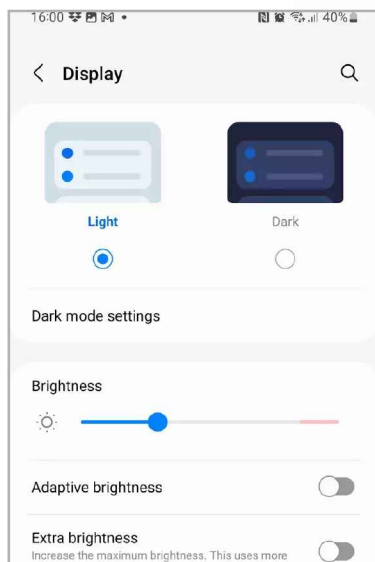
2 To change the settings of this blue light filter, tap Eye comfort shield to open its options. Adaptive reacts to current ambient light conditions, or choose Custom to set your own colour temperature with the slider that appears. This takes effect when Eye comfort shield is on.



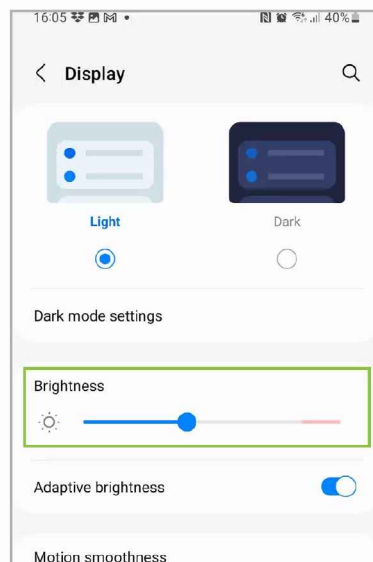
3 You can also set the Eye comfort shield to turn on as scheduled. As with the Dark mode, you can choose sunset to sunrise (if Location is on), or you can use the Time settings to choose a start and finish time for the filter that better suits how you use your mobile device.

Adaptive Brightness

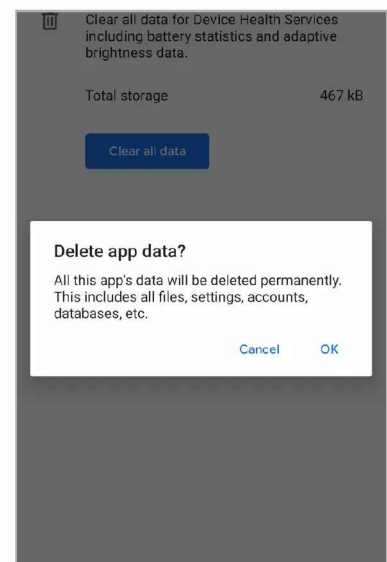
Adaptive brightness learns the brightness levels you prefer at different times and automatically adjusts.



1 Open the main Settings app and look for the Display settings. Here you will see the heading for Adaptive Brightness, along with a slider to turn it on and off. Once the feature is switched on, your screen will probably go slightly darker.



2 Go back out to the main Display settings and use the slider at the top of the screen to set your brightness to how you like it. Whenever the brightness changes automatically, you can override it using the brightness slider.



3 If you find Adaptive brightness is setting the brightness incorrectly, you can reset the usage patterns, which starts the process of learning all over again. Go to Settings > Apps > Device Health Services > Storage > Manage Storage and tap Clear all data.

Your Android Device's Camera

The camera hardware, and software, is an important feature of many people's phones. We use our phones to capture everything from Instagram selfies to the kid's school performances, so knowing how to get the best from the camera is one of the first things many users want to know.

1 Shutter Button

The job of the Shutter button is fairly obvious: to take a photo. Press the button once to take a single photo, or hold the button down to activate burst mode, which will take up to 20 photos in very quick succession. The Volume down button on your phone can also be used to take photos.

2 Settings

There are quick settings here to change aspect ratio, turn the flash on or off, set a timer, and change the photo filter. The quick settings will change depending on the camera mode (photo, video, panorama, etc.). You can also access the main camera settings from this menu.

3 Lens Select

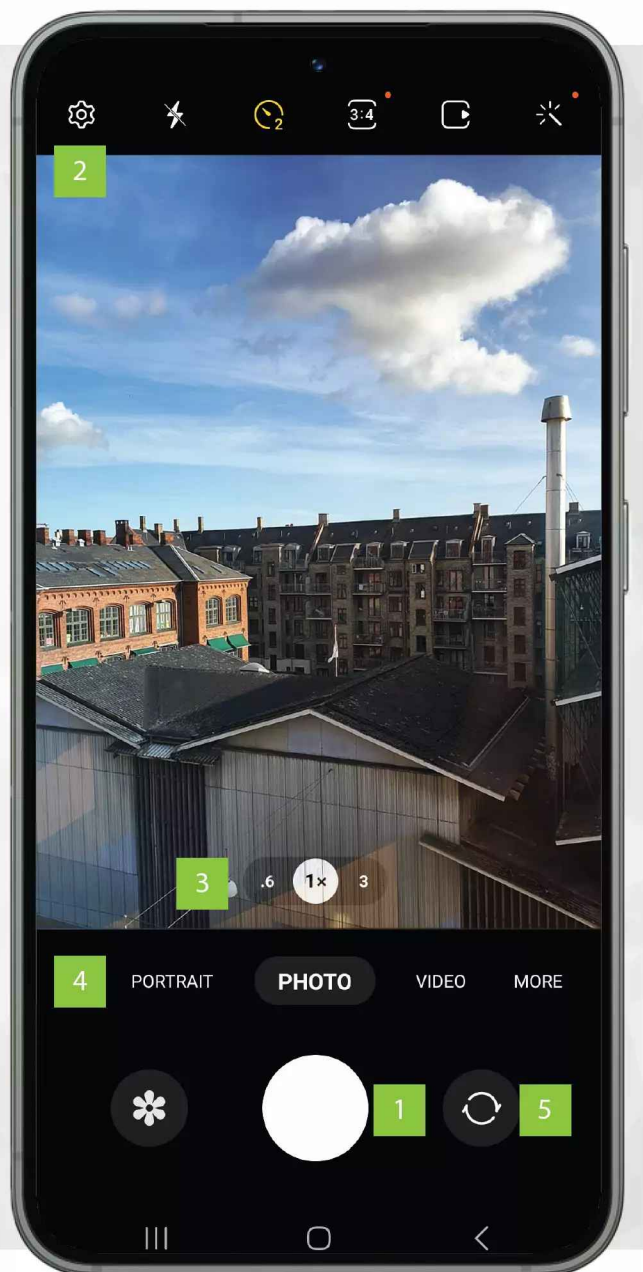
Many Android device cameras now offer the use of different lenses. This button lets you choose between Wide angle (the standard lens), Ultra-wide angle, and Telephoto (2x optical zoom). You may see slight distortion when using the Ultra-wide lens.

4 Camera Modes

The scrolling menu, just below the viewfinder window, lets you quickly switch between camera modes that include: Video, Super Slow-mo, Live focus, Professional, Panorama, Night mode, Food, and Instagram modes. Each mode has tools and options specific to it.

5 Camera Select

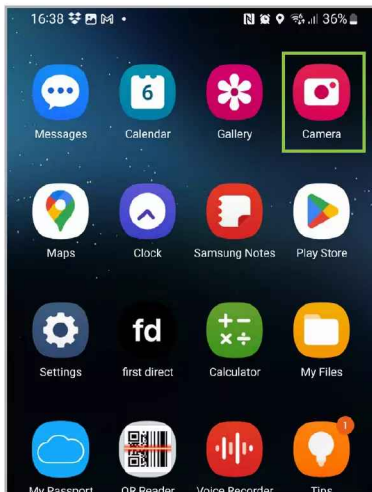
This button switches between the front and rear cameras on your phone, so you can take selfies or use the filters and effects on yourself. You can also switch between front and rear cameras by swiping a finger up the screen. The other button at the bottom opens the last photo taken in the gallery.



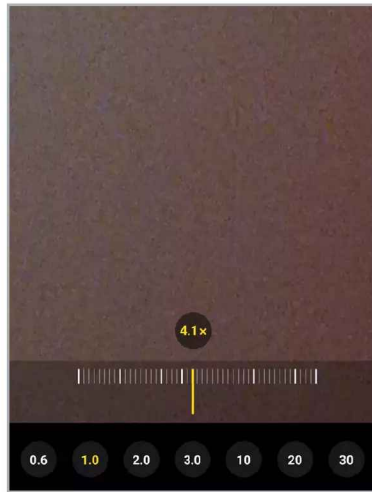


Taking Photos

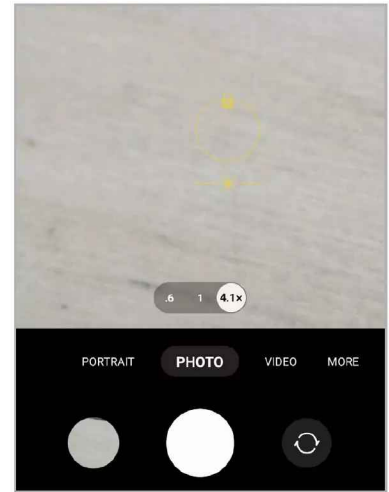
All of the newest Android device cameras have approximately the same features, and work in very similar ways.



1 You can open the camera in a couple of different ways. To use the camera without unlocking your phone, you can drag the lock screen Camera button to the middle. You can also double-press the side button to quickly open the camera app. On an unlocked phone, tap the Camera icon found on the Home screen.



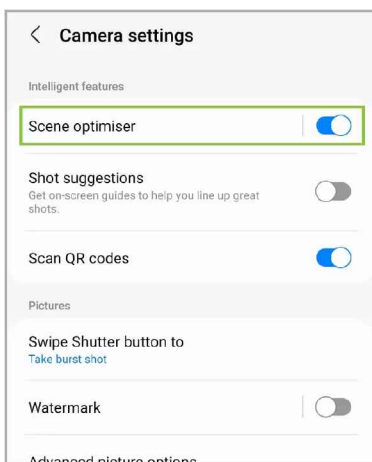
2 Tap the image on the preview screen for where the camera should focus. To use the digital zoom, spread two fingers apart on the screen to zoom in, and pinch to zoom out. You can also drag the Lens selection icon (at the bottom) left or right to zoom in and out. You can only zoom when using the rear camera.



3 You can adjust the brightness by double-tapping the screen and, when you see the adjustment bar, place and drag your finger left or right. When everything is set up to your liking, tap the circular Shutter button to take the photo. If you hold the button, you will take a burst shot of up to 20 images in a second or two.

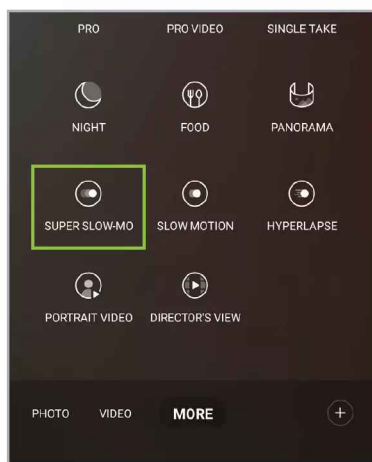
Android Camera Modes

The camera and camera software vary between Android devices, but they're all similar to the one shown here.



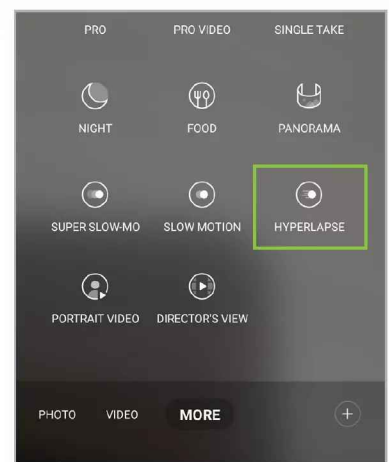
Scene Optimiser

> The Scene Optimiser is now turned on or off in the camera settings (top left). It allows the camera to adjust the colour settings and apply optimised effects automatically by recognising the subject. For example, if it recognises food it uses a different colour profile than when it recognises a face.



Super Slow-mo

> Super slow motion is a feature that records a quickly passing moment slowly, so that you can appreciate it more easily later. After the video is recorded, background music will be added automatically. To access it, turn the Camera Modes slider to More, and tap the icon.



Hyperlapse Mode

This camera mode allows you to record scenes, such as passing people, animals or cars, and view them as fast-motion videos. Depending on lighting conditions, this can work really well at night. If you set the frame rate to Auto, the device automatically adjusts the frame rate accordingly.

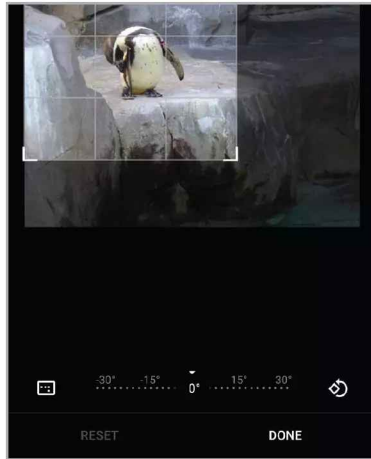
Android Camera Tips and Tricks

Cameras on Android smartphones vary greatly in terms of features and image quality. However, photos taken with even fairly basic Android cameras can usually be improved by following some simple rules.



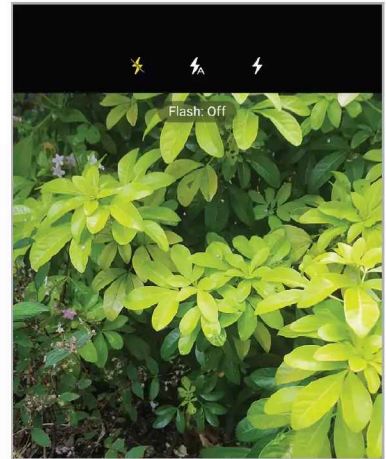
Clean the Lens

The app gives you much greater control over the auto-focus settings, allowing you to choose from several different modes. These include Auto-focus, Manual-focus, Macro (for close up shots), Face detection focus, Touch focus and even Infinity focus, which is usually found on high end cameras.



Don't Zoom, Crop!

On most Android phones, the only way to zoom is to use the digital zoom. Digital zoom works by increasing the size of the pixels on screen to make the image larger. Increase the pixel size and you always lose image quality. It is better to crop the focus of the image in a wider shot without zoom.



Turn Flash Off

If you are in the pitch black, outside, using the flash is probably unavoidable but if you have other lighting options, it is usually better to use them, rather than using the flash. Camera flashes are getting better but still often result in harsh, washed out images.

High Dynamic Range

HDR or High Dynamic Range, is becoming a standard feature on more smartphone cameras and, when used correctly, can really help to improve photos. HDR mode captures three different versions of a single shot, at low, standard and high exposure. These images are then automatically stacked to create a single image that is hopefully closer to what the human eye sees.

That said, there are certain situations where HDR will produce better results than others and it is worth remembering that just enabling HDR will not save a badly taken photograph.

Use HDR for:

1. Landscapes. HDR mode is perfect for images of landscapes and nature scenes. You should notice bluer skies and richer details in trees, plants and buildings.
2. Direct sunlight. For those situations where the sun is right behind the subject you're shooting and there's no way around it.

Don't use HDR for:

1. Action shots. It is very hard to take a good HDR image of moving objects. Moving subjects will usually just result in a blurred composite image.
2. Portraits. Using HDR for portrait images can sometimes result in too much detail. A slightly softer edge is often preferable for photos of people.





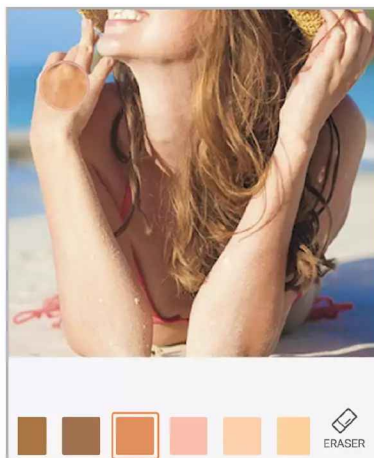
AirBrush: Easy Photo Editor

AirBrush won't help you take better photos but it certainly can help you to improve the photos you have already taken. It includes loads of airbrushing tools, including these.



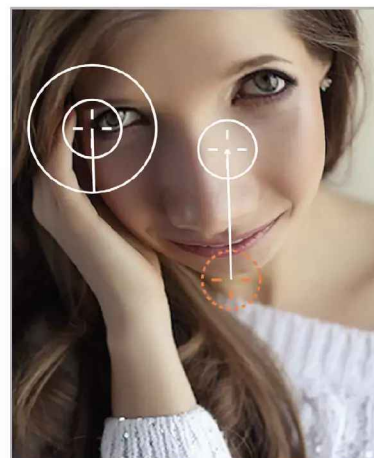
Blemish

Remove annoying acne or spots from your photos. Zoom in on the blemish and tap and hold on screen. Move your finger to highlight the spot and then lift your finger off. The blemish should disappear, or at least lighten. You can repeat the action for stubborn blemishes.



Skin Tone

Choose a skin tone you desire from the palette at the bottom and then tap and hold on the image. Rub your finger over the photo to gradually change the skin tone closer to the colour you chose. You can be quite bold with your rubbing, as the app is clever enough to avoid non-skin areas.



Reshape

Reshape does what it says, letting you reshape objects in a photo. That could be a waist, nose, even a group of balloons. Open a photo and tap next to the edge you want to reshape (beside the waist, for example) and then drag your finger in the direction you want to reshape. Easy!

Adding a Clip-on Lens

A simple way to improve your camera's capabilities is to add a clip-on lens. These can be bought fairly cheaply (although you can spend quite a lot if you wish) and let you take different types of photos.



Olixar Lens Kit

Enhance your smartphone and tablet photography with this universal 3-in-1 lens kit. Combines fisheye, wide-angle and macro lenses and is unique in that it does not require a special case or adapter. Simply use the clip to attach over the existing camera on your smartphone for immediate results.



10x Macro Lens

The Macro lens allows you to achieve shots that are extremely close to an object, great for taking shots of small items to view every last detail up close. With a bit of practice, this lens can give you some really interesting and unique images of even everyday items you find laying around.



Wide Angle Lens

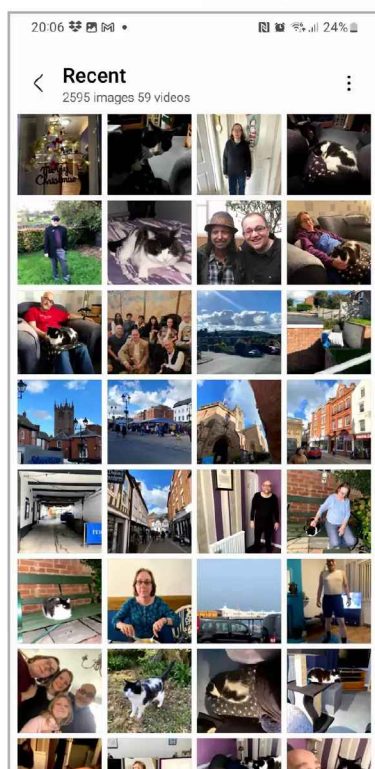
Perfect for capturing more of the world around you, allowing you to take photos of landscapes and group photos far easier than ever. Think of the wide angle shot as something between standard and panoramic, letting you capture more of a subject, without creating a huge image.

Editing Images in the Gallery App

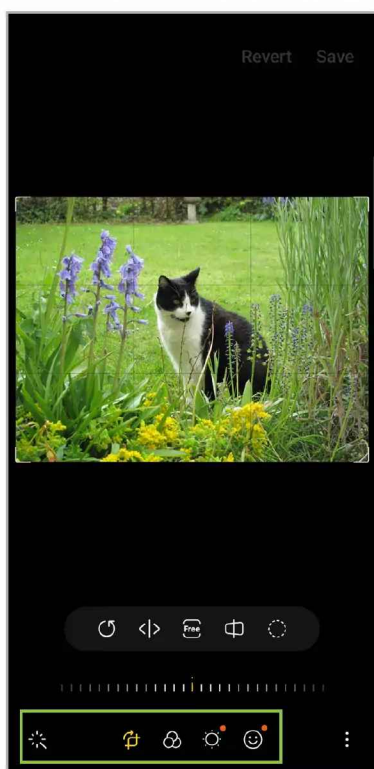
The Gallery app on your Android device is not only useful for viewing all of your photos, images and picture downloads. Gallery also includes a photo editing tool that allows you to adjust the quality of your images after you have taken them and even add fun effects and decorative stickers. We're using the latest version of the Gallery app, so if you haven't updated in a while, these tools might differ a little from what you see here.

Adjust and Improve Images

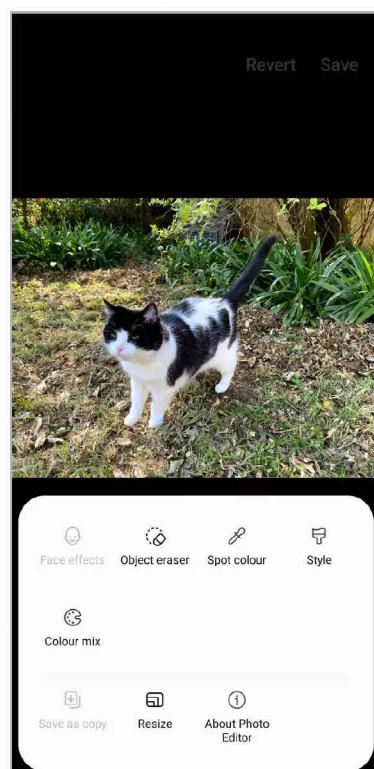
There are lots of third-party image editing apps, but the tools built in to the Gallery app can do a very good job of helping you improve your images. Here's a guide to getting you started in the Gallery editing tools on your device.



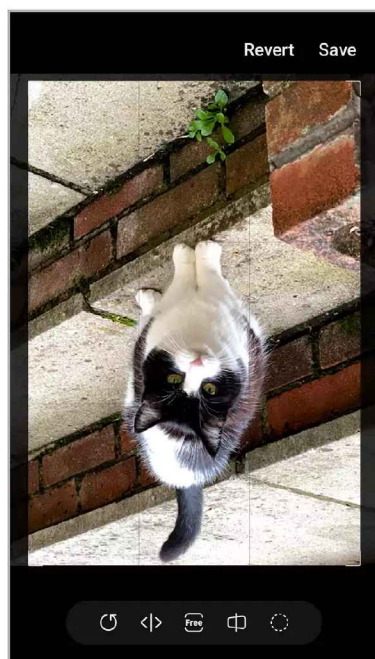
1 Open the Gallery app and find the image you want to edit. The app automatically sorts images depending on their source: photos from the camera, downloads, WhatsApp images, etc. Tap the image to open it on screen and to see the first set of edit options in Gallery.



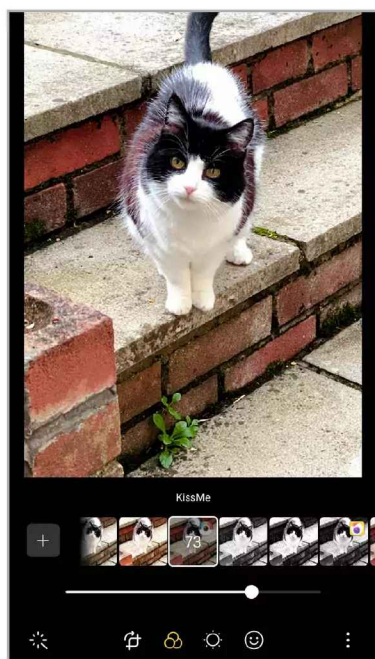
2 To open the editing tools, tap the pencil icon under the photo. The basic tools (along the bottom) are, from left to right: Auto Enhance, Crop/Rotate, Effects, Brightness and Exposure, Add Stickers/ Add Text/Draw. Tap one of these to open an additional set of options above them.



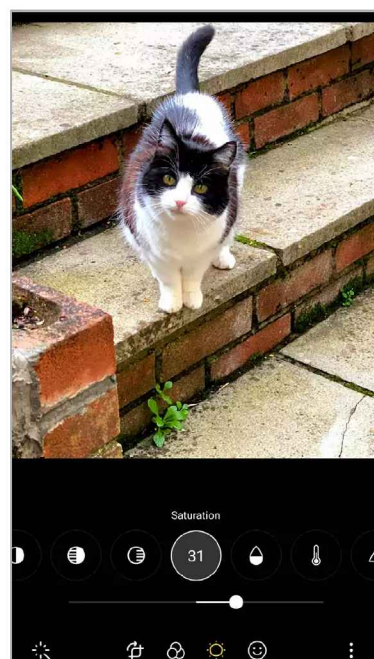
3 Tap the three-dots icon (bottom left) to open a window that makes a few more options available. These give you Face effects, which let you improve skin tones, an object eraser to get rid of unwanted items in the picture, style filters for all sorts of picture effects and more.



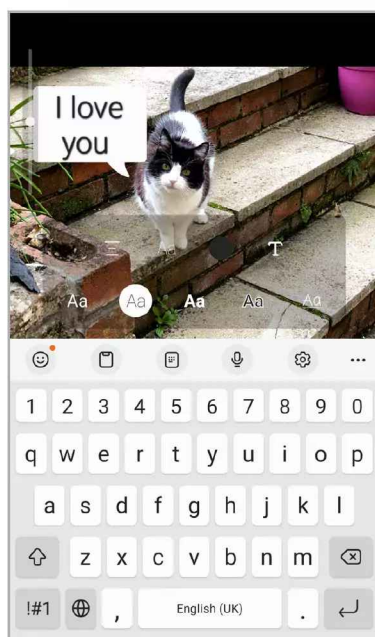
4 The Transform tools give the option to crop the image down to a better size; also you can rotate the image, flip it vertically, crop it to a specific aspect ratio (16:9, etc.) and change the perspective. Each tool offers additional options, sliders or selections, to allow for fine tuning the effect.



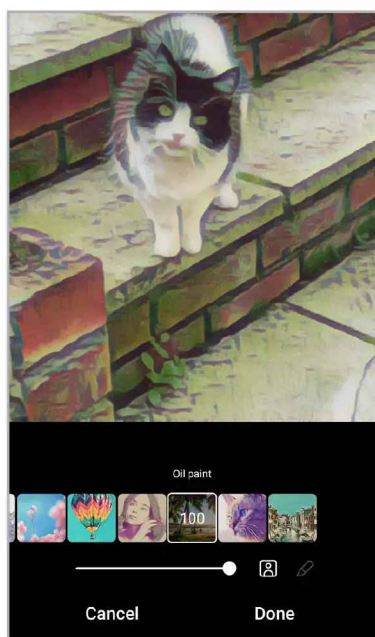
5 The Effects tool offers a quick and simple way to alter the colour or style of the whole image. Simply select the effect from the scrolling bar along the bottom to see it on the image. You can then fine-tune the effect by tiny increments, using the slider bar.



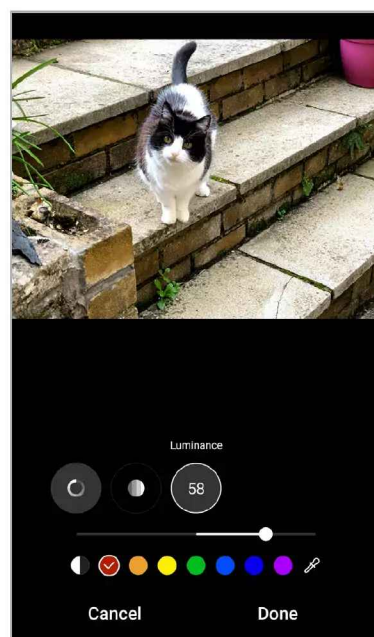
6 The Tone tools let you adjust, with an impressive level control, things like brightness, exposure, contrast and hue. Unless you're a photographer, you might not understand what all of these do, but experimenting is great fun. You can always undo the changes.



7 The Decoration tools are perhaps the most fun to play around with, and more about adding to the image than making corrections. You can paste your own images over the top of the main one, add fun stickers, add labels and add a blurred or pixelated area on the image.



8 Tap the three-dots icon and choose the Style option and you can give your picture a whole new appearance. Just drag the slider left and right to switch between them. You can make your photo look like a pencil drawing, a comic, a watercolour, a pastel pic and more.



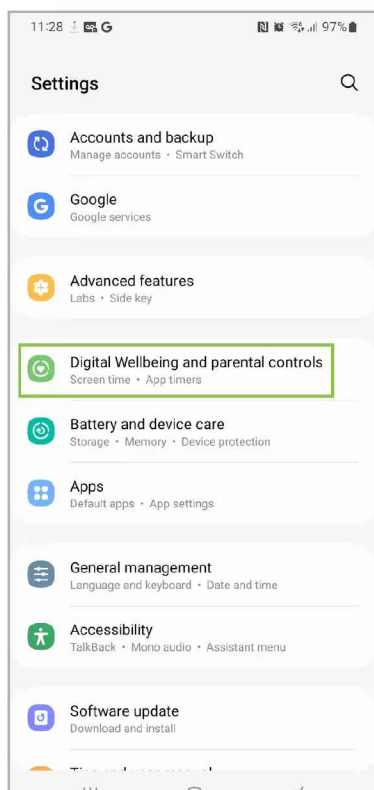
9 Using the Colour mix tool (again from the three-dots menu) you can change the Hue, Saturation and Luminance of each individual colour in your picture. It's too red? No problem – tone it down. The greens look washed out? Simply use the slider to boost their colour.

Digital Wellbeing with Android

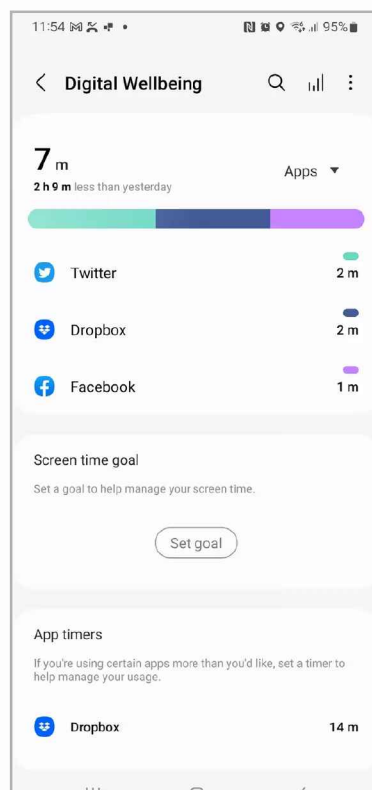
Are you spending too much time on your phone or tablet? Digital Wellbeing is a way for users to easily identify how much they are using their device, how much time they spend on different apps, and if they feel it's necessary, ways to reduce that usage or make it less intrusive to their lives. Here's how you can take control of your digital wellbeing on your Android device, quickly and easily.

Digital Wellbeing

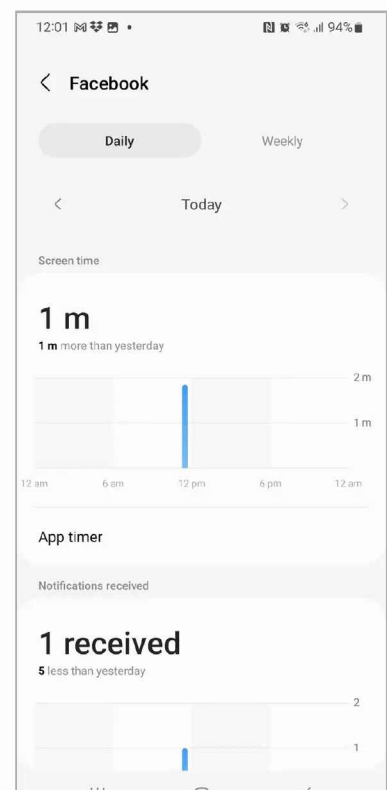
When you've set it up, Digital Wellbeing is a great tool for helping you to keep control over your digital life. At last, you have a tool to keep tabs on your online activity, and help you reduce your social media use if you see fit.



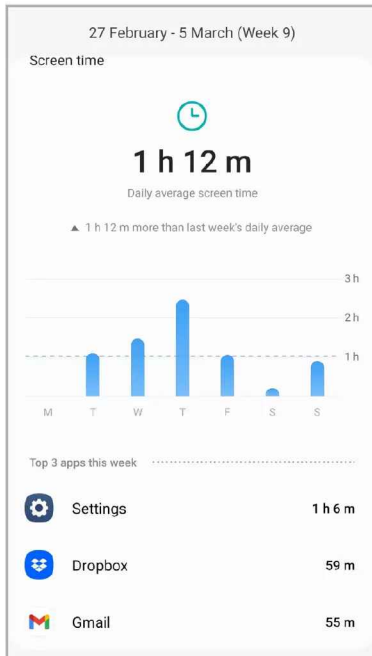
1 The Digital Wellbeing settings and controls are found in the main settings of your Android device, where it has a section with the parental controls. If you've also installed the Digital Wellbeing app from Google, you can find this in the main app drawer of your phone or tablet.



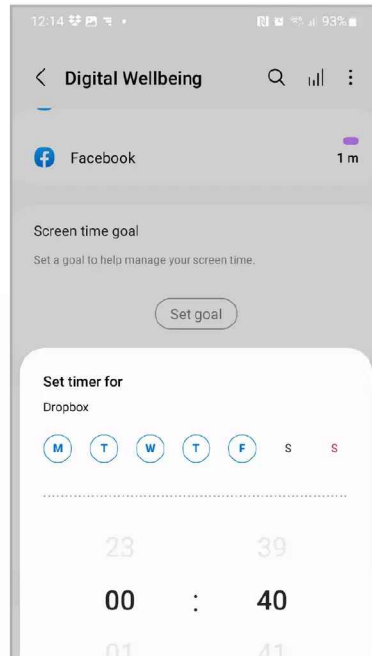
2 Open Digital Wellbeing and you immediately see a bar chart showing the total time spent on your device, broken up into sections that identify individual apps (Facebook, Google Play Store, and so on). You can tap the time in the centre to see a weekly chart of your usage.



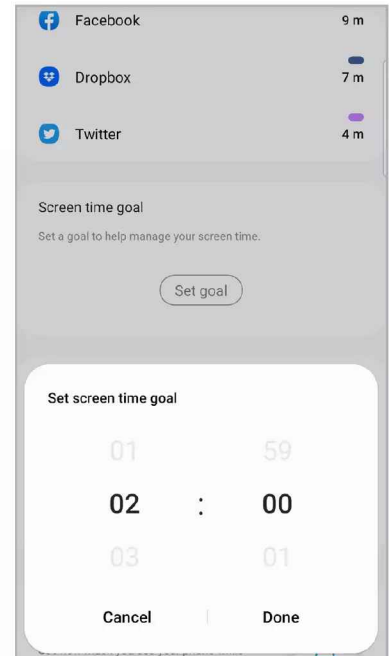
3 Tap any of the app names and you can see a daily or weekly chart of your usage. At the top of these charts, you see 'Screen time', 'Notifications received' or 'Times opened', and see different usage information. The info displayed here varies depending on the app.



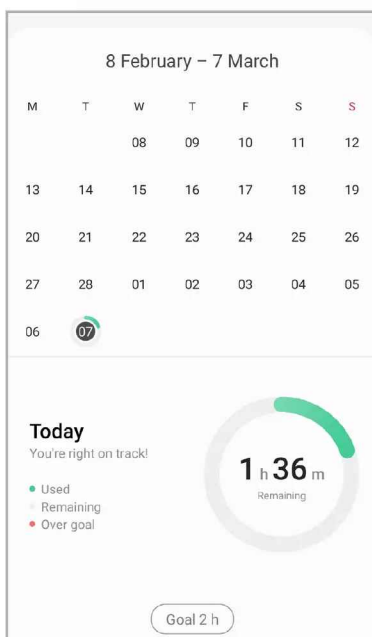
4 On the main Digital Wellbeing dashboard, tap the bar graphs icon (top right) you see a weekly report, where you're shown your average screen time over the last week, a comparison with last week's time and the three apps you used the most, along with for how long you used them.



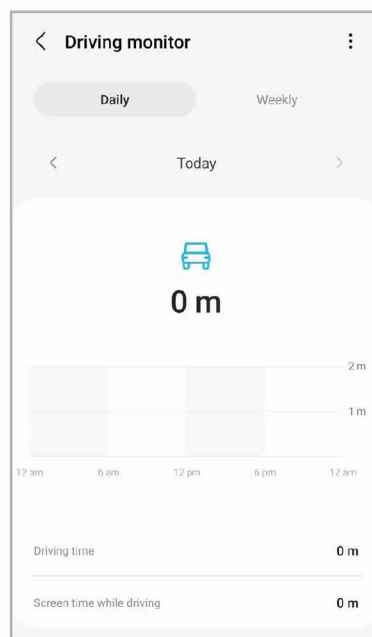
5 If you think you are using an app or app category too much, set a timer for it. On the main Digital Wellbeing page, scroll to App Timers and tap an app for which you want to set a timer. Set the maximum time for the app, and tap any days of the week you don't wish to restrict it for.



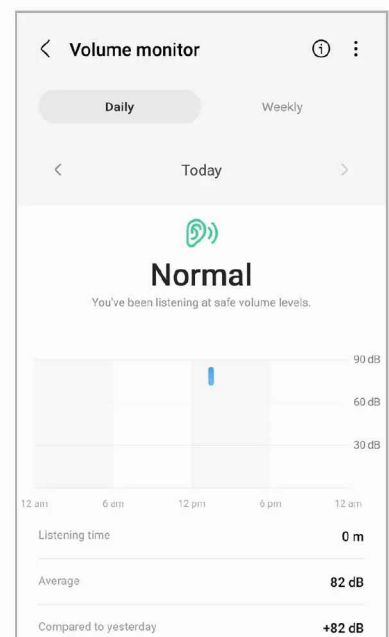
6 If you want to restrict the time you're spending per day on the phone or tablet rather than on a per-app basis, set a Screen time goal. On the main Digital Wellbeing page, tap the Set goal button, and then use the wheels to set to how long you want to restrict your device usage.



7 Now, on the main Digital Wellbeing page, the Screen time goal you set is shown. You can see how much time remains, and how much time you set overall. Tap this and you see a more detailed screen, showing this information and a calendar with how well you did on each day.



8 Scroll the main Digital Wellbeing page up to see the Driving monitor option. Tap it, and you can Monitor your screen time while connected to your car's Bluetooth and see which apps you're using the most (exclude apps such as those you use for navigation).



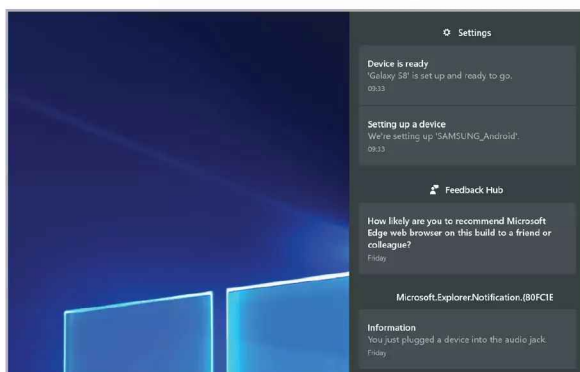
9 Further down the main Digital Wellbeing page, you see the Volume monitor. This is useful for keeping your ears safe from over-loud music. With your earbuds or earphones connected, open this section to see how loud your music is and whether this is problematic.

Transferring Files to Your Device

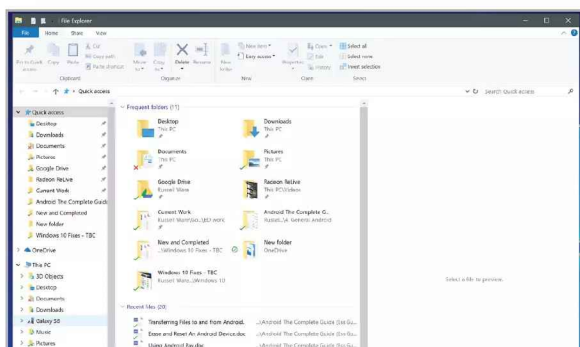
Your amazing Android phone or tablet is really just a tiny computer, so many of the file types that work on your PC can also be used on your mobile device. Transferring files to or from your PC with your device can be as easy as plugging in a data cable and then copy and pasting. However, there are several other ways of sharing files if this option is not available.

Transferring Files with a USB Cable

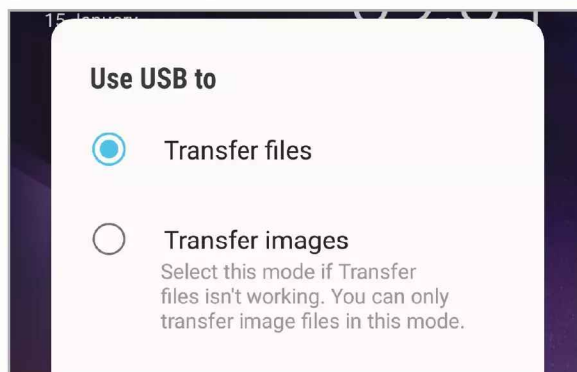
The USB cable that you use to charge your phone or tablet can also be used to transfer files between the device and a computer. Here's how to connect your mobile device to your PC and exchange files between them.



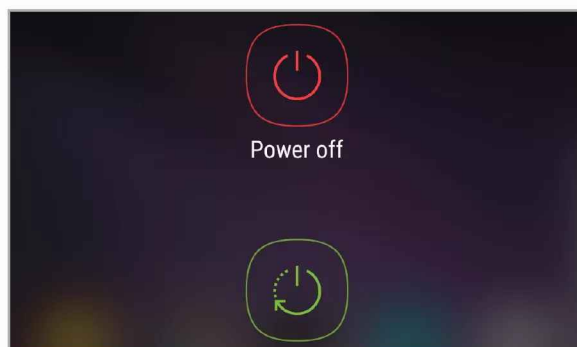
1 Connect the USB cable to your device and to a spare USB port on your PC. You may see a notification on your computer telling you that a device is being installed (USB drivers being added). Unlock your phone or tablet and check the notifications panel to see a 'Use USB for...' notification.



3 You will see various folders in whichever storage section you choose. You can now copy and paste or drag and drop files from your computer to the relevant folders on your device. For example, Music files placed in the Music folder will automatically be found by your music app on the device.



2 Select the Transfer files option and then open the File Explorer on your PC. You should now see your device listed (Galaxy S8, for example) in the This PC section of the window. Click on the device name and select either the internal storage or the MicroSD card, if you have one.



4 If you are having problems with this process, try the following: check your computer's settings to make sure that Windows automatically detects new hardware. Restart your computer and restart your device. Try a different USB cable and then try a different USB port on your PC.



Connecting Bluetooth Devices

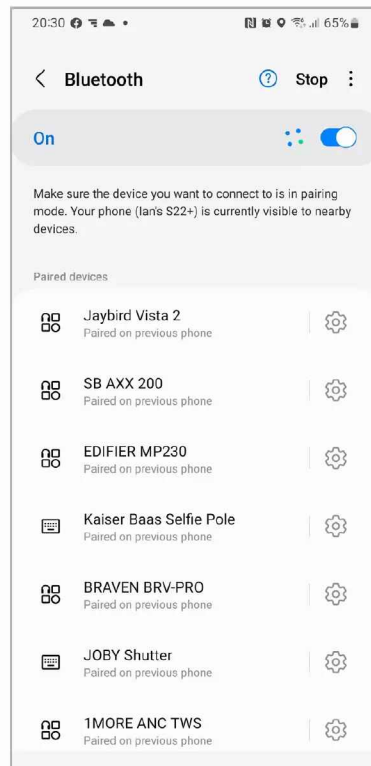
The rise in popularity and availability of Bluetooth headphones is another step towards a wire-free life and if you don't already have a pair, you probably will in the near future. Knowing how to connect Bluetooth headphones (and other Bluetooth peripherals) quickly and easily, to your Android device, is essential if you want hassle-free listening.

Pairing Your Headphones

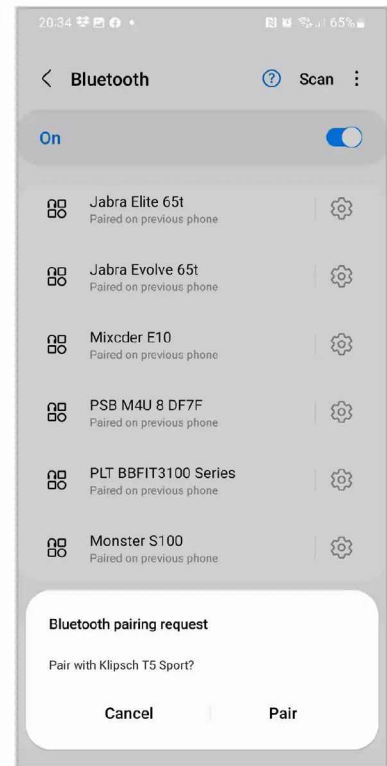
Before you can connect your headphones, speaker or other peripherals to your Android device, you need to allow the devices to connect to each other. This is called 'Pairing'. Here's a guide to doing exactly that.



1 With your Bluetooth device fully charged, turn it (or them) on, then put it/them into pairing mode (see the device's instructions if you're unsure how). You probably need to press a button for a few seconds, and normally, a blinking LED light shows the device is ready to pair.



2 Now, on your Android device, head into Settings > Connections and tap Bluetooth; make sure it's switched on. Your Galaxy automatically scans for available Bluetooth devices within range, and should soon display the name of your own Bluetooth device.



3 Tap the name of your device in the list of Bluetooth devices, and tap Pair when you see the pairing request. Once you are paired, tap the name of the device again to connect. You can change what types of audio the connected device is used for by tapping the Gear icon.

The Ultimate Jargon Buster

Avoid tech confusion, either when reading this guide or when talking to friends, with this glossary of technology terms and phrases. We have looked across the tech borders to bring to you the definitive jargon buster, and we firmly believe it should help you to understand the common terms people use when talking about their devices and their software.

0–9

3G/4G

The third and fourth generation of mobile data networking.

5G

The fifth generation of mobile data networking offers increased speed when transferring data on the go but it is still in its early stages of adoption by mobile phone networks.

A...

A/D Converter

An in-built converter that changes the analogue signal from a digital camera sensor into digital values.

Accessibility

A series of tools and features in Settings designed to make Apple devices easier to use for those with disabilities.

Active layer

The layer currently selected in the Layers panel.

Activity

An Apple app that records calories expended, exercise minutes, and standing time.

Adjustment layer

A layer used to experiment with color and tonal adjustments without permanently changing pixel values.

Adobe RGB

A color space profile created by Adobe Systems that provides a large gamut of colors.

Ad Blocker

Ad blockers, often browser extensions, block ads and tracking scripts for faster, safer browsing. They improve page load times, reduce data usage, and enhance privacy.

ADSL

A means of connecting to the Internet through a telephone line.

AE Lock

A function enabling a photographer to take and hold a light meter

reading from a specific area while composing an image.

AGP

A high-speed channel for attaching video or graphics cards to a motherboard.

Airplane Mode

A setting that turns off all incoming and outgoing wireless signals (data, Bluetooth, and Wi-Fi) on an Apple device.

AI (Artificial Intelligence)

AI enables machines to mimic human thinking, learning, and problem-solving by analysing data and adapting over time.

AirPlay

A wireless protocol for streaming audio and video from an Apple device to compatible speakers or Apple TV.

AirPods

Apple's in-ear Bluetooth earbuds that automatically pair across synced devices.

Algorithm

A set of instructions for a programme.

Aliasing

Jagged edges on diagonal lines or arcs caused by pixels lining up in a saw-tooth pattern.

Alpha channels

Masks in Photoshop used to manipulate, isolate, and protect specific parts of an image.

AMOLED (Active-matrix organic light-emitting diode) A display technology used in mobile devices and cameras that consumes less power than LCD.

Android

Android, a Google-created mobile operating system, powers smartphones and tablets from various brands.

Anti-aliasing

The smoothing of jagged edges in digital images by averaging colors at a boundary.

Antivirus Software

Antivirus software scans for and

removes harmful files, viruses, and malware.

Aperture

A movable circular iris behind the camera lens that controls the amount of light falling on the sensor.

Aperture Priority

A semi-manual exposure option where the user sets the aperture and the camera sets the shutter speed.

App

Short for "application"; a program used on iOS devices and Apple Watch.

App (Programming)

An application designed to execute on a small, handheld device.

App Store

A digital storefront or platform for downloading free and paid programs using an Apple ID.

Apple ID

A registered email and password required for Apple applications and features.

Apple Pay

A contactless payment feature using stored credit or debit card information.

Application

A program or suite of programs with a defined function.

Argument

A value or reference to a value passed to a function.

Array

An ordered sequence of same-typed values accessed by their numerical index.

Artefact (Photography)

Unexpected changes or angular blocks in an image caused by incorrect settings, processing, or data loss during compression.

Aspect ratio

The ratio of an image's width to its height.

ATX

A motherboard form factor speci-

fication developed by Intel in 1995.

Augmented Reality (AR)

Augmented reality adds digital elements to the real world when viewed through a compatible hardware, for example a smartphone camera.

Autofocus

A system to automatically focus a lens, typically using contrast detection or phase detection.

B...

Back End

The server side of an application providing functionality, inaccessible to users.

Background layer

The bottom-most, usually locked layer in an image containing the primary data.

Backlight

Light coming from a source behind the photographed subject, often resulting in a dark silhouette if not adjusted.

Back-side illumination

A sensor design method where wires are placed on the back of the chip to increase the light-collecting area.

Bandwidth

The amount of data that can be sent through a network or modem connection, usually measured in bits.

Barrel distortion

A lens effect, usually with wide-angle lenses, where an image appears slightly spherized or curved at the edges.

Batch processing

Performing one or more tasks on a group of files simultaneously.

BIOS

A program preinstalled on computers used for startup.

Biometric Security

A security feature authenticating users, such as facial recognition or fingerprint scanners unlocking phones.

Bit depth

The number of colors used to represent a pixel (e.g., 8-bit equals 256 colors).

Bitmap image

An image consisting of rows and columns of pixels, also called a raster image.

Bits per channel

Determines how many tones each color channel in an image can contain.

Blending mode

A feature controlling how pixels are affected by editing tools or how layers blend with those beneath them.

Blockchain

Blockchain is a distributed network system for recording transactional data, ensuring immutability and transparency.

Blu-ray Drive

An optical disc drive capable of reading Blu-ray discs.

Bluetooth

A wireless technology used to link and exchange data within a range of approximately 8 meters.

Boolean

A data type for yes/no or true/false values.

Boot

The process of turning on a computer and loading startup instructions.

Boot Disc

A disk (usually an internal hard drive) that a computer can start up from.

Bracketing

Taking the same shot multiple times at different exposures to increase the chance of obtaining an ideally exposed image.

Broadband

Wide bandwidth, fast Internet data transmission, as opposed to older dial-up services.

Brush preset

A brush in Photoshop with preset settings for thickness, size, and style.

Bug

A coding error disrupting a website or application's normal operation.

Burning

The selective darkening of a specific part of an image.

Burst mode

A camera feature that takes several images in rapid succession.

Bus

A communication system that

transfers data between computer components.

C...

Cache

A component that stores data so future requests for that data can be served faster.

Camera raw format

Data exactly as captured by a camera sensor without in-camera processing.

Canvas

The workspace around an existing image within the image window.

Case

Also known as the chassis or tower; the computer enclosure with a style determined by motherboard size.

CCD

The light sensor behind a camera lens consisting of millions of tiny light sensors (pixels).

CD-ROM

A pre-pressed optical disc containing data or music.

Centre-weighted metering

A system where the camera takes an average light reading from the whole frame but prioritizes the center.

Channel

A construct describing color data; for example, an RGB image has three channels.

Charger

The USB cable used to charge a device.

Chip

A miniaturized electronic circuit manufactured on a semiconductor substrate.

Chipset A group of integrated circuits designed to work together.

Chromatic aberration

Colored fringes appearing around objects toward the edges of a frame due to light wavelengths focusing at different distances.

Class

A set of objects with the same behavior or a template defining such a set.

Clipboard

A temporary holding area for data stored with Cut or Copy commands.

Clock Cycle

One increment of the CPU clock during which the smallest unit of processor activity is performed.

Clock Speed

The speed of a processor measured in hertz (cycles per second).

Clone

To paint using the Clone Stamp tool after setting a sampling point.

CMOS

Low-power memory used to store BIOS settings, powered by a battery.

CMOS Photography Context

A chip-manufacturing technology used for sensors in a large proportion of digital cameras.

CMYK

Cyan, magenta, yellow, and black; the inks used by most printers to produce color images.

Color cast

An unwanted color shift in a photo (e.g., an indoor photo appearing too yellow).

Color depth

A measure of how much color information is available to display or print each pixel.

Color management

A system used to achieve consistent color across different devices.

Color temperature

The degree of heat (in Kelvin) associated with different colors and types of light.

Compiler

A program that transforms source code into object code.

Compression

A technique that reduces the file size of bitmap images.

Constructor

A class method that creates and initializes an instance of an object.

Contacts

A digital address book that syncs across Apple devices via iCloud.

Content Marketing

Using blog posts, videos and other materials to engage and attract potential customers.

Core

The portion of a CPU that performs arithmetic and logical operations.

CPU

The electronic "brain" of a computer that carries out program instructions.

Cropping

Trimming a portion of an image to improve composition or create a frame.

D...

Data Mining

Analysing large datasets to uncover hidden patterns or trends

explaining consumer behaviour.

Data type

A classification of data stating possible values, storage methods, and allowed operations.

Database

A collection of information accessible, managed, queried and updated by users based on permissions.

DDR

An advanced version of SDRAM memory; includes newer versions like DDR2, DDR3, and DDR4.

Debugging

The process of finding and fixing problems in code.

Definition

The sharpness or clarity of detail in an image.

Depth of field

The distance between the nearest and furthest in-focus objects in an image.

Digital zoom

Enlarging the center of an image in-camera, which lacks the resolution of optical zoom.

DIMM

A small circuit board holding memory chips.

Disk Drive

A device used to read or write data to internal or removable disks (e.g., hard drive, optical drive).

Dithering

Approximating an unavailable color using two or more available colors.

Dock

An Apple hardware feature showing recently used or favorite apps.

Dodging

The selective lightening of any part of an image.

Dots per inch (dpi)

A measure of printer or monitor resolution.

DRAM

The most common type of synchronous computer memory.

Dump

A formatted listing of program storage contents produced by a failing program.

Duotone

A two-color grayscale file using custom inks.

DVI

A port supporting both analogue and digital displays.

Dynamic range

The difference between the lightest and darkest areas of an image.

E...

Effective pixels

The actual number of pixels used to capture an image, excluding those for color balance or those outside the lens range.

EIDE

An improved version of the IDE drive controller standard.

Electronic viewfinder

A miniature LCD monitor inside a camera viewfinder showing what the camera sees.

Embedded profile

An ICC color profile resident in an image file to ensure correct color interpretation.

Emoticon

Small drawings, typically yellow faces, used to augment text messages.

Encryption

Think of encryption as writing a secret message in code. Only someone with the right key (or code) can read it. This is super important for keeping your data safe from anyone who might want to see it.

Enumeration

A data type whose values are a set of mutually exclusive named constants.

EPS

A file format for images used in illustration and page-layout programs.

Ethernet

A family of computer networking technologies that are all connected via wires not wi-fi.

Event

An action that causes something to happen in a computer program.

Exception

An interruption in normal processing usually caused by an error.

EXIF (PC)

A standard for exchanging data between cameras and software, including camera settings.

Expansion Card

A printed circuit board installed into a PC to add functionality.

Exposure

The combination of shutter speed and aperture used to obtain the correct amount of light for a picture.

External flash

A connection (usually a hot-shoe) that allows the use of a separate flashgun.

F...

Facebook

A social networking site with a messaging app component for Apple Watch.

FaceTime

A communication service; Apple Watch supports FaceTime Audio but lacks a camera for video.

FAT32

A system for storing data on Windows hard drives.

Feathering

The softening of the edge of a selection.

Fill layer

A layer containing a solid color, pattern, or gradient.

Filters

Options to alter an image's look, such as adding distortions or unique lighting.

Firewall

A security device monitoring network traffic and preventing unauthorised access.

Firmware

Software instructions programmed on a hardware device for communication with other hardware.

Fixed focus

Lenses that cannot be adjusted and rely on a narrow aperture to keep objects in focus.

Flash Memory

A type of electrically erasable programmable read-only memory (EEPROM).

Flattening

Merging all visible layers into the Background layer to reduce file size.

Floating point

A method of representing real numbers as a pair of integers.

f-number

The ratio of a lens aperture to its focal length.

Focal length

Describes the magnifying power of a lens.

Font

A set of characters sharing a common weight, width, and style.

For Loop

A programming loop with a predetermined beginning, end, and incremental steps.

Force Restart

A troubleshooting method for Apple Watch involving the side button and digital crown.

Framework

A programme, code library or component for developing software applications.

Front End

The user-facing side of an application displaying information and enabling interaction.

FSB

Connects the processor to the system memory and motherboard components.

Function

A routine that receives arguments and may return a result.

G...

Gamma adjustment

Changing the brightness of mid-tones without affecting highlights or shadows.

Gamut

The range of color that a specific device can reproduce.

Gateway

A gateway is like a crossroads where different networks come together. It serves as the main entrance and exit for all data.

Gaussian blur

A softening effect applied through a bell-shaped distribution of colors.

GDPR

General Data Protection Regulation is an EU data protection and privacy law.

Gestures

Actions performed with fingers on a touchscreen or touchpad.

GIF

A format suitable for line art, text, and web animations.

Gigabyte

A unit of measurement equal to 1,024 megabytes.

Gigahertz

A unit equal to 1,000 megahertz used to measure processing speeds.

Git

Git is a version control system for tracking source code changes during software development.

Goto

An older programming statement for unconditional control transfer.

GPU

A component used primarily for computing 3D functions like

lighting and motion.

Gradient

A method for achieving a smooth transition between two adjacent colors.

Graphical user interface

Think of a graphical user interface (GUI) as a window into your computer, where you can see information and interact with it using menus, chat boxes and icons. This interface helps you connect with the system.

Greyscale

A single-channel image containing only black, white, and shades of grey.

GUI

A visual interface allowing interaction via mouse rather than text commands.

H...

Halftone

A monochrome image simulating grey shades using variably sized dots.

Hard Disk

Also known as a Hard Drive; the internal drive that reads, writes, and transmits data between the CPU and the disk.

HDD

Short for "hard disk drive".

HDMI

A digital interface for transmitting audio and video in a single cable.

HDR

A technique combining multiple exposures to produce one image with a wide range of contrast.

Heat Sink

A metal component attached to a processor to draw heat away.

Highlight and shadow

The lightest and darkest colors in an image.

Histogram

A graph representing the brightness distribution or pixel values of an image.

Hosting

Hosting makes a website accessible via the web by purchasing a URL and connecting it to content.

Hue

The property that allows a color to be distinguished as red, blue, yellow, etc..

Hyper-threading

Intel technology allowing a processor to execute two sets of instructions (threads) simultaneously.

I...

I/O (Input/Output)

Ports on a computer used to connect input and output devices.

ICC

The industry standard for accurate color reproduction across devices.

iCloud

Apple's suite of online services for syncing data across devices.

Identifier

A formal name in source code referring to variables, functions, or procedures.

If

A programming structure for implementing conditional statements.

IGP

A graphics chip integrated into a computer's motherboard.

Image cache

A section of hard disk space used as virtual memory to speed up on-screen redraws.

Image mode

The color mode of an image, such as RGB or Greyscale.

Indexed colour

Color rendered using a pixel value as an index to a panel of 256 or fewer colors.

Input Device

Any device providing input to a computer, such as a keyboard or mouse.

Integer

A data type for integer values.

Interlacing

A video display system where each frame is divided into two fields of odd and even scan lines.

Internet

A global system of interconnected computer networks using the TCP/IP protocol suite.

Interpolation

Software-based addition of pixels between original ones to increase image size.

Interpreter

A program that executes another program written in a non-machine language.

iOS

The operating system used by all Apple iPhone devices since their launch, with a new update released on an annual basis.

IP Address

IP addresses are unique strings of

numbers assigned to internet-connected devices for identification and communication.

iPadOS

The name given to Apple's operating system that is used on their iPad tablet devices.

ISO

A measure of light sensitivity for the CCD or sensor in digital photography.

ISP

The company providing Internet access.

J...

Jaggies

Jagged diagonal lines appearing in low-resolution pictures due to the square nature of pixels.

JavaScript

Programming language crucial for web development, enabling interactive website elements.

JPEG

A common algorithm and file format for compressing images.

JPEG compression

A lossy technique that reduces image data and file size.

K...

Kbps

Kilobits Per Second; 8 times less data than Kilobytes per second.

Kilobyte

A unit of measurement equal to 1,024 bytes.

L...

LAN

A network limited to a small area like a home or office.

Landscape mode

An exposure setting for wide photos or holding the camera horizontally.

Latency

The time it takes for a data packet to move across a network connection.

Layer

A mechanism for overlaying images like transparent sheets of glass.

Layer group

A collection of layers saved together within an image.

Layer mask

A protected area in a layer where underlying content cannot be edited.

Large Language Model

AI models such as ChatGPT are trained on huge amounts of text data to help them understand and create text that sounds just like it was written by a human.

LCD

A display technology used for camera monitors and viewfinders.

Levels

Functionality for adjusting color, tone, shadows, and highlights.

L-ion

A type of rechargeable battery that does not suffer from "memory effect".

Library

A collection of pre-written code saving time for programmers during development.

Link Editor

A program that assembles compiler-generated objects into a single executable.

Linux

A free, open-source operating system.

Locked layer

A layer that cannot be changed, indicated by a lock icon.

Loop

A routine where code is executed repeatedly.

Lossless compression

An image-compression technique that prevents data loss and degradation.

Lossy compression

A technique using high compression ratios that result in the loss of some image data.

Luminance

Lightness; technically the highest plus lowest RGB values divided by two.

M...

Machine Code

Instructions directly understandable by a computer's CPU.

Macro mode

A setting used for taking extreme close-up photographs.

Mail

Apple's email client capable of handling multiple account types.

Malware

Malware is malicious software designed to harm or exploit devices, services, or networks.

Manual mode

A setting giving the photographer full control over aperture and shutter speed.

Matting

A method for simulating transparency on web pages when it is not supported.

Mbps

A measure of high-bandwidth data transfer speeds.

Megahertz

A measurement commonly used for processor clock speed.

Megapixel

One million pixels; a measure of image size and resolution.

Memoji

An Apple app for creating caricatures for use on watch faces.

Memory

General term for electronic data storage facilities.

Memory card

Removable storage for digital pictures (e.g., SD, CompactFlash).

Memory Module

Another name for a RAM chip (e.g., SIMM, DIMM).

Mesh

A way to combine two wireless access points into a single network.

Messages

An Apple app handling SMS and MMS text and media messages.

Metaverse

A digital world with augmented and virtual reality interactions.

Meta Elements

HTML tags in a website's head section providing site metadata.

Method

A subroutine or function belonging to a class or object.

Metering system

How a camera measures light to determine correct exposure.

Midtone

An image area falling between the brightest highlight/ darkest shadow.

Modem

A device that converts data for transfer over telephone lines.

Module

A program linked with others to form an application.

Moire

A wavy striped pattern in an image, often an artefact of the camera.

Monitor resolution

Resolution described in pixel dimensions.

Multi-pattern metering

An exposure system that takes readings from several areas of a frame.

Multithreading

Enabling the processing of multiple threads at once.

N...

Night-time mode

An exposure mode that sets the aperture to maximum to compensate for low light.

Ni-MH

A type of rechargeable battery that does not suffer from memory effect.

Noise

An artefact seen as stray pixels or a grainy appearance caused by interference or camera error.

Northbridge

A chip connecting the CPU to other primary system components.

NTFS

A file system introduced by Microsoft with Windows NT.

O...

Object

An instance of a class.

Object code

The non-executable output of a compiler or assembler.

Object-oriented

Using entities (objects) that process data and exchange messages.

Opacity

The extent to which a layer or effect blocks light.

Operating System (OS)

Core software that communicates with hardware to allow programs to run.

Optical Drive

Drives that read optical media like CDs, DVDs, or Blu-rays.

Optical zoom

Adjusting a lens to magnify an image while maintaining full sensor capabilities.

Overclocking

Increasing a CPU's clock speed beyond its designed rate.

P...

Panorama

A broad view made by merging individual overlapping shots.

Paradigm

A fundamental style of computer programming, such as object-oriented or functional.

Parallel Port

An older 25-pin connector used for printers and scanners.

Parameter

A name in a function definition replaced by an actual argument when called.

Partition

A section of a hard disk recognized by the computer as a separate disk.

PCI

A connection for add-on cards.

PCI Express

An improved, faster version of PCI.

PDF

An Adobe format capturing document elements as an electronic image.

Peripheral

Any device providing an external function, such as a printer or monitor.

Perspective

The angle or level from which a photograph is taken.

Phishing

Phishing is a deceptive tactic used by scammers to steal personal information by impersonating trustworthy entities.

Python

Open-source programming language, praised for readability and versatility, used by Google, and NASA.

Pixel

Tiny squares that are the basic rectangular units of data in digital photographs.

Pixel dimensions

The number of pixels along the width and height of an image.

Pixels per inch (ppi)

A measure of image resolution stored in a camera or computer file.

Platform

A computer's operating system or the combination of motherboard, CPU, and memory.

Port

Hardware sockets where peripherals are connected to a PC.

Portrait mode

An exposure mode that widens the aperture to minimize depth of field.

PostScript

An Adobe programming language for describing the appearance of printed or displayed pages.

Printer profiles

Profiles describing how specific printers reproduce colors.

Procedure

A subroutine or function coded for a specific task.

Processor PC Context

The component that performs computations like addition and multiplication.

Program

A software application designed for a specific task.

Program exposure

An automatic setting where the camera selects both aperture and shutter speed.

Progressive scan

A display process drawing 60 complete frames every second.

PSD

The native uncompressed file format of Adobe Photoshop.

Q...

Quad-core

A CPU containing four processing cores in a single chip.

Quick Mask

A mask channel created in Quick Mask mode in Photoshop.

R...

RAID

A configuration where multiple disks appear as one large disk.

RAM

Small memory chips forming a module.

RAW

Stores uncompressed data from the sensor; contains more information than JPEGs.

Real

A number containing a decimal point.

Red eye

The reflection of camera flash from the retina, resulting in a red dot in the subject's eye.

Rendering

Converting a vector layer into a normal layer.

Resample

To change image resolution by changing pixel dimensions.

Resolution

A measure of image clarity and sharpness, expressed as the number of pixels (height and width) or pixels per inch.

Retina Display

Apple's term for high-resolution screens where pixels are indistinguishable at normal distances.

RGB

A color model combining red, green, and blue to represent any color on a display.

Router

A device that manages and organizes home network devices, both wired (LAN) and wireless (WLAN).

Run Time

The time during which a program is executing.

S...

Sample

Selecting a color with an eyedropper tool for use in drawing.

SATA

An interface for connecting drives to a motherboard.

Saturation

The purity or strength of a color.

SDRAM

A fast version of standard DRAM.

Selection

A part of an image chosen for manipulation or deletion.

SEO

Search Engine Optimisation improves website ranking in search engine results to increase organic traffic.

Settings

An app for configuring device or application features.

Sharpening

Functionality that enhances details at the edges of objects.

Shutter

A device that opens to allow light onto the CCD for a specific length of time.

Shutter lag

A delay between pressing the button and the camera taking the photo.

Shutter Priority

A semi-manual mode where the user specifies shutter speed and the camera sets the aperture.

Siri

Apple's voice-activated digital

assistant.

Skewing

Deviation of image content from a vertical or horizontal axis.

Sleep/Wake Button

Hardware button used to power or wake devices.

SLI

NVIDIA technology allowing multiple graphics cards to work together.

SLR

A camera using a mirror or prism so the viewfinder shows exactly what the lens sees.

Smart Speaker

A voice-activated speaker, such as Amazon Echo, which can answer your questions, play music and even manage your smart devices.

Smartwatch

Wearable digital technology that can run apps and use sensors.

Smoothing

Averaging pixel values to reduce contrast and create a blurry effect.

SMS

Text messages sent from the Messages app.

Socket

Sockets on a motherboard where components like the CPU are plugged in.

Source Code

Human-readable instructions in a programming language.

Southbridge

A chip connecting the Northbridge to components like hard drives.

Spam

This is a generalised term for all unwanted or unsolicited digital communication, such as messages or email.

Spatial Video

3D video capture technology creates immersive experiences.

Spot metering

A mode that takes a light reading from a small area in the middle of the frame.

Spyware

Malware is a covert program that monitors and collects user activity without consent.

SSD

A storage device using flash memory instead of magnetic disks.

SSID

The name of a wireless network.

Streaming

Just browsing or listening to things online without having to download them first. Think Netflix, YouTube or Spotify.

String

A data type for a sequence of characters.

Stroke

An outline around an image or the characteristics of lines created with painting tools.

Subroutine

A section of code that implements a specific task.

Swatches

Preset colors chosen from the Color Swatches panel

T...

Tablet

A portable, flat computer with a touchscreen, larger than a smartphone but smaller than a laptop.

Terabyte

A unit of measurement equal to 1,024 gigabytes.

Thumbnail index

A display of smaller images representing larger picture files.

TIFF

A digital format widely used for printed or published images.

Time lapse

A technique where shots taken at intervals are played back rapidly to give the impression of motion.

Touchscreen

A screen responding to touch from fingers or a stylus.

Transform

To scale, rotate, distort, or change the perspective of a layer.

Transparency

Functionality supporting transparent areas in an image.

Troubleshooting

When discussed in the IT terms, this means involves identifying and resolving technical problems, such as software installation issues.

Two-Factor Authentication

2FA is like having a double password on your digital details. It adds an extra layer of security by asking for two different ways to prove who you are before letting you into your online accounts.

Type

A tag attached to variables deter-

mining allowed value assignments.

U...

UI

The visible interface, like the home screen layout and interactive elements.

Unsharp Mask

A technique sharpening details by increasing contrast between light and dark areas.

Update

Just a heads-up: updating your app or software to the newest version is a great way to get rid of bugs, fix security problems and add some cool new features!

UPnP

A protocol for enjoying media over a home network.

URL

A web address.

USB

A common type of port for connecting peripheral devices.

USB-C

You'll often find USB-C cables around, as it's a pretty common way to charge and transfer data across many different gadgets.

User Experience

UX considers ease of use, navigation and accessibility to enhance overall user satisfaction.

V...

Variable

A named memory location used to store results in a program.

Vector graphics

Graphic components stored using geometric formulas that scale without degradation.

VGA

PC Context An older display standard allowing 640x480 resolution. Photography Context Refers to an image size of 640 x 480 pixels.

Vignetting

An effect where the edges of an image gradually fade out.

Vishing

Vishing, or voice phishing, is a scam where criminals use phone calls to trick you into sharing personal information, such as passwords or credit card details.

VPN

A VPN encrypts internet connections, safeguarding personal information and masking real

locations. It enables secure browsing and access to restricted content.

VR

Virtual Reality is a computer-generated simulation.

W...

Warping

A distortion of an image, often text, to conform to a variety of shapes.

watchOS

The operating system for the Apple Watch.

White balance

A function or adjustment that compensates for different color rendering under various light sources.

White point

A reference point used to represent white and calculate other colors.

Widget

Think of it as a handy little app on your phone or desktop that pops up with quick information or useful functions, such as a weather forecast or a calendar.

Wi-Fi

A wireless means of connecting to the Internet or other devices.

WLAN

A network of wireless devices.

WPS

An easier way to connect devices to a router.

Y...

YouTube

A video social media platform where individuals and businesses can share video content, on a paid or ad supported free basis.

Z...

Zoom

A video conferencing tool that can be used to facilitate remote learning and meetings.

Zip File

Compressed file or folder reduces size for easier sharing or storage.

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