

# Android Notes



Congratulations, you have an Android™ phone or tablet, get ready to explore what it can do, learn how to customize it to make it yours, and have some fun.

Please note: The Android universe encompasses a large number of devices – phones, tablets, and more -- each with its own capabilities, and an equally large number of software variations. Therefore, **these “notes” are not a manual** and are not intended to be specific to any one Android setup. Please always consider the concept being discussed and then adapt it to your specific device and software environment.

If you want to get the most out of your Android experience, you are going to have to be open to exploring, experimenting, and trying new things.

## Hardware vs. Software

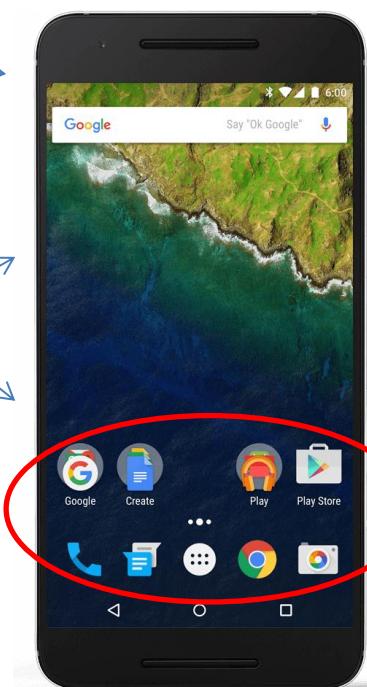
Hardware is the physical device. The metal, plastic, glass, the computer chips inside.

Software is not physical, software is the computer instructions that let you use the hardware to do all the amazing range of things with your little gadget.

Software is what makes your “smartphone” smart. Software is what allows you to interact with your phone or tablet and play music, watch a video, take a picture, read an email, play a game, browse the Internet, read the news, and lots of other activities.

Hardware is the physical device.

Android is the operating system software which means that it works with the hardware and manages all the other software, specifically the apps.



The apps or applications are all the little icons that let you actually do all the things you want to do.

## Things Get Complicated in the Android World

The Android software starts as a project with many contributors, but led by Google.

This Android software is used by many hardware manufacturers. And each hardware manufacturer usually tweaks, modifies, or adds to the “generic” Android to suit their specific device capabilities and because each one thinks they have a better way of doing things.

Next, if your device has cellular capabilities, we have the cellular carriers and their tweaks, mods, and additions.

**So – important note – while the concepts are generally the same, the specifics of how your particular version of Android looks and works will probably be different than any pictures or even descriptions shown on these pages.**

**Be flexible, explore, and figure out how your version of Android works.**

Android™ Open Source  
Project (AOSP), led by

**Google**



Samsung

LG

NVIDIA

Huawei

**verizon** ✓

at&t

T-Mobile

Sprint

## But Wait, There's More Complications... Android Versions

There have been many versions of Android. Each new version of the software adds new features and capabilities. Between releases of each major version, there are usually several updates to fix bugs, address security concerns, or tweak how the software works.

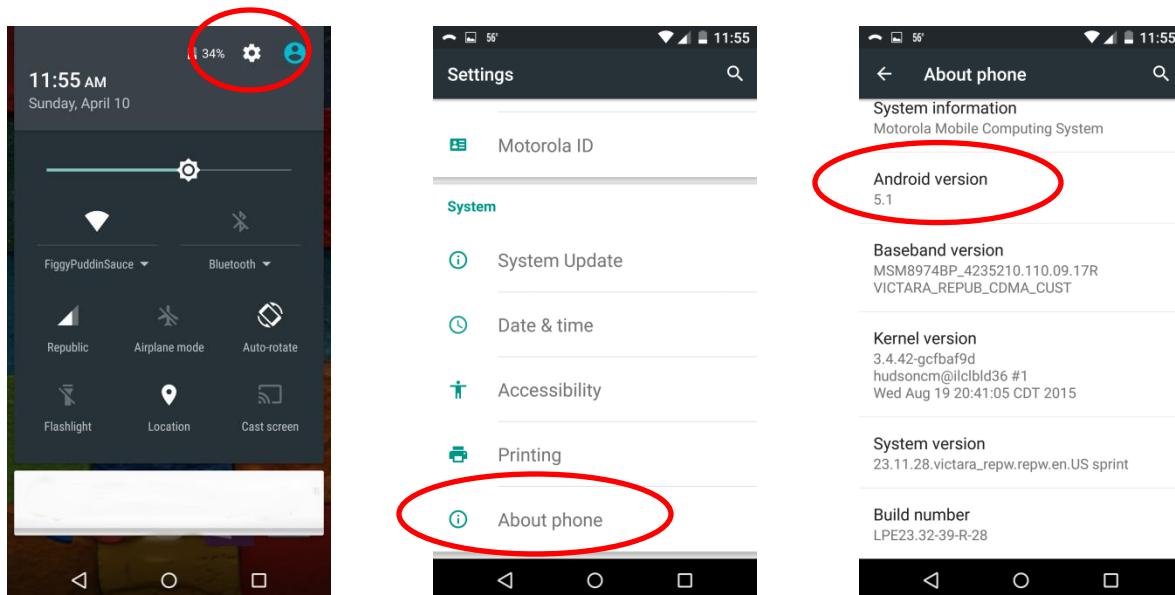
Software versions traditionally are given a version number. Android versions have official numbers, but, just for fun, they also are known by a “code name” dessert. Because, why not.

*It is important to know which version of Android your device is running for troubleshooting and to know which apps will run on your system.*

From time to time, system updates may be made available for your device. It is almost always good to install these updates to get the new features and, more importantly, to address any bugs or security issues.

### How do you know what version of Android you have?

Open Settings – usually by swiping down from the top bezel and tapping the settings gear  Scroll through all the settings and look for “About Phone”, “About Device” or “About Tablet.” Tap that setting and you should see your Android version.



Remember, your screens will probably look somewhat different than these.

What version of Android do you have?

## Android Versions

Tasty Android Treat	Boring Version Numbers
 Donut	1.6
 Éclair	2.1
 Froyo	2.2
 Gingerbread	2.3
 Honeycomb	3.0
 Ice Cream Sandwich	4.0
 Jellybean	4.1
 KitKat	4.4
 Lollipop	5.0
 Marshmallow	6.0
"N" ???	7.0 ?

When someone asks, *“Are you running Lollipop?”* You’ll know and be able to answer.  
If an app you are considering *requires KitKat or above*, you’ll know what it means.  
If there’s a *security problem reported in Jellybean*, you’ll know if it affects you.  
If someone offers you a brownie, it’s just a brownie and has nothing to do with Android.

## Explore Your Hardware

Remember hardware refers to the physical device. In the Android device universe, there are a wide range of devices with different capabilities. Take a close look around your device and look for:



## All Kinds of Wireless – or – Four Radios, But None of Them Play Music

How does your cell phone or tablet communicate with the outside world? How does your cell phone make and receive calls? How does your tablet send an email?

The answer is, without wires. And that means it uses radio or wireless communication.

### Cellular

All cell phones and some tablets have a cellular radio. This is how a cell phone makes or receives a phone call.

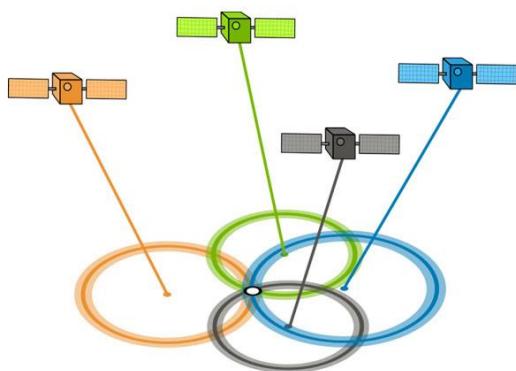
There are typically three categories of cell communications: voice, text messaging, and data.

You contract with your cellular carrier, Verizon, AT&T, etc. for the pricing on each of these types of communication.

Be careful of the data pricing and your use of cellular data, it can get expensive depending on your particular contract.



Cell Tower



GPS Satellites

### GPS

Again, all cell phones and some tablets have a GPS or global positioning satellite radio built in.

GPS is used primarily for location services such as mapping. It can also be used to add information to your pictures about where the picture was taken.

GPS also provides the accurate time.

Fun fact: GPS uses Einstein's Theories of Relativity for accurate time and position.

## Bluetooth

Bluetooth wireless technology is used for very short range communication between devices. Short range as in a few inches to about 100 feet, if you are lucky.

Bluetooth is used to “pair” your Android device with, for example, a speaker or physical keyboard.

Some hearing aids use Bluetooth to enhance how they work.

Most Android devices have Bluetooth capabilities.



Wire to Internet Service Provider:  
CenturyLink or Comcast



Wi-Fi Router



**Connect to Wi-Fi**  
Go to Settings   
Tap Wi-Fi

Make sure Wi-Fi is turned On  
Tap the name of the Wi-Fi service you want to connect to.  
Enter the Wi-Fi password if necessary.

## Wi-Fi

Wi-Fi is the primary way that Android devices connect to the Internet.

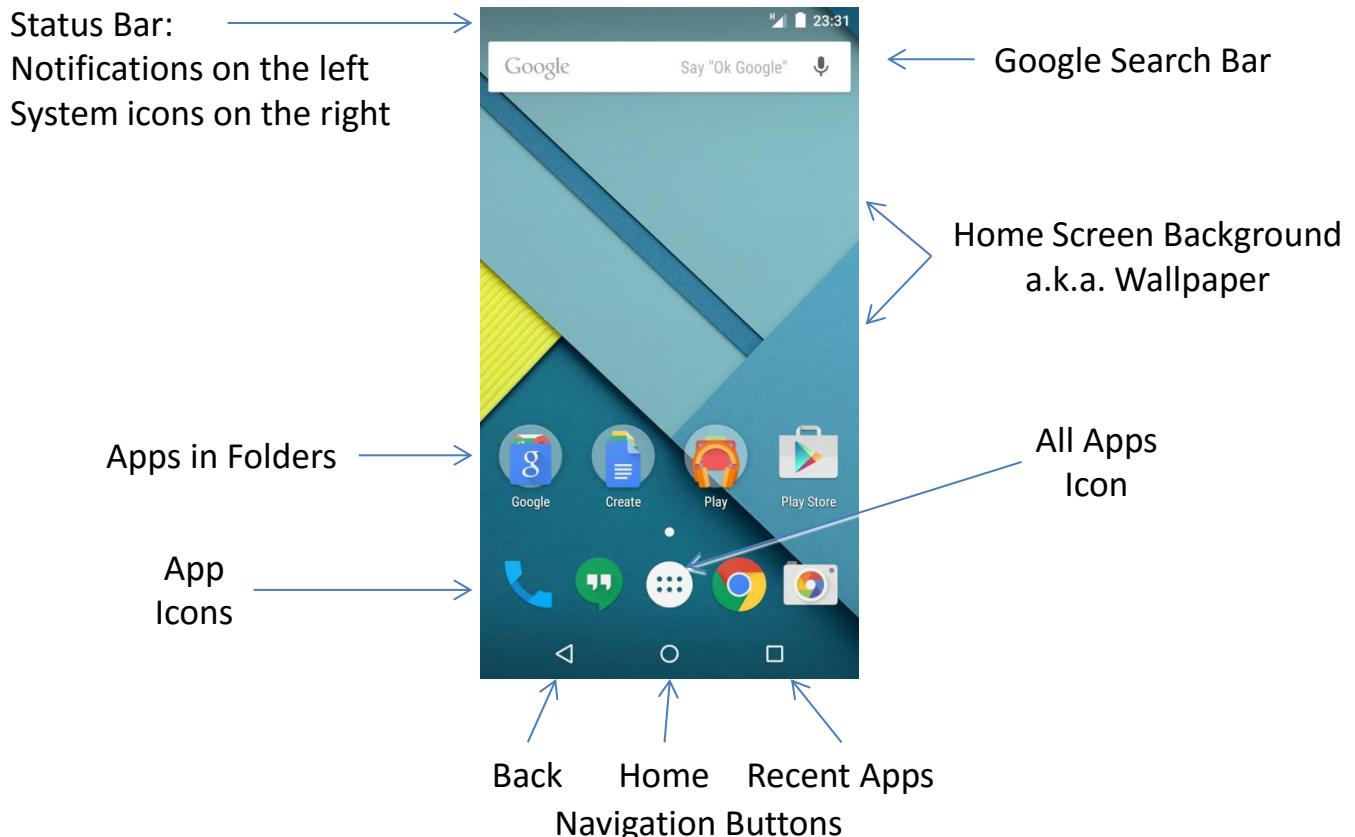
Wi-Fi, like Bluetooth, is short range. A good Wi-Fi signal should cover an area of a few hundred square feet – for example, if you have Wi-Fi at home, it should, hopefully, be able to connect all around your house.

A typical setup would be to pay for Internet service from CenturyLink or Comcast or another Internet service provider. As part of that service you will usually be provided with a device known as a router. One of the things this router does is broadcast Wi-Fi radio signals to any nearby devices.

Nowadays you will find that many places offer free Wi-Fi. McDonalds, Starbucks, even your better senior centers offer free Wi-Fi.

## Home Screen Overview

We now shift our focus from the hardware to the Android software itself. After you “unlock” your device – usually by swiping (this and other “gestures” will be covered next) and optionally entering a PIN or other security feature – you will be presented with the **Home** screen. Let’s take a look:



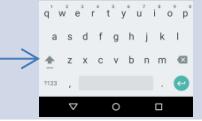
Navigation Button Variations from Different Devices

Samsung Navigation Buttons are below the touch screen and have a physical Home button

Samsung Menu Button

## Gestures

The primary way of interacting with an Android phone or tablet is by touch. There are specific touch gestures that Android and most Android apps recognize and expect.

Gesture	Handy Picture	Description
Tap (or touch)		To select or activate something on your device, touch it.
Swipe (or slide)		Quickly move your finger across the surface of the screen without pausing.
Touch and Hold		Touch and hold an item on the screen and don't lift your finger until it responds.
Drag		Touch and hold an item for a moment and then, without lifting your finger, move your finger on the screen until you reach the target position, then lift your finger.
Pinch		In some apps, you can scale what's on the screen by placing two on the screen at once and pinching them together.
Stretch		In some apps, place two fingers on the screen and spread them apart. Opposite of Pinching.
Double-Tap		Quickly tap twice.
Rotate		In some apps, use two fingers to twist the display.
Tap to Type	 	To type something, just touch where you want to type. A keyboard will pop up that lets you type into the field.

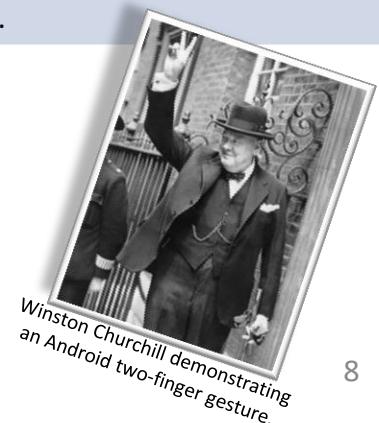
## Fingers or Stylus?



Android touch screens are designed to be touched... with your finger.

Some people prefer to use a stylus – which is like a pen but with a special rubber nib that works on the screen instead of a finger.

Fat fingers, long fingernails, bit of a tremor?  
Try a stylus.

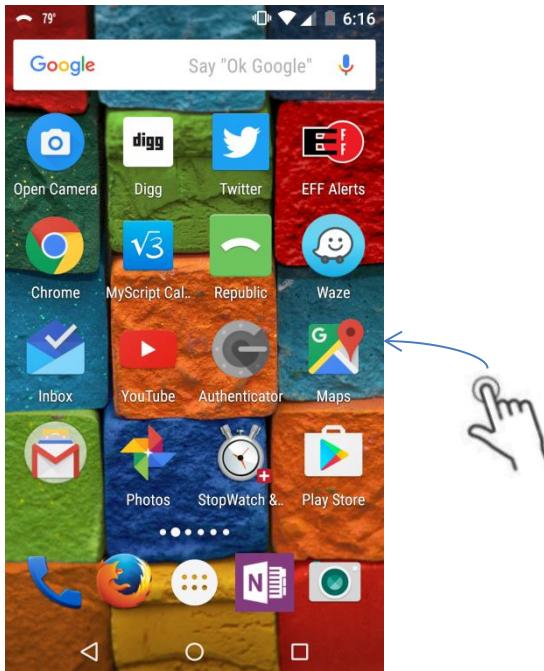


Winston Churchill demonstrating an Android two-finger gesture.

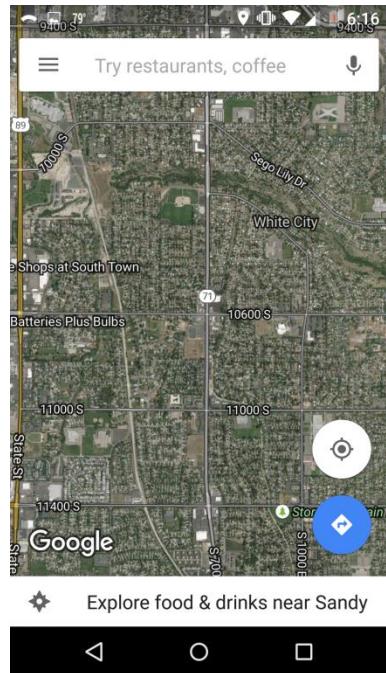
## Time to Tap, Time to Run an App

To open and run an app, tap on its icon.

For example, to use Google Maps,  
tap on the “Maps” app icon.



Google Maps will open and  
you can explore the world!



When you are done exploring,  
tap the Home button to  
close the app and return to  
the Home screen.

 Remember, your Home  
button may look different.

## Home Screens vs. All Apps

Home screens allow you to organize your apps however works best for you, that is, you can move the app icons around, hide infrequently used apps, and use folders to further organize your apps.

Home screens can also display widgets, and have fun backgrounds called “wallpaper.”

How to do all of this will be covered next, but first...

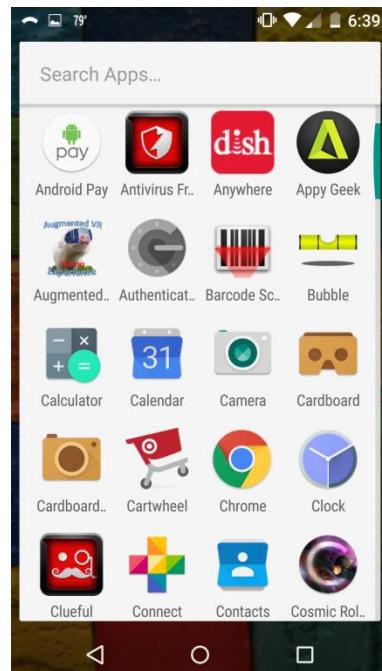


Tap all apps to see the list of all your installed apps.

All apps or the app drawer, on the other hand, is a set list of ALL the apps on your device.

This list is usually in alphabetical order and cannot be otherwise organized. (Some devices allow you to sort all apps in other ways.)

Note, all apps is where your apps actually are installed. The icons on the Home screens are really just shortcuts or pointers back to the app in the all apps list.



## Home Screen Icons vs. All Apps Apps



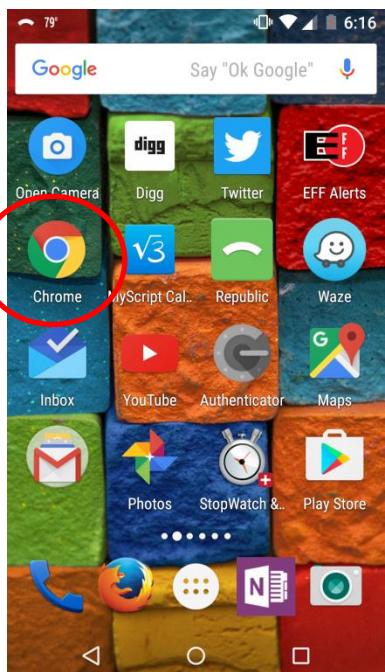
This is a picture of a trumpet.



Here are two more pictures of the same trumpet.



This guy is playing the actual trumpet.



This home screen shows a Chrome icon. This is just a picture that references the actual app.

You can have as many Chrome icons on your home screens as you want. If you “Remove” the Chrome icon, the app is still on your device.



Here is the All Apps list showing the actual Chrome app. If you “Uninstall” this app it will no longer be on your device. (And, by the way, any Chrome icons will be removed as well.)

## Home Screens – Make them Yours

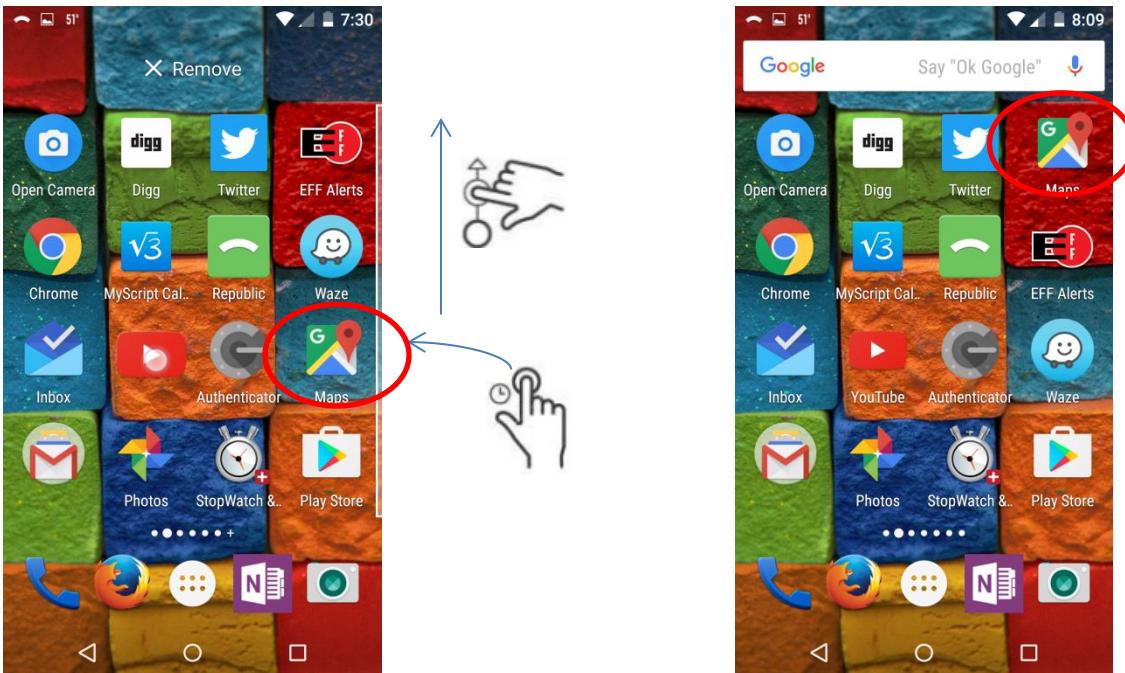
As you continue to use your Android device, including possibly installing some new apps, you may want to customize how your phone or tablet work, how the apps are arranged, what the background wallpaper is, and what your tastes are for how you use your flavor of Android.

The customizations outlined below are all optional. Nothing here will change what you can do with your device, only how it looks and how things are arranged.

### Moving an App On a Home Screen

The app icons on Home screens are laid out in a grid – rows and columns. An app icon can be moved to any of the positions on the screen (and to other screens which we'll cover next).

Touch and hold on any app – remember, keep your finger pressed on the screen – wait for the Home screen to change into the special app movement mode, then drag the app to the new location on the screen.



Take your time, when the app is in the new spot you like, lift up your finger.

Note: be careful, if you drag the app directly on top of another app you will make a folder that will contain both apps. Folders are covered in more detail below.

## More Home Screen Organization

Now that you know the basics – touch and hold – watch what happens on the screen when you still have your finger pressed on the screen for clues on what your device is offering to let you do. Such as:

- **To move an app icon from one home screen to another home screen:**
  - Touch and hold, then carefully drag the icon to the edge of the screen
  - The home screen should move under your finger
  - Place the icon where you would like on the new home screen
- **Add an app to the home screen from the all apps list:**
  - First, tap all apps to open the all apps list
  - Touch and hold the app you want to appear on a home screen
  - Drag the icon to where you want it on a home screen
- **Remove an app icon from the home screen:** →
  - Touch and hold, then look on your screen for a “Remove” option
  - Drag the icon on top of “Remove” and the icon will disappear
  - IMPORTANT NOTE: remember icons on the home screen are just shortcuts or pointers to the real app in the all apps list. By removing the icon from the home screen you ARE NOT deleting the app off your device.
- **Uninstall or Delete an app off your device:** →
  - First, tap all apps to open the all apps list
  - Touch and hold, then drag the app to the “Uninstall” option
  - Note: you can also uninstall an app by going to Settings → Apps → tapping the desired app → tap “Uninstall”
  - IMPORTANT NOTE: when you “uninstall” an app from the all apps list, you ARE removing it from your device. To get it back you will have to re-download it from the Play store.



## Home Screens Folders

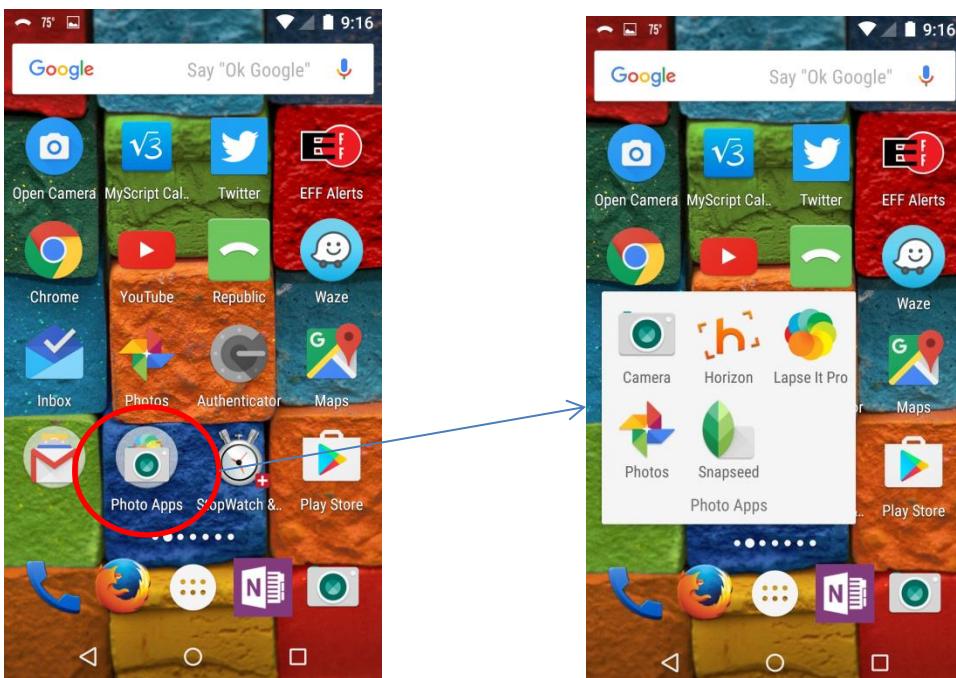
If you want to take your home screen organization to the next level, consider creating folders. A folder takes up the space of one icon but, when tapped, opens to reveal several apps inside.

Please note, even if you decide you do not want to use folders, you may accidentally make a folder, so you should at least understand what a folder is and how to move apps out of folders you don't want to be in folders.

**To make a folder**, touch and hold an icon and drag it **DIRECTLY ON TOP OF** another icon. (Note, in some versions of Android you have to specifically create a folder.)

You should see a new folder with some indication of the apps inside of it.

Tap the folder to open it. Then tap one of the icons to start the app.



To remove an app from a folder:

Tap to open the folder.

Then touch and hold the app you want to move.

Drag the app either our to the home screen or to the Remove option.

## Widgets -- Live Content Right On the Home Screen

Apps need to be started to do whatever it is they do – see your email, take a picture, read the news...

Widgets offer live updates right on the home screen – see your email as it comes in, news headlines continuously updated and displayed... now how much would you pay!

Let's get some widget action on your home screens:

Touch and hold ON THE BACKGROUND or a home screen, not on an icon or widget.

Tap on the Widgets option.

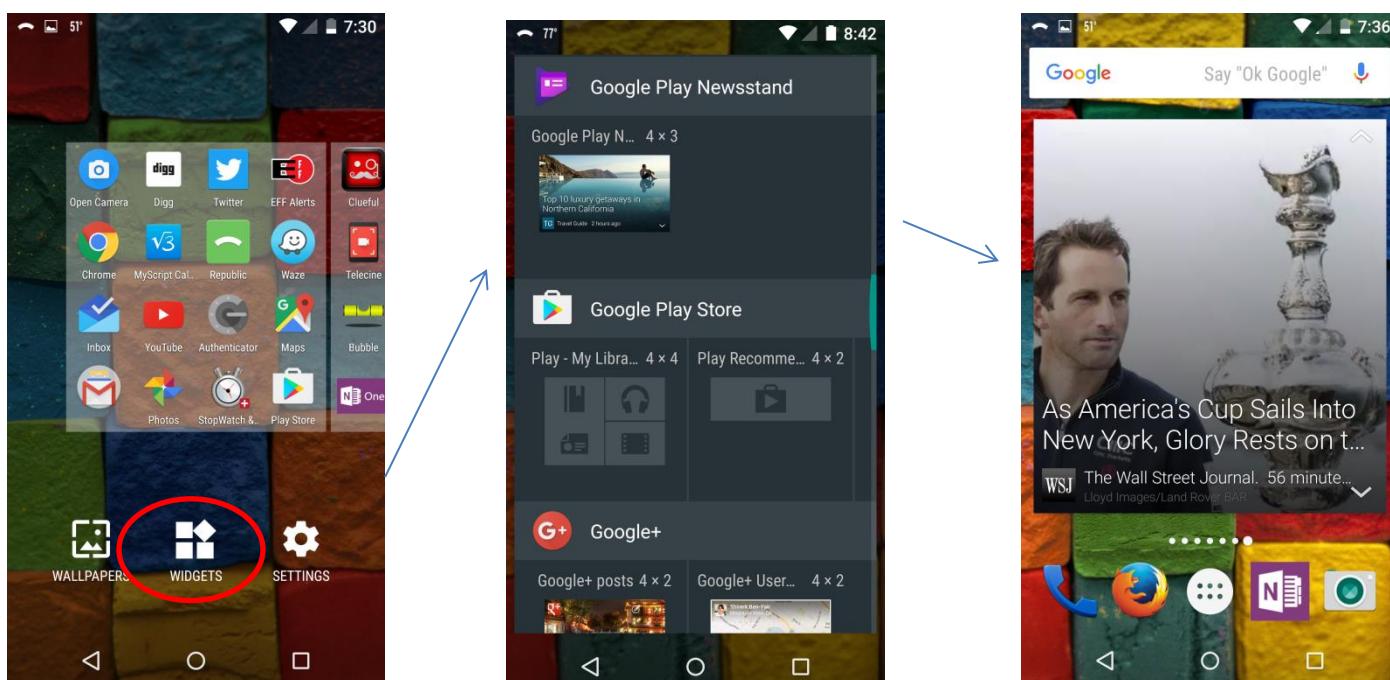
Scroll through the list of widgets.

Note the size of each widget, as in 2 x 2 or 4 x 3, etc. A regular app icon is 1 x 1.

Touch and hold, then drag the widget you want onto a home screen.

Since some widgets can be pretty big, you may need to drag onto a new, blank home screen or rearrange some of your other icons to accommodate the widget.

Many apps come with widgets as part of what they offer so you may find you have lots of widgets already available to you.



## Wallpaper

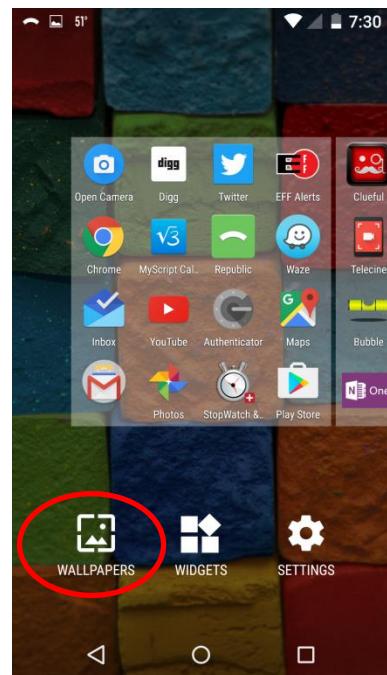
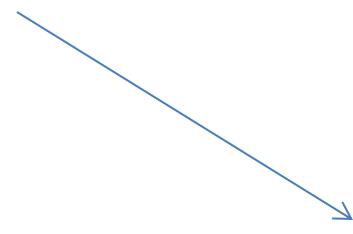
The background of your home screens, behind the icons, is called wallpaper.

You can change the wallpaper any time you want, just for fun, to suit your mood, or, if you want to get all practical, to make the icons and text easier to read.

Most devices have some built in backgrounds but you can also choose to use a picture of your own.

Touch and hold ON THE BACKGROUND, not on an icon (or widget)

Tap on the Wallpapers option.



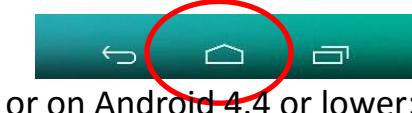
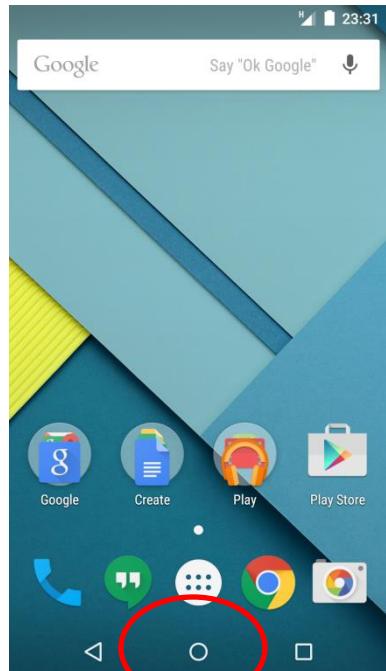
Scroll through the options on your device and tap to select your new wallpaper.



## Home and Back Navigation Buttons –

Tap the Home button from any app to get back to the home screens.

And, here's a little bonus tip: if you are already on any home screen and you tap the Home button, you will be jumped directly to the first home screen.



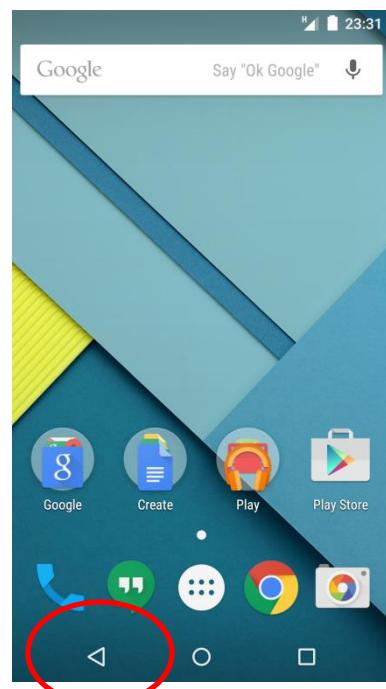
or on Android 4.4 or lower:

Tap the Back button to go back to the previous screen you were working with.

This may take you “back” to a previous app.

Once you go back enough to get to the home screen, you can not go back any further.

NOTE: You may occasionally find that an app takes over the full screen and the standard navigation buttons disappear – fear not – tap where they usually were on the screen or swipe down from the top of the screen to reveal them again.



or on Android 4.4 or lower:

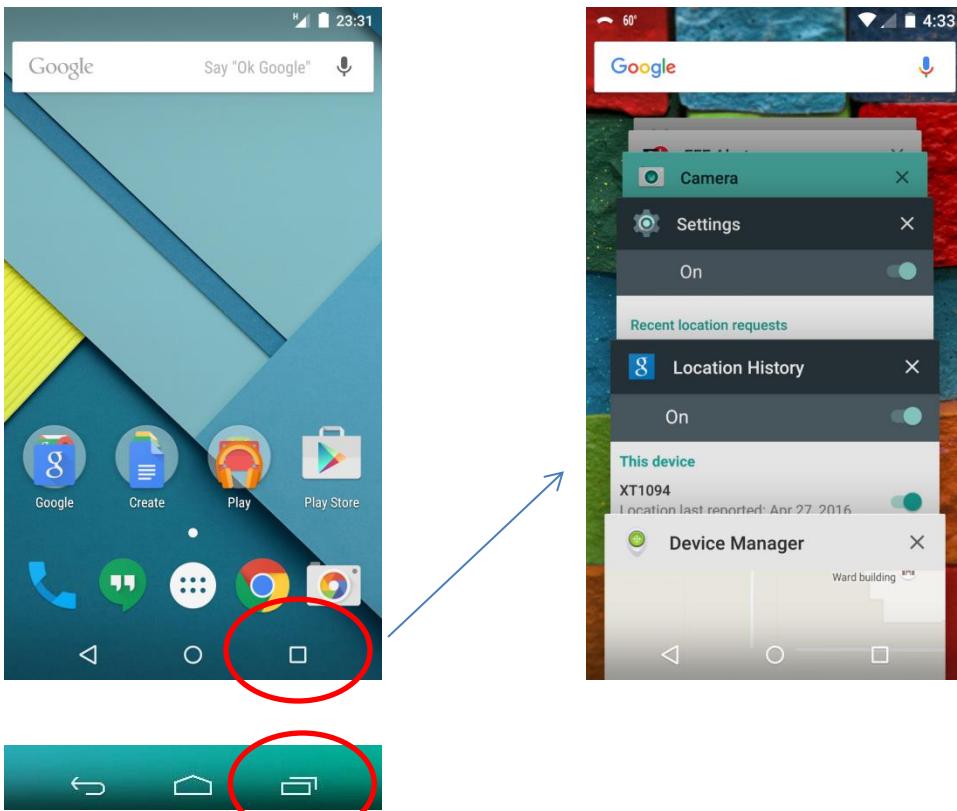
## Overview Navigation Button –



### a.k.a. “Recents” or Multi-Tasking or Recently Used Apps

Tap on the Overview navigation button to show a list of recently opened apps.

(Note: on devices that have a “menu” button rather than an Overview button, try double-tapping or tap and hold on the Home button.)



or on Android 4.4 or lower:

Scroll up and down (or left and right on some devices) through the list and you can tap on any one to directly open that app. Handy to jump back and forth between apps.

To remove one of these apps from the list, swipe left or right (or up on some devices). Or tap on the “X”.

Now, to dispel a common myth – closing (swiping away) apps off this list will NOT save battery life. In fact, according to Hiroshi Lockheimer, Senior VP Android, it may actually slightly worsen your battery life.<sup>1</sup>

So, swipe away if you want, but don’t worry about it.

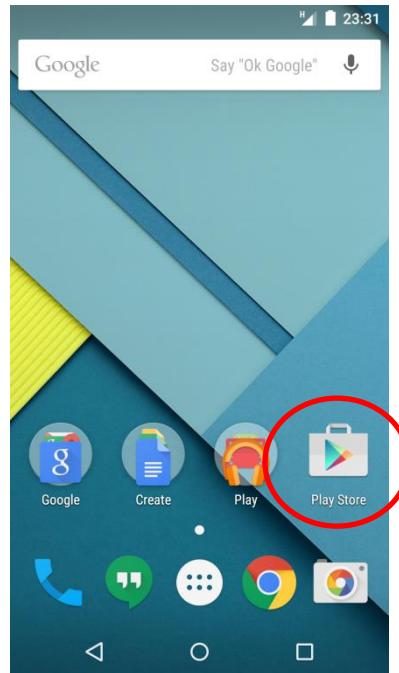
1. <https://twitter.com/lockheimer/status/709424479491874816>  
<http://www.wired.com/2016/03/closing-apps-save-battery-makes-things-worse/>

## Google Play Store: Over A Million Apps... Several of Which Are Quite Good

Don't be fooled by the word "play" in the name, the Google Play Store is a vast online collection of apps, games, and electronic media like e-books, music, movies and TV.

Your Android device came with some apps already installed. The Play store is your opportunity to explore new apps to do all sorts of things on your phone or tablet.

Find the Play Store app and tap it to get started.



Take a few minutes to brows around. Scroll left and right as well as up and down to see some of the million+ apps.

"Hamburger" menu  
(looks like a bun with a patty)

Tap to show side menu

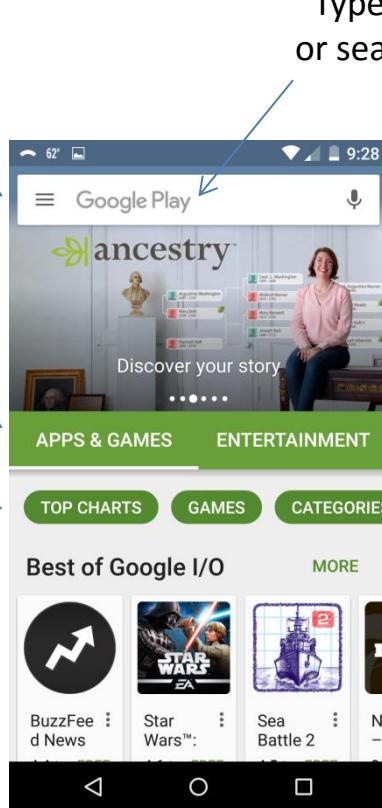
Primary Store Division:

Apps & Games

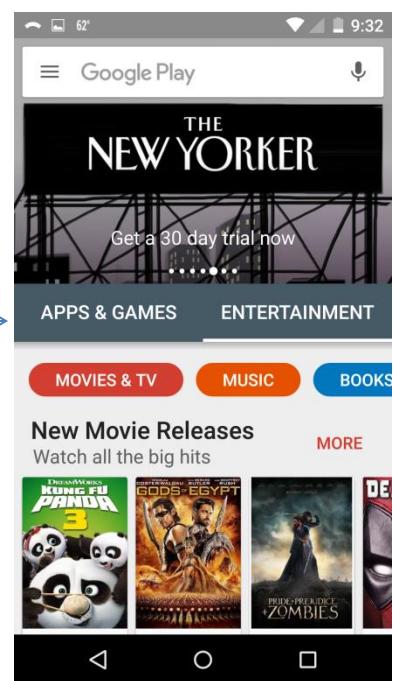
or

Entertainment

Store Subdivisions  
Scroll to see them all



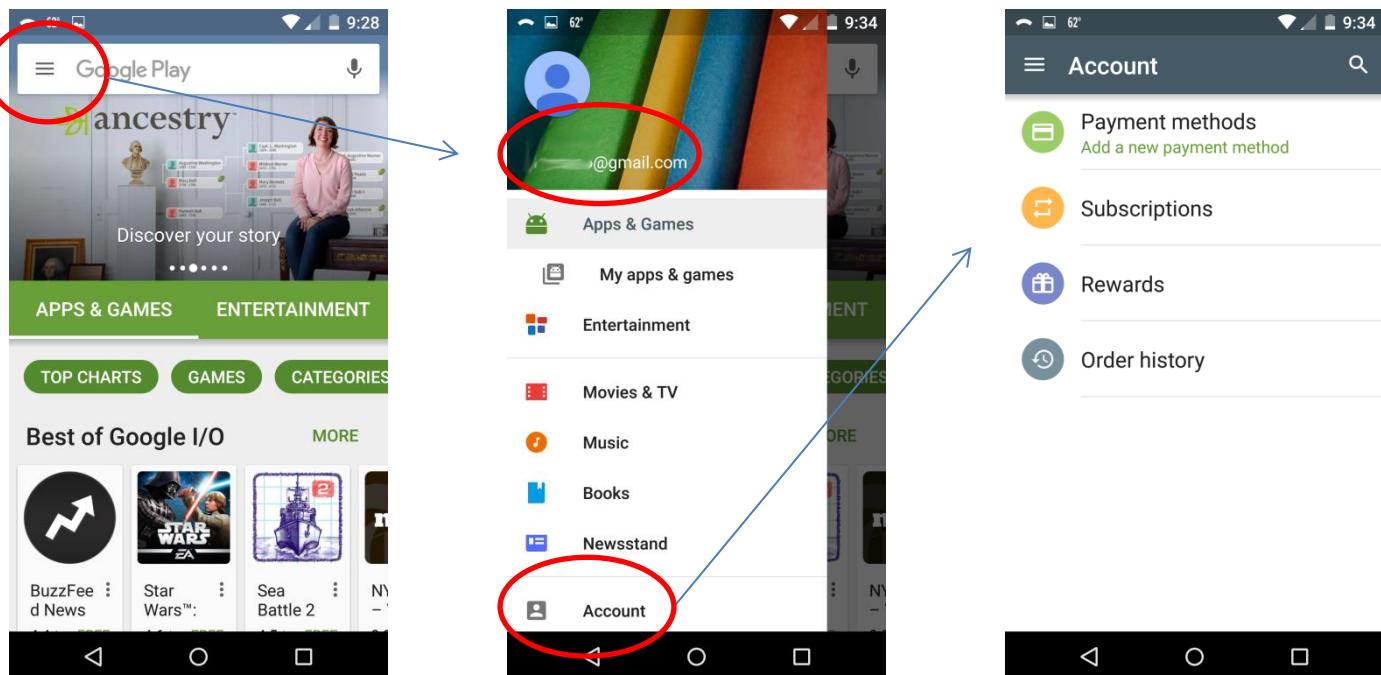
Type an app name  
or search terms here



## Play Store → Google Account

To take full advantage or the Play Store you will need a Google account.

Tap on the “hamburger” menu – the three lines on the left of the search box to open the side menu. You should, hopefully, see your Gmail name and email address at the top of the side menu. Tap Account on the menu to see your account options.



PLEASE – make sure you use a good, strong password for your Google account and for all of your online accounts. Check the “Password Best Practices” card or sheet and protect your money and your reputation.

Note the “Payment methods” – this is where you can add credit cards and/or Google Play gift cards to your account to pay for apps, music, TV, movie, etc.



Look for this logo showing apps available for your Android device.

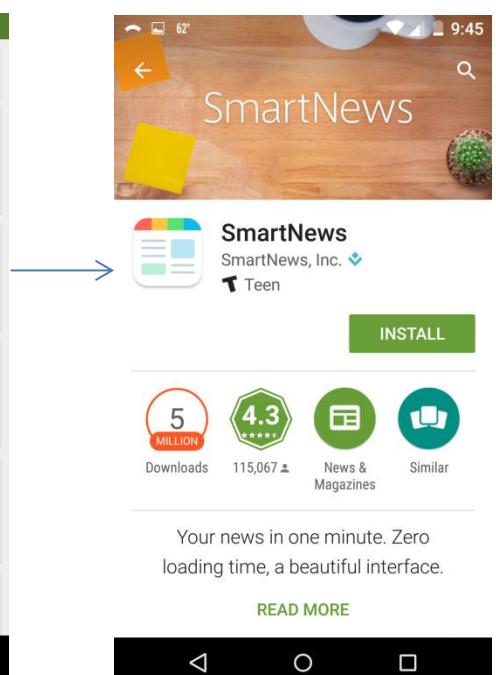
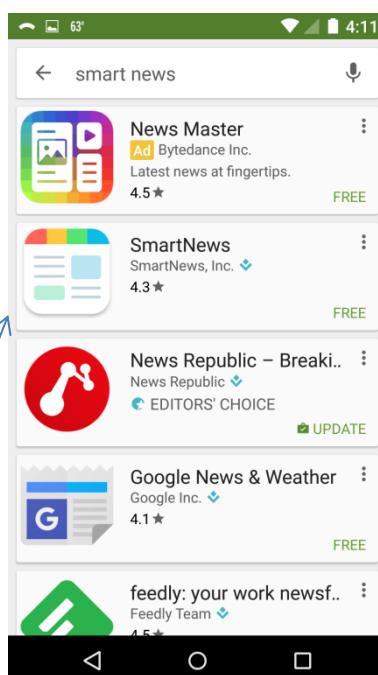
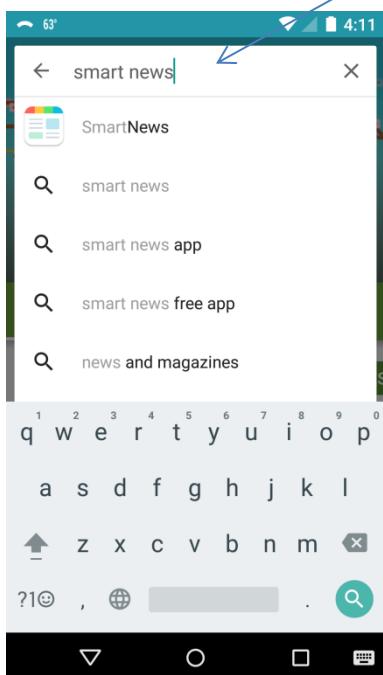
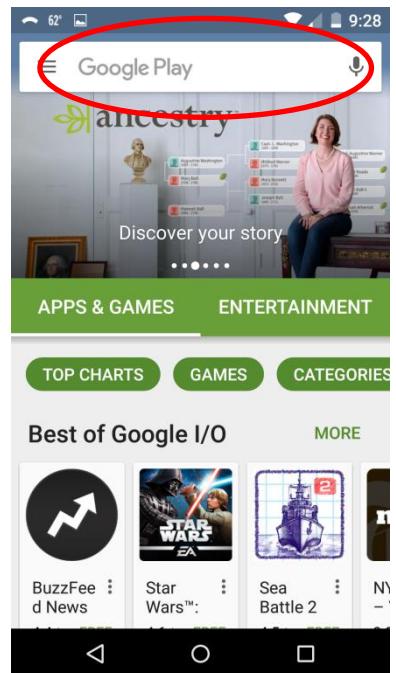
## Let's Go Get an App – Find the Good Apps, Avoid the Bad Apps

You can scroll around the Play store to browse and find apps.

Or, use the top search bar to search for apps with key words, for example, “learn a new language.”

Or, if you know the name of an app, search for that specific name.

Let's find a good app, search for: **smart news**



From the search result list, tap SmartNews

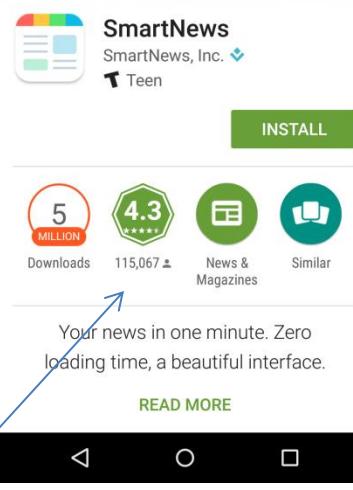
Now we explore this app and determine if it is a good app that will fit your needs and make you happy.

## App Information

For this app and any app, you should really look at the info about the app and ask yourself...

Should you install this app?  
Should you buy an app?

Before you download an app, let's explore the information about this app.



"Install" = free  
App pricing options will be covered below.

Name of the app  
and who made it.

Watch the company  
who made the app...

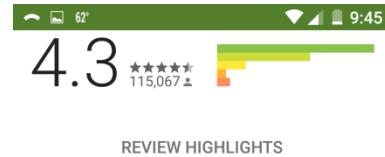
Do they have a good reputation?  
Do they make other good apps?

How many times has this app been  
downloaded by other people?

What does this app do?  
Tap "Read More" for more info.

Reviews from other users...  
Read a few reviews, did other  
people like this app, find it useful?

Are you ready to tap the Install  
button?



### REVIEW HIGHLIGHTS

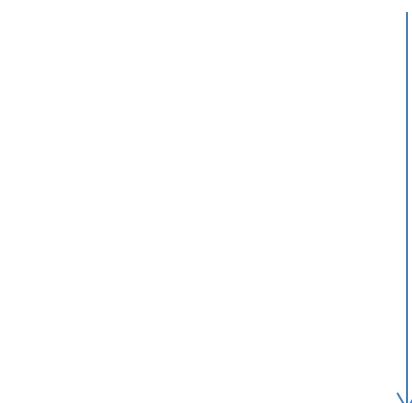
**best news app** in 270 reviews  
"I love the layout and the notification updates. This has been the best news app for me..."

**easy to use** in 244 reviews  
"...My first choice for news after reading my local daily. Beautiful to look at. Easy to use."

**informative** in 165 reviews  
"I find it to be very informative and has a wide variety of stories I find interesting!"

**clean user interface** in 95 reviews  
"A great source of news if you like variety. Easy to navigate and a clean interface."

**WAIT**... there's one more important  
thing to check... App Permissions



## App Permissions – PAY ATTENTION to What Each App Wants to Know About You

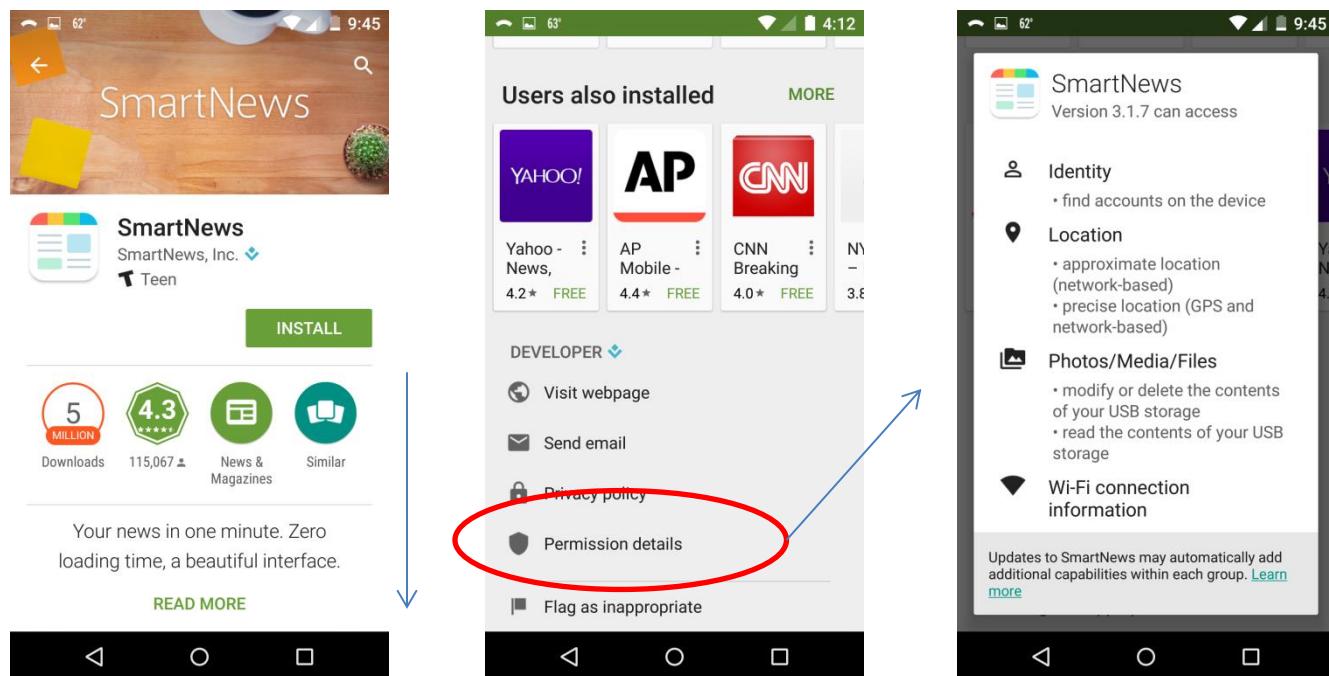
Android uses the idea of “permissions” as part of the overall security plan to help you be aware of which apps are accessing certain hardware or software features.

For example, an app must ask for your permission before it can access the camera(s) on your phone or tablet. Likewise for the microphone or other hardware features.

An example of a software permission is an app asking for permission to have access to your contact list. Or permission to access your photos or phone number, etc.

If you decide to download an app, you will be presented with a list of permissions that the particular app is requesting. In Android versions below 6.0, this is an all-or-nothing deal, that is, you must agree to all the permissions or not download the app.

BEFORE you decide to download any app, check the permissions, here's how:



From the app description, scroll all the way to the bottom...

Tap on  
**Permission details**

Carefully consider what the app is asking for.

**PLEASE PAY ATTENTION TO WHAT APP PERMISSIONS YOU ARE ABOUT TO AUTHORIZE.**

Do they make sense for the app in question? Do you trust the app developers? Are you willing to accept ALL of the permissions? If “yes”, tap back and “Install.”

If “no”, walk away and find a better app.

## App Permissions Part 2 – The Good, The Bad, and The Ugly

Let's start with the bad... here is a “flashlight” app – the only thing it is supposed to do is turn on and off the LED light that is usually used as your camera’s flash to use it as a sort of mini-flashlight. That’s is, turn the LED on and off.

Start by asking yourself, do you know this developer? It’s OK if your answer is “no”, but that means you have no company reputation to judge.

What permissions do you think an app whose sole purpose is to turn the LED light on and off should need?

If we scroll all the way down and tap on “Permission details” what will we find?

Why do you suppose a flashlight app would need or want to know your location?

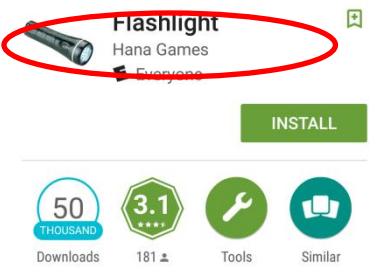
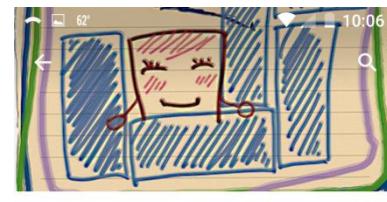
Could it be they turn on the LED somehow differently depending on where you are?

Or is it MUCH MORE LIKELY that they want to sell your location to better direct advertising.

How about a flashlight app that wants to know your phone status and identity? Any legitimate reason for that?

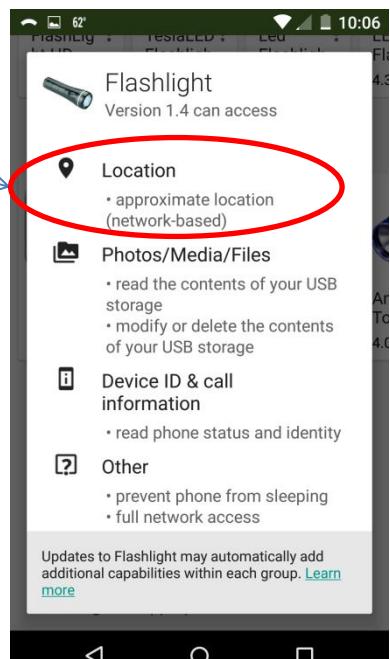
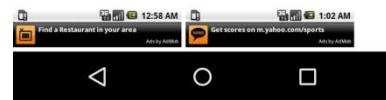
Finally, the permission to “prevent phone from sleeping” – would that be a reasonable feature of a flashlight app? Actually, yes, if you turn on the LED to use your phone as a flashlight, it seems legitimate that you would not want your phone to go to sleep automatically.

BOTTOM LINE – walk away from this app. There are many other, arguably much better, flashlight apps to choose from.



flashlight for phone!

READ MORE



Updates to Flashlight may automatically add additional capabilities within each group. [Learn more](#)

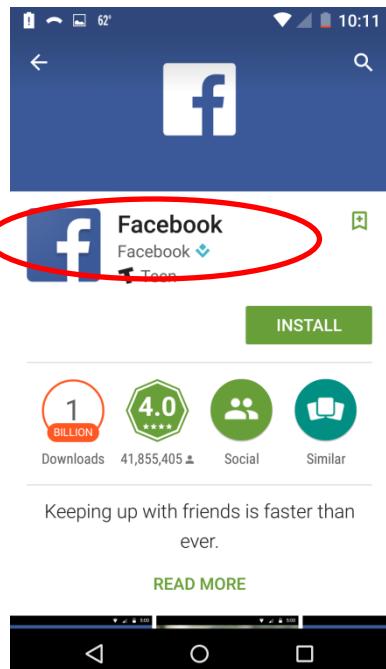
## App Permissions Part 3 – The Good, The Bad, and The Ugly

And now, the ugly... Facebook.

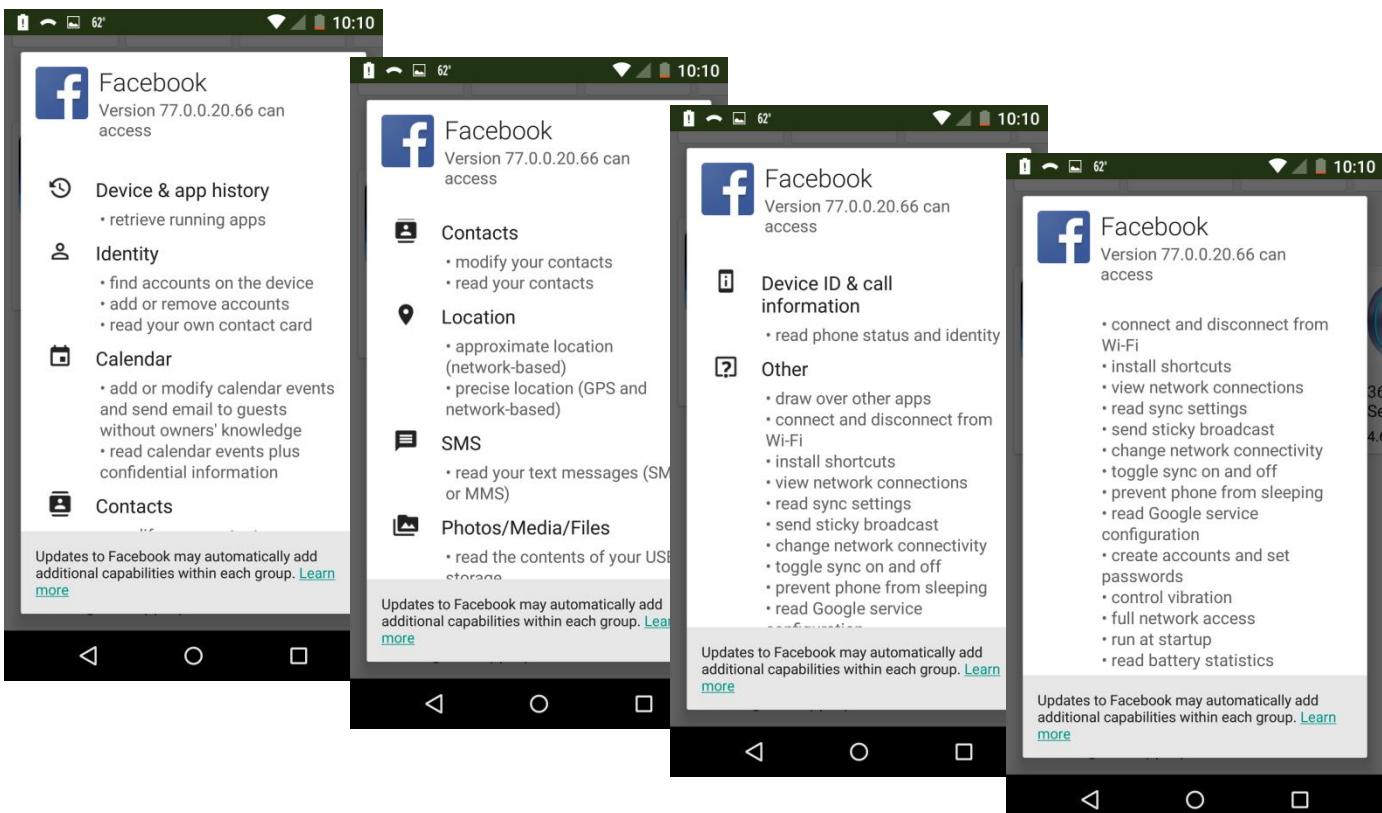
Facebook is a social network used by over a billion people to share updates, pictures, news, events, whatever you want with family, friends, and the world.

Start, once again, with, do you know the developer? This is actually not a silly question – make sure the Facebook app you are considering installing is actually made by Facebook. There are others made by third parties.

Scroll down and check the permissions.



Yikes... Facebook wants a whole lot of permissions...



BOTTOM LINE – Facebook is not “bad” per se. YOU NEED TO DECIDE, with full knowledge of the permissions you are about to give, if you want to use Facebook.

## App Permissions Part 4 – The Good, The Bad, and The Ugly

Finally, the good... Duolingo.

Duolingo is an app that helps you learn a new language: Spanish, German, French, and many others including Welsh.

Why is this app free? (You should ALWAYS ask this of any free app.) It turns out it is free because of a clever way they have advanced students help translate actual online content. So, the student learns, stuff gets translated, win, win.

Note the really good reviews and number of stars.



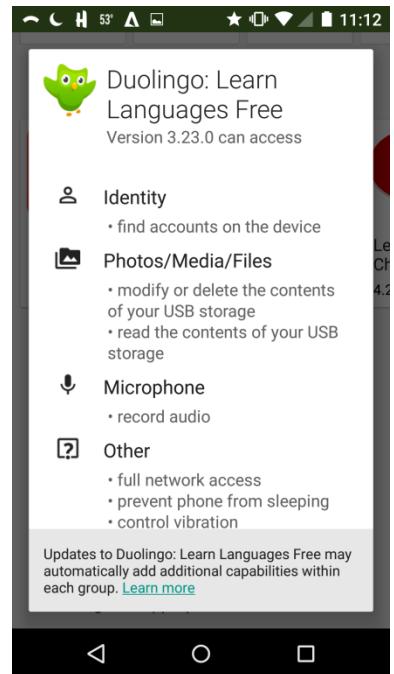
How about the permissions?

You will find that almost every app will require some permissions, usually including the ability to store and modify stuff on your device. This is how apps store your progress and other parts of the app.

The only one that might be troubling is the permission to the microphone to record audio.

Why would Duolingo need this?

During the process of learning a new language you will, among other things, actually get a chance to speak in the foreign language and practice your pronunciation. So this permission is legit.



**BOTTOM LINE** – Duolingo is an interesting, nicely designed, and useful app. The permissions it is requesting are appropriate, the reviews are good, and the company has a good reputation. Go ahead and “Install” this one.

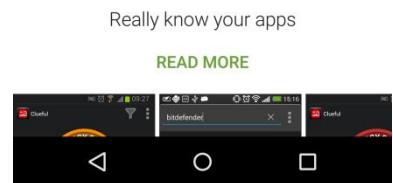
## App Permissions Part 5 – The Bonus – A Tool To Help You Stay Safe

After all that, it can still be confusing and difficult to know what those Android permissions really mean and what the various apps are doing with those permissions.

Thankfully, there is a nifty app called Clueful that helps you review all of your installed apps and alerts you to what information they are collecting.

I highly recommend you install Clueful, run it, and review what the apps on your device are doing.

Clueful will review all your apps and show you an overall “privacy score”, but, more importantly, it will show you what each app is doing with your information. Then you get to decide to keep the app or uninstall it.



### Permissions on Android 6.0 and Above

Permissions on Android 6.0 and above are handled in a different way. You will still be forced to give all of the permissions during the install process BUT...

After an app is installed, you can change individual permissions, here's how:

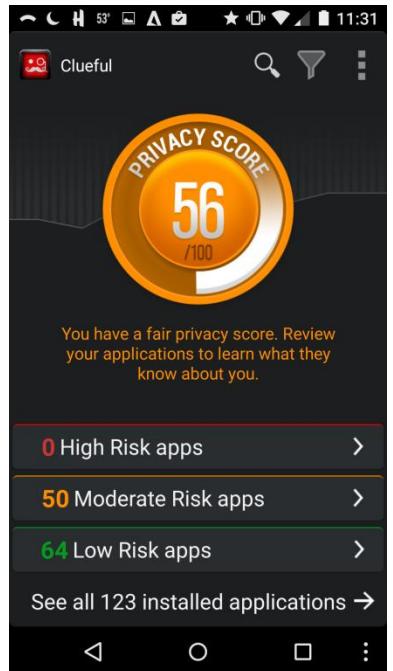
Open Settings

Tap Apps

Tap the app of interest

Tap Permissions

From the list of permissions, turn on or off as you please.



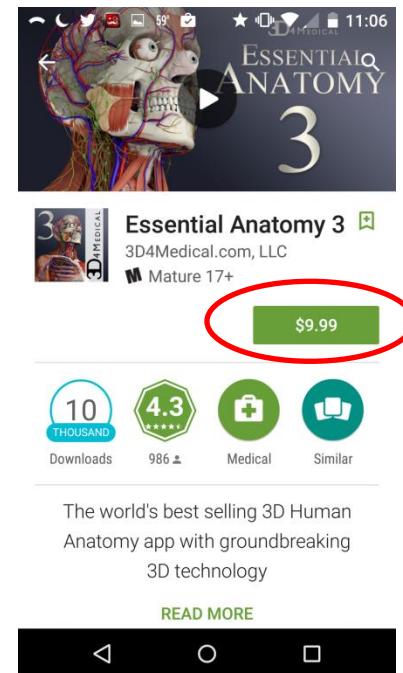
## Google Play Store App Pricing – or, When is “Free” Not a Good Deal?

Apps in the Play Store can be free or can have a price. Paid apps will require you to have a credit card associated with your Google account or a Play gift card (which can be purchased at many stores).

If you buy an app, that purchase is associated with the Google account that authorized the purchase. If you get a new phone or tablet, you DO NOT have to re-purchase apps, just reinstall on the new device with your Google account.

Things do get more complicated with the “free” apps. Some are truly free. Many are free but will display advertising in the app itself.

Many “freemium” apps use “in-app purchases” – that means that the app is free to download and install. However, at some point, while playing the game or using the app, you will be offered the opportunity to buy stuff. This may be a purchase to remove the advertising or unlock additional features in the app or, in many games, some game tokens. **In these cases, you USE UP the “gold bricks” or whatever and will happily be given the opportunity to buy more tomorrow.**



*In-App Purchases*



## HELP, I Lost My Android Device – Android Device Manager to the Rescue

Is your phone (or tablet) in the couch cushions? Did you leave it in the car? Where did you last remember seeing it?

Android Device Manager locates lost devices and helps you keep your device – and the data inside it – safe and secure. Android Device Manager lets you:

- Locate Android devices associated with your Google account
- Reset your device's screen lock PIN
- Erase all data on the phone [or tablet]<sup>1</sup>

So it is a very good idea to have the Android Device Manager installed on your device and properly setup now before you need it. You cannot install this after you have lost your phone/tablet. Follow these steps:

1. Visit the Google Play Store and search for “Android Device Manager”

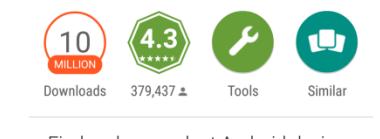
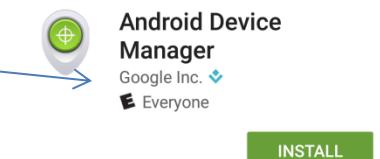
From the search results, be sure to select the app made by Google



2. Tap to Install

3. Now the slightly tricky part – you need to give the Device Manager Administrator rights:

1. Open Settings
2. Security
3. Device Administrator
4. Turn “On” to give admin rights



Find and secure lost Android devices

[READ MORE](#)



Now, if you ever misplace your device –

On another Android device, start the Android Device Manager app

Or, on any computer with a browser, visit:

<https://www.google.com/android/devicemanager>

Log in with your Google account and password

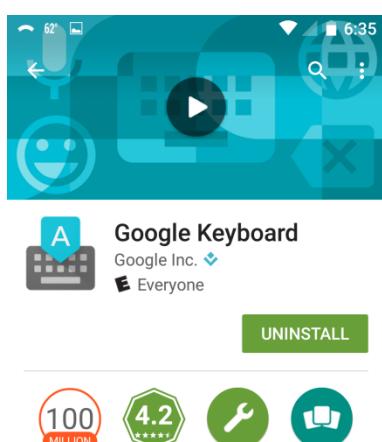
Find, lock, or even erase your device...

PRACTICE NOW to see how it works.

## Keyboards Options

When you need to type something the onscreen keyboard will show up – magic...

Before talking about how to use the onscreen keyboard it should, once again, be noted that your keyboard will probably be different than the one shown here. Here's the good news, keyboards on Android can be changed just by downloading a new one from the Play Store. If you don't like your current keyboard or just want to try something else, consider a new keyboard app. Here are three good options:



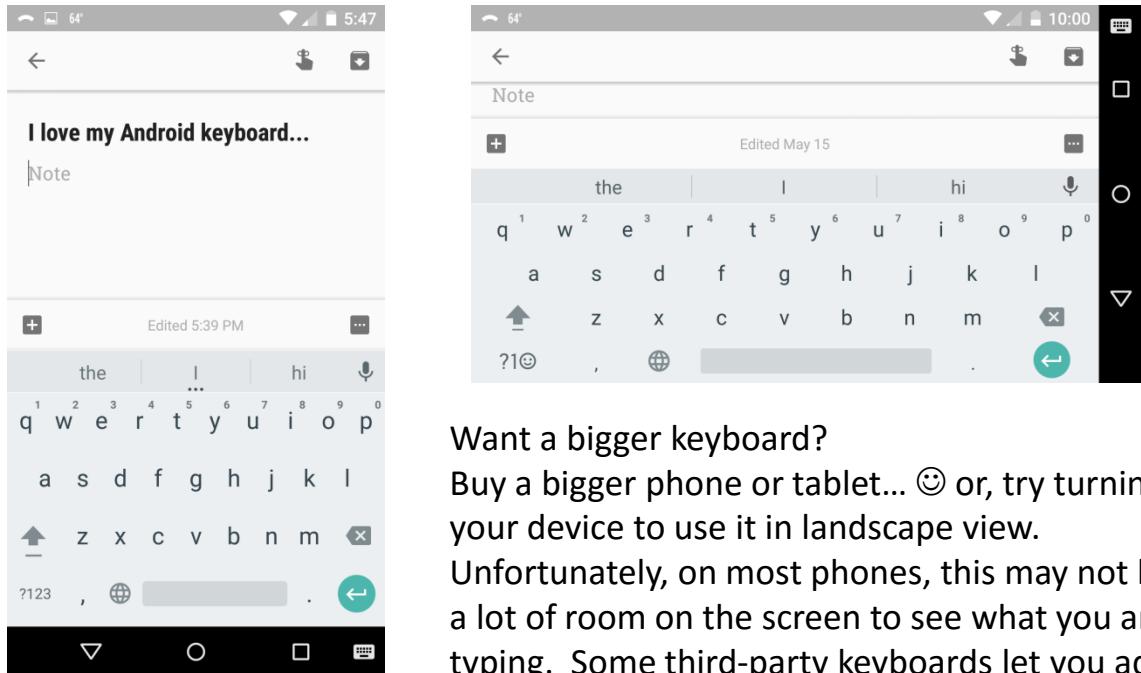
The Google Keyboard has the advantage of being from Google, is free, and offers some much improved and handy features. I'll be showing screenshots and using the Google Keyboard below. Most of the features and discussion points will be the same across most keyboards (but obviously may be implemented slightly differently or not at all).

A note on security and keyboards: in general – whichever keyboard you use will be able to see everything you are typing, your personal information, your passwords, your Internet searches, your insatiable quest for ever cuter puppy videos. So... DO NOT use a keyboard from a company you don't trust. A new keyboard that lets you type in rainbows and replaces punctuation with cookies MAY be perfectly safe... you decide.

Also note, if you would prefer a physical keyboard, they are available, please see the page below for some options.

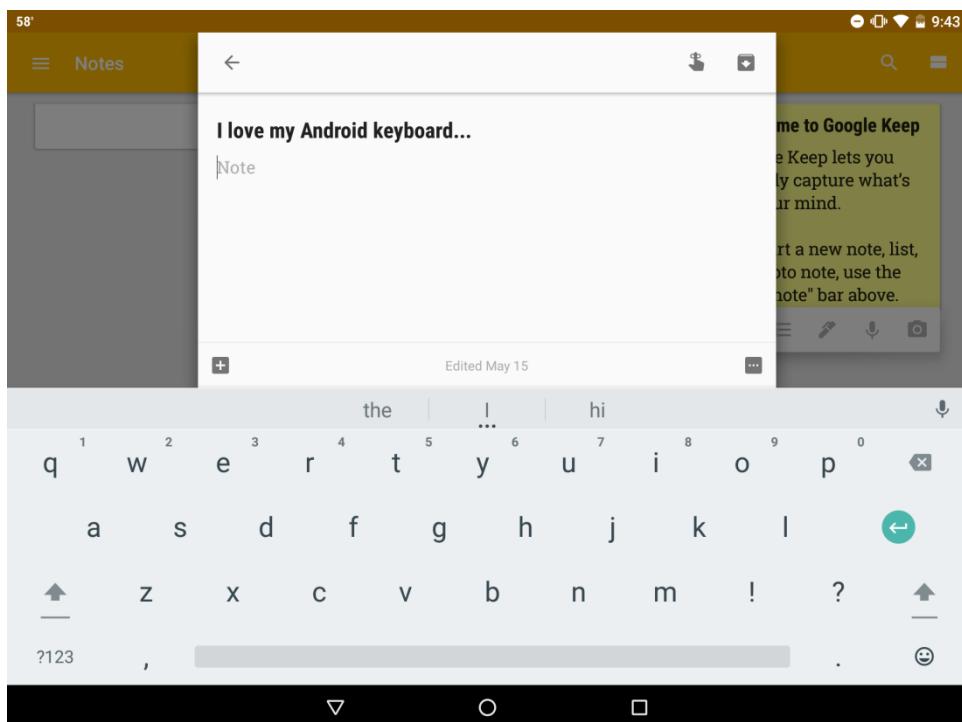
## Text, Typing, and Keyboards

When there is a place to type – an email, a web address, a message, a search, whatever – tap where you need to type and the onscreen keyboard will show up.



Want a bigger keyboard?

Buy a bigger phone or tablet... ☺ or, try turning your device to use it in landscape view. Unfortunately, on most phones, this may not leave a lot of room on the screen to see what you are typing. Some third-party keyboards let you adjust the size of keyboard. Or, possibly try a stylus.

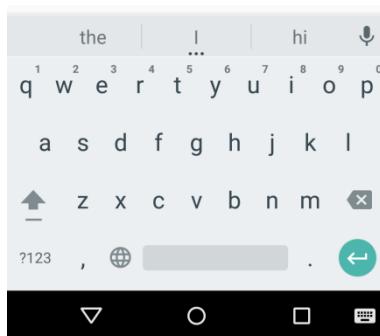


Tablets usually do offer a more useful landscape typing experience. Also, tablets may show a few more keys or slightly different key placement.

## Keyboard Layout and Features

Standard  
“qwerty” layout.

**Shift key**  
Note the letters  
themselves show  
you they are  
lowercase.



**Backspace key**

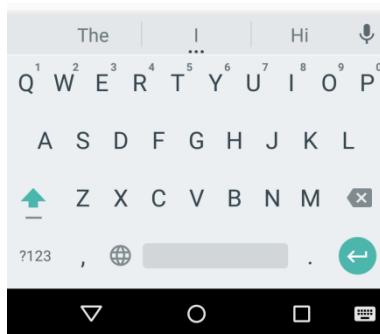
Removes one  
character from  
the left of the  
cursor.

**Enter key**

Starts a new line  
or initiates the typed  
command.

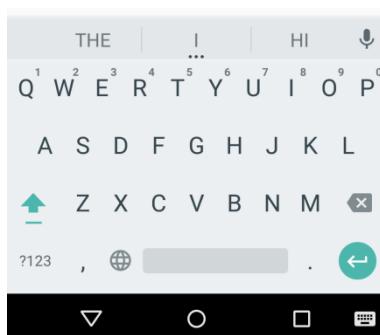
This key may change to “Go”  
or other action indicators  
depending on the situation.

**Shift key tapped**  
Tap the shift key  
to type one  
uppercase letter.



Note the keys  
themselves show  
that the next  
letter typed will  
be uppercase.

**Shift key  
double tapped**  
Two quick taps on the  
shift key turns on  
CAPS LOCK  
Note the highlighted  
underline under the  
shift arrow.



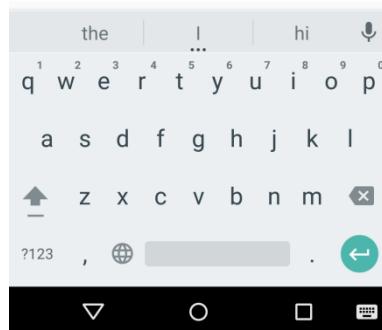
**EVERYTHING  
WILL BE IN  
UPPERCASE** until  
you tap the shift  
key again.

## Keyboard “Layers”

Due to screen size limitations, most onscreen keyboards have three “layers” of keys.

Letters are the first layer.

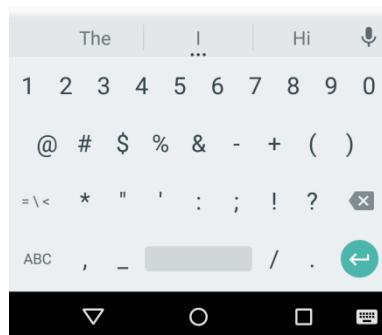
Tap the **symbol** key to change to the second layer.



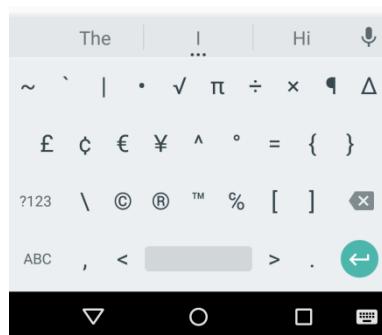
Numbers and common symbols are the second layer.

Tap the **=\<** key to change to the third layer.

Tap the **ABC** key to go back to the first layer, the letters.



Less frequently used symbols are on the third layer.

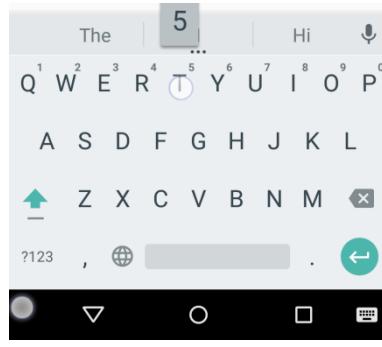


Note, after you type a number or symbol and press the spacebar, you will automatically be taken back to the letters.

## Little Bitty Secondary Characters and Hidden Goodies

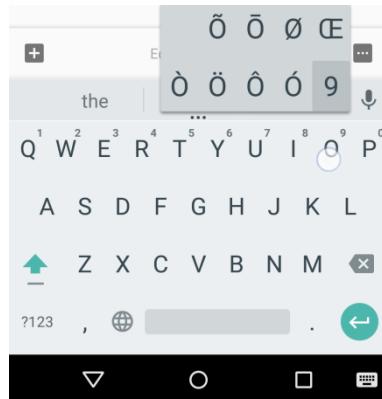
Some keyboards offer another way to let you type numbers or punctuation from the first “layer” of the keyboard.

Squint and you can see little tiny numbers above the top row of letters.



**Touch and hold** to get to these secondary characters.

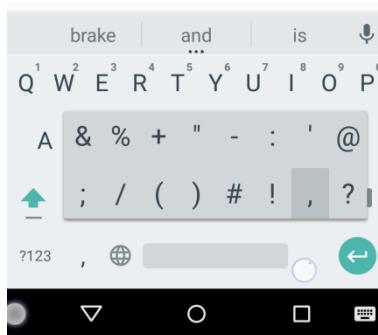
In this example, the “T” is being pressed to eventually reveal and type a 5.



**Touch and hold** on the “O” reveals several hidden characters.

Keep your finger on the screen and slide to the special character you want to type.

What happened if you **touch and hold** on other keys?



**Touch and hold** the period key to reveal a whole bunch of goodies.

## Predictive Typing and Dictation -- or “I don’t got time to TYPE the whole word...”

Another time saving or keystroke saving feature of many modern Android keyboards is predictive typing.

Notice the words directly above the top line of the keyboard – these are the predictions or guesses as to what you might be about to type.

As you type, these guesses will change to keep trying to match what you are about to type.

If the word you want is one of the guesses, just tap on it.

If not, type the next letter... and the next... until you type the entire word or the predictive typing finally presents you with the correct word.

Or, try some predictive typing poetry... don’t type anything, just keep selecting one of the suggested words... you may be surprised what you get.

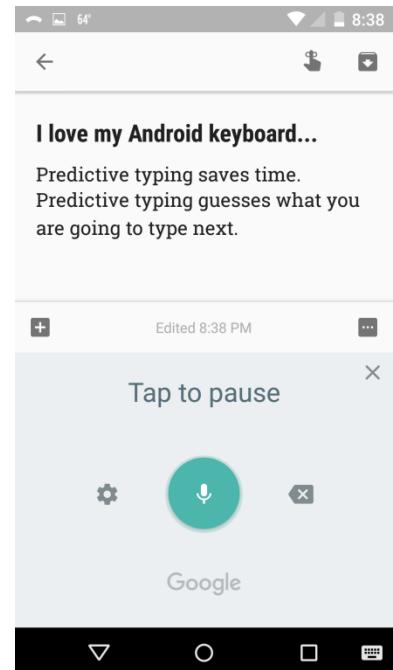
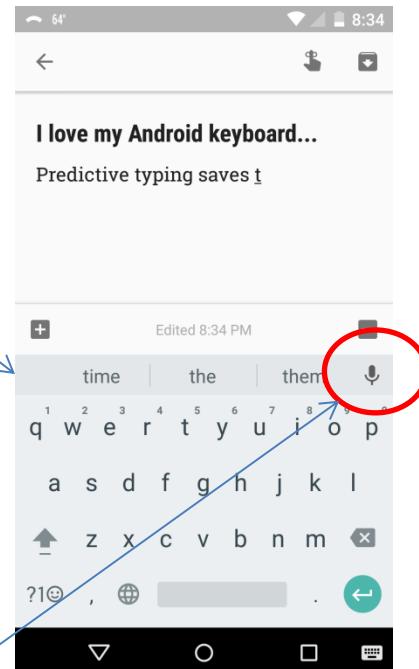
### Dictation

Maybe you don’t want to type at all.

Tap the microphone icon to start voice dictation.

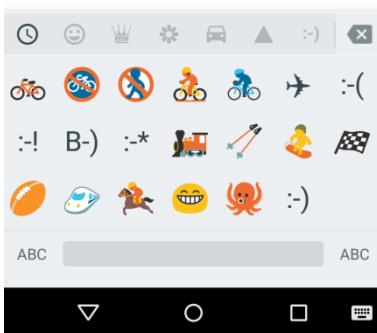
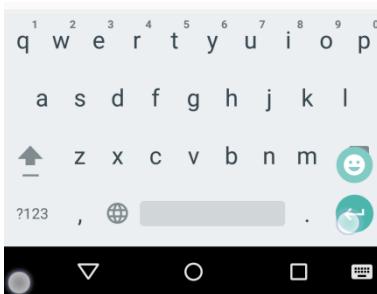
Hint: speak naturally, NOT like a robot and NOT pausing between words. Google voice recognition uses context and word groups to better understand what you are saying.

Also, we all throw in a few um’s and ah’s – try to avoid these and practice working with the dictation to see what works best for you.



## The Future of Communication

Touch and hold on the Enter key or tap the “smiley face” to enter the world of emoji. Emoji – pronounced “ee-moe-gee” are a growing set of little faces, symbols, animals, and graphical representations of ideas. (Of what idea you may sometimes never know.)



Are you being sarcastic?

When you are writing, it can be hard to tell. So.. throw in a couple ☺ ☺ ☺

Are you feeling really happy? Add a few emoji.

And let's not forget the “smiling poop” emoji... 

Scroll back and forth to see all the emoji at your command.

Note: While most messaging systems and many modern email systems handle emoji just fine, you may find some “plain text” systems that do not display the emoji properly... so, until you know if the person receiving your message can see the emoji, don't rely solely on them to get your point across.

## How About a Physical Keyboard?

As good (or bad) as the on-screen keyboards are, you may prefer a physical keyboard.

The good news is there are many physical keyboards. These almost always use Bluetooth wireless to “pair” the Android device to the keyboard. Here are a few examples:

Anker Ultra Compact Slim Profile Bluetooth Keyboard  
(about \$20)



Logitech Bluetooth Multi-Device Keyboard  
(about \$40)



Microsoft Universal Foldable Keyboard  
(about \$60)



## Settings

The Settings  app is where you can change many aspects about your Android device, such as connecting to a Wi-Fi network, changing the look and characteristics of the text and display, adjusting the screen brightness, and much more.



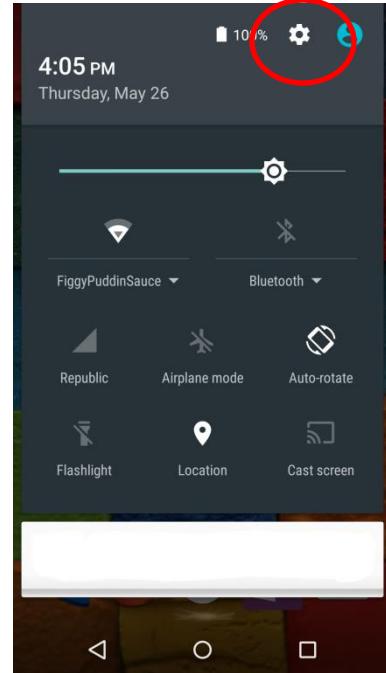
### Quick Settings

Swipe down from the top of your device to reveal the Quick Settings “shade.”

- Start with your finger on the top bezel, that is, the top frame beyond the touch area of the screen.
- Swipe down – possibly on the top-right
- Try swiping down with **TWO FINGERS**
- Try swiping down twice if the first swipe reveals notifications
- Some Android version may present a tabbed view

Tap on the revealed setting items to turn them on or off.

Tap on the Settings  gear to open the full settings area.



### Full Settings

Explore your settings.

Scroll up and down.

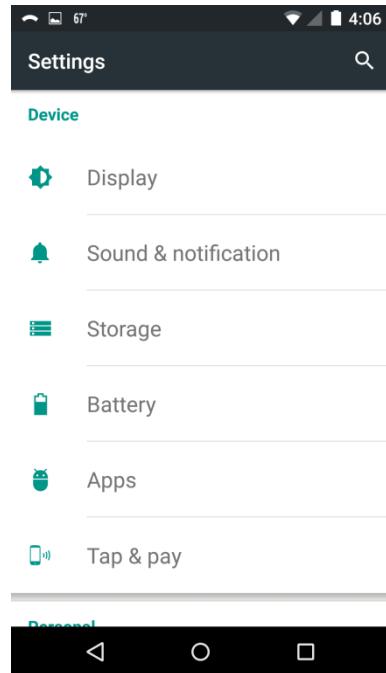
Tap an entry.

Use the back button to back out of setting details.

A few items to consider:

- Display → Sleep → set how long before your device goes to sleep by itself
- Accessibility → make screen text bigger, many more
- Battery → find out which apps are sucking your battery life
- Wi-Fi → see available networks and join one

DON'T BE AFRAID TO EXPLORE... look in every nook and cranny. Android has lots of nooks and many crannies...



## Notifications – Sometimes Helpful, Sometimes Annoying

According to Google, “Notifications alert you to things like new messages, calendar events, and alarms.” Many apps will generate some notifications of new events particular to each app.

Notifications generate tiny little icons on the LEFT of the status bar. (The right side icons are system info icons.)

Swipe down from the top of the screen to reveal the notification “shade.” You may have to swipe down from the top-left of the screen.

What do you do with notifications? What good are they?

Again, according to Google, you can:

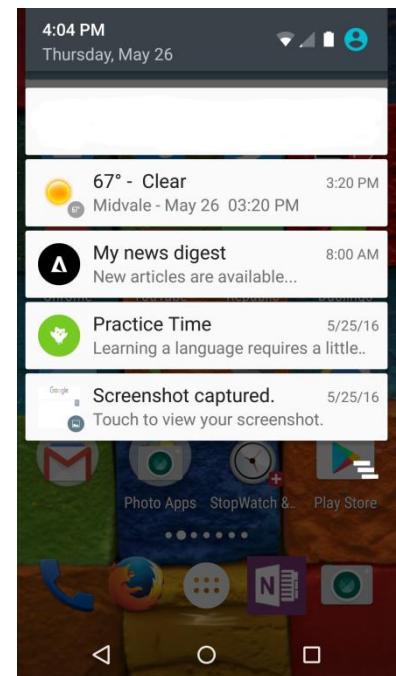
- Open the app: Touch a notification to open the app.
- Expand: If a notification has more details, you can swipe down from within the notification to expand.
- Dismiss: Swipe a notification right or left to dismiss it. Some notifications can't be dismissed right away.
- Clear all: You can dismiss all your notifications at once by touching the Dismiss icon at the bottom .

You might also be able to tap & hold on a notification to show the “info” icon (an “i” in a circle). Tap the info icon to directly open the notification settings for the app that generated the notification.

## Notification Settings

First, check the app itself for settings on when it should generate notifications.

Next, open **Settings**  and look for “Sound & Notifications”. Explore your device’s settings, for example, look for “App notifications” or other similar areas.



## Web Browsing on Android

Browsing the web on your Android device is easy to do and can be quite useful and fun. The notes here are not intended to be a full Internet how-to. Rather, the focus here is on the quirks, specifics, and special features of browsing on Android.

First -- **DO NOT** use the generic “Internet” browser.

Why?

It has known security flaws that have not been fixed and probably never will be fixed.

Uninstall this if you can or just remove the icon from your home screen and don’t use it.

Instead, use Chrome or Firefox or one of the other current and updated browsers.

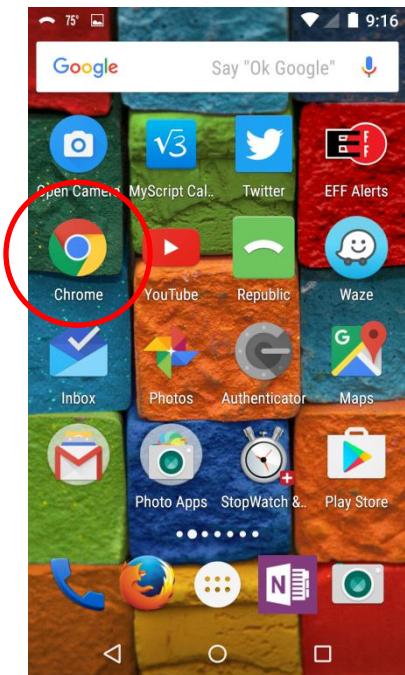


No...  
No... no...  
Nope...

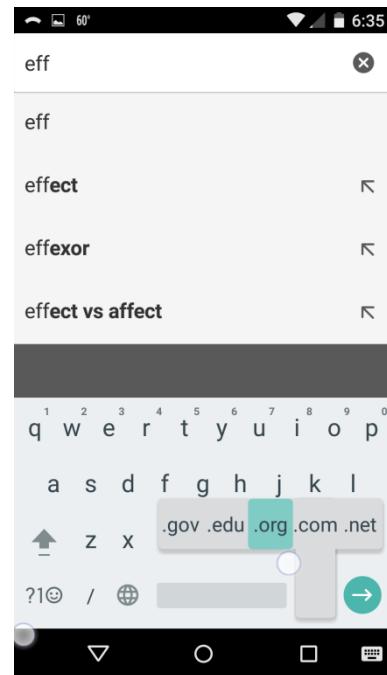
Yes...  
Sure...  
Yep...



## Web Browsing on Android



Tap on Chrome to open a web browser.



Let's visit the **Electronic Frontier Foundation** web site.  
Tap the web address/search box and type "eff" – then touch & hold on the period key. Your keyboard may provide you with some top level domain choices, such as .com, .edu, .org

Keep your finger on the screen and slide up to .org  
Tap the → arrow enter key.



**SECURITY TIP:** notice the **green lock** and the **https://**

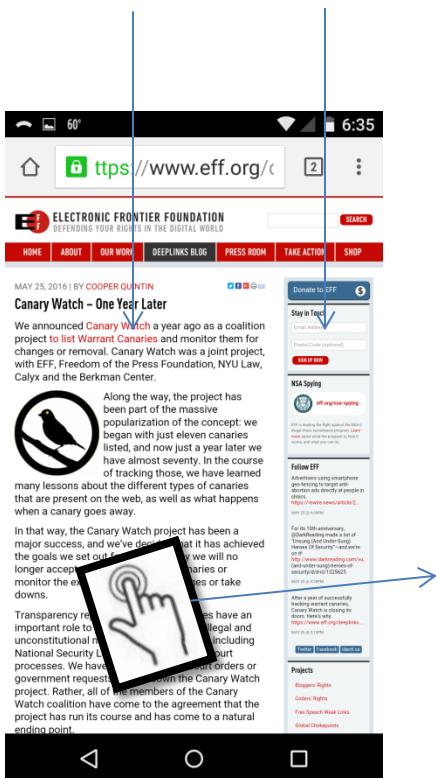
These indicate that this website uses encryption to ensure that everything sent across the Internet to and from this website is protected from anyone else being able to see or read it. The "s" in https stands for "secure."

Please be sure that any website you visit where you will be sending or receiving any personal or financial information uses this **https** encryption. Online banking, shopping, medical records...

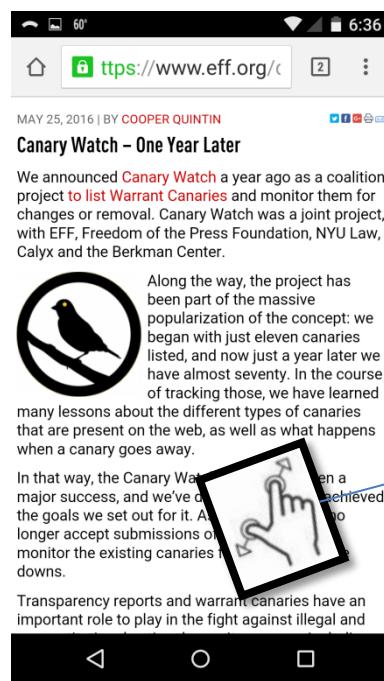
## Web Browsing on Small Screens... Time to Zoom-In

On small screens it can sometimes be hard to read websites or hard to tap on the proper links with your finger. One way to help with these situations is to zoom-in on the part of the web page you are interested in.

The eff.org website, like many other websites, is laid out to have a main area and a sidebar.



**Double-tap** on the main area of the page to **zoom-in** on that area to make it take up the full screen width.



If you want to go even bigger, use two fingers to stretch the screen as big as you want.



Use one finger to drag the web page around – up, down, left, right – so you can see all or it.

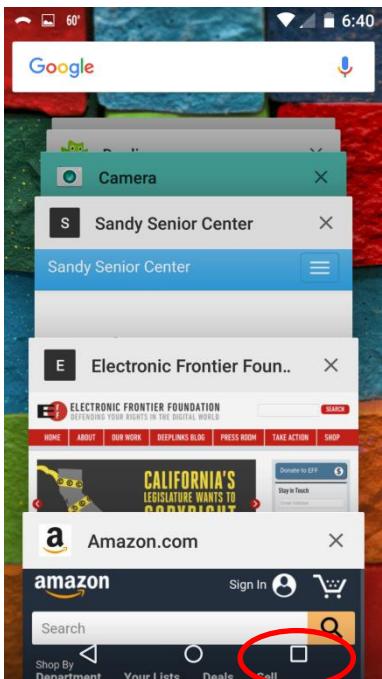
Note that some websites will not let you do this.

(These are bad websites that must be gently hit on the nose with a rolled up newspaper.)

## Web Browsing Tabs, Tabs, and More Tabs

Modern browsers like Chrome or Firefox offer the ability to open and work with more than one web page at a time. They do this by opening a new “tab” for each web page you want to have open. You can switch between each tab to view each web page of interest without closing any of the other web pages in the other tabs.

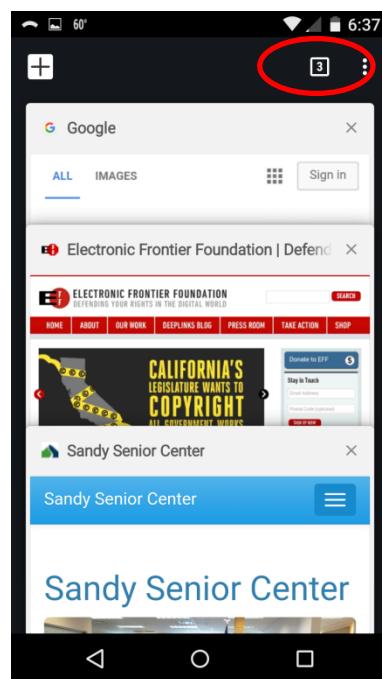
Very nice feature. Here’s the rub – with Android, when you close the browser (by tapping on the home button), you do not close the tabs. So, when you open the browser again... there are all your previously opened tabs. Again, nice feature, except that they can start to build up and clutter things up and slow things down.



Browser tabs shown in the overview list of recently used apps.

To close a tab,  
swipe it to the side  
or tap the X in the corner.

← or →



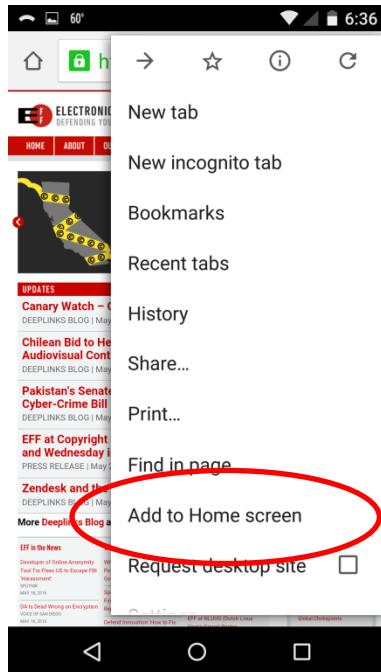
Browser tabs shown in the browser app shown by tapping on the boxed tab indicator.

To close a tab,  
swipe it to the side  
or tap the X in the corner.

Note: In Chrome, to change how your tabs are shown – either on the overview list or in the browser app – tap the three-dot menu (top right), tap Settings, tap “Merge tabs and apps”, and turn this feature on or off.

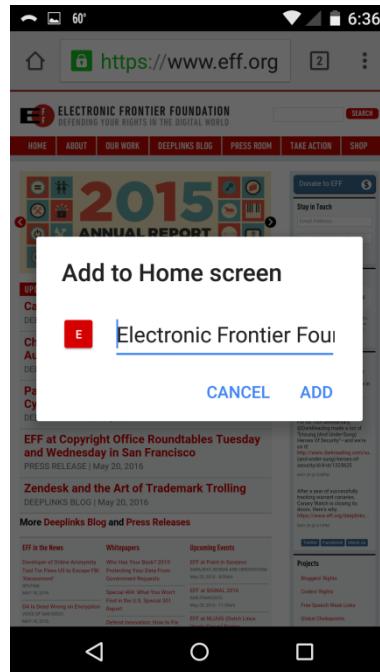
## Web Browsing Adding a Web Page to Your Home Screens

If there is a web page you want to return to again and again, you can tap the three-dot menu and then tap the star to “bookmark” it. BUT, HERE’S A COOLER OPTION... let’s add the web page to your home screen with an icon, just like an app. Here’s how:



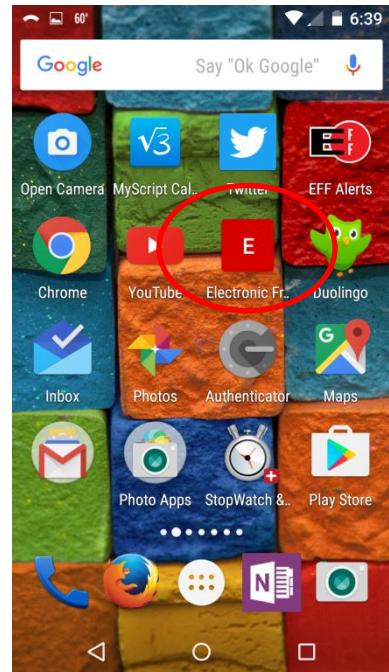
Tap the three-dot menu.

Then tap  
“Add to Home screen”



Edit the title.  
This will be the name  
of the newly created  
icon, so keep it short.

Tap “ADD”



You should now have  
a new icon on one of  
your home screens.

Tap the icon to go  
directly back to  
the specified web  
page.

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-- John Welle, 2016