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iPhone

the missing manual[®]

The book that should have been in the box[®]

7th Edition
Covers iPhone 5s,
5c, and iOS 7



O'REILLY[®]

David Pogue

iPhone

The Missing Manual

Seventh Edition

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Printed in Canada.

Published by O'Reilly Media, Inc., 1005 Gravenstein Highway North, Sebastopol, CA 95472.

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Print History:

October 2013:	First Printing.
November 2013:	Second Printing.
January 2014:	Third Printing.
May 2014:	Fourth Printing.

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The Missing Credits



David Pogue (author, illustrator, indexer) writes a weekly tech column for *The New York Times* and a monthly column for *Scientific American*. He's a double Emmy-winning correspondent for *CBS News Sunday Morning*, a host of *NOVA* on PBS, and the creator of the Missing Manual series. He's the author or coauthor of 60 books, including 28 in this series; six in the "For Dummies" line (including *Macs*, *Magic*, *Opera*, and *Classical Music*); two novels (one, *Abby Cademia's One and Only Magical Power*, for middle-schoolers); and *The World According to Twitter*. In his other life, David is a former Broadway show conductor, a piano player, and a magician. He lives in Connecticut with his wife and three awesome children.

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Acknowledgments

The Missing Manual series is a joint venture between the dream team introduced on these pages and O'Reilly Media. I'm grateful to all of them, especially to designer Phil Simpson and to prose queen Julie Van Keuren, who have become my Missing Manual core team.

A few other friends did massive favors for this book. Philip Michaels did an expert job of writing up the Game Center. Apple's Teresa Brewer was incredibly generous in chasing down elusive technical answers. Kellee Katagi contributed a sharp proofreading eye. O'Reilly's Brian Sawyer accommodated my chaotic schedule without once threatening to break my kneecaps. Sebastien Page (iDownloadBlog.com) let me use his SIM-card photo. And my incredible assistant Jan Carpenter kept me from falling apart like wet Kleenex.

The work done on previous editions lives on in this one; for that, I'm still grateful to my fellow *New York Times* columnist Jude Biersdorfer, my 2010 summer intern Matt Gibstein, and the inimitable Brian Jepson.

Thanks to David Rogelberg and Tim O'Reilly for believing in the idea, and above all, to Nicki, Kell, Tia, and Jeffrey. They make these books—and everything else—possible.

—David Pogue

The Missing Manual Series

Missing Manuals are witty, superbly written guides to computer products that don't come with printed manuals (which is just about all of them). Each book features a handcrafted index, cross-references to specific page numbers (not just "see Chapter 14"), and an ironclad promise never to put an apostrophe in the possessive pronoun "its."

Here's a list of current and upcoming titles:

For the Mac

- ***OS X Mavericks: The Missing Manual*** by David Pogue
- ***OS X Mountain Lion: The Missing Manual*** by David Pogue
- ***AppleScript: The Missing Manual*** by Adam Goldstein
- ***FileMaker Pro 12: The Missing Manual*** by Susan Prosser and Stuart Gripman
- ***iMovie '11 & iDVD: The Missing Manual*** by David Pogue and Aaron Miller
- ***iPhoto '11: The Missing Manual*** by David Pogue and Lesa Snider
- ***iWork '09: The Missing Manual*** by Josh Clark
- ***Office 2011: The Missing Manual*** by Chris Grover
- ***Switching to the Mac: The Missing Manual, Mavericks Edition*** by David Pogue
- ***Photoshop CC: The Missing Manual*** by Lesa Snider
- ***Photoshop CS6: The Missing Manual*** by Lesa Snider
- ***Photoshop Elements 12: The Missing Manual*** by Barbara Brundage

For Windows

- ***Windows 8.1: The Missing Manual*** by David Pogue
- ***Access 2013: The Missing Manual*** by Matthew MacDonald
- ***Excel 2013: The Missing Manual*** by Matthew MacDonald
- ***Microsoft Project 2013: The Missing Manual*** by Bonnie Biafore
- ***Office 2013: The Missing Manual*** by Nancy Conner and Matthew MacDonald
- ***QuickBooks 2014: The Missing Manual*** by Bonnie Biafore
- ***Photoshop CS6: The Missing Manual*** by Lesa Snider
- ***Photoshop Elements 12: The Missing Manual*** by Barbara Brundage

Electronics

- ***David Pogue's Digital Photography: The Missing Manual*** by David Pogue
- ***iPhone App Development: The Missing Manual*** by Craig Hockenberry
- ***iPad: The Missing Manual, Fifth Edition*** by J.D. Biersdorfer
- ***iPod: The Missing Manual, Eleventh Edition*** by J.D. Biersdorfer
- ***Kindle Fire HD: The Missing Manual*** by Peter Meyers

- ***Netbooks: The Missing Manual*** by J.D. Biersdorfer
- ***NOOK HD: The Missing Manual*** by Preston Gralla
- ***Droid X2: The Missing Manual*** by Preston Gralla
- ***Galaxy S4: The Missing Manual*** by Preston Gralla - Galaxy S4
- ***Galaxy Tab: The Missing Manual*** by Preston Gralla

Web Technologies

- ***Adobe Edge Animate: The Missing Manual***, Third Edition by Chris Grover
- ***Creating a Web Site: The Missing Manual***, Third Edition by Matthew MacDonald
- ***CSS3: The Missing Manual***, Third Edition, by David Sawyer McFarland
- ***Dreamweaver CS6: The Missing Manual*** by David Sawyer McFarland
- ***Dreamweaver CC: The Missing Manual*** by David Sawyer McFarland
- ***Flash CS6: The Missing Manual*** by E. A. Vander Veer and Chris Grover
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- ***HTML5: The Missing Manual, Second Edition*** by Matthew MacDonald
- ***JavaScript & jQuery: The Missing Manual***, Second Edition by David Sawyer McFarland
- ***PHP & MySQL: The Missing Manual, Second Edition*** by Brett McLaughlin
- ***WordPress: The Missing Manual***, by Matthew MacDonald

Life

- ***Personal Investing: The Missing Manual*** by Bonnie Biafore
- ***Your Brain: The Missing Manual*** by Matthew MacDonald
- ***Your Body: The Missing Manual*** by Matthew MacDonald
- ***Your Money: The Missing Manual*** by J.D. Roth



Introduction

How do you make the point that the iPhone has changed the world? The easy answer is “use statistics”—400 million sold, 1 billion downloadable programs on the iPhone App Store, 50 billion downloads.... Trouble is, those statistics get stale almost before you’ve finished typing them.

Maybe it’s better to talk about the aftermath. How since the iPhone came along, cell carriers (AT&T, Verizon, Sprint, and so on) have opened up the calcified, conservative way they used to consider new cellphone designs. How every phone and its brother now have a touchscreen. How Google (Android) phones, Windows, and BlackBerry phones all have their own app stores. How, in essence, everybody wants to be the iPhone.

The thing is, it will be tough for them to catch up technologically, because Apple is always moving, too. In September 2013, for example, it introduced the seventh iPhone model, the iPhone 5s—faster and better in dozens of ways. And a seventh-and-a-halfth mode, the iPhone 5c, which is basically an iPhone 5 (the previous year’s model) in a glossy plastic body.

More importantly, there’s a new, free version of the iPhone’s software, called iOS 7. (Why not “iPhone OS” anymore? Because the same operating system runs on the iPad and the iPod Touch. It’s not just for iPhones anymore, and saying, “the iPhone/iPad/iPod Touch OS” takes too long.)

Why is it so important? Because you can run iOS 7 on *older* iPhone models (the 4, 4s, and 5) without having to buy a new phone. This book covers all phones that can run the iOS 7 software: the iPhone 4, iPhone 4s, iPhone 5, iPhone 5c, and iPhone 5s.

About the iPhone

So what’s the iPhone?

Really, the better question is What *isn’t* the iPhone?

It's a cellphone, obviously. But it's also a full-blown iPod, complete with a dazzling screen for watching videos. And it's a sensational pocket Internet viewer. It shows fully formatted email (with attachments, thank you) and displays entire Web pages with fonts and design intact. It's tricked out with a tilt sensor, a proximity sensor, a light sensor, WiFi, Bluetooth, GPS, a gyroscope, and that amazing multitouch screen.



For many people, the iPhone is primarily a camera and a camcorder—one that's getting better with every year's new model.

Furthermore, it's a calendar, an address book, a calculator, an alarm clock, a stopwatch, a stock tracker, a traffic reporter, an RSS reader, and a weather forecaster. It even stands in for a flashlight and, with the screen off, a pocket mirror.

But don't forget the App Store. Thanks to the hundreds of thousands of add-on programs that await there, the iPhone is also a fast, wicked-fun pocket computer. All those free or cheap programs can turn it into a medical reference, a musical keyboard, a time tracker, a remote control, a sleep monitor, a tip calculator, an ebook reader, and so on. And whoa, those games! Thousands of them, with smooth 3-D graphics and tilt control.

All of this sends the iPhone's utility and power through the roof. Calling it a phone is practically an insult.

(Apple probably should have called it an “iPod,” but that name was taken.)

About This Book

By way of a printed guide to the iPhone, Apple provides only a fold-out leaflet. It's got a clever name—“Finger Tips”—but to learn your way around, you're expected to use an electronic PDF document. That PDF covers the basics well, but it's largely free of details, hacks, workarounds, tutorials, humor, and any acknowledgment of the iPhone's flaws. You can't mark your place, underline, or read it in the bathroom.

The purpose of this book, then, is to serve as the manual that should have accompanied the iPhone. (If you have an original iPhone, iPhone 3G, or iPhone 3GS, you really need one of this book's earlier editions. If you have an iPhone 4, 4s, or 5, this book assumes that you've installed iOS 7; see Appendix A.)

Writing computer books can be an annoying job. You commit something to print, and then—bam—the software gets updated or revised, and suddenly your book is out of date.

That will certainly happen to this book. The iPhone is a *platform*. It's a computer, so Apple routinely updates and improves it by sending it new software bits. To picture where the iPhone will be a few years from now, just look at how much better, sleeker, and more powerful today's iPod is than the original 2001 black-and-white brick.

Therefore, you should think of this book the way you think of the first iPhone: as a darned good start. To keep in touch with updates we make to it as developments unfold, drop in to the book's Errata/Changes page. (Go to www.missingmanuals.com, click this book's name, and then click **View/Submit Errata**.)

TIP: Writing a book about the iPhone is a study in exasperation, because the darned thing is a moving target. Apple updates the iPhone's software fairly often, piping in new features, bug fixes, speed-ups, and so on.

This book covers the iPhone's 7.0.3 software. There may be a 7.0.4, and a 7.1, and so on. Check this book's page at www.missingmanuals.com to read about those updates when they occur.

About the Outline

iPhone: The Missing Manual is divided into five parts, each containing several chapters:

- Part 1, **The iPhone as Phone**, covers everything related to phone calls: dialing, answering, voice control, voicemail, conference calling, text messaging, iMessages, MMS, and the Contacts (address book) program. It's also where you can read about FaceTime, the iPhone's video-calling feature, and Siri, the “virtual assistant” in the iPhone 4s and later models.
- Part 2, **Pix, Flick & Apps**, is dedicated to the iPhone's built-in software programs, with a special emphasis on its multimedia abilities: playing music, podcasts, movies, TV shows, and photos; capturing photos and videos; the Maps app; reading ebooks; and so on. These chapters also cover some of the standard techniques that most apps share: installing, organizing, and quitting them; switching among them; and sharing material from within them using the Share sheet.
- Part 3, **The iPhone Online**, is a detailed exploration of the iPhone's third talent: its ability to get you onto the Internet, either over a WiFi hotspot connection or via the cellular network. It's all here: email, Web browsing, and **tethering** (that is, letting your phone serve as a sort of Internet antenna for your laptop).
- Part 4, **Connections**, describes the world beyond the iPhone itself—like the copy of iTunes on your Mac or PC that can fill up the iPhone with music, videos, and photos, and syncing the calendar, address book, and mail settings. These chapters also cover the iPhone's control panel, the Settings program; and how the iPhone syncs wirelessly with corporate networks using Microsoft Exchange ActiveSync—or with your own computers using Apple's iCloud service.
- Part 5, **Appendixes**, contains two reference chapters. Appendix A walks you through the setup process; Appendix B is a master compendium of troubleshooting, maintenance, and battery information.

About→These→Arrows

Throughout this book, and throughout the Missing Manual series, you'll find sentences like this one: Tap **Settings→Airplane Mode→On**. That's shorthand for a much longer instruction that directs you to open three nested screens in sequence, like this: “Tap the **Settings** button. On the next screen, tap **Airplane Mode**. On the screen after that, tap **On**.” (In this book, tappable things on the screen are printed in **orange** to make them stand out.)

Similarly, this kind of arrow shorthand helps to simplify the business of choosing commands in menus on your Mac or PC, like **File**→**Print**.

About MissingManuals.com

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What's New in the iPhone 5s

Apple's usual routine is to introduce a new iPhone shape every other year (iPhone 3G, iPhone 4, iPhone 5)—and then release a follow-up “s” model with upgraded components in alternate years (iPhone 3GS, iPhone 4s, iPhone 5s). The 2013–14 model, the 5s, fits right in. Here's what's new:

- **A new chip.** The new A7 chip is, Apple says, twice as fast as before. That speed makes possible new features like the camera's 10-frames-per-second burst mode. And since it's a 64-bit chip, the first in a cell-phone, the graphics in 3-D video games look especially smooth.
- **Another new chip.** The iPhone 5s contains a coprocessor—sort of a sister chip—called the M7. Its job is to monitor motion data from the phone's compass, gyroscope and accelerometer (tilt sensor). Now, apps that rely on this data (mainly fitness tracking apps) won't drain nearly as much battery, because the primary A7 processor can go to sleep and hand off monitoring duties to the M7— which requires one-sixth as much battery power.
- **A much better camera sensor.** It's 15 percent bigger; its light-detecting pixels are bigger. Low-light pictures are far better now—clearer, brighter, better color.
- **A much better flash.** The 5s has two LED flashes: one white, one amber. They fire together, mixed to match the color temperature of the scene. Your flash pictures look infinitely better—especially skin tones.

- **Wow-worthy camera features.** The 5s's camera also has a burst mode (10 frames a second); 3x zooming during video capture; and truly stunning slow-motion (120-frames-per-second) video.
- **A fingerprint sensor.** The 5s's most famous feature is the fingerprint sensor, which is cleverly built right into the Home button. After pushing the Home button to wake the phone, you leave your finger there another half second, and boom: You've unlocked a phone that nobody else can unlock, without the hassle of inputting the password. The fingerprint is stored only on your phone, encrypted within the A7 chip, and never transmitted or stored online.

NOTE: With several hours, several thousand dollars of lab equipment, and a perfect, unsmudged copy of a fingerprint, a hacker online famously proved that he could fool the 5s's finger scanner. But using your fingerprint as your password is still a smart, convenient, secure (and optional) idea. Long before an iPhone thief could manage to hack your fingerprint, you'll have popped over to iCloud.com and "bricked" the phone so that it can't even be turned on (details start on page 482).

What's New in iOS 7

Wow. iOS 7, dude. It's ambitious, it's radical, it's polarizing. You love it or you hate it (or you get used to it).

This software looks *nothing* like the old iOS. It's clean, white, almost barren. It uses a razor-thin font (Helvetica Neue) and bright, light colors. And it completely rejects *skeuomorphism*, the old iOS design principle, in which onscreen things depict real-world materials. In iOS 7, you will not find lined yellow paper in the Notes app, a leather binding in Calendar, wooden shelves for Newsstand, or green felt in Game Center. Everything is now "flat"—no attempts at fake 3-D—and digital.

TIP: If the fonts are too thin for your taste, you can fatten them up just enough by turning on **Settings→General→Accessibility→Bold Text**. While you're there, also turn on **Increase Contrast**; that makes some of the translucent panels opaque, for easier reading. You can make text larger in most apps, too, in **Settings→General→Accessibility→Larger Type**.

Although iOS 7 looks radically different, it's much more efficient to navigate. There's no eye candy to distract you; everything on the screen is a useful button.

And the features themselves have been redone with a huge emphasis on removing annoyances, moving things into more logical places, and polishing up the built-in apps.

Apple says iOS 7 contains over 200 new features, but here are the big-ticket items:

- **Better Siri.** Siri, the voice-controlled assistant, is much faster, she's much more capable, and her voice is much more realistic. (Or *his* voice; you can now choose Siri's gender.) For example, you no longer have to burrow into Settings to adjust your control panels. You can just say "Open camera settings," for example, or "Make the screen brighter."
- **Control Center.** You'll love this from Day One. Swipe upward from the bottom of the screen to open the Control Center: a compact, visual palette of controls for brightness, volume, Bluetooth, WiFi, Airplane mode, music playback, calculator, camera, and—so great!—Flashlight. Swipe down (or press the Home button) to make it disappear.
- **An almost-universal "back" gesture.** You can swipe in from the left margin of the phone to *go back* one screen. It works in Mail, Settings, Notes, Messages, Safari, Facebook, Photos, and many other apps.

NOTE: Speaking of swipes: In many apps, like Mail or Voice Memos, you can delete an item in a list by swiping across it, then tapping the **Delete** button to confirm. But here's something that may throw you: in iOS 7, you can swipe *only leftward*. Swiping to the right doesn't work anymore.

- **Real multitasking.** All apps can run in the background now—and a new, much more visual app switcher makes it easy to jump among them (or force quit them).
- **iTunes Radio.** Exactly like Pandora: free Internet "radio stations" based on bands or types of music you like.
- **Internet phone calls.** Free high-quality voice calls (to other Apple phones, tablets, and Macs). Apple calls it Audio-Only FaceTime.
- **AirDrop.** Totally, totally great. You can now shoot whatever's on the screen—a photo, a map, a Web page, a video, some contact info—to another iOS 7 phone or tablet with one tap. Even to strangers. No setup, no hassle.
- **A new Photos app.** This app used to be an endless scroll of tiny thumbnails. Now it self-organizes into clusters by year, by month, and

by occasion (based on time and location data). Photos are *much* easier to find.

- **A new Camera app.** The redesigned app offers Instagram-style color filters and an easy way to switch among its modes: Video, Photos, Panorama, Square Photos, and (on the iPhone 5s) Slo-Mo Video.
- **Activation Lock.** Incredibly, 40 percent of reported thefts in New York City are stolen iPhones—but that's about to change. Now, if somebody steals your phone, he can't erase it, or even turn off Find My iPhone, without your Apple account password. Thieves will have to stop stealing iPhones, because, without your password, they're useless and can't be resold.
- **Carpenter's Level.** The Compass app now has a three-dimensional level in it!
- **Global Type Size control.** A new slider controls the font size in all your apps—or at least those that have been rewritten to hook into this feature. Most of Apple's apps have.
- **Auto app updates.** Updated versions of your apps can install themselves automatically, in the background, so you don't have to spend your life responding to update notifications.
- **Today screen.** Now a single screen lists everything that's happening today, written in plain English: your next appointment, today's weather, reminders due, whose birthday it is, and so on.
- **Maps.** Apple's Maps still can't give you directions using public transportation, but at least it now has walking directions. And in dim light, Maps automatically substitutes a dark-gray background to avoid distracting you as you drive.

It's a lot of tweaks, polishing, and finesse—and a lot to learn. Fortunately, 500 pages of instructions now await you.

1

The Guided Tour

If you'd never seen all the videos and photos of the iPhone, and you found it lying on someone's desk, you might not guess it was a phone (let alone an iPod/Web browser/alarm clock/stopwatch/voice recorder/musical instrument/compass). You can't see any antenna, mouthpiece, or earpiece—and goodness knows there are no number keys for dialing.

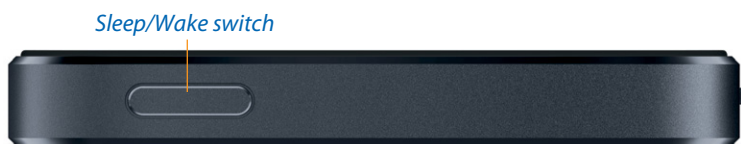
It's all there, though, hidden inside this sleek glass slab.

For the rest of this book, and for the rest of your life with the iPhone, you'll be expected to know what's meant by, for example, “the Home button” and “the Sleep switch.” A guided tour, therefore, is in order.



Sleep Switch (On/Off)

On the top-right edge of the iPhone, you'll find a metal button shaped like a dash. This, ladies and gents, is the Sleep switch.

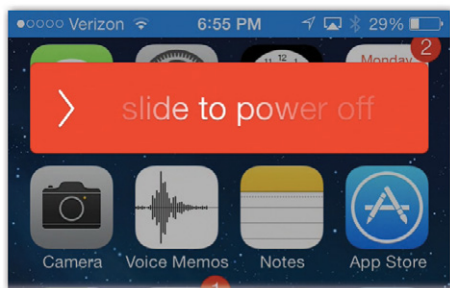


It has several functions:

- **Sleep/Wake.** Tapping it once puts the iPhone to sleep—into Standby mode, ready for incoming calls but consuming very little power. Tapping it again turns on the screen so it's ready for action.
- **On/Off.** The same switch can also turn the iPhone off completely so it consumes no power at all; incoming calls get dumped into voicemail. You might turn the iPhone off whenever you're not going to use it for a few days.

To turn the iPhone off, press the Sleep switch for 3 seconds. The screen changes to say **slide to power off**. Confirm your decision by placing a fingertip on the > and sliding to the right. The device shuts off completely.

TIP: If you change your mind about turning the iPhone off, tap the **Cancel** button, or do nothing; after a moment, the iPhone backs out of the **slide to power off** screen automatically.



To turn the iPhone back on, press the switch again for 1 second. The chromelike Apple logo appears as the phone boots up.

- **Answer call/Dump to voicemail.** When a call comes in, you can tap the Sleep button *once* to silence the ringing or vibrating. After four rings, the call goes to your voicemail.

You can also tap it *twice* to dump the call to voicemail immediately. (Of course, because they didn't hear four rings, iPhone veterans will know you've blown them off. Bruised egos may result. Welcome to the world of iPhone etiquette.)

- **Force restart.** The Sleep switch has one more function. If your iPhone is frozen, and no buttons work, and you can't even turn the thing off, this button is also involved in force-restarting the whole machine. Steps for this last-ditch procedure are on page 554.

Locked Mode

When you don't touch the screen for 1 minute (or another interval you choose), or when you put the iPhone to sleep, the phone *locks* itself. When it's locked, the screen is dark and doesn't respond to touch. If you're on a call, the call continues; if music is playing, it keeps going; if you're recording audio, the recording proceeds.

But when the phone is locked, you don't have to worry about accidental button pushes. You wouldn't want to discover that your iPhone has been calling people or taking photos from the depths of your pocket or purse. Nor would you want it to dial a random number from your back pocket, a phenomenon that's earned the unfortunate name *butt dialing*.

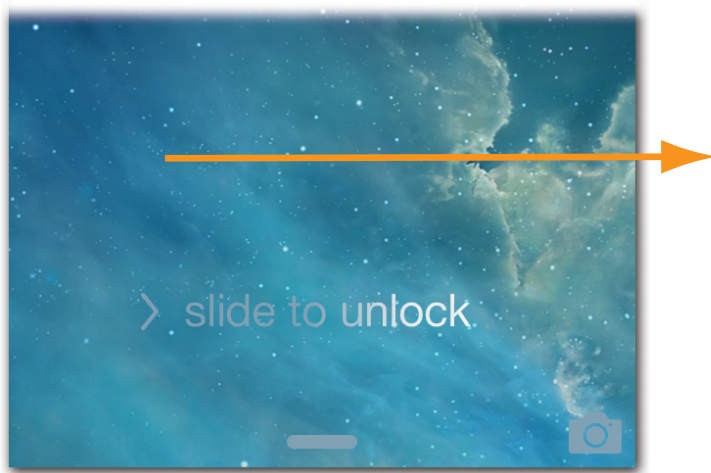
The Lock Screen

To wake the phone when it's locked, press either the Sleep switch *or* the Home button.

That gesture alone doesn't fire up the full iPhone world, though. Instead, it presents the Lock screen shown below.

From here, slide your finger rightward across the screen (anywhere—you don't have to aim for the *slide to unlock* area!) to unlock the phone, wake it up, and start using it.

Swipe anywhere



NOTE: The iPhone can demand a password or (on the iPhone 5s) a fingerprint each time it wakes up, if you like. See page 48. On the other hand, you can adjust how quickly the phone locks itself, or make it stop locking itself altogether; see page 511.

These days, the Lock screen is more than just a big Do Not Disturb sign. It's a veritable bulletin board for up-to-date information about your life—information you can scan without unlocking the phone at all.

For starters, you can use the iPhone as a watch—millions of people do. Just tap the Sleep switch to consult the Lock screen's time and date display, and then shove the phone right back into your pocket. The iPhone relocks after a few seconds.

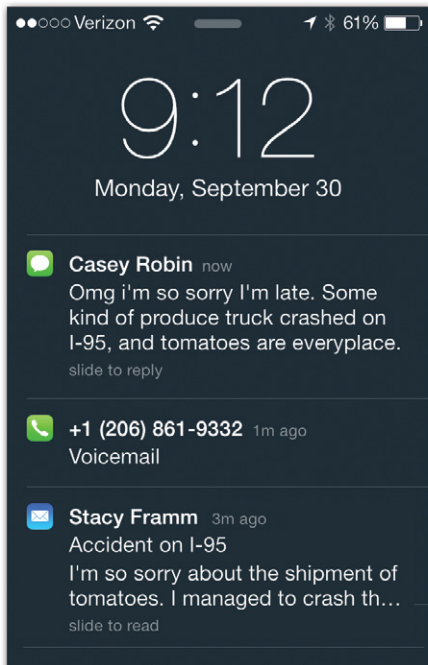
If you're driving, using the Maps app to guide you, the Lock screen shows the standard GPS navigation screen. Handy, really—the less fumbling you have to do while driving, the safer you are.

Better yet, the Lock screen is a handy status screen. Here you see a record of everything that happened while you weren't paying attention. It's a list of missed calls, text messages received, notifications from your apps, and other essential information.

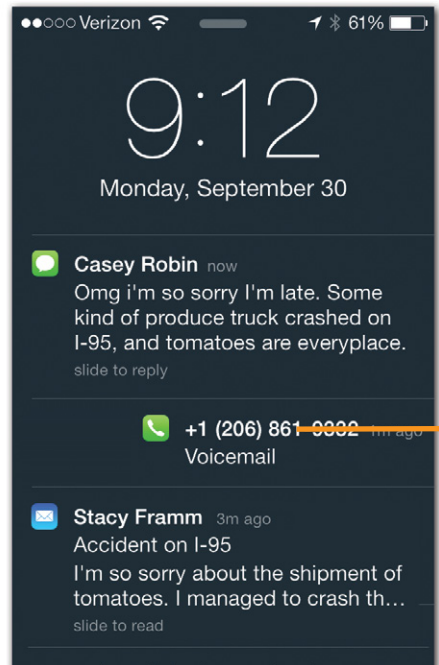
Now, each of these notices has come from a different **app** (software program). To call somebody back, for example, you'd want to open the Phone app; to reply to a text message, you'd want the Messages app, and so on.

Here, then, is a handy shortcut: You can dive directly into the relevant app by swiping your finger ***across the notification itself***, like this:

Lock screen with notifications



Swipe to open that app



Adopting that shortcut saves you the trouble of unlocking the phone, fumbling through your Home screens until you find the app you want, and tapping it to open it.

TIP: On the other hand, if you'd rather ***not*** have all these details show up on the Lock screen, you can turn them off. (Privacy is the main reason you might want to do so—remember that the bad guys don't need a password to view your Lock screen. They just have to tap the Sleep switch or the Home button.)

You can hide these items from your Lock screen on an app-by-app basis. For example, you might want missed calls to show up here but not missed text messages. To set this up, choose **Settings**→**Notifications**. Tap the app in question; scroll to the bottom, and then turn off **View in Lock Screen**.

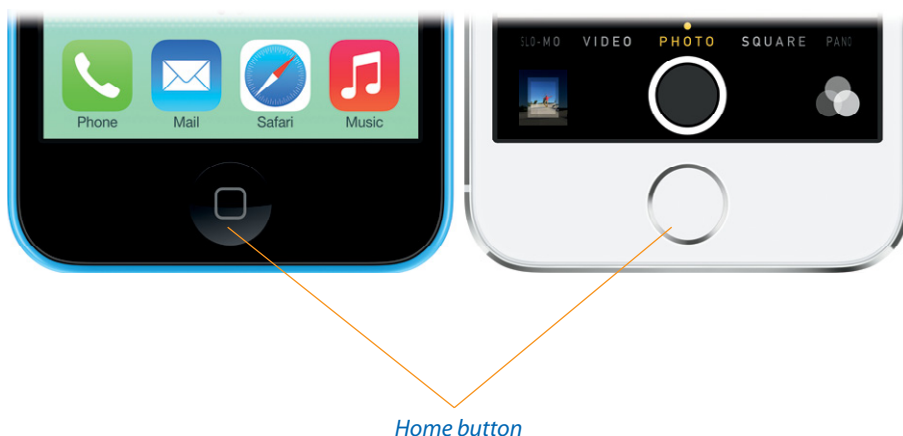
In iOS 7, you can actually begin to operate the phone right here at the Lock screen. For example:

- **Swipe down** from the top edge of the screen to view your Notification Center—a detailed one-stop screen that shows your missed calls, texts, and emails; upcoming appointments; stock and weather alerts; and so on.
- **Swipe up** from the bottom edge to open the new Control Center, with all the important settings (volume, brightness, play/pause music, Airplane mode, flashlight, and more) in one place. See page 37.
- **Drag upward** on the camera (📷) icon to jump directly into picture-taking mode.

If it bothers you that some stranger picking up your phone can do all of these things without the password or a fingerprint, don't worry; you can turn all of them off on the corresponding Settings screens (for example, [Settings](#)→[Control Center](#)).

Home Button

Here it is: the one and only button on the front of this phone. Push it to summon the Home screen, which is your gateway to everything the iPhone can do. (You can read more about the Home screen at the end of this chapter.)



Having a Home button is a wonderful thing. It means you can never get lost. No matter how deeply you burrow into the iPhone software, no matter how far off track you find yourself, one push of the Home button takes you back to the beginning.

On the iPhone 5s, of course, the Home button is also a fingerprint scanner—the first one anybody's ever put on a cellphone that actually **works**.

But, as time goes on, Apple keeps saddling the Home button with more and more functions. It's become Apple's only way to provide shortcuts for common features; that's what you get when you design a phone that only *has* one button. In iPhone Land, you can press the Home button one, two, or three times for different functions—or even hold it down. Here's the rundown.

Quick Press: Wake Up

Pressing the Home button once wakes the phone if it's in locked mode. That's sometimes easier than finding the Sleep switch on the top edge. It gives you a quick glance at your missed calls and texts—or the time and date.

Momentary Touch: Unlock (iPhone 5s)

If you've taught the iPhone 5s to recognize your fingerprint, just resting your finger on the Home button is enough to unlock the phone, bypassing the password screen. In other words, you should get into the habit of *pressing* the Home button (to wake the phone) and then *leaving your finger on it* for about a half-second to unlock it. Page 48 has more on fingerprints.

Long Press: Siri (or Voice Control)

If you hold down the Home button for about 3 seconds, you make the phone ready for *voice control*.

If you have an iPhone 4, you can use voice control to dial by speaking a name or a number, or use it to control music playback. If you have an iPhone 4s or later, you can do a thousand times more: You can command Siri, your virtual voice-controlled assistant. Details are in Chapter 4.

Two Quick Presses: Task Switcher

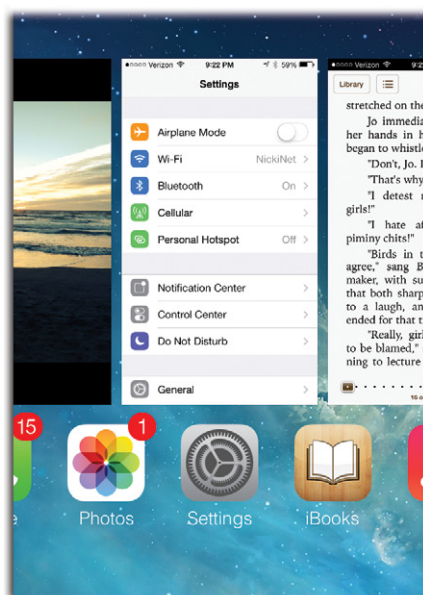
If, once the phone is awake, you press the Home button *twice quickly*, the current image fades away—to reveal the new iOS 7 app switcher screen. This feature is the key to the iPhone's multitasking feature.

What you see here are icons *and currently open screens* of the programs you've used most recently (older ones are to the right). Swipe horizontally to bring more apps into view; the Home screen is always at the far left.

The point is that with a single tap (on either the icon or the screen miniature), you can jump right back into a program you had open, without waiting for it to start up, show its welcome screen, and so on—and without having to scroll through 11 Home screens trying to find the icon of a favorite app.

In short, the task switcher gives you a way to jump *directly* to another app, without a layover at the Home screen first.

TIP: On this screen, you can also quit a program by flicking its screen upward. In fact, you can quit *several programs at once*, using two or three fingers. Fun for the whole family!



This task switcher is the only visible element of the iPhone's multitasking feature, which is described in delicious detail on page 290. Once you get used to it, that double-press of the Home button will become second nature—and your first choice for jumping among apps.

Three Presses: VoiceOver, Zoom, White on Black...

In **Settings**→**General**→**Accessibility**, you can set up a triple-press of the Home button to turn one of several accessibility features on or off: Guided Access (aka kiosk mode), VoiceOver (the phone speaks whatever you touch), Invert Colors (white-on-black type, which is sometimes easier to see), Zoom (magnifies the screen), Switch Control (accommodates external gadgets like sip-and-puff straws), and AssistiveTouch (help for people who have trouble with physical switches).

All of these features are described beginning on page 168.

TIP: The Home button is also part of the *force quit* sequence—a good troubleshooting technique when a particular program seems to be acting up. See page 293.

Silencer Switch, Volume Keys

Praise be to the gods of technology—this phone has a silencer switch! This tiny flipper, on the left edge at the top, means that no ringer or alert sound will humiliate you in a meeting, at a movie, or in church. To turn off the ringer, push the flipper toward the back of the phone (see the photo on page 9).

No menus, no holding down keys, just instant silence. All cellphones should have this feature.

NOTE: Even when silenced, the iPhone still makes noise in certain circumstances: when an alarm goes off; when you're playing music; when you're using Find My iPhone (page 480); when you're using VoiceOver; or, sometimes, when a game is playing. Also, the phone still vibrates when the silencer is engaged, although you can turn this feature off in **Settings**→**Sounds**.

With practice, you can learn to tell if the ringer is on while the iPhone is still in your pocket. That's because when the ringer is on, the switch falls in a straight line with the volume buttons. By swiping your thumb across these controls, you can feel whether the silencer switch is lined up or tilted away.

Below the silencer, still on the left edge, are the volume controls—separate **+** and **–** buttons. The volume controls work in five different ways:

- On a call, these buttons adjust the speaker or earbud volume.
- When you're listening to music, they adjust the playback volume—even when the phone is locked and dark.
- When you're taking a picture, either one serves as a shutter button or a camcorder start/stop button.
- At all other times, they adjust the volume of sound effects like the ringer and alarms.
- When a call comes in, they silence the ringing or vibrating.

In each case, if the screen is on, a corresponding volume graphic appears on the screen to show you where you are on the volume scale.

Screen

The touchscreen is your mouse, keyboard, dialing pad, and notepad. You might expect it to get fingerprinty and streaky.

But one of the best unsung features of the modern iPhone is its *oleophobic* screen. That may sound like an irrational fear of yodeling, but it's actually a coating that repels grease. You'll be amazed at how easily a single light wipe on your clothes restores the screen to its right-out-of-the-box crystal sheen.

You can also use the screen as a mirror when the iPhone is off.

The iPhone's Retina screen has crazy high resolution (the number of tiny pixels per inch). It's really, really sharp, as you'll discover when you try to read text or make out the details of a map or a photo. The iPhone 4 and 4s pack in 960×640 pixels; the iPhone 5 family, with an extra half-inch of screen, manages 1136×640 pixels.

The front of the iPhone is made of Gorilla Glass, a special glass formulation made by Corning. It's unbelievably resistant to scratching. (That doesn't mean it can't crack; you can still shatter it if you drop it just the wrong way.) The back of the 4 and 4s are Gorilla Glass, too.

NOTE: This is how Corning's Web site says this glass is made: "The glass is placed in a hot bath of molten salt at a temperature of approximately 400°C. Smaller sodium ions leave the glass, and larger potassium ions from the salt bath replace them. These larger ions take up more room and are pressed together when the glass cools, producing a layer of compressive stress on the surface of the glass. Gorilla Glass's special composition enables the potassium ions to diffuse far into the surface, creating high compressive stress deep into the glass. This layer of compression creates a surface that is more resistant to damage from everyday use."

But you probably guessed as much.


If you're nervous about protecting your iPhone, you can always get a case for it (or a "bumper" for the iPhone 4 or 4s—a silicone band that wraps around the metal edges). But if you're worried about scratching the glass, you're probably worrying too much. Even many Apple employees carry the iPhone in their pockets without carrying cases.



Radio signals can't pass through metal. That's why there are strips of glass on the back of the iPhone 5 and 5s—right where the antennas are—and why the 4 and 4s have all-glass backs, and why the 5c has a plastic back.



And there are a *lot* of radio signals in this phone. All told, there are **15** different radio transceivers inside: four for the standard GSM frequencies; four for GSM's 3G frequencies; three for CDMA frequencies; and one each for WiFi, Bluetooth, American GPS, and Russian GPS.


Screen Icons




Here's a roundup of the icons you may see in the status bar at the top of the iPhone screen, from left to right:

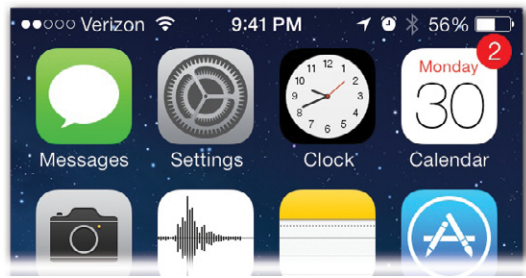
-  **Cell signal.** As on any cellphone, the number of bars—or dots, in iOS 7's case—indicates the strength of your cell signal, and thus the quality of your call audio and the likelihood of losing the connection. If there are no dots, then the dreaded words “No service” appear here.
- **Network name and type.** These days, different parts of the country—and even different parts of your street—are blanketed by cellular Internet signals of different speeds, types, and ages. Your status bar always shows you the kind of signal it has right now.

From slowest to fastest:  or  means your iPhone is connected to your carrier's slowest, oldest Internet system. You might be able to check email, but you'll lose your mind waiting for a Web page to load.

If you see the  logo, you're in a city where your cell company has installed a 3G network—meaning fairly decent Internet speed. A  logo is better yet; you have speed in between 3G and LTE.

And if you see  up there—well, then, get psyched. You have an iPhone 5, 5c, or 5s, and you're in a city with a 4G LTE cellular network. And that means *insanely* fast Internet (maybe even faster than you have at home), fast Web browsing, fast app downloading—just fast.

-  **Airplane Mode.** If you see the airplane instead of signal and WiFi bars, then the iPhone is in Airplane mode (page 375).
-  **Do Not Disturb.** When the phone is in Do Not Disturb mode, nothing can make it ring, buzz, or light up except calls from the most important people. Details on page 95.
-  **WiFi signal.** When you're connected to a wireless Internet hotspot, this indicator appears. The more “sound waves,” the stronger the signal.
- **9:50 AM.** When the iPhone is unlocked, a digital clock appears on the status bar.



- **🕒 Alarm.** You've got an alarm set. This reminder, too, can be valuable, especially when you intend to sleep late and don't *want* an alarm to go off.
- **🔌 Bluetooth.** The iPhone is connected wirelessly to a Bluetooth ear-piece, speaker, or car system. (If this symbol is gray, then it means Bluetooth is turned on but not connected to any other gear—and not sucking down battery power.)
- **📠 TTY symbol.** You've turned on Teletype mode, meaning that the iPhone can communicate with a Teletype machine. (That's a special machine that lets deaf people make phone calls by typing and reading text. It hooks up to the iPhone with a special cable that Apple sells from its Web site.)
- **📞 Call forwarding.** You've told your iPhone to auto-forward any incoming calls to a different number. This icon is awfully handy—it explains at a glance why your iPhone never seems to get calls anymore.
- **🖱️ VPN.** You corporate stud, you! You've managed to connect to your corporate network over a secure Internet connection, probably with the assistance of a systems administrator—or by consulting page 498.
- **🔄 Syncing.** The iPhone is currently syncing with some Internet service—iCloud, for example (Chapter 14).
- **🔋 Battery meter.** When the iPhone is charging, the lightning bolt appears. Otherwise, the battery logo “empties out” from right to left to indicate how much charge remains. (You can even add a “% full” indicator to this gauge; see page 510.)
- **📍 Navigation active.** You're running a GPS navigation program in the background (yay, multitasking!). Why is a special icon necessary? Because those GPS apps slurp down battery power like a thirsty golden retriever. Apple wants to make sure you don't forget you're running it.

- **🔒 Rotation lock.** This icon reminds you that you've deliberately turned off the screen-rotation feature, where the screen image turns 90 degrees when you rotate the phone. Why would you want to? And how do you turn the rotation lock on or off? See page 39.


Cameras and Flash

At the top of the phone, above the screen, there's a horizontal slot. That's the earpiece. Just above it (iPhone 5 series) or beside it (iPhone 4 or 4s), the tiny round pinhole is the front-facing camera. It's a little bit more visible on the white-faced iPhones than on the black ones.

Its primary purpose is to let you conduct video chats using the FaceTime feature, but it's also handy for taking self-portraits or just checking to see if you have spinach in your teeth.

Just keep in mind that it's not nearly as good a camera as the one on the back. The front camera has no flash, isn't as good in low light, and takes much lower-resolution shots (1.2 megapixels on the iPhone 5 series; only 0.3 megapixels on earlier models).

The camera on the back of the iPhone, meanwhile, takes very good photos indeed—8 megapixels on the iPhone 4s and later.

A tiny LED lamp appears next to this lens (two lamps on the 5s, actually). It's the flash for the camera, the video light when you're shooting movies, and a darned good flashlight for reading restaurant menus and theater programs in low light. (Swipe up from the bottom of the screen and tap the flashlight icon  to turn the light on and off.)



On the iPhone 5 family, the tiny pinhole between the flash and the lens is a microphone. It's used for recording clearer sound with video, for better noise cancellation on phone calls, and better directional sound pickup.

There's more on the iPhone's cameras in Chapter 7.

Sensors

Behind the glass, above or beside the earpiece, are two sensors. (On the black iPhones, they're camouflaged; you can't see them except with a bright flashlight.) First, there's an ambient-light sensor that brightens the display when you're in sunlight and dims it in darker places.

Second, there's a proximity sensor. When something (like your head) is close to the sensor when you're using the phone functions, it shuts off the screen illumination and touch sensitivity. Try it out with your hand (it works only in the Phone app). You save power and avoid dialing with your cheekbone when you're on a call.

SIM Card Slot

On the right edge of the iPhone 4s and later models, there's a tiny pinhole next to what looks like a very thin slot cover. (It's also on the right side of the AT&T iPhone 4.) If you push an unfolded paper clip straight into the hole, the **SIM card** tray pops out.



So what's a SIM card?

It turns out that there are two major cellphone network types: **CDMA**, used by Verizon and Sprint, and **GSM**, used by AT&T, T-Mobile, and most other countries around the world.

Every GSM phone stores your phone account info—things like your phone number and calling-plan details—on a tiny memory card known as a SIM (subscriber identity module) card. On some phones, though not on the iPhone, it even stores your address book.

What's cool is that, by removing the card and putting it into **another** GSM phone, you transplant a GSM phone's brain. The other phone now knows your number and account details, which can be handy when your iPhone goes in for repair or battery replacement.

iPhone 5 Family: The World Phone

AT&T is a GSM network, so AT&T iPhones have always had SIM cards. But intriguingly enough, every iPhone 4s and later model has a SIM card, too—even the Verizon and Sprint models. That's odd, because most CDMA cell-phones don't have SIM cards.

These iPhones contain antennas for **both** GSM and CDMA. It's the same phone, no matter which cell company you buy it from. Only the activation process teaches it which phone company it "belongs" to.

Even then, however, you can still use any company's phone in any country. (That's why the latest iPhones are said to be "world phones.") When you use the Verizon or Sprint iPhone in the United States, it uses only the CDMA antenna. But if you travel to Europe or another GSM part of the world, you can still use your Verizon or Sprint phone; it just hooks into that country's GSM network.

If you decide to try that, you have two ways to go. First, you can contact your phone carrier and ask to have international roaming turned on. You'll keep your same phone number overseas, but you'll pay through the nose for calls and, especially, Internet use.

Second, you can rent a temporary SIM card when you get to the destination country. That's a less expensive route, but it means you'll have a different phone number while you're there.



The original iPhones used a standard SIM card. The iPhone 4s and the AT&T iPhone 4 require a smaller type known as a **micro-SIM** card. And for the iPhone 5, 5c, and 5s, Apple has developed even newer, tinier cards called **nano-SIMs**. (You can see all three cards at left.)

At this rate, you won't even be able to see the iPhone 7's SIM card without an electron microscope.

Apple thinks SIM cards are geeky and intimidating and that they should be invisible. That's why, unlike most GSM phones, your iPhone came with the card preinstalled and ready to go. Most people will never have any reason to open this tray, unless they just want to see what a SIM card looks like.

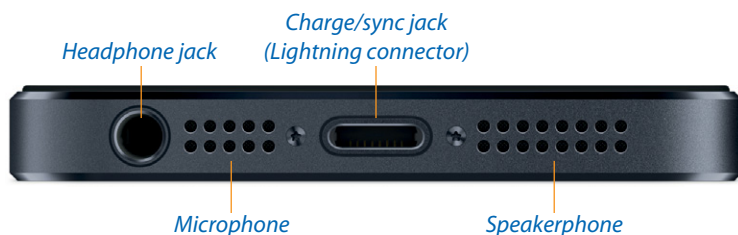
If you were curious enough to open it up, you can close the tray simply by pushing it back into the phone until it clicks.

NOTE: Except for this one example—inserting a card from another country for international use—you can't swap any other company's SIM card into the iPhone. For example, you can't make it a T-Mobile phone by inserting a T-Mobile SIM card. In other words, the iPhone is still not an "unlocked" GSM phone (at least, not officially; there are some unauthorized ways).

And speaking of footnotes: The iPhone 5 phones may be LTE phones, but they don't work on the LTE networks of all other countries. Ask your carrier which countries your model works with.

Headphone Jack

On the top edge of the iPhone 4 and 4s, or the bottom edge of the iPhone 5 series, you can see the miniplug where you plug in the white earbuds that came with it—or any other earbuds or headphones.



This little hole is more than an ordinary 3.5-millimeter audio jack, however. It contains a secret fourth pin that conducts sound *into* the phone from the microphone on the earbuds' cord. Now you, too, can be one of those executives who walk down the street barking orders, apparently to nobody. The iPhone can stay in your pocket as you walk or drive. You hear the other person through your earbuds, and the mike on the cord picks up your voice.

NOTE: Next to the headphone jack, inside the pinhole (iPhone 4/4s) or the perforated grille (iPhone 5 series), a tiny second microphone lurks. It's the key to the iPhone's noise-cancellation feature. It listens to the sound of the world around you and pumps in the opposite sound waves to cancel out all that ambient noise. It doesn't do anything for *you*—the noise cancellation affects only what the *other* guy on the phone hears.

That's why, on the iPhone 5 family, there's also a third microphone at the top back (between the camera and flash); it's designed to supply noise cancellation for you so that the other guy sounds better when you're in a noisy place.

Microphone, Speakerphone

On the bottom edge of the iPhone, Apple has parked two important audio components: the speakerphone speaker and the microphone.

TIP: The speakerphone isn't super loud, because it's aimed straight out of the iPhone's edge, away from you. But if you cup your hand around the bottom edge, you can redirect the sound toward your face, for an immediate boost in volume and quality.

The Charge/Sync Connector

Directly below the Home button, on the bottom edge of the phone, you'll find the connector that charges and syncs the iPhone with your computer.

The Lightning Connector

For nearly 10 years, the charge/sync connector was identical on every iPhone, iPod, and iPad. It was the standard 30-pin connector that's now found in many alarm clocks, hotel-room bedside tables, car dashboards, speaker docks, external batteries, and other accessories.

But on the iPhone 5/5c/5s, Apple replaced that inch-wide connector with a new, far smaller one it calls Lightning.

The Lightning connector is a great design: It clicks nicely into place (you can even dangle the iPhone from it), yet you can yank it right out. You can insert the Lightning into the phone either way—there's no "right-side up" anymore. It's much sturdier than the old connector. And it's tiny, which is Apple's primary goal—only 0.3 inches wide (the old one was almost 0.9 inches wide).

*30-pin connector
(iPhone 4 and 4S)*



*Lightning connector
(iPhone 5, 5c, 5s)*



Unfortunately, as a result, the latest iPhones don't fit any existing charging cables, docks, chargers, car adapters, hotel-room alarm clocks, speakers, or accessories.

The makers of those accessories will happily sell you new models that have Lightning connectors. Or you can buy an adapter from Apple:

- Additional USB charging cables, like the one that came with your iPhone, cost \$20.
- A white adapter plug costs \$30. It connects the modern iPhone to any accessory that was built for the old 30-pin connector.
- If the iPhone 5 doesn't quite fit the older accessory, sometimes the solution is the \$40 adapter plug with an 8-inch cable "tail.")

Even with the adapter, the Lightning connector doesn't work with every older accessory, and it doesn't offer all the same features. For example, it can't send video out to your TV; for that, you need Apple's Lightning-to-HDMI or Lightning-to-VGA cable.)

In time, as the Lightning connectors come on all new iPhones, iPods, and iPads, a new ecosystem of accessories will arise. We'll arrive at a new era of standardization—until Apple changes jacks again in *another* 10 years.

Antenna Band

That metal band around the edge is one of the most famous features of recent iPhones. This band (aluminum on the iPhone 5 and 5s, stainless steel on the 4 and 4s) is the primary structural component of the phone—everything else is attached to it.

But this band is also part of the iPhone's antenna.

It was also part of the controversy that erupted after the iPhone 4 debuted in the summer of 2010. Remember that? If you held the iPhone 4 so that the lower-left corner was pressed into your palm, the signal strength sometimes dropped. Even more intriguing: Putting the phone in a case or in one of Apple's silicone "bumpers" eliminated the problem.

Eventually, the hysteria died down. The problem doesn't occur at all on the 4s or the 5 series; you can hold these phones any way you like.



*Top/left segments:
Bluetooth, WiFi,
GPS antennas*

*Right/bottom segments:
voice and cellular
data antennas*

In the Box

Inside the minimalist box, you get the iPhone and these items:

- **The earbuds.** Apple shipped 600 million of the iconic white earbuds that, for years, announced to the world, “I have an iPhone!” or “I have an iPod!” But for the iPhone 5 and later, Apple updated them. Now you get what Apple calls EarPods. They stay put in more people's ears, and they sound better, although their bulbous shape may get uncomfortable in smaller ears. As before, a volume control/clicker is right on the cord, so you can answer calls and pause the music without taking the phone out of your pocket.



- **The USB charging/syncing cable.** When you connect your iPhone to your computer using this white USB cable, it simultaneously syncs and charges. See Chapter 13.

- **The AC adapter.** When you're traveling without a computer, you can plug the dock's USB cable into the included two-prong outlet adapter, so you can charge the iPhone directly from a wall socket.
- **Finger Tips.** Cute name for a cute foldout leaflet of iPhone basics.

You don't need a copy of the iTunes software, or even a computer, to use the iPhone—but it makes loading up the phone a lot easier, as described in Chapter 13.

If you don't have iTunes on your computer, then you can download it from www.apple.com/itunes.

Seven Basic Finger Techniques

The iPhone isn't quite like any machine that came before it, and operating it isn't quite like using any other machine. You do everything on the touch-screen instead of with physical buttons. Here's what you need to know.

Tap

You'll do a lot of tapping on the iPhone's onscreen buttons. They're usually nice and big, giving your fleshy fingertip a fat target.

You can't use a fingernail or a pen tip; only skin contact works. (OK, you can also buy an iPhone stylus. But a fingertip is cheaper and much harder to misplace.)

Swipe

In some situations, you'll be asked to confirm an action by *swiping* your finger across the screen. That's how you unlock the phone after it's been in your pocket, for example. It's ingenious, really; you may bump the touch-screen when you reach into your pocket for something, but it's extremely unlikely that your knuckles will randomly *swipe* it in just the right way.

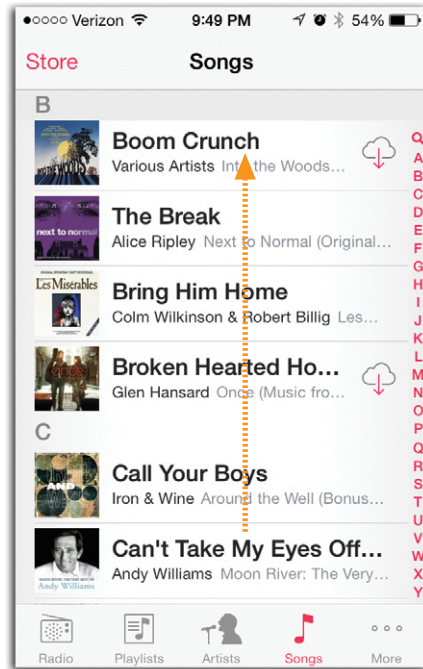
You also have to swipe to confirm that you want to turn off the iPhone, to answer a call on a locked iPhone, or to shut off an alarm. Swiping like this is also a great shortcut for deleting an email or a text message.

Drag

When you're zoomed into a map, Web page, email, or photo, you can scroll around just by sliding your finger across the glass in any direction—like a flick (described below), but slower and more controlled. It's a huge improvement over scroll bars, especially when you want to scroll diagonally.

Flick

A **flick** is a faster, less-controlled **slide**. You flick vertically to scroll lists on the iPhone. You'll discover—usually with some expletive like “Whoa!” or “Jeez!”—that scrolling a list in this way is a blast. The faster you flick, the faster the list spins downward or upward. But lists have a real-world sort of momentum; they slow down after a second or two, so you can see where you wound up.



At any point during the scrolling of a list, you can flick again (if you didn't go far enough) or tap to stop the scrolling (if you see the item you want to choose).

Pinch and Spread

In programs like Photos, Mail, Web, and Maps, you can zoom in on a photo, message, Web page, or map by **spreading**.

That's when you place two fingers (usually thumb and forefinger) on the glass and spread them. The image magically grows, as though it's printed on a sheet of rubber.



NOTE: The English language has failed Apple here. Moving your thumb and forefinger closer together has a perfect verb: *pinching*. But there's no word to describe moving them the opposite direction. Apple uses the oxymoronic expression *pinch out* to describe that move (along with the redundant-sounding *pinch in*). In this book, the opposite of "pinching" is "spreading."

Once you've zoomed in like this, you can zoom out again by putting two fingers on the glass and pinching them together.

Double-Tap

Double-tapping is actually pretty rare on the iPhone, at least among the programs supplied by Apple. It's not like the Mac or Windows, where double-clicking the mouse always means "open." Because the iPhone's operating system is far more limited, you open something with *one* tap.

A double-tap, therefore, is reserved for two functions:

- In the Safari (Web browser), Photos, and Maps programs, double-tapping zooms in on whatever you tap, magnifying it. (Double-tapping means "Restore to original size" after you've zoomed in.) Double-tapping also zooms into some email messages—the ones formatted like Web pages—as well as PDF files, Microsoft Office files, and others.

- When you're watching a video (or recording one), double-tapping switches the **aspect ratio** (video screen shape).

Edge Swipes

Here's a new one in iOS 7: Swiping your finger inward from **outside** the screen. It has a few variations:

- **From the top edge.** Opens the Notification Center, which lists all your missed calls and texts, shows your appointments, and so on.
- **From the bottom edge.** Opens the Control Center, a unified miniature control panel for brightness, volume, WiFi, and so on.
- **From the left edge.** In many apps, this means "go back to the previous screen." It works in Mail, Settings, Notes, Messages, Safari, Facebook and some other apps.

It sometimes makes a big difference whether you begin your swipe within the screen or outside it, by the way. At the Home screen, for example, starting your swipe within the screen area doesn't open the Notification Center—it opens Spotlight, the iPhone's search function.

Charging the iPhone

The iPhone has a built-in, rechargeable battery that fills up a substantial chunk of its interior. How long one charge can drive your iPhone depends on what you're doing—music playback saps the battery the least, GPS navigation saps it the most. But one thing is for sure: Sooner or later, you'll have to recharge the iPhone. For most people, that's every night or every other night.

You recharge the iPhone by connecting the white USB cable that came with it. You can plug the far end into either of two places to supply power:

- **Your computer's USB jack.** In general, the iPhone charges even if your computer is asleep. (If it's a laptop that itself is not plugged in, though, the phone charges only if the laptop is awake. Otherwise, you'd come home to a depleted laptop.)
- **The AC adapter.** The little white two-prong cube that came with the iPhone connects to the end of the cradle's USB cable.

Unless the charge is **really** low, you can use the iPhone while it's charging. If the iPhone is unlocked, then the battery icon in the upper-right corner displays a lightning bolt to let you know that it's charging. If it's locked, pressing the Home button shows you a battery gauge big enough to see from space.

NOTE: The iPhone's battery isn't user-replaceable. It's *rechargeable*, but after 400 or 500 charges, it starts to hold less juice. Eventually, you'll have to pay Apple to install a new battery. (Apple says the added bulk of a protective plastic battery compartment, a removable door and latch, and battery-retaining springs would have meant a much smaller battery—or a *much* thicker iPhone.)

Battery Life Tips

The battery life of the iPhone is either terrific or terrible, depending on your point of view—and which model you have.

If you were an optimist, you'd point out that the iPhone gets longer battery life than most rival touchscreen phones.

If you were a pessimist, you'd observe that you sometimes can't even make it through a single day without needing a recharge.


So knowing how to scale back your iPhone's power appetite could come in extremely handy.

The biggest wolfers of electricity on your iPhone are its screen and its wireless features. Therefore, these ideas will help you squeeze more life out of each charge:

- **Dim the screen.** In bright light, the screen brightens (and uses more battery power). In dim light, it darkens. That's because when you unlock the phone after waking it, it samples the ambient light and adjusts the brightness.

NOTE: This works because of the ambient-light sensor hiding behind the glass near the earpiece. Apple says it experimented with having the light sensor active all the time, but it was weird to have the screen constantly dimming and brightening as you used it.


You can use this information to your advantage. By covering up the sensor as you unlock the phone, you force it into a low-power, dim-screen setting (because the phone believes it's in a dark room). Or by holding it up to a light as you wake it, you get full brightness. In either case, you've saved all the taps and navigation it would have taken you to find the manual brightness slider in Settings.

- **Turn off WiFi.** If you're not in a wireless hotspot, you may as well stop the thing from using its radio. Swipe up from the bottom of the screen to open the Control Center, and tap the  icon to turn it off.

Or at the very least tell the iPhone to stop **searching** for WiFi networks it can connect to. Page 504 has the details.

- **Turn off “push” data.** This is a big one. If your email, calendar, and address book are kept constantly synced with your Macs or PCs, then you've probably gotten yourself involved with Yahoo Mail, Microsoft Exchange (Chapter 15), or iCloud (Chapter 14). It's pretty amazing to know that your iPhone is constantly kept current with the mother ship—but all that continual sniffing of the airwaves, looking for updates, costs you battery power. If you can do without the immediacy, then visit **Settings→Mail, Contacts, Calendars→Fetch New Data**. If you turn off the Push feature, and set it to **Manually** instead, then your iPhone checks for email and new appointments only when you actually open the email or calendar apps. Your battery goes a lot further.
- **Turn off background updating.** Non-Apple apps check for frequent updates, too: Facebook, Twitter, stock-reporting apps, and so on. And not all of them have to be busily toiling in the background. Your best bet on battery life, then, involves visiting **Settings→General→Background App Refresh**, and turning the switch **Off** for each app whose background activity isn't strictly necessary.
- **Turn off Cellular Data.** This option (in **Settings→Cellular**) turns off the cellular Internet features of your phone. You can still make calls, and you can still get online in a WiFi hotspot.



This feature is designed for people who have a capped data plan—a limited amount of Internet use per month—which is almost everybody. If you discover that you've used up almost all your data allotment for the month, and you don't want to go over your limit (and thereby trigger an overage charge), you can use this option to shut off all data. Now your phone is just a phone.

- **Turn off the cellular voice circuitry, too.** In Airplane mode, you shut off both WiFi and the cellular radios, saving the most power of all. Swipe up from the bottom of the screen to open the Control Center, and tap the  icon to turn it on.

TIP: For sure, turn on Airplane mode if you'll be someplace where you *know* an Internet signal won't be present—like on a plane, a ship at sea, or Montana. Your iPhone never burns through a battery charge faster than when it's hunting for a signal it can't find; your battery will be dead within a couple of hours.

- **Turn off GPS checks.** In **Settings**→**Privacy**→**Location Services**, there's a list of all the apps on your phone that are using your phone's location feature to know where you are. (It's a combination of GPS, cell-tower triangulation, and WiFi hotspot triangulation.) All that checking uses battery power, too.

Some apps, like Maps, Find My Friends, and Yelp, won't do you much good without knowing your location. But plenty of apps don't really need to know where you are. Facebook and Twitter, for example, need that information only so that they can location-stamp your posts. In any case, the point is to turn off Location Services for each app that doesn't really need to know where you are.

TIP: In the list of apps under Location Services, tiny  icons show you which apps are using GPS right now (the  appears in purple), and which have used it in the past 24 hours. These icons can help guide you in shutting off the GPS use of various apps.

- **Don't use Raise to Speak.** You can make it so that Siri starts listening for your voice commands every time you hold the phone up to your head. But there's a battery penalty to pay for this feature; see page 138.
- **Turn off Bluetooth.** If you're not using a Bluetooth headset, then for heaven's sake shut down that Bluetooth radio. In Settings, tap **Bluetooth** and turn it off.
- **Turn off the screen.** You can actually turn off the screen, rendering it totally black and saving incredible amounts of battery power. Music playback and Maps navigation continue to work just fine.

Of course, if you actually want to *interact* with the phone while the screen is off, you'll have to learn the VoiceOver talking-buttons technology; see page 168.

Last battery tip: Beware of 3-D games and other graphically intensive apps, which can be serious power hogs. And turn off EQ when playing your music (see page 206).

The Home Screen

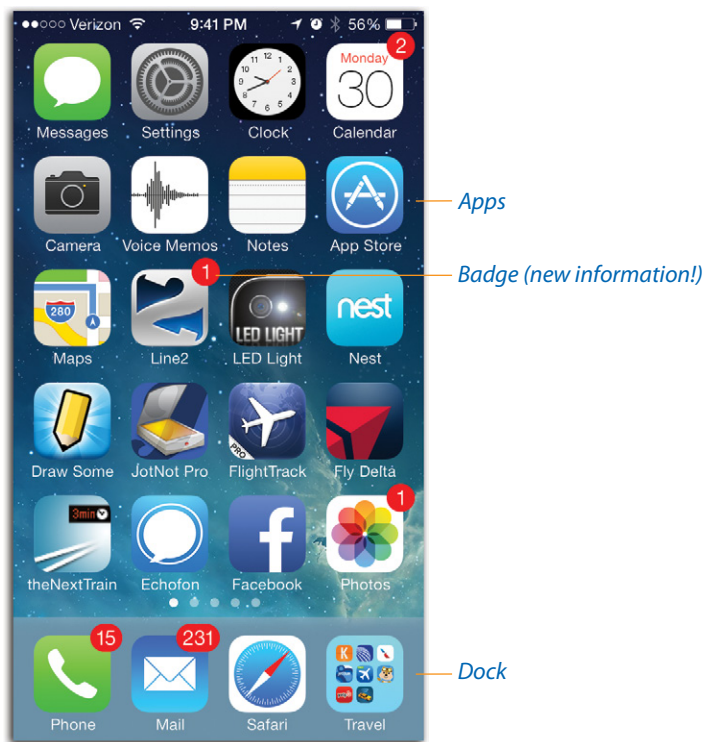
The Home screen is the launching pad for every iPhone activity. It's what appears when you press the Home button. It's the immortal grid of colorful icons.

It's such an essential software landmark, in fact, that a quick tour might be helpful.

- **Icons.** Each icon represents one of your iPhone apps (programs)—Mail, Maps, Camera, and so on—or a folder that you've made to **contain** some apps. Tap one to open that program or folder.

Your iPhone comes with about 25 icons preinstalled by Apple; you can't remove them. The real fun, of course, comes when you download **more** apps from the App Store (Chapter 8).

- **Badges.** Every now and then, you'll see a tiny, red number “badge” (like ②) on one of your app icons. It's telling you that something new awaits: new email, new text messages, new chat entries, new updates for the apps on your iPhone. It's saying, “Hey, you! Tap me!”



- **Home page dots.** As you install more and more programs on your iPhone—and that will happen fast once you discover the App Store—you'll need more and more room for their icons.

The standard Home screen can't hold more than 24 icons (20 on the iPhone 4s and earlier models). So where are all your games, video recorders, and tip calculators supposed to go?

Easy: The iPhone automatically makes room for them by creating **additional** Home screens. You can spread your new programs' icons across 11 such launch screens.

The little white dots are your map. Each represents one Home screen. If the third one is "lit up," then you're on the third Home screen.

To move among the screens, swipe horizontally—or tap to the right or left of the little dots to change screens.

And if you ever scroll too far away from the **first** Home screen, here's a handy shortcut: Press the Home button (yes, even though you're technically already home). That takes you back to the first Home screen.

TIP: The very first "page," at the far left, used to be the Spotlight (search) screen. But in iOS 7, you open Spotlight by dragging down anywhere on any Home screen; there's nothing to the left of the Home screens anymore. You can tug down on **any** "page" of the Home screens—you don't have to scroll all the way to the left of them anymore.

- **The Dock.** At the bottom of the Home screen, four exalted icons sit in a row on what looks like a polished glass tabletop. This is the Dock—a place to park the most important icons on your iPhone. These, presumably, are the ones you use most often. Apple starts you off with the Phone, Mail, Safari, and Music icons.

What's so special about this row? As you flip among Home screens, the Dock never changes. You can never lose one of your four most cherished icons by straying from the first page; they're always handy.

- **The background.** You can replace the background image (behind your app icons) with a photo. A complicated, busy picture won't do you any favors—it will just make the icon names harder to read—so Apple provides a selection of handsome, relatively subdued wallpaper photos. But you can also choose one of your own photos.

For instructions on changing the wallpaper, see page 248.

It's easy (and fun!) to rearrange the icons on your Home screens. Put the most frequently used icons on the first page, put similar apps into folders, reorganize your Dock. Full details are on page 280.

Control Center

For such a tiny device, there are an awful lot of settings you can change—**hundreds** of them. Trouble is, some of them need changing (volume, brightness) a lot more often than others (language preference, voicemail greeting).

Until iOS 7 came along, the important settings were buried among the less important ones, and all of them required interrupting whatever you were doing to open the Settings app.

But no more, thanks to the Control Center. It's the new iOS 7 feature that you'll probably use the most often, that will save you the most time, and that will make you happiest.

To open the Control Center, no matter what app you're using, swipe upward from beneath the screen.

TIP: You can even open the Control Center from the Lock screen, unless you've turned off that feature (page 14).

The Control Center is a translucent gray panel filled with one-touch icons for the settings most people change most often on their iPhones.

TIP: Truth be told, the Control Center is easier to use when it's *not* translucent. Visit **Settings**→**General**→**Accessibility** and turn on **Increase Contrast**. Now the Control Center's background is solid gray instead of see-through gray.

Now, many of these settings are even faster to change using Siri, the voice-command feature described in Chapter 4. When it's not socially awkward to speak to your phone (like at the symphony), you can use spoken commands—listed below under each button description—to adjust settings without even touching the screen.

Here's what's in the Control Center:

- **Airplane Mode** (✈️). Tap to turn the icon white. Now you're in Airplane mode; the phone's wireless features are all turned off. You're saving battery and obeying flight attendant instructions. Tap again to turn off Airplane mode.

Sample Siri command: “Turn Airplane mode on.” (Siri warns you that if you turn Airplane mode on, Siri herself will stop working. Say “OK.”)



- **WiFi (📶).** Tap to turn your phone's WiFi off (black) or on (white).

Sample Siri commands: “Turn off WiFi.” “Turn WiFi back on.”

- **Bluetooth (📶).** Tap to turn your Bluetooth transmitter off (black) or on (white). That feature alone is a godsend to anyone who uses the iPhone with a car's Bluetooth audio system. Bluetooth can drain your battery if it's left on unnecessarily—so it's very nice to be able to flick it on so easily when you get into the car.

Sample Siri commands: “Turn Bluetooth on.” “Turn off Bluetooth.”

- **Do Not Disturb (🌙).** Do Not Disturb mode, described in Chapter 3, means that the phone won't ring or buzz when people call—except a few handpicked people whose communiqués ring through. Perfect for sleeping hours; in fact, you can set up an automated schedule for Do Not Disturb (say, midnight to 7 a.m.).

But what if you wake up early or want to stay up late? Now you can tap to turn Do Not Disturb on (white) or off (black).

Sample Siri commands: “Turn on Do Not Disturb.” “Turn Do Not Disturb off.”

- **Rotation Lock (🔒).** When Rotation Lock is turned on (white), the screen no longer rotates when you turn the phone 90 degrees. The idea is that sometimes, like when you're reading an ebook on your side in bed, you don't want the screen picture to turn; you want it to stay upright relative to your eyes, even though you're lying down. (A little 🔒 icon appears at the top of the screen to remind you why the usual rotating isn't happening.)

The whole thing isn't quite as earth-shattering as it sounds—first, because it locks the image in only one way: upright, in portrait orientation. You can't make it lock into widescreen mode. Furthermore, many apps don't rotate with the phone to begin with. But when that day comes when you want to read in bed on your side with your head on the pillow, your iPhone will be ready. (Tap the button again to turn rotating back on.)

- **Brightness.** Hallelujah! Here's a screen-brightness slider. Drag the little white ball to change the screen brightness.

Sample Siri commands: "Make the screen brighter." "Decrease the brightness." "Dim the screen." "Brighten up!"




- **Playback controls (⏮, ▶, ⏭).** These controls govern playback in whatever app is playing music or podcasts in the background: the Music app, Pandora, Spotify, whatever it is. You can skip a horrible song quickly and efficiently without having to interrupt what you're doing, or pause the music to chat with a colleague. (Tap the song name to open whatever app is playing.)

You also get a scrubber bar that shows where you are in the song, the name of the song and the performer, and the album name. And, of course, there's a volume slider. It lets you make big volume jumps faster than you would by pressing the volume buttons on the side of the phone.


Sample Siri commands: "Pause the music." "Skip to the next song." "Play some Billy Joel."

- **AirDrop (📶).** AirDrop, a new iOS 7 feature, gives you a quick, effortless way to shoot photos, maps, Web pages, and other stuff to nearby iPhones, iPads, and iPod Touches (that are also running iOS 7).


On the Control Center, the AirDrop button isn't an on/off switch like most of the other icons here. Instead it produces a pop-up menu of options that control whose i-gadgets can "see" your iPhone: **Contacts Only** (people in your address book), **Everyone**, or **Off** (nobody).

- **AirPlay** () . The AirPlay button lets you send your iPhone's video and audio to a wireless speaker system or TV—if you have an AirPlay receiver, of which the most famous is the Apple TV. Details on page 215.
- **Flashlight** () . Tap to turn on the iPhone's “flashlight”—actually the LED lamp on the back that usually serves as the camera flash. Knowing that a source of good, clean light is two touches away makes a huge difference if you're trying to read in the dark, find your way along a path at night, or fiddle with wires behind your desk.
- **Timer** () . Tap to open the Clock app—specifically, the Timer mode, which counts down to zero. Apple figures you might appreciate having direct access to it when you're cooking, for example, or waiting for your hair color to set. Of course, the alarm-clock mode is only one tap away at that point.


Sample Siri commands: “Open the Timer.” Or, better yet, bypass the Clock and Timer apps altogether: “Start the timer for three minutes.” “Count down from six minutes.” (Siri counts down right there on the Siri screen.)


- **Calculator** () . Tap to open the Calculator app—a handy shortcut if it's your turn to figure out how to divide up the restaurant bill.

Sample Siri commands: “Open the calculator.” Or, better yet, without opening any app: “What's a hundred and six divided by five?”

- **Camera** () . Tap to jump directly into the Camera app. Because photo ops don't wait around.

Sample Siri commands: “Take a picture.” “Open the camera.”

The Control Center closes by itself when you tap the Timer, Calculator or Camera buttons. Otherwise, close it by tapping the  button to close it up again.

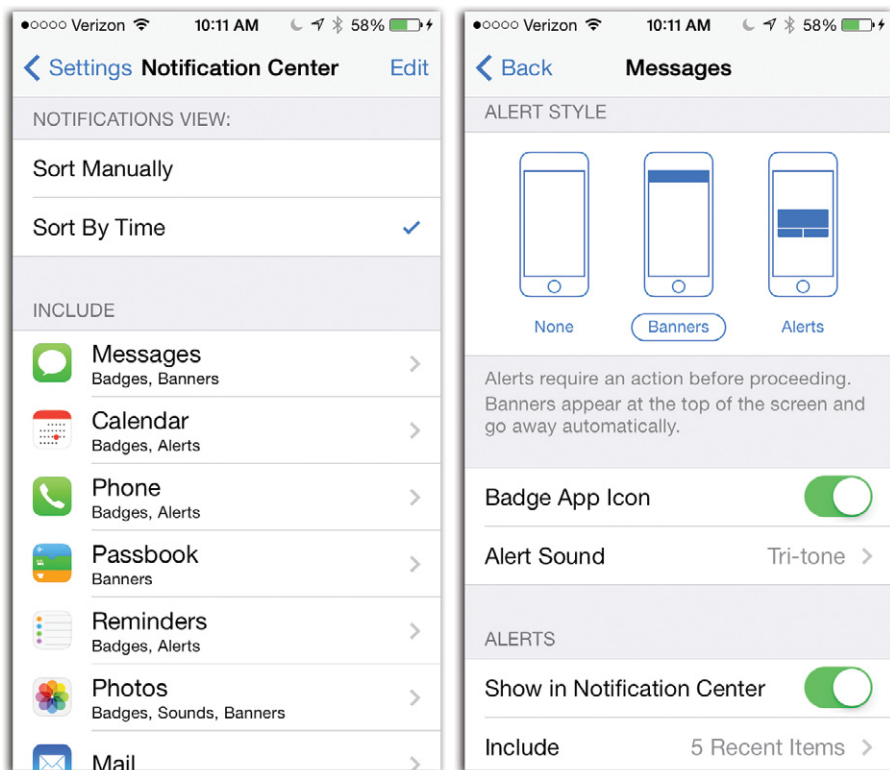
TIP: Actually, that  is a pretty small target. Fortunately, you can be much sloppier. To close the Control Center, tap, or drag downward, from *any spot* above it (the dimmed background of the screen).

Or just press the Home button.

Notifications

A notification is an important status message. You get one every time a text message comes in, an alarm goes off, a calendar appointment is imminent, or your battery is running low.

You can choose one of three notification styles for *each individual app*. To see these controls, open **Settings**→**Notification Center**. Scroll down to the **Include** section (below, left) and tap the app you want to tweak. The notification options appear (below, right)

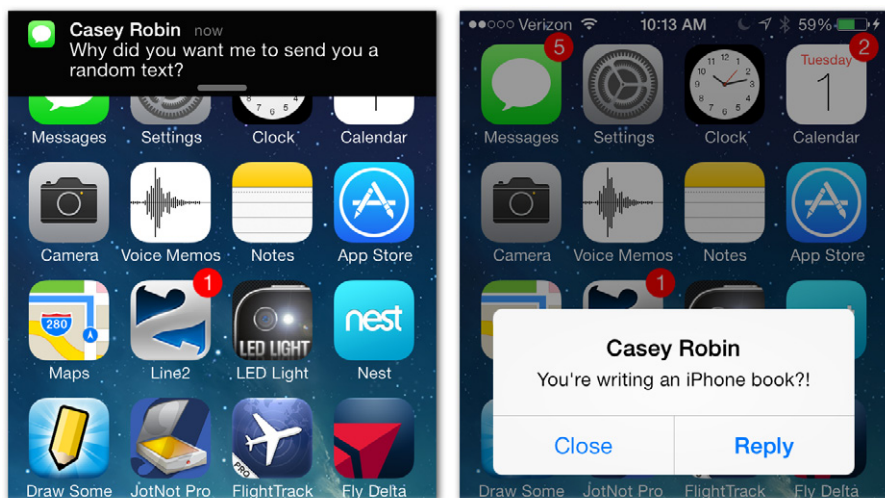


The options may vary from app to app, but you almost always get these three choices:

- **None.** If certain apps bug you with news you really don't care about, you can shut them up forever. Tap **None**.

- **Banners** are incoming notifications that appear quietly and briefly at the top of the screen (below, left). The message holds still long enough for you to read it, but it doesn't interrupt your work and goes away after a few seconds. Banners are a good option for things like Facebook and Twitter updates and incoming email messages.

TIP: If you can tap that banner with your finger before it disappears, you jump directly to the app that's trying to get your attention. You can also flick it up off the screen if it's in your way.



- **Alerts.** A white alert box appears to get your attention (above, right). You might use this option for apps whose messages are too important to miss, like alarms, flight updates, and text messages.

TIP: While you're here, you may as well check out the Badge App Icon switch for each app. A badge is the little ② that indicates how many messages or updates are waiting inside that app—and you can turn it off for each app individually. Some apps even offer an on/off switch for sounds, which is handy if you think your phone makes far too many bleeps and burbles as it is.

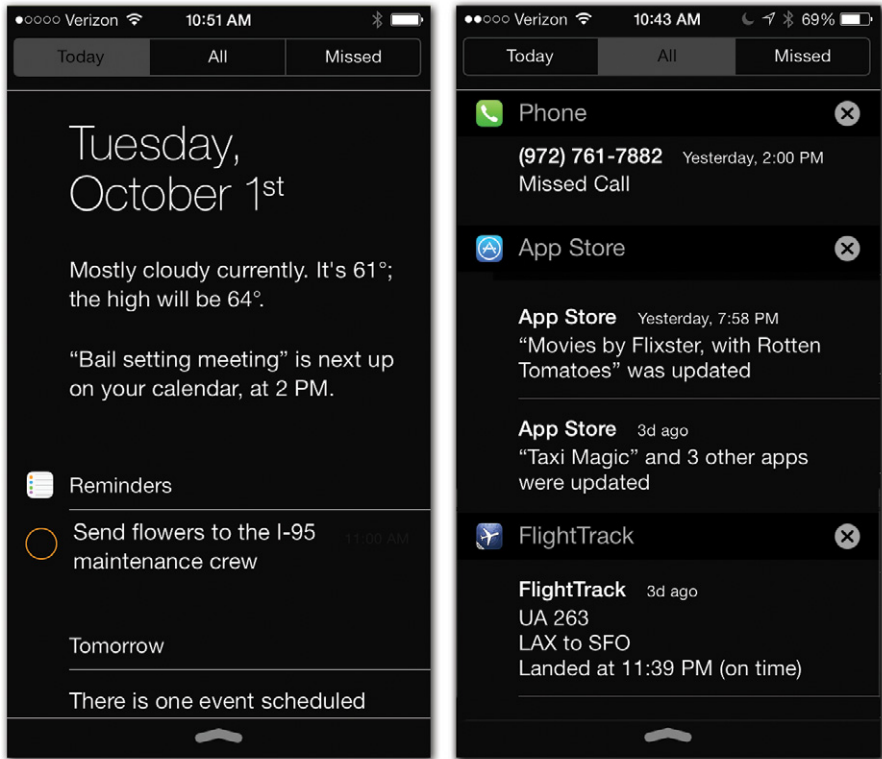
The Notification Center

No matter what kind of notification pops up, you still see only one alert at a time. And once it's gone, you can't get it back. Or can you?

Meet the Notification Center screen. It lists every notification you've recently received, in a tidy, scrolling list.

You can check it out right now: Swipe your finger down from above the iPhone's screen. The Notification Center pulls down like a classy window shade, printed in white with every recent item of interest.

Here you'll find all your apps' notifications, as well as your missed calls, recent text messages, reminders, and upcoming calendar appointments.



You can have all kinds of fun here:

- **Switch among the three tabs** (new in iOS 7). The **Today** screen presents an executive summary of everything you need to know **today**, in plain English: your upcoming appointments (“‘Salary meeting’ is next up on your calendar, at 2 PM”); reminders coming due; weather and stock information; and a preview of your schedule tomorrow. If you’re away from your home or office, you’ll even see an estimated commuting time, based on current traffic conditions. Pretty slick.

The **All** screen shows every notification you’ve received, sorted by app. It can be a very long list. And the **Missed** tab rounds up all the calls, texts, and other notifications that came in while your phone was

asleep or turned off, sorted chronologically. (They disappear after a day.)

To switch among these three views, you can either tap the little buttons—or just swipe across the screen.

- **Swipe upward** inside a list to scroll through more of it.
- **Drag the bottom handle (☞) upward** to make the window shade snap up again, hiding the Notification Center.

TIP: Actually, you don't have to aim for the handle. You can just swipe upward from beneath the screen, quickly and sloppily.

- **Tap a line** in the Notification Center to open the relevant app for more details—for example, to see more information about that appointment, or to read the whole text message in context.
- **On the All screen, tap the ✕ next to an app's name** and then tap **Clear** to remove that app's current listings from the Notification Center. (That app's heading will reappear here the next time it has anything to tell you.)


NOTE: You can no longer use the Notification Center to fire off a post to Twitter or Facebook. There are other ways to do that, however; see page 380.

Customizing the Notification Center

You can (and should) specify *which* apps are allowed to junk up your Notification Center. Open **Settings**→**Notifications** to see the master list (shown on page 41), with one entry for every app that might ever want your attention. (Or just tell Siri, “Open notification settings.”)

At the top of this screen, the on/off switches govern your ability (and, frankly, other people's ability) to see your Notification Center, or just the Today view, on the Lock screen. It's handy to be able to swipe down to check your calendar or whatever without unlocking the phone—but if you worry that evildoers could spy on your calendar by picking your phone up, you can turn these things off.

Next comes the **Today View** section. Here you specify which elements (Today Summary, Reminders, Stocks, and so on) you want to be part of the Today tab described above.

Next, under Notifications View, you can specify the order of the various apps' notifications in the center. If you tap **Sort By Time**, then the apps with the newest alerts appear at the top. But if you tap **Manually** and then **Edit**, you can drag the  handles up or down to specify the top-to-bottom order of your apps' notifications on the Notification Center screen. You can even reorder some of the elements of the **Today** tab.

Tap an app's name to open its individual Notifications screen (at right on page 38—the Messages app, in this example). Here you can, if you like, turn **Show in Notification Center** to **Off**.

The app's name will no longer appear in the All tab of your Notification Center. The app can still get your attention with banners or alert bubbles—but it won't appear in the Notification Center.

TIP: You can also use the **Include** setting to specify how *much* of the Notification Center this app is allowed to use up—that is, how many lines of information. Maybe you need only the most recent alert about your upcoming flight (**1 Item**), but you want to see a lot more of your upcoming appointments (**10 Items**).

Messages on the Lock Screen

The Lock screen (page 11) is another place to see what's been trying to get your attention while the phone was in your pocket: missed calls and texts, new messages and email, and so on.

The Lock screen may seem just like the Notification Center—but there are differences. For example, every time you wake the phone, whatever notifications are on the Lock screen are wiped clear. They don't stay put, as they do on the Notification Center.

You might want a *different* set of apps to list their nags on the Lock screen. Maybe you want the Lock screen to show only missed calls, new text messages, and new mail—but you'd like the Notification Center to be fully stocked with Twitter and Facebook updates, for example. That's why, when you burrow into **Settings**→**Notifications** and tap an app's name, you get a **View in Lock Screen** on/off switch.

Miscellaneous Weirdness

As you poke around in the Notification Center settings, you'll discover that certain oddball apps offer some options that don't match up with the settings you see for most apps. Don't freak out. It's all part of Apple's master plan to put controls where it hopes you'll find them.