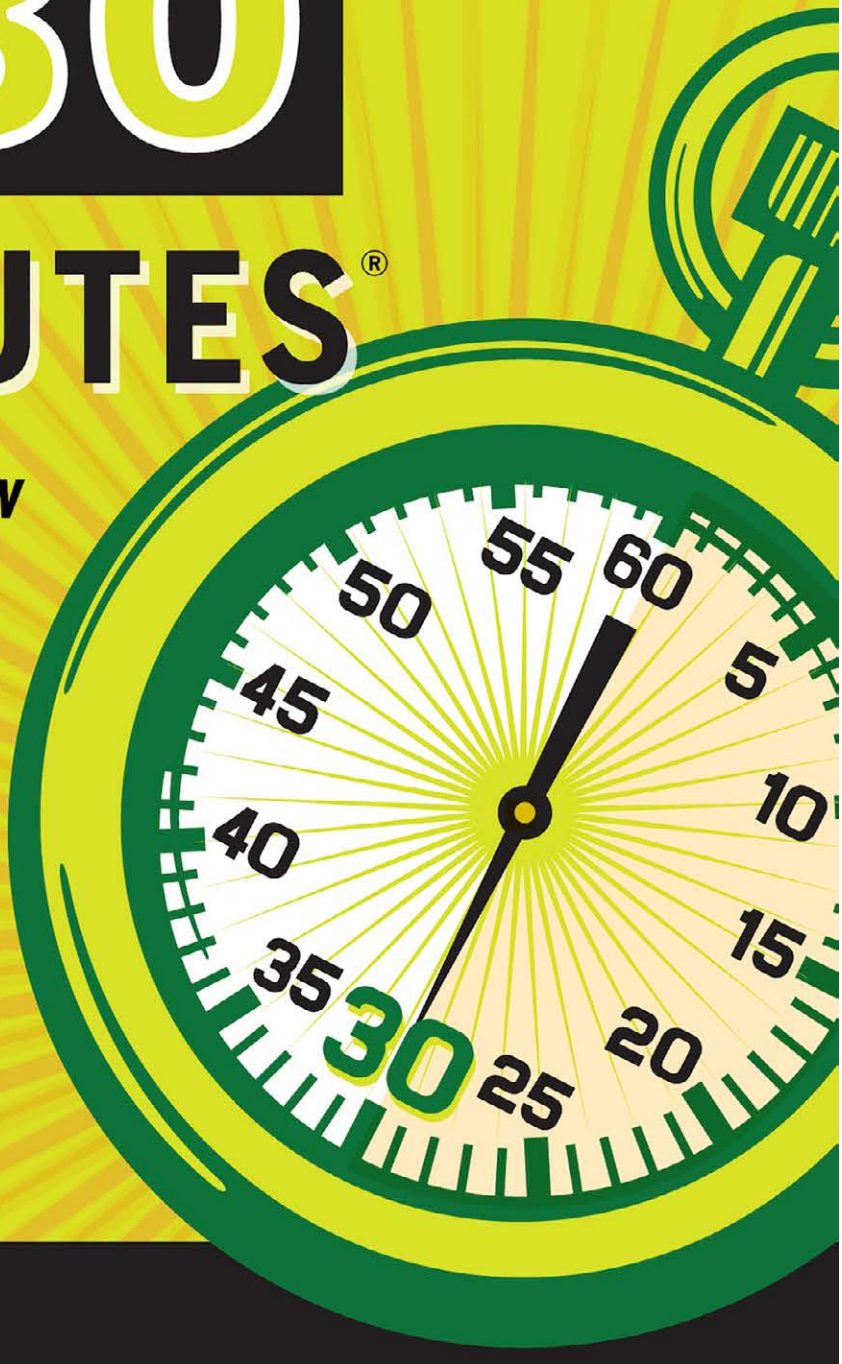
2nd Edition

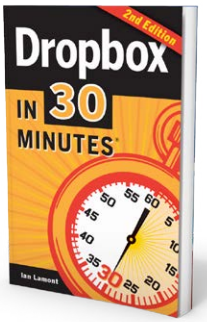
Google Drive & Docs IN 30 MINUTES®

Learn the new Google Drive, Docs, Sheets, and Slides!



Ian Lamont

What readers are saying about *In 30 Minutes®* guides

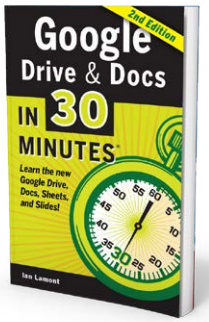


Dropbox In 30 Minutes

"I was intimidated by the whole idea of storing my files in the cloud, but this book took me through the process and made it so easy."

"This was truly a 30-minute tutorial and I have mastered the basics without bugging my 20-year-old son! Yahoo!"

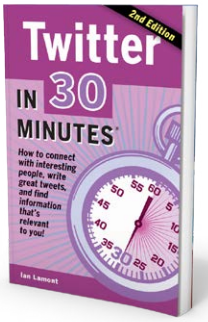
"An excellent primer on using Dropbox. It taught us several new tricks and ways to utilize the service for our business."



Google Drive & Docs In 30 Minutes

"I bought your Google Docs guide myself (my new company uses it) and it was really handy. I loved it."

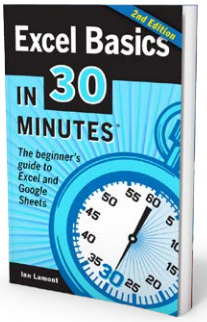
"I have been impressed by the writing style and how easy it was to get very familiar and start leveraging Google Docs. I can't wait for more titles. Nice job!



Twitter In 30 Minutes

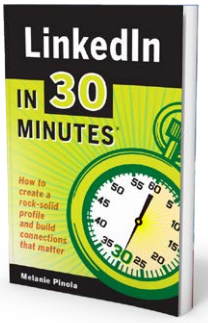
"A perfect introduction to Twitter. Quick and easy read with lots of photos. I finally understand the # symbol!"

"Just the quick, light intro I wanted. No annoying bits of philosophy. Some careful warnings about privacy and courtesy are included."



Excel Basics In 30 Minutes

"Fast and easy, this book is everything it claims to be. The material presented is very basic but it is also incredibly accessible with step-by-step screenshots and a friendly tone more like a friend or co-worker explaining how to use Excel than a technical manual."



LinkedIn In 30 Minutes

"This book does everything it claims. It gives you a great introduction to LinkedIn and gives you tips on how to make a good profile."

"I already had a LinkedIn account, which I use on a regular basis, but still found the book very helpful. The author gave examples and explained why it is important to detail and promote your account. Reading this book has motivated me to return to my account and update it to make it more thorough and attention-grabbing."

More *In 30 Minutes®* guides

Online Content Marketing In 30 Minutes: If you're in business, you want more customers. This book shows how to leverage online content to get them.

Personal Finance for Beginners In 30 Minutes: This two-volume series uses common sense, easy-to-understand language, and lots of examples to show you how to cut expenses and save more money for the things that really matter in life.

Windows 8 Basics In 30 Minutes: Expert Tim Fisher covers *Windows 8* personalization, app installation, email configuration, and more. He'll also walk you through dozens of must-have apps from the Windows Store, ranging from games to Microsoft Office!

jQuery Plugin Developement In 30 Minutes: Robert Duchnik shows you how to write clean and efficient jQuery plugins that are easy to maintain and collaborate on. While *jQuery Plugin Development in 30 Minutes* is intended for people who already have some experience with JavaScript and jQuery, most of the concepts in the guide will not require any advanced knowledge.

C. Diff In 30 Minutes: Clostridium difficile is one of the most common hospital-acquired infections in the United States. In this guide, Dr. J. Thomas Lamont of Harvard Medical School explains what *C. Diff* is, how you can get it, and treatment options.

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Go to *http://in30minutes.com* for more information

Google Drive & Docs
In 30 Minutes

The unofficial guide to the new Google Drive, Docs, Sheets & Slides

2nd Edition

Ian Lamont

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Contents

Introduction

Why you need to use Google's free office suite

Thanks for picking up a copy of *Google Drive & Docs In 30 Minutes, 2nd Edition*. I wrote this unofficial user guide to help people get up to speed with Google's remarkable (and free) online office suite that includes file storage (Google Drive), a word processor (Google Docs), a spreadsheet program (Google Sheets), and a presentation tool (Google Slides).

How do people use these applications? There are many possible uses. Consider these examples:

- **A harried product manager needs to work on an important proposal over the weekend.** In the past, she would have dug around in her purse to look for an old USB drive she uses for transferring files. Or, she might have emailed herself an attachment to open at home. Not anymore. Now she saves the Word document and an Excel spreadsheet to Google Drive at the office. Later that evening, on her home PC, she opens her Google Drive folder to access and edit the files. All of her saves are updated to Google Drive. When she returns to work the following Monday, the updated data can be viewed at her workstation.
- **The organizer of a family reunion wants to survey 34 cousins** about attendance, lodging preferences, and potluck dinner preparation (always a challenge—the Nebraska branch of the family won't eat corn or Garbanzo beans). He emails everyone a link to an online form he created using Google Forms. Relatives open the form on their browsers, and submit their answers. The answers are automatically transferred to Sheets, where the organizer can see the responses and tally the results.
- A small business consultant is helping the owner of Slappy's Canadian Diner ("*We Put The Canadian Back In Bacon*") **prepare a slideshow for potential franchisees in Ohio**. The consultant and Slappy collaborate using Google Slides, which lets them remotely access the deck and add text, images, and other elements. The consultant shares a link to the slideshow with her consulting partner, so he can periodically review it on the Google Slides app on his phone and check for problems. Later, Slappy meets his potential franchise operators at a hotel in Cleveland, and uses Google Slides on his iPad to pitch his business.

- **An elementary school faculty uses Docs to collaborate on lesson plans.** Each teacher accesses the same document from home or the classroom. Updates are instantly reflected, even when two teachers are simultaneously accessing the same document. Their principal (known as "Skinner" behind his back) is impressed by how quickly the faculty completes the plans, and how well the curriculums are integrated.
- At the same school, the 5th-grade teachers **ask their students to submit homework using Docs**. The teachers add corrections and notes, which the students can access at home using a Web browser. It's much more efficient than emailing attachments, and the students don't need to bug their parents to purchase Microsoft Office.

Many people are introduced to Google's online office suite through Docs, the incredibly popular online word processor. Others are attracted by the free storage and syncing features of Google Drive. Microsoft Office, which includes Word, Excel, PowerPoint, and OneDrive, can cost hundreds of dollars. While Drive is not as sophisticated as Microsoft Office, it handles basic documents and spreadsheets very well. Google Drive also offers a slew of powerful online features, including:

- The ability to review the history of a specific document, and revert to an earlier version.
- Simple Web forms and online surveys which can be produced without programming skills or website hosting arrangements.
- Collaboration features that let users work on the same document in real time.
- Offline file storage that can be synced to multiple computers.
- Automatic notification of the release date of Brad Pitt's next movie.

I'm just kidding about the last item. But Google Drive, Docs, Sheets, Forms, and Slides really can do those other things, and without the help of your company's IT department or the pimply teenager from down the street. These features are built right into the software, and are ready to use as soon as you've signed up.

Even though the myriad features of Google's office suite may seem overwhelming, this guide makes it easy to get started. *Google Drive & Docs In 30 Minutes* is written in plain English, with lots of step-by-step instructions, screenshots and tips. More resources are available on the companion website to this book, *googledrive.in30minutes.com*. You'll get up to speed in no time.

The second edition of *Google Drive & Docs In 30 Minutes* covers interface improvements that Google rolled out in late 2014 and 2015, as well as the expanded capabilities of the Google Drive, Docs, Sheets, and Slides apps for iOS and Android.

We've only got half an hour, so let's get started. If you are using a PC or laptop, please download the Google Chrome browser, which works best with Google Drive, Docs, Slides, and Sheets. Instructions for the Chromebook and the mobile apps are referenced throughout the guide.

Chapter One

Getting started with Drive and Google's mobile apps

Google Drive, Docs, Sheets, and Slides take seconds to set up. The registration requirements are startlingly simple. All you need to do is provide an email address and answer a few basic questions on a Web form or your phone. No discs or downloads are needed!

This chapter will also explain the Google Drive interface, and will give some tips on how to organize your files and folders. For this and all other chapters, I recommend using the Google Chrome browser, which is available for Windows, Macs, and Linux desktop and laptop computers. If you don't have it installed, visit *chrome.google.com* for instructions to download and install the browser.

Before we get started, I have a quick note relating to nomenclature.

What's the difference between Google Drive and Google Docs?

Google has struggled with branding their online office suite. In the 2000s, "Google Docs" referred to the entire suite of programs, not just the word processor. Later, "Google Drive" was the umbrella term, and all access to the files and applications took place through Google Drive.

With the new Google Drive, Google has begun to use the individual names of the applications, and separate certain functionality. For instance, the Google Drive app for Android and iOS is no longer required to access files created with Docs, Sheets, or Slides.

Here is a quick list of the applications and basic functionality:

- **Google Drive is used for storage of files,** including non-Google formats such as Microsoft Office documents. It also has a folder/file hierarchy used to view and access files.
- **Google Docs (also known as Google Documents) is the online word processor.** Docs has similar functionality to Microsoft Word.
- **Google Sheets is the online spreadsheet program,** similar to Microsoft Excel.
- **Google Slides is the presentation program,** similar to Microsoft PowerPoint.
- **Google Forms** is closely integrated with Sheets. It lets users create online forms for data entry, such as a survey or sign-up sheet. The data is automatically entered into a spreadsheet in Google Sheets.

- **Google Drawings** can be used to draw shapes, text, and other elements for basic illustrations or annotated photos.

If you are using a PC or Mac, all of these applications can be accessed via Google Drive (*drive.google.com*). On mobile devices, the standalone apps for Docs, Sheets, and Slides can be used to directly access or create documents, spreadsheets, or presentations.

Because Drive plays such a central role when it comes to organizing files, many of the instructions in this guide will refer to Drive even if it's possible to carry out the same task in Docs, Sheets, or Slides.

Registration

Google Drive requires a Google Account, which will let you log in to any Google service, including Drive, Gmail, YouTube, and the Android mobile operating system.

Registration can be completed on a PC, laptop, or mobile device. Instructions are given below.

Some readers may also want to access Drive, Docs, Sheets and Slides using a Chromebook, Google's stripped-down laptop. Chromebooks require a Google Account to activate, so once you are logged in you can start using the applications right away.

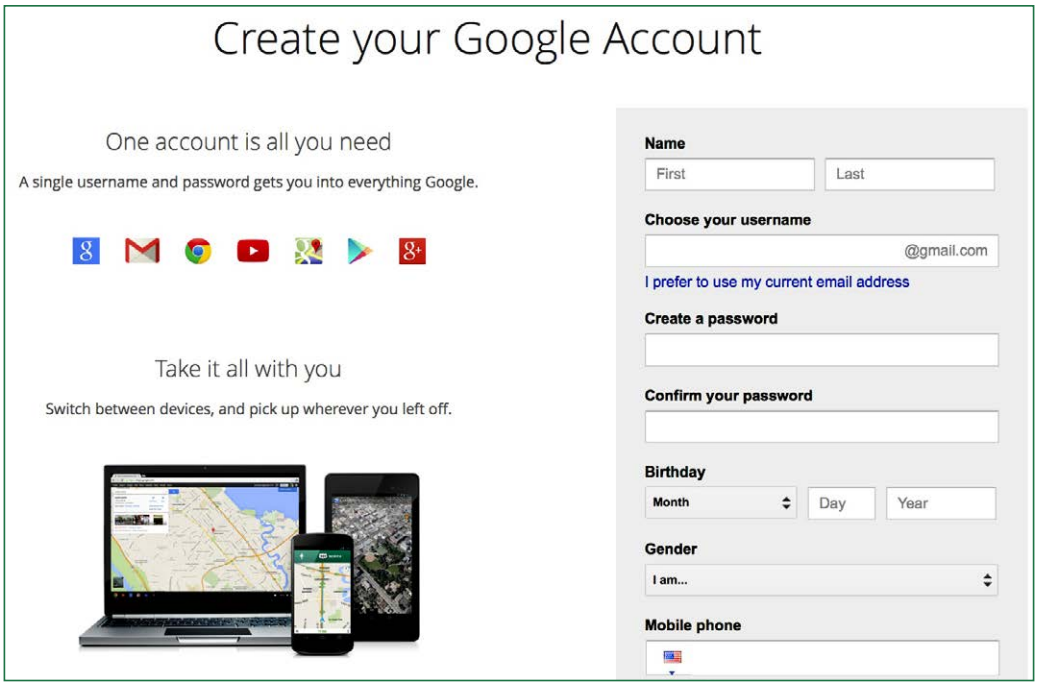
If you already have a Gmail account or an Android phone that you have logged into in order to download apps, there is no need to create a new account. Simply use the same login credentials on *drive.google.com* or the Google Drive, Docs, Sheets, and Slides apps. More information about using the apps is given later in this chapter.

How to activate a new Google Account on a PC, Mac, or Chromebook

Here are the steps to register for Google Drive:

1. Go to *drive.google.com*. Press the Go to Google Drive button to go to the login screen.
2. If you already have a Google Account, enter your Google username (the email address associated with the account) and password and click Sign In. You can then skip ahead to the next section in this guide.
3. If you don't have an account, click the blue *Create an account* link near the bottom of the screen.
4. You'll be prompted to submit a variety of information to create a new Google Account.
5. Enter a first and last name. Note that the name you enter will be associated with any content you create or share on any Google services, including YouTube videos, app and product reviews on Google Play, and shared Google Drive folders and files. If you are not comfortable using your real name in these situations, use an alternative first and last name.

6. In the next field, type a username that will become your new Gmail address. Or, click "I prefer to use my current email address" and enter an existing email address that you want to associate with Google Drive and other Google services. It can be any working email address, including Yahoo Mail, *Live.com*, *Aol.com*, or your work email. If the username is already registered, you will be asked to create a new one.
7. Enter a password (minimum of 8 characters long).
8. Enter your birthday. This is required. If you don't want to use your actual DOB, make one up—it's your chance to be 21 again!
9. Enter your gender. This is mandatory, although if you are uncomfortable with this step you can choose "Other."
10. *Mobile Phone* is an optional field. I recommend entering a real mobile number here, as this can help prevent other people from taking control of your account—Google will use the number to verify you are the actual owner in case someone attempts to log in to Google Drive from a new computer.
11. Enter a series of numbers and/or letters to prove to Google that you are human (this helps prevent malicious computer programs from signing up for Google services and spreading spam).
12. Select your location.
13. Agree to Google's Privacy Policy and Terms of Service, and click the *Next Step* button.
14. If you've done everything right, you'll be taken to a confirmation page.
15. Check your inbox for the confirmation message that Google sent you, and click on the link to activate your Google Account. You must do this to use Google Drive, Docs, Sheets, and Slides.
16. Return to *drive.google.com*, and log on with your email address and the password you created.
17. To log out of Google Drive, click on your profile photo in the upper right corner of the browser window and press the *Sign Out* button.



If you are using an Android phone or tablet, an iPhone, or an iPad, you will need to first download the Google Drive app via the Google Play app store (Android) or Apple App Store (iOS). Later in this chapter, I explain how to get started with the mobile apps for Drive, Docs, Sheets, and Slides.

Why you should use Google's mobile apps

Who would have thought that having access to your Google files on the go could be so much fun?

For some, this may seem bizarre. Indeed, I can confirm it's pure torture trying to draft a letter or enter data into a spreadsheet on a tiny phone screen while seated on a bucking subway train. The mobile formatting options in the Android and iOS apps for Docs, Sheets, and Slides are limited. In addition, many users have reported lag when entering text and performing other functions.

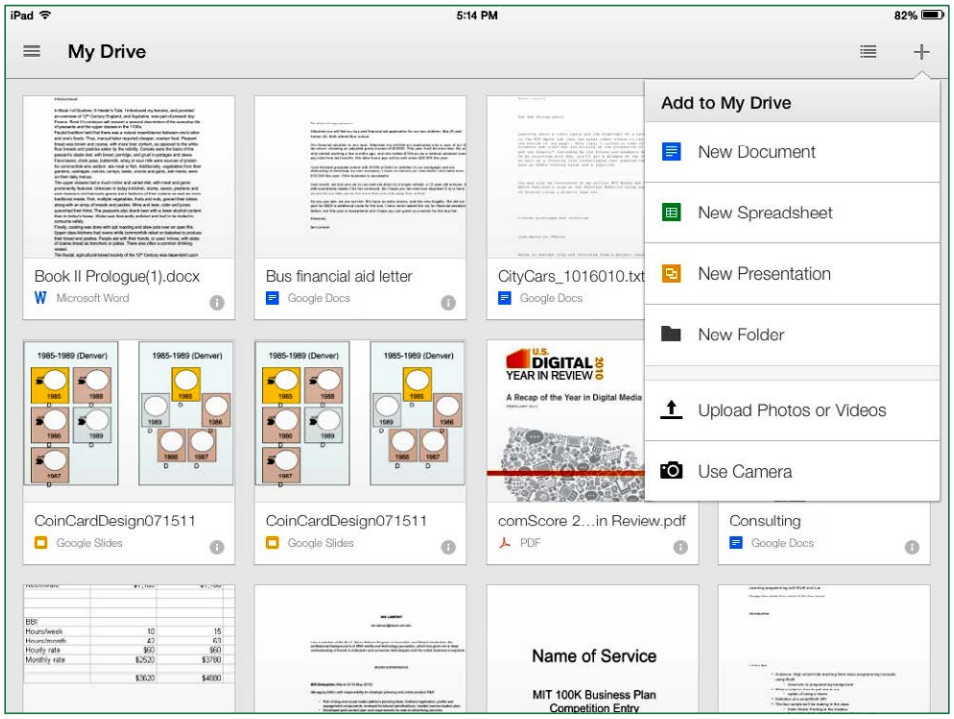
But other features of the Google Drive mobile app—as well as the individual apps for Google Docs, Google Sheets, and Google Slides—are quite useful. For people who don't own a laptop or PC, the mobile apps may be the only option available.

Here's what you can do with the Google Drive app as well as the individual apps for Docs, Sheets, and Slides:

- **Review existing documents, spreadsheets, presentations and drawings.** This is helpful if you need to review a document on the way to a meeting, and don't have time to take out your laptop. Files can be previewed from the Google Drive app.

- **Create new documents and edit existing ones.** The latest crop of apps from Google lets users edit documents. While this is convenient for creating new documents and making simple changes, it's not possible to do serious text entry or editing unless you are using a larger tablet or an attached keyboard. On small-screen devices, text formatting is limited, and many advanced features cannot be accessed.
- **Turn your phone's camera into a portable scanner.** Google Drive can instantly create PDFs using the camera on your phone or tablet, and save them to your Google Drive account. It's a great way to make quick records of important documents.
- **Upload photos and other files to your Google Drive account.** The app can import photos and other files on your device into your Google Drive account.
- **Share documents with other people.** This is a perfect feature to activate after a meeting, meal, or phone call. After discussing a file on your phone or tablet, you can immediately share it using the apps for Google Docs, Google Sheets, and Google Slides.

This is the interface for the Google Drive app on the iPad:



There are many more possibilities, which are described below.

What the different apps do

Google offers the following individual apps for Android and iOS phones and tablets. Key features are listed for each app.

Google Drive

The Drive app lets users:

- Preview files, including PDF, Microsoft Office, and image files.
- Upload files stored in the mobile device, including images and videos.
- Scan documents using the device's camera. The images are automatically turned into PDFs, which are then stored in *My Drive*.
- Organize files and folders.

Google Docs

This app can be used for:

- Editing Microsoft Word and Google Docs documents, including typing and deleting text and applying basic formatting (text size, fonts, bullet lists, etc.).
- Sharing documents with other users.
- Inserting tables and comments.

Google Sheets

The Google Sheets app lets users handle the following tasks:

- Opening and editing spreadsheets created in Google Sheets or Microsoft Excel.
- Creating and editing formulas.
- Applying limited formatting (fonts, background colors, borders, justification, number formats, etc).

It's possible to view charts in the Sheets app, but chart creation is not supported. In addition, there is no AutoSum button, meaning there is no way to automatically apply functions to cells or groups of cells.

Google Slides

The Google Slides mobile app has a limited feature set:

- Editing text in PowerPoint or Slides presentations.
- Previewing the presentations.
- Reviewing and editing speaker notes.
- Add new slides.
- Adding images, shapes, and text boxes (PowerPoint only)

It's not yet possible to insert or edit animations or other more sophisticated formatting and features.

Sharing and printing

Docs, Sheets, and Slides allow users to share files or links with other Google accounts. However, this is currently limited to files that have been created in Docs, Sheets, or Slides. Sharing is not possible with Microsoft Office files, PDFs, or other non-Google formats.

Printing from a mobile device can be done through Google Cloud Printing, but setup is required (see the section about Printing, later in this chapter).

Installing apps on Android and iOS

Accessing Drive, Docs, Sheets, and Slides on a phone or tablet involves downloading the relevant apps and then activating them. If you haven't already done so, it will be necessary to create a Google account in order to use Drive or any of the productivity apps. Note that apps only work on Android devices and Apple products that use iOS, such as the iPhone and iPad.

For BlackBerry and Windows phone users, there are no native Google apps for Drive, Docs, Sheets, and Slides. However, it is still possible to access Google Drive via a mobile Web browser on practically any device. The mobile Web option (*http://m.google.com*) gives users limited viewing, editing, and printing capabilities.

Android

Because the Android mobile operating system is a Google product, and Drive, Docs, Sheets, and Slides are also Google products, it's very easy to get the apps up and running on practically any Android phone or tablet. Some phones and tablets may already have the apps installed.

If you can't find Drive on your Android device, open Google Play (the app store for Android) and download Drive, followed by Docs, Sheets, and Slides.

When opened for the first time, the apps should automatically detect your Google account, either through the account you use on Google Play or the Gmail app. To add another Google account, tap the menu button in the upper left corner of the screen and tap *Add account*.

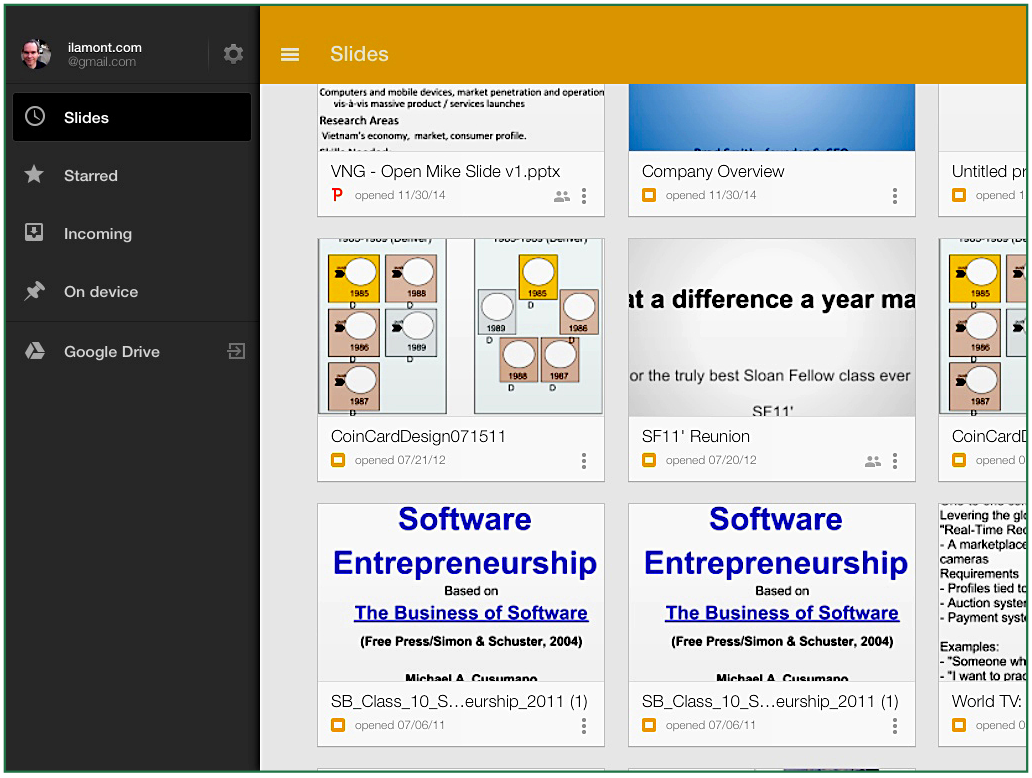
The individual apps are small and quick to download and install.

iOS

Installing the apps for Google Drive, Docs, Slides, and Sheets on an iPhone or iPad requires a visit to the Apple App Store. You will need to provide existing Google credentials to use the apps, or follow the steps described in the Registration section earlier in this chapter to create a new account.

When you open the app, you will be prompted to enter the login credentials for an existing account, or create a new account. After logging into Drive, the iOS device will save your credentials for Docs, Sheets, and Slides.

You can also use multiple Google Accounts on a single device. Tap the Menu icon (three horizontal lines) to display the account being used (see screenshot), and then tap the profile photo or email address displayed.



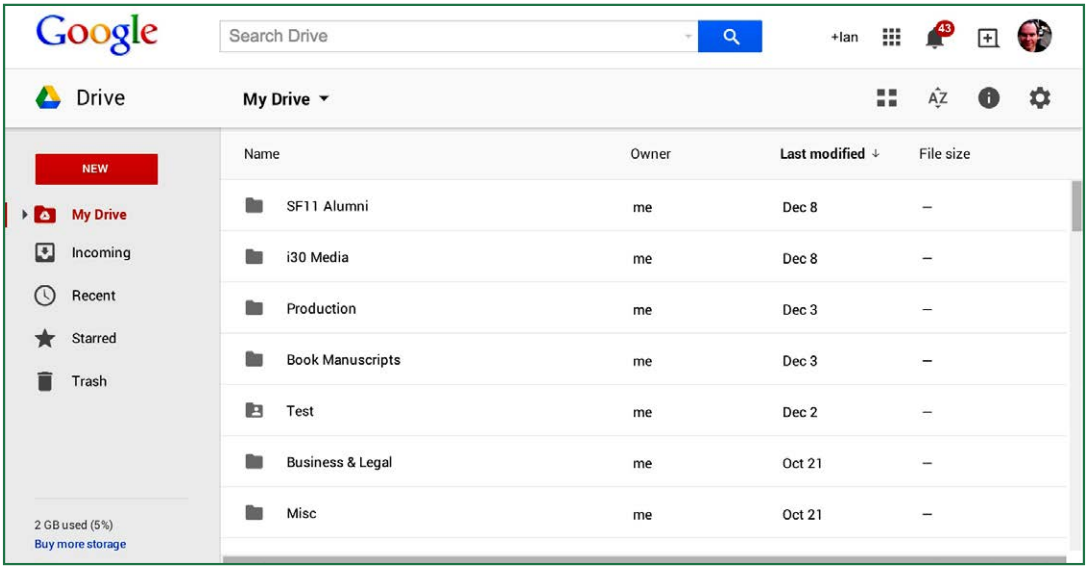
There are several very useful features in the iOS versions of these Google apps:

- **Offline editing.** Edit documents without an Internet connection.
- **Collaborative editing.** People can simultaneously edit a document.
- **Edit Microsoft Office documents.** This feature lets users make edits to existing Word, Excel, and PowerPoint files.

I have also noticed some buggy behavior in the iOS apps, including files failing to open in Docs and Sheets. However, Google is quite diligent about fixing problems with the iOS apps, which are used by millions of people.

Navigating the main screen in Google Drive

When you log onto Google Drive for the first time on a PC, laptop, or Chromebook, you'll see something like this:



Older Google Drive accounts may show a slightly different interface that uses a *Create* button instead of a *New* button. To switch to the new interface, click the gear icon and select *Experience the new Drive*.

There are many elements on the screen, but here are the ones you really need to pay attention to:

New button

The *New* button is where most of the action in Drive takes place. The button is similar to the *New* menu option in many desktop software applications to create a new file. Pressing *New* will display options for creating the following types of files and folders:

- **Google Docs.** Select this option to create a new document.
- **Google Sheets.** Creates a new spreadsheet.
- **Google Slides.** Creates a new presentation.
- **More.** Options include creating a new online form in Google Forms or a drawing in Google Drawings.

The *New* button also has options for creating a new folder (for instance, "History Class" or "2015 Northeast Sales") as well as options for uploading files and folders.

My Drive

My Drive displays the folders in your Drive account on the left side of the browser screen. Click the small triangle next to *My Drive* to expand or collapse the list.

The list of files and folders takes up the central area of the browser window. Click a folder to see the files it contains. When you first start using Google Drive, the list will seem short. Trust me: It won't stay that way for long!

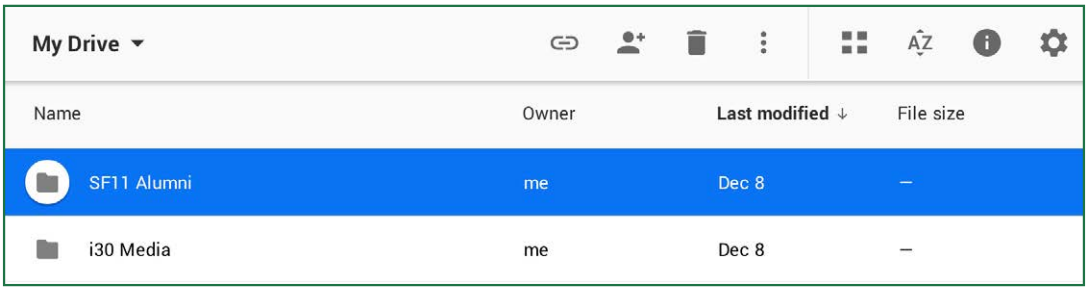
Incoming, Recent, Starred and Trash

Below *My Drive* on the left side of the browser window are additional groups of files and folders:

- *Incoming* includes shared files and folders (learn more about sharing and collaboration in Chapter 6)
- *Recent* is a reverse-chronological list of files that you have created, uploaded, or edited.
- *Starred* consists of files that you have marked with a star (to do this, select the file on the Google Drive main screen, click the *More actions* icon, and then click *Add star*).
- *Trash* holds deleted items in a holding pattern until you delete them for good or restore them (useful in case you change your mind). To get rid of an item for good, select it and click the *Delete forever* link at the top of the list.

Special options for selected files and folders

There are several icons that appear at the top of the Drive window *after* you select a folder or file name:



Here's what the icons do:

Get link. The chain icon lets you copy the link of the selected file. However, unless the file is public (see *How to enable public editing* in Chapter 6) the link can only be used by people who have sharing rights for the file in question.

Share. The silhouette icon lets you share selected files or folders with others. Click the icon, enter an email address, and select the level of sharing:

- Can edit
- Can comment
- Can view

A more detailed explanation about sharing files and folders can be found in Chapter 6, *Collaboration*.

Trash icon. This icon makes it easy to *remove* files. Just press the garbage can, and the selected items will be put in the holding pen for Trash. Permanently deleting the files requires an extra step, as described earlier.

More actions. The three vertical dots icon expands a new menu with options to open files or folders, create new folders, add stars, rename the selected file or folder, view details about the selected file or folder, or download the file or folder contents to your hard drive.

Grid view/list view. This button toggles the view of files and folders, using large icons or a list of the contents.

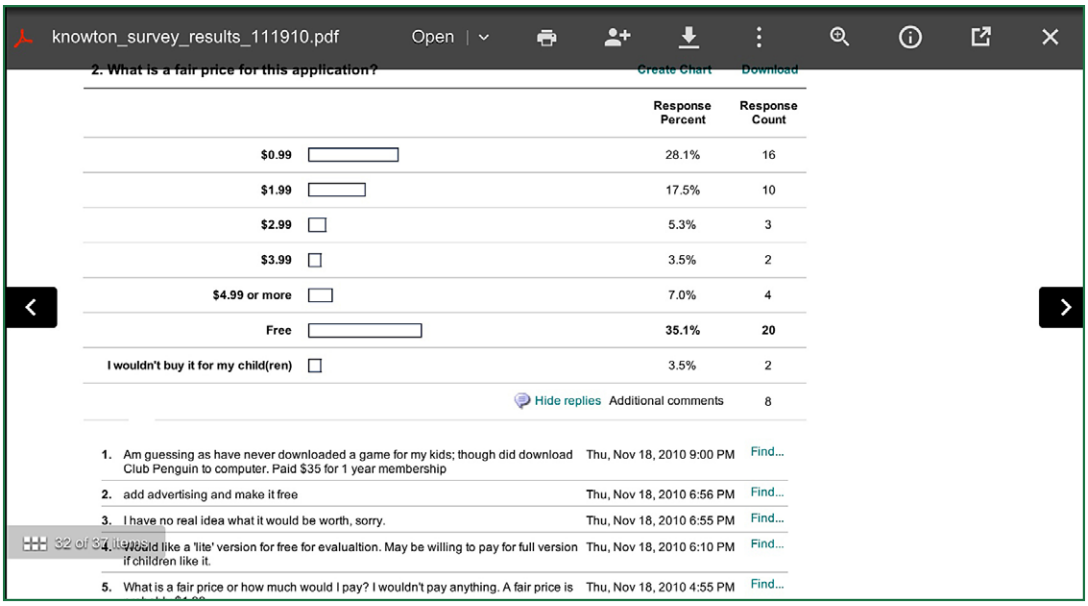
Sort options. The AZ button switches between alphabetical and date-based lists of folders and files.

Settings. The gear icon accesses Google Drive's settings, described later in this guide.

Once you are comfortable with Google Drive's main screen and some of the basic commands, you can refer to the glossary of keyboard shortcuts at the back of this guide to quickly navigate the screen and activate basic features.

Preview mode

Clicking or tapping certain types of files in My Drive will open them in Preview mode. Here's an example of a PDF file being previewed in a browser window:



The toolbar is a quick way to print, download, share, or open the file for editing or conversion. Functions include:

Open. Lets users select a third-party application to open the file (see Chapter 5 for more information about installing third-party apps).

Print. Sends the file to the local or network printer. Certain previewed documents can also be saved as PDFs.

Share. Clicking the icon that looks like a person and a plus symbol brings up the Share dialogue, which lets you email a link to view or edit the file (see Chapter 6, *Collaboration*).

Download. The down arrow downloads a copy of the file to your hard drive.

More actions. Clicking the three vertical dots lets you rename or "star" the document (i.e., mark the file for future reference or follow-up).

Zoom. Examine the file close up, to better see certain details.

More details. View the file type, size, sharing information, and other settings.

Click the "X" to shut the preview and return to My Drive.

Note that native Google Docs, Sheets, and Slides files won't preview—they will simply open in the relevant Google application.

In the Google Drive mobile app, Preview mode extends to Google Docs, Sheets, and Slides files. To edit them, tap the pencil icon at the top of the screen.

Organizing Google Drive

You're going to use Google Drive a lot. Over the course of a year, scores of letters, reports, spreadsheets, shared folders with other people (more on that in Chapter 6), and other types of files will end up in your Google Drive account. Using the apps within Google Drive, you can create as many documents, spreadsheets and presentations as you want. For non-Google formats such as Microsoft Word documents or .jpg images, there is a cap (currently 15 gigabytes, but I expect this to rise) that comes with your Google Account.

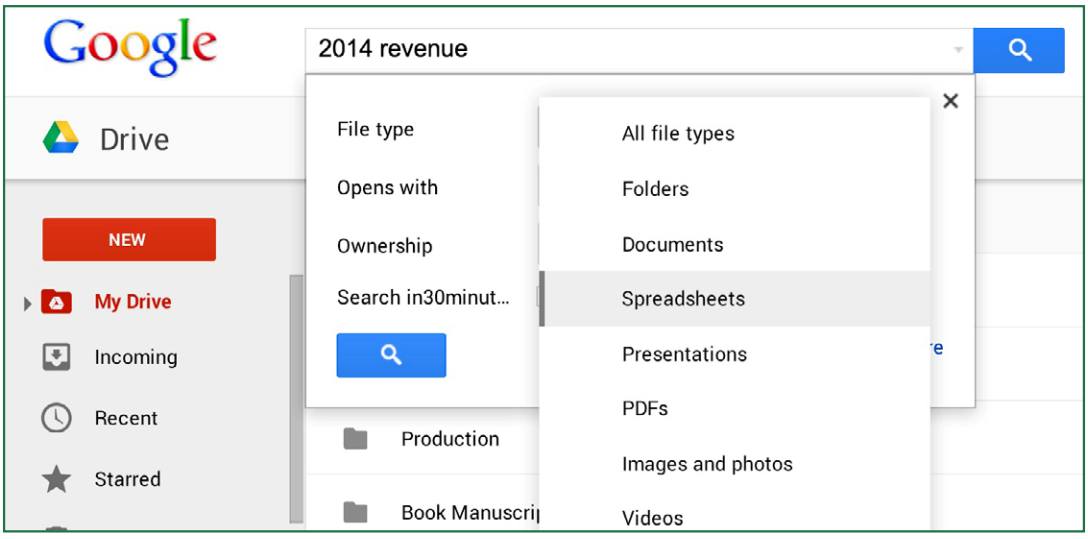
It can be tricky finding a specific file once you have hundreds listed on your Google Drive homepage. The following section will describe some steps you can take to tame the clutter.

How to use search in Google Drive

The search field is located at the top of the browser window. It lets you search the contents of every file in your Google Drive repository. It may not seem important now, but once you have a lot of files in Drive, you'll find yourself using it all of the time.

Here's what you need to know about search in Drive:

- **You can search for the file name** ("Christmas wish list"), or a **portion of the file name** ("wish").
- **You can search for text or keywords** that appear in the body of a document, spreadsheet, or presentation.
- **Use Search Options** to search by file type (for example, only PDFs) or search shared files or files that are visible to the public.



How to use folders

While search in Google Drive is effective, it doesn't work so well when you have lots of files or need to collaborate with people on groups of files. For these reasons, I recommend creating folders in Google Drive. Folders are easy to set up:

1. Press the *New* button and select *Folder*.
2. Name the folder and press *Create*.
3. On Google Drive's main page, drag files to the folder you just created.

It's also possible to create subfolders within a Google Drive folder.

An alternate way of managing your Google Drive files and folders is to use the Google Drive application. See Chapter 7, *How to add files to Google Drive using a PC or Mac*.

Printing

Printing a document, spreadsheet, presentation, or drawing is straightforward—in most cases, it's simply a matter of clicking the Print icon.

However, setting up printers can be tricky, particularly when wireless printers are involved.

Printing with a wired printer

If you are using a home or office printer connected to a PC or laptop with a USB cable, printing is easy:

1. Open the document in the Google Chrome browser.
2. Make sure the printer is turned on, loaded with paper, and no other jobs are in the queue.
3. Click the print icon and follow the instructions.

Chromebooks do not have direct printing functionality—you'll need to set up Google Cloud Print (see below).

Google Cloud Print and wireless printers

If you have access to a wireless-enabled "Cloud Ready" printer, you can print Google Docs, Sheets, and Slides documents from PCs, laptops, Chromebooks, and mobile devices. This is possible using Google Cloud Print, which connects devices to printers via Wi-Fi networks.

There are special considerations when using Google Cloud Print:

- Google Cloud Print requires extra installation steps. Users of Android devices may also have to install the Google Cloud Print app before they can print from their phones or tablets.

- Google Cloud Print services are associated with individual Google accounts. If you have multiple Google accounts, make sure that you use the same account when you are attempting to print.

Google advises owners of Cloud Ready printers to first follow the manufacturers' instructions relating to connecting the printer to your local Wi-Fi network. Then, follow these steps:

PCs and laptops

1. Once the printer has been connected to the network, it should be shown as an available printing option when using Google Docs, Sheets, or Slides in the Google Chrome browser.
2. If not, use Chrome to visit *http://www.google.com/cloudprint/learn/* and click the *Try it now* button.
3. If you still don't see your printer in the list, go to *http://www.google.com/landing/cloudprint/* in Chrome and click the *Add Cloud Ready printer* button, and follow the instructions for your printer.
4. When trying to print a document using Google Cloud Print, you may see options to "print" to Google Drive, commercial services, and other mobile devices. These are used for remote printing or sending PDF files.

Android phones and tablets

1. Google Cloud Print services may already be enabled. To check, open the Google Docs app, select a file, and then *Share & export* > *Print*. If you see the wireless printer in the list, you can start printing.
2. If not, open the Google Play app store and find the Google Cloud Print app. Install it.
3. Go to the menu (the three bars icon) and select *Add printers*. If the printer has already been added to another computer or device on the network, it may not be visible, but it should still be available for the next step.
4. When using *Share & export* > *Print* in the Google Docs, Sheets, and Slides apps, available Cloud Ready printers will be displayed.

IOS phones and tablets

Google Cloud Print services should be visible when opening a document in the Google Docs, Google Sheets, or Google Slides apps. Go to *More* > *Share & export* > *Print* and select *Google Cloud Print* to see available printers.

If you do not see a Cloud Ready printer that has already been configured, make sure you are logged into the same Google account that you used to add the printer to the network.

Google Cloud Print and wired printers

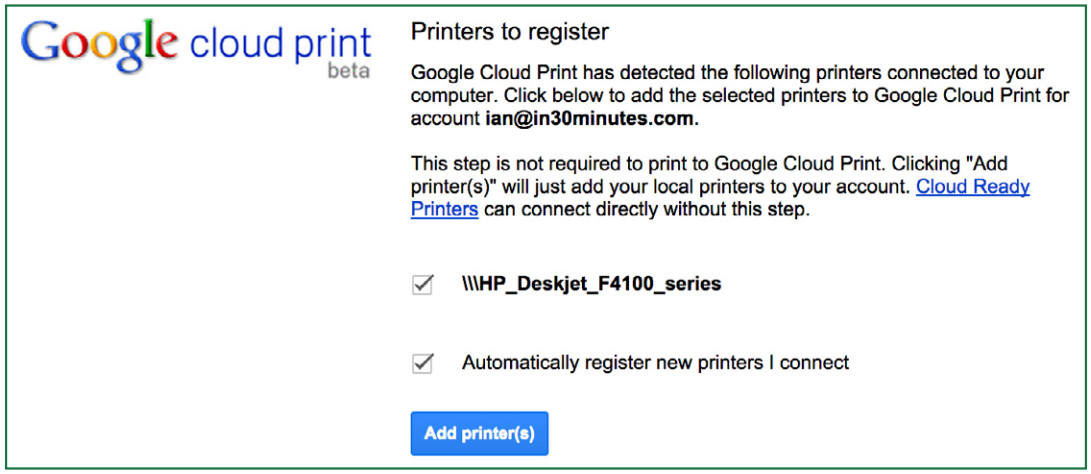
It's possible to attach a wired printer to Google Cloud Print.

Why would you want to do this, considering a PC or laptop can send print jobs directly to the printer, without Google Cloud Print?

The answer: Other laptops, PCs, and mobile devices on the same network will be able to wirelessly print Google Docs, Sheets, and Slides files. It's a cool feature, albeit one that requires extra setup steps to make it work.

Here are the instructions for enabling a wired printer to be used with Google Cloud Print services:

1. Make sure the wired printer is turned on and connected to the PC or laptop you are using.
2. Launch Google Chrome, and click the Settings icon (three bars in the upper right corner of the browser window).
3. Click *Show Advanced Settings*.
4. Scroll down to *Google Cloud Print* and click *Manage*.
5. Under *Classic Printers*, click the *Add Printers* button.
6. You will be presented with a list of detected printers, as well as the option to automatically add printers in the future (see screenshot). Make sure the appropriate checkboxes are selected, and then click *Add Printers*.



Once Google Cloud Print is enabled for a wired printer attached to a PC or a laptop, the printer will not need to be configured for other computers and devices connected to the same wireless network.

Working with Microsoft Office formats

Google knows that most of its users work with Microsoft Office files. Even if you don't have Microsoft Office installed, colleagues or classmates may email you Office attachments, or they may insist you send them Office attachments because they don't use Google's online office suite.

Google has made it relatively easy to convert files between Microsoft Office and Google Docs, Sheets, and Slides. In addition, Google has added functionality to its mobile apps, Chromebooks, and the Google Chrome Web browser that lets users edit the original Word, Excel, and PowerPoint files.

However, there are some limitations associated with native editing and converted documents, as described in the following pages.

Direct editing of Microsoft Office formats

Users can edit Microsoft Word, Excel, and PowerPoint files in Google Docs, Sheets, and Slides using Office Compatibility Mode. This feature comes built into Chromebooks and the mobile apps for Android and iOS, and can be activated on the Chrome browser on PCs and Macs (go to *Window* > *Extensions*, search for *Office Editing for Docs, Sheets & Slides* and install).

However, there are some limitations:

- Office Compatibility Mode will not work with Internet Explorer, Firefox, Safari, or other browsers.
- Files with the .doc, .docx, .xls, .xlsx, .ppt, and .pptx extensions can be edited if they were created in Microsoft Office 2007 or newer versions of Microsoft Office. Older files (created in Microsoft Office 2003 and earlier) are not supported unless they are resaved with a more recent version of Microsoft Office.
- It may not be possible to edit large documents, especially large Excel spreadsheets.

Note: Collaborative editing (described in Chapter 6, *Collaboration*) is not possible when Microsoft Office files are opened for editing. However, it is possible to convert Office files to the equivalent Google formats for collaborative editing.

Converting Microsoft Office formats to Google formats

When you upload a Word document, Excel spreadsheet, or PowerPoint presentation to Google Drive, you have the option of converting them to the equivalent formats in Google Docs, Sheets, and Slides.

Microsoft Office formats that can be converted include:

- Word (.doc, .docx)
- Excel (.xls, .xlsx)
- PowerPoint (.ppt, .pptx)

Converting these formats not only lets you edit them in Docs/Sheets/Slides, but also lets you collaborate on them with other people (see Chapter 6).

There are some drawbacks, however:

- Microsoft formatting may be stripped out or replaced with formatting elements that look quite different in Google applications. This is not much of an issue for a simple report or spreadsheet, but it can be a big problem for brochures, presentations, and other files that have sophisticated formatting.
- Some features available in Microsoft Office are not available in the equivalent Google format, or are implemented much differently. Examples include *Track changes* and comments.
- If the file needs to be brought back into Microsoft Office, another conversion process will have to take place using Google's *Download as* feature.

Conversion can take place automatically during the upload process. Alternately, you can select the uploaded file in Drive and use one of the following methods to convert it:

- Right-click over the selected file and choose *Open with*.
- Click the More Actions icon (which looks like three vertical dots) at the top of the screen and select the option to open it in Google Docs/Sheets/Slides.
- Preview the file, then select the *Open with* option.

Chapter Two

Google Docs

Google's suite of apps has many uses. However, if I had to name the killer feature, it would be the ability to instantly create or edit online documents, spreadsheets, presentations and other types of files from any Web browser or Chromebook, or the free apps for Android and iOS phones and tablets. They are a cheap, quick and effective substitute for Microsoft Office.

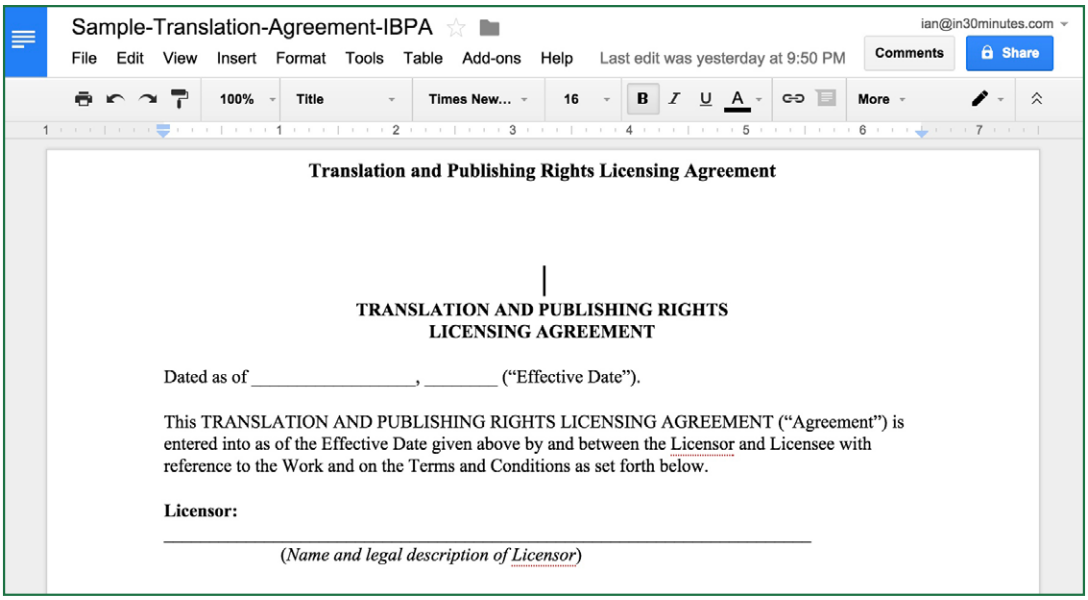
This chapter will explain how to get started with Docs, the most popular application in the suite after Google Drive. Docs is also the easiest one to get started with. Go to *docs.google.com* to get started, or download the Google Docs app for Android and iOS.

Please also refer to the book website (*googledrive.in30minutes.com*) for additional resources. The site includes a FAQ, as well as short videos to help you get up to speed with creating documents and other files.

Docs basics

Docs was launched in 2006. At the time, there were no other programs in the suite. It's still the most popular standalone application—everyone needs to use a word processor in the course of conducting business, attending school, or taking care of personal matters. It's more than adequate for performing the following tasks:

- Composing a letter (see screenshot, below).
- Writing a speech.
- Building a report with graphics and a table of contents.
- Preparing an itinerary or event schedule.
- Building a resume.
- Exporting PDFs.
- Printing.



Is Docs suitable for creating more complex documents, such as a doctoral dissertation or a slick newsletter? The answer to both questions is "no." You'll still need to use Microsoft Word or professional-grade publishing tools for heavy-duty footnoting or formatting.

But for other tasks, Docs does the job. Further, it offers features that haven't yet been introduced to Microsoft Office, such as Research, Drawings, and Add-ons. I use Docs to write reports and letters and rely heavily upon collaboration features (see Chapter 6) when I am preparing new *In 30 Minutes* guides for publication.

In this section, I'll cover the basics. They include:

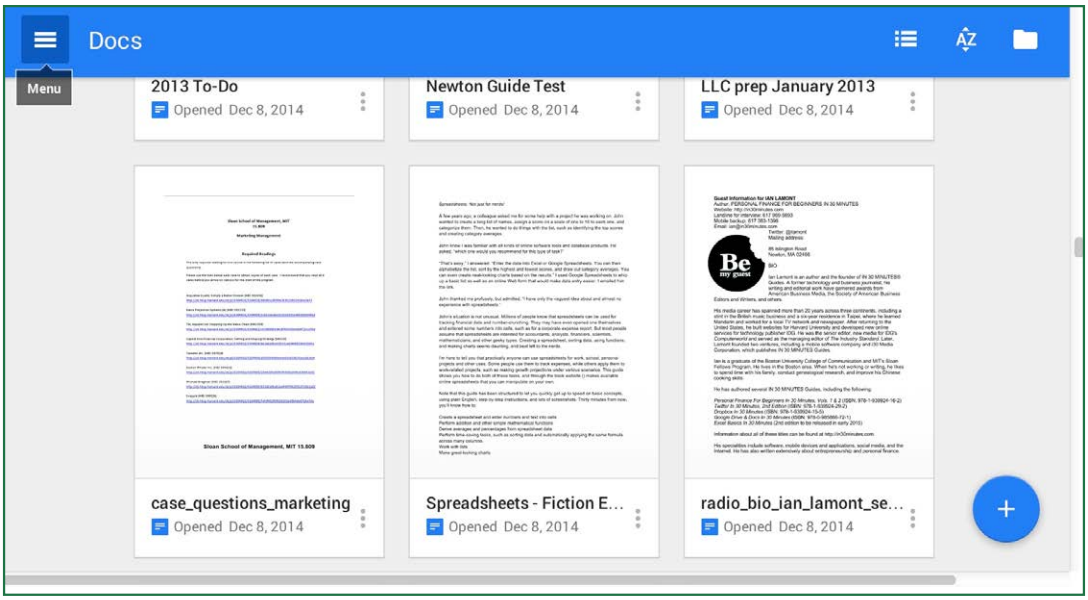
- Creating, naming, and saving files (these instructions apply to other Google applications, including Sheets, Slides, and Drawings).
- Applying simple formatting changes.
- Exporting and printing.

Once you are comfortable with the basic commands, you may want to refer to the helpful glossary of keyboard shortcuts in the back of this guide.

Navigating Google Docs (browser/Chromebook)

It's possible to open an existing Google Docs file directly from Google Drive. However, it's also possible to open a file from the Google Docs home screen, which is distinct from Google Drive's main screen.

This is what the Google Docs home screen looks like in a Web browser or Chromebook:



Here's what the icons do:

Menu. The icon that looks like three bars lets you switch to Drive, Sheets, or Slides, or access *Settings*, which includes *Offline editing* (see Chapter 7, *Working offline*).

List View/Grid View. Switches between thumbnails of the Google Docs and Word documents stored in your account, and a list view that shows the titles.

AZ button. Changes how the view is sorted (for instance, *By title* or *Last modified*).

Open File Picker. The folder icon lets users search for documents, and upload new documents.

Plus icon. The large icon on the bottom of the screen creates a new Google Docs document.

Next to each document, you will also notice an icon that looks like three dots. This is the *More* icon, which displays the following functions:

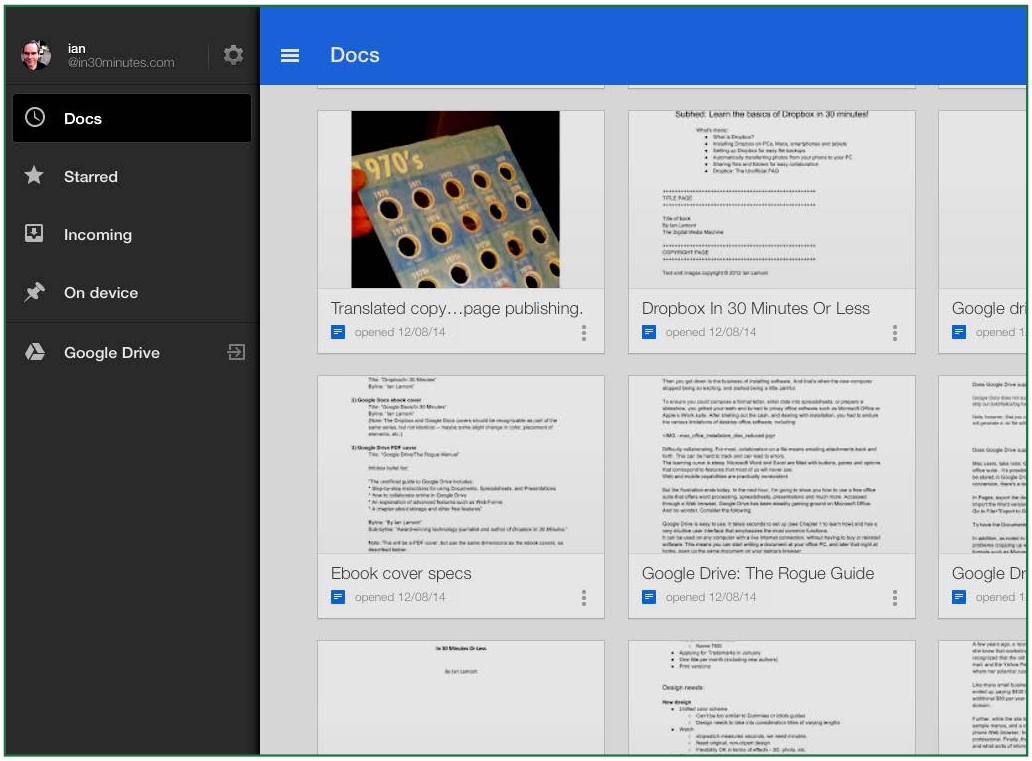
- *Rename*
- *Remove*
- *Open in new tab*

Navigating Google Docs (Android/iOS)

The Google Docs mobile app has a similar set of icons. The Plus and List View/Grid View icons have the same functions as the browser version of Docs, but the Menu icon has additional functions:

- *Starred*—These are documents that you have "starred" for future reference or follow-up.

- *Incoming*—These documents have been created by other Google users and shared with you. If it's empty, it means no one has shared documents with you (yet).
- *On device*—Documents which are saved locally, and are therefore accessible for offline editing (see Chapter 7).



The More icon in the Google Docs mobile app has additional functionality:

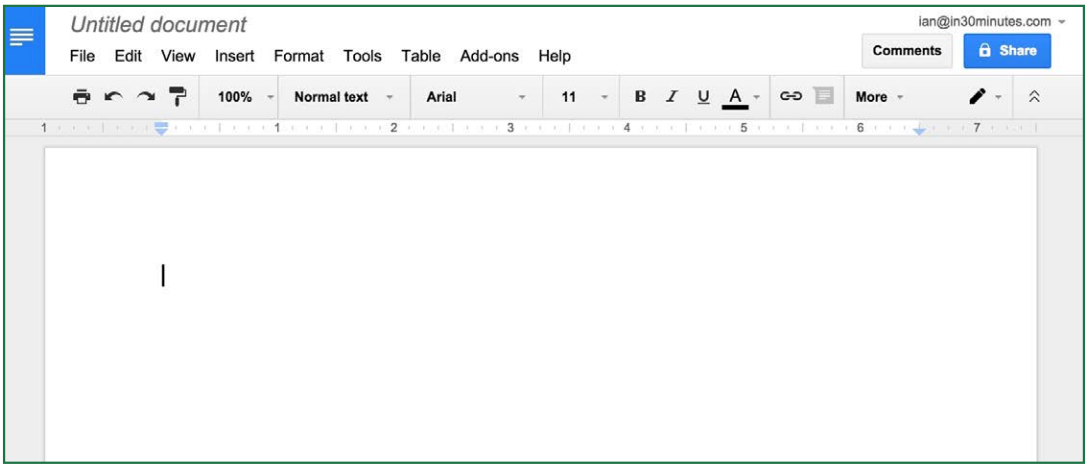
- Rename
- Share & export
- Keep on device
- Details
- Remove

How to create a new document in Docs

Browser/Chromebook

1. Open *drive.google.com* and log on.
2. From Google Drive main screen: Click the *New* button on the left side of the screen. You will see different formats to choose from. Pick *Google Docs*.

3. From Google Docs main screen: Click the "+" icon.
4. A blank document will appear (see screenshot, below). You can start typing right away.
5. To change the name of the document, click the default "untitled" name at the top of the screen.



The document is now ready for you to add text, pictures and other elements. You can type some text to get started. There is no "save" function—Docs auto-saves as you type.

To close the document and return to the Google Docs home screen, tap the blue icon with white lines in the upper left corner.

Android/iOS

1. Open the Google Docs app.
2. Click the large "+" icon.
3. Enter a name for the document.

You can now begin typing or adding other elements to the file. To close the document and return to the Google Docs home screen, tap the blue icon in the upper left corner of the screen.

How to rename a document

Browser/Chromebook

To rename a document while it's open, simply double-click the existing title, and enter a new name.

A document can also be renamed by clicking the More icon from the Google Docs home screen, or by selecting the file in Google Drive and then clicking the More icon or right-clicking and selecting *Rename*.

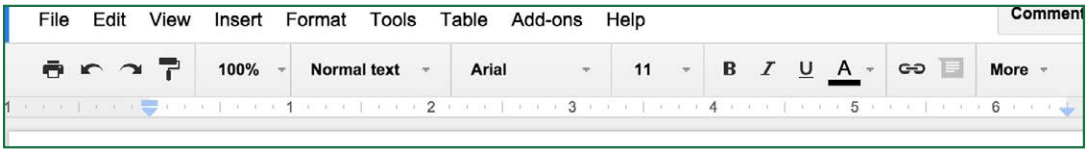
Android/iOS

From the Google Docs home screen, tap the More icon next to the file in question and select *Rename*.

How to format a document

The following section covers formatting for Google Docs in a browser or Chromebook. Because formatting options in the Google Docs mobile app are very limited, I advise switching to a browser or Chromebook to format a document.

If you've used Microsoft Word or formatted email with Outlook or a Web-based email program such as Yahoo Mail or Gmail, most of the menu selections and buttons in the Docs toolbar (shown below) will look familiar:



The Print icon should be self-explanatory. Other toolbar formatting buttons include:

- **Paragraph styles.** Besides *Normal Text*, a limited number of heading styles are available.
- **Fonts.** You can choose from about a dozen serif, sans-serif and special fonts and change the size.
- **Font decoration.** Bold/underline/italics can be activated with buttons, as well as text color (the underlined letter *A*) and background color.
- **Text alignment.** Indentation, centered text, flush right.
- **Internal/External Links.** The chain icon lets you add URLs to selected text, as well as links to internal bookmarks (which can be placed using the *Insert* > *Bookmark* command).

Additional formatting options are available via the *Format* menu.

Inserting images, page numbers, and more

The *Insert* command on the browser-based version of Google Docs is an easy way to import various graphic, text and other objects, including:

- **Images.** Upload a photo, drag a photo, reference a photo's URL, or even take a photo with a webcam. Once the image is inserted, select it to show the text-wrapping options.
- **Drawings.** Selecting this brings up the Google Drawings application (see Chapter 5), and lets you make quick diagrams.

- **Page numbers.** The options for numbering pages are more limited than Microsoft Word, but for letters or simple reports, it's adequate.
- **Footnotes.** These are automatically numbered at the bottom of the page.
- **Special characters.** The list includes math symbols, arrows, non-Roman scripts, and even game pieces.
- **Page break.**
- **Headers and Footers.** Unlike Microsoft Word, which allows the creation of sophisticated graphics and other header/footer elements, Google Docs only has simple text and formatting options for the header and footer.
- **Table of Contents.** This function lets users create a simple TOC based on headings in the body of the document.
- **Comments.** Comments appear in the right margin, and are color-coded if collaborators have access.

Note that the *Insert* options on the Google Docs app for iOS and Android are limited.

Import and export options

Heavy users of Google Docs frequently have to import Microsoft Word documents or export Word and PDF files. There are additional conversion features supported by Google Docs.

Exporting Word, PDF, and text formats

Docs auto-saves what you are doing as you type. There are other options to save, download, and export your file, using the *File* menu:

- **Rename.** Select *File* > *Rename*, or click the title at the top of the browser window and retype the new name over the existing name.
- **Make a copy.** This creates an identical version of the Google Docs file, and prompts you to give it a new name.
- **Download as.** This is an export function and lets users save documents as:
  - **Microsoft Word** (.docx).
  - **OpenDocument** (.odt).
  - **Text and Rich Text** (.txt and .rtf).
  - **PDF**. Note that on-screen formatting in Google Docs does not always match what comes out in the PDF, but for basic letters, résumés, and reports, it's usually a close match.
  - **Web page**. Docs will save your file as an HTML document.

On the Google Docs app for Android and iOS, export options are hidden under the More icon. Select *Share & Export* to access the following options:

- **Share.** Share access with another person via email.
- **Send a copy.** Create a PDF or Word version of the document via email, Bluetooth, etc.
- **Print.** Send the document to a printer, or send a PDF version to another paired device. Note that printing a paper copy of the document requires configuring Google Cloud Print beforehand.
- **Make a copy.** Duplicates the document, and prompts you to rename the new version.
- **Save as Word.** Saves a .docx version of the current document.

How to publish to the Web

This option is something you won't find in Microsoft Word, Apple Pages, or other desktop word processors. Docs lets you publish a live copy of the document to a Google URL. The Web copy looks similar to the view that you see in Google Docs, but it can't be edited.

While this function is not supported on the Google Docs app for Android and iOS, it's easy to publish a document to the Web using the browser and Chromebook versions of Google Docs:

1. Open the document.
2. Go to *File > Publish to Web*.
3. *Link* is selected by default, but if you want HTML code to display the document on a blog or another Web page, choose *Embed*.
4. Use the optional *Published content & settings* to restrict the viewership or disable republishing when changes are made.
5. Click the *Publish* button.
6. Copy the link or embed code, and/or choose one of the options to share the document via Gmail, Facebook, or Twitter.

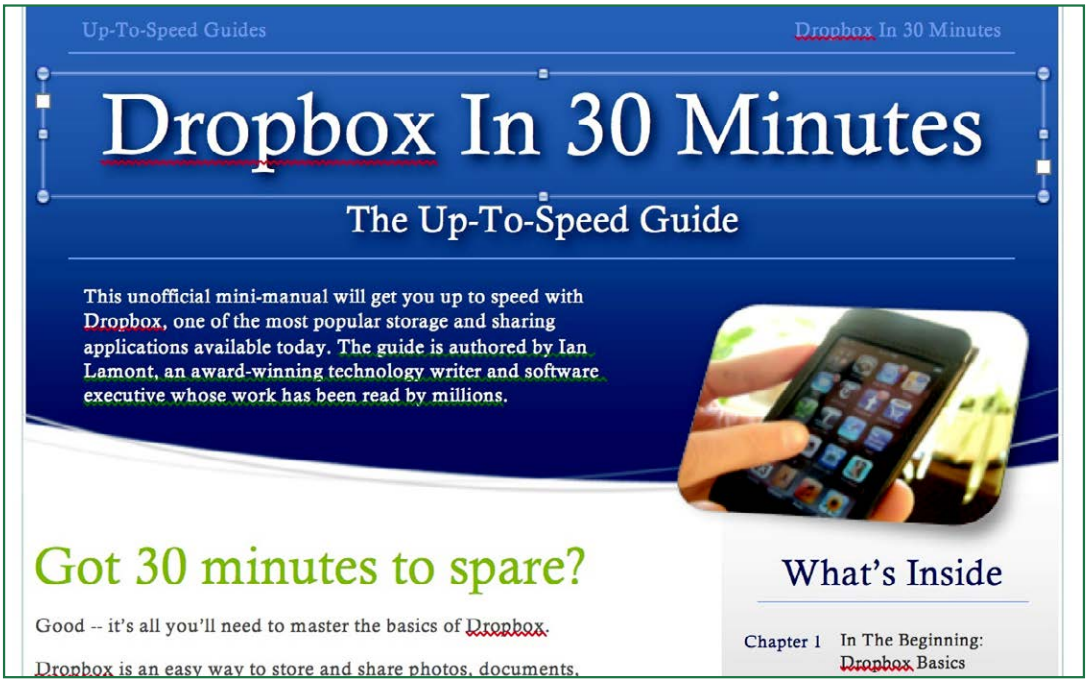
The Web copy will be updated if you or a collaborator update the original in Google Drive. Note that page numbers, line spacing, and other formatting may be changed or stripped out. Nevertheless, publishing to the Web is a great way to share content on Google Docs with a wider audience.

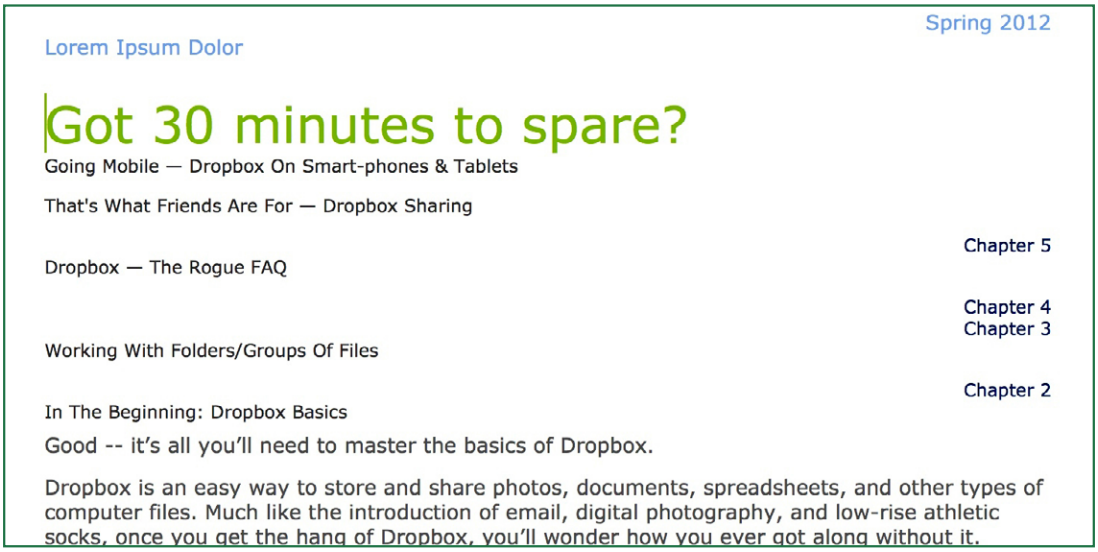
Note: publishing to the Web makes the document available to anyone who has a copy of the URL, so this option should not be used for sensitive documents.

How to import documents from other programs

Google Drive and Docs can import and convert all kinds of files. Compatibility may be limited, however. This is especially true of .doc or .docx files that were heavily formatted in Microsoft Word, as well as heavily formatted .rtf files . If the formatting is not supported in Docs, it will be changed or stripped out.

Below this paragraph, the image on the top is an actual .docx file, made with a Microsoft Word newsletter template. The image on the bottom is the same file after it was imported into Google Drive and converted into a Docs file. As you can see, the headers and images were stripped out and the fonts don't match up:





Conversion issues are less likely to occur for simple reports, letters, and résumés which are not heavily formatted.

Uploaded Microsoft Word .doc or .docx files may be automatically converted to Google Docs editor format, but conversion can be disabled in the settings for Google Drive. To convert a Microsoft Word document to Google Docs after it's been uploaded, refer to the instructions in Chapter 1, Working with Microsoft Office formats.

There are several ways to upload a .docx, .doc, .rtf, or .txt file:

Google Drive

1. In Google Drive's main screen, click the *New* button and *File upload*.
2. Navigate your hard drive to choose the .doc, .docx, .txt, or .rtf file that you want to import.
3. After uploading is complete, the file will appear in your *My Drive* list. Microsoft Word documents have a blue symbol next to them (a blue "W").

Google Docs (browser/Chromebook)

1. Click the *Open file picker* icon, which looks like a folder, and click *Upload*.
2. In the pop-up that appears, Click the *Select a file from your computer* button or drag the file you want to upload to the center of the pop-up.
3. Microsoft Word files should automatically be converted to Google Docs editor mode. If not, open the file and select *File > Open with Google Docs*.

Google Docs (Android/iOS app)

1. Click the *Open file picker* icon (the folder) and select *Device storage*.
2. Locate the document in the device's storage, and tap its name.

Microsoft Word documents will automatically open in Office Compatibility Mode for editing. To convert them to Google Docs, follow the instructions in Converting Microsoft Office formats to Google formats.

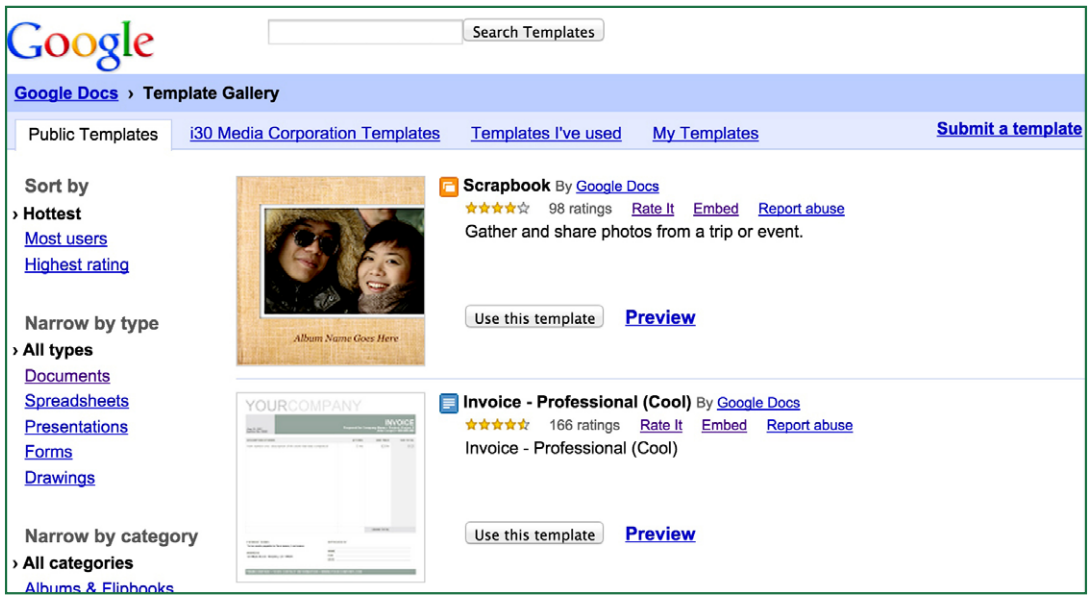
Templates and more

There are additional features in Google Docs that beginners will find extremely useful. Note that some of them are not available in desktop word processors, such as Microsoft Word and Apple Pages.

Templates

You can create documents, spreadsheets and presentations from pre-existing templates that Google or users have created.

There are hundreds of templates available. I've used templates for invoices, résumés and fax cover letters:



To use a template, do the following:

1. In an existing document, go to *File* > *New* > *From template*. Alternately, visit *https://drive.google.com/templates*
2. Click the *Public templates* tab, if it's not already selected.
3. Use the *Search templates* field to find a specific type of template, or browse the categories on the left.

Translate Document

This feature will create a rough translation of your document in any language that Google Translate supports. It can give people who speak a different language a rough idea of what your document is about.

However, the quality of the translations is poor. It is not a substitute for a qualified human translator.

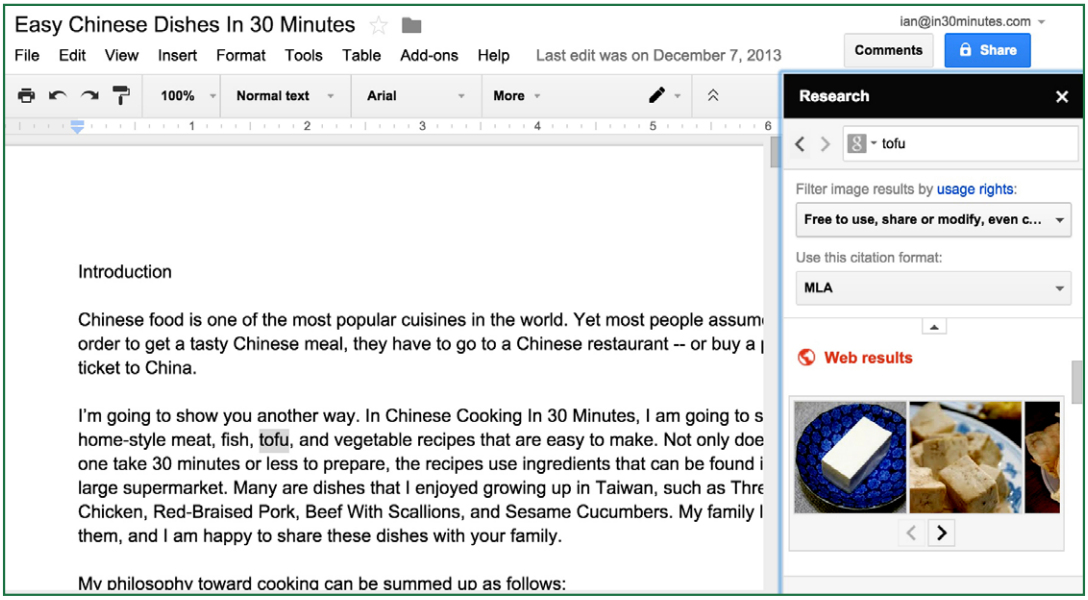
To use this feature:

1. Open your document.
2. Go to *Tools* > *Translate document*.
3. Select the language you want to translate your document to, and click the *Translate* button.
4. Google Docs will create a new copy of the document with the title "Translated copy of [original name]".

Research, Collaboration, Offline Editing, and Add-ons

Google Docs has a neat feature called **Research** which lets you quickly find information about a highlighted topic in your document. It also displays online images to insert into the document. The images can be sorted so only free-to-use pictures and logos are shown. Clicking on the image will insert it into the document with a footnote so you don't have to type in the source information.

To use this feature, highlight a word or phrase in your document and then select *Tools* > *Research*. A sidebar will appear with the Web and image results. Click the tiny triangle at the top of the sidebar to see the licensing and footnote options:



Collaboration lets users invite other people to collaboratively edit a document in real time. It has to be seen to be believed. Chapter 6 explains how to activate collaboration features.

Offline files is a very helpful feature for working in Docs while you are traveling or otherwise not connected to the Internet. Extra setup steps may be required, as described in Chapter 7.

Add-ons are small applications that work with Google Docs. To access them, click *Add-ons* > *Get add-ons*. Examples include a quick citation generator, as well as an add-on that creates a table of contents in the sidebar.

Chapter Three

Google Sheets and Google Forms

Just as Google Docs duplicates much of the functionality of Microsoft Word, Google Sheets takes aim at Microsoft Excel.

While Google Sheets is good, it comes up short in a few key areas, such as formatting and working with large sets of data. That said, for basic calculations, charts, and sorting, Sheets is more than adequate. It's also easy to use, and comes with the following online sharing options that advanced users will appreciate:

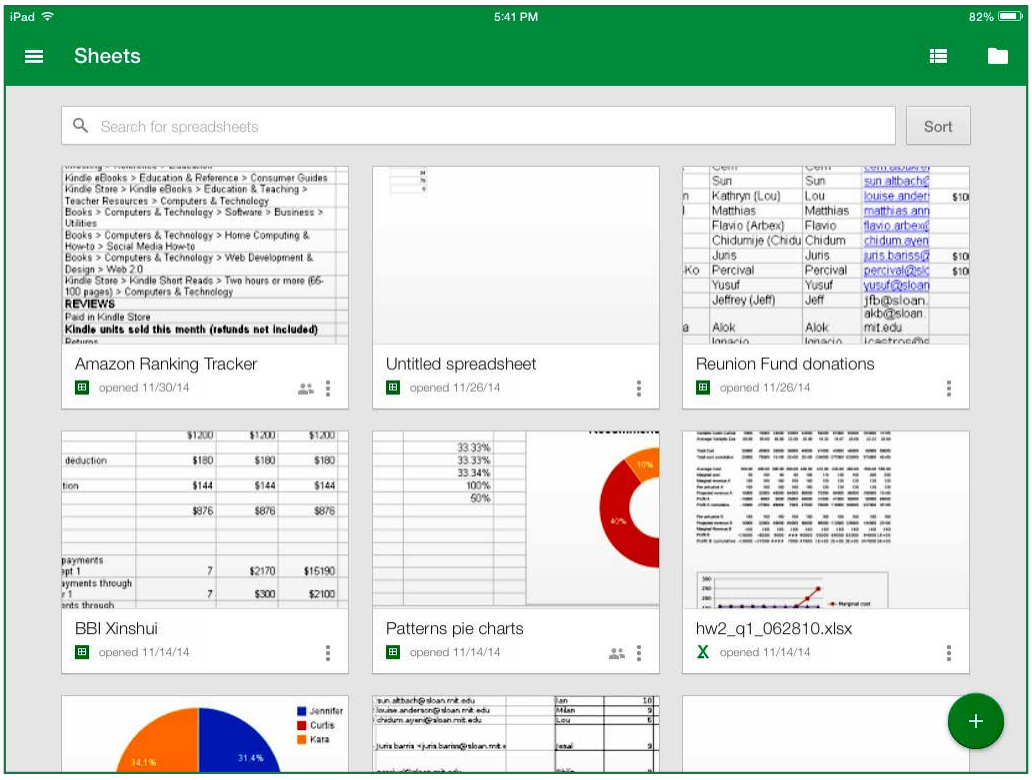
- Integration with data from online sources.
- The ability to create online forms using Google Forms.
- Online collaboration (see Chapter 6).

Since we only have a limited amount of time, I am going to show you how to get started with the basic features of Sheets. If you are relatively new to spreadsheet programs, it would be a good idea to open Sheets and try some of the simple exercises below. As with all of the exercises in this guide, I recommend using Sheets in the Google Chrome browser, which is available for Windows, Macs, and Linux desktop and laptop computers.

If you are interested in more advanced examples and instructions, *Excel Basics In 30 Minutes (2nd Edition)* covers Google Sheets and recent versions of Microsoft Excel. Visit *in30minutes.com* for more information.

How to create and rename spreadsheets

Making a new spreadsheet starts with the *New* button in Google Drive, or the "+" icon in Google Sheets. Sheets automatically saves information as you type.



To rename a spreadsheet in the browser or Chromebook versions of Google Sheets, simply click on the name at the top of the browser window. If you are using the Google Sheets mobile app, click the More icon or Information icon and select *Rename*.

Import options

The browser and Chromebook versions of Google Drive (but not the mobile app) can import .xls and .xlsx files and convert them into Sheets files for editing, collaboration, and Web forms.

If you are using Google Drive in a browser, follow these steps to import an Excel file:

1. Click the *New* button, and select *File upload*.
2. Locate the Excel file and select it.
3. Google Drive may automatically convert the Excel file to Google Sheets, depending on your settings. The newly converted spreadsheet will appear in *My Drive*.
4. If the Excel file is not converted, open it in Google Sheets and select *File* > *Save as Google Sheets*.

Note that the formatting and other functions may not be preserved during the conversion process.

Sheets allows limited editing of Microsoft Excel documents. Refer to *Working with Microsoft Office formats* in Chapter 1 for more information.

Export options

Google Sheets can export files as .xlsx (Excel), OpenDocument (.ods), PDF, text, .csv (comma-separated values), .tsv (tab-separated values) and HTML. Open the spreadsheet in a browser or Chromebook, and select *File* > *Download as* to see the available options.

Export options for the Google Sheets app for Android and iOS are limited to .xlsx files. On the main screen of the app, follow these steps:

1. Tap the More icon (three vertical dots)
2. Select *Share & export*
3. Select *Save as Excel (.xlsx)*

Functions and calculations

Microsoft Excel, Google Sheets, and other spreadsheet programs were designed for crunching numbers. If you're used to Excel, the basic layout, commands and math/business functions carry over to Sheets.

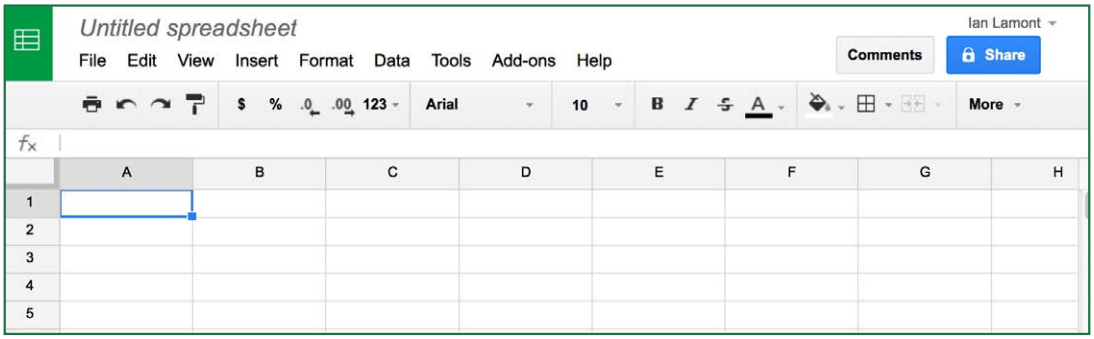
However, the programs are not identical. Google has done a lot to streamline Sheets' interface, which makes it easy to perform simple calculations and tasks.

Another important difference between Excel and Sheets: Excel has more power, and is better able to handle large spreadsheets. If you are working with an exceptionally large dataset (more than 500 rows or columns) the Sheets application may become unresponsive or display errors.

The next few exercises are intended for people who have never used Excel or any other spreadsheet program. Experienced users can skip ahead.

Spreadsheet terminology

When you create a new spreadsheet in Google Sheets, the grid that you see in front of you is called a worksheet. A spreadsheet file can have more than one worksheet, and they will be layered on top of each other and accessible via tabs at the bottom of the grid.



The small rectangles that fill a worksheet are called cells. They are designed to hold numbers (for instance, 5, 26.2, $500 or 98%) as well as text ("Sarah", "Account past due", "245-BNX", column headers, etc.). Sometimes, people will use a cell to refer to other cells that are part of a formula (more on that later).

Because there are so many cells, worksheets use a simple system to identify each one. The top of each column is labeled with letters, while the rows running down the left side of the window are labeled with numbers. It's just like the game Battleship, in which you identify a specific location on the grid by calling out "A7" or "J3". If the worksheet has more than 26 columns, the 27th column is labeled AA, the 28th column is labeled AB, etc.

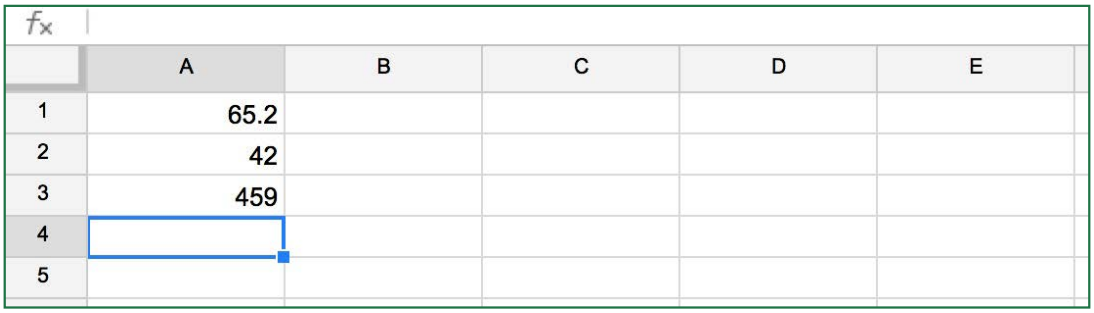
You can use arrow keys or sliders to move quickly around the worksheet. If you enter numbers or text into a cell, and the cell is not big enough to display the contents, the width of all cells in the same column can be adjusted by hovering the mouse over the dividing line between two cells until a tiny right-facing arrow appears. Grab the arrow with the mouse and drag it to the right or left to adjust the width of the column.

Your first formula

Let's do a quick exercise. You can use Google Sheets in a browser or a Chromebook, or use the mobile app for Android and iOS:

- Create a new spreadsheet in Google Sheets. Rename it "Sample spreadsheet" or any other name.
- Find cell A1. In it, type the number 65.2 and press Return/Enter. If you are using the Google Sheets app on your phone or tablet, select the cell and then use the Formula Bar (marked with *fx*) to enter the number.
- In cell A2, enter the number 42.
- In cell A3 enter the number 459.

Your worksheet should look like this:



Adding these numbers together in our heads would be slow, and we might make mistakes. Doing it with a pen and paper would be time-consuming. But spreadsheet formulas make it easy.

The formula will be placed in an empty cell that will calculate the total of the three cells. It can be the cell immediately below the numbers, or it can be a cell that's located several columns away. The calculation can be completed anywhere on the worksheet, and will refer back to the cells that contain the values to be added together.

Let's select a cell two columns over—cell C4. In it, type the following text. But don't press Return/Enter yet:

=A1+A2+A3

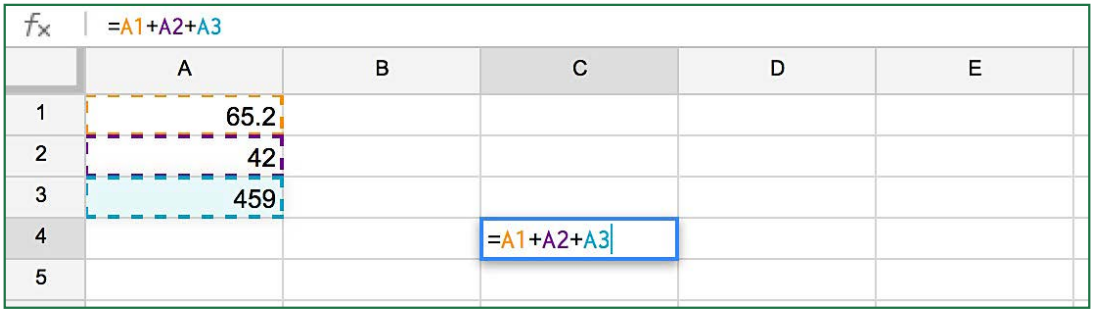
This is a formula. All formulas and functions entered into a spreadsheet have to start with an equal sign ("="). It looks backwards, but starting with an equal sign tells Excel or Sheets that you are entering a formula or function, as opposed to typing text or numbers.

A1, A2, and A3 are references to the cells that contain numerical values. References can be typed as lowercase ("a3") but Sheets will convert them to uppercase.

As you type each reference into your formula, the cell in question will have a colored rectangle drawn around it. The color of the text being typed changes color to match it.

The colored outlines verify that you are typing the correct cell references. For instance, if you mistakenly typed B3 instead of A3, an empty cell would be highlighted, instantly letting you know that you had entered the wrong cell reference.

As you type, you may also notice that the Formula Bar shows exactly what you are typing:



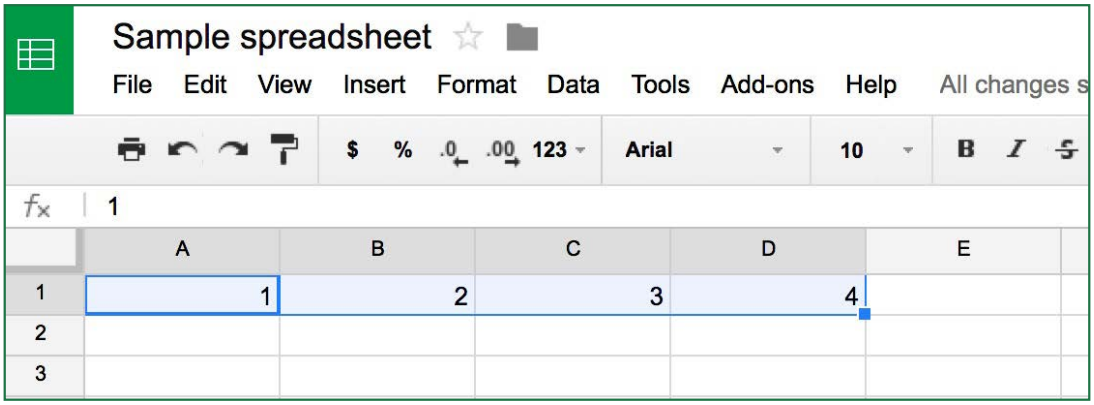
Press Return/Enter. The result of adding the three cells is shown in cell C4. Select cell C4 again. The number in the cell stays the same, but the Function Bar still displays the formula you entered. This is a handy way of determining how a cell's value was calculated.

How to create a series of numbers using Auto-fill

When you are working with spreadsheets, it's common to create a series of numbers in a row or column. For instance, you may need to make the top cell of each column show all of the years from

2015 through 2025. Typing each year would be time consuming and prone to error. Fortunately, there is an easy way to create a series of numbers in a spreadsheet. It's called Auto-fill. The following exercise for Google Sheets in a browser or a Chromebook demonstrates how Auto-fill works:

1. Create a new spreadsheet.
2. In the top row, type "1" in the cell A1.
3. Type "2" in cell B1.
4. Highlight both cells by dragging across the two cells with your mouse button held down.
5. On the lower right corner of cell B1, you will see a small blue square or dot. Grab it with your mouse, and drag to the right (see screenshot below).
6. Cell C1 will show the number 3, cell D1 will show the number 4, etc.

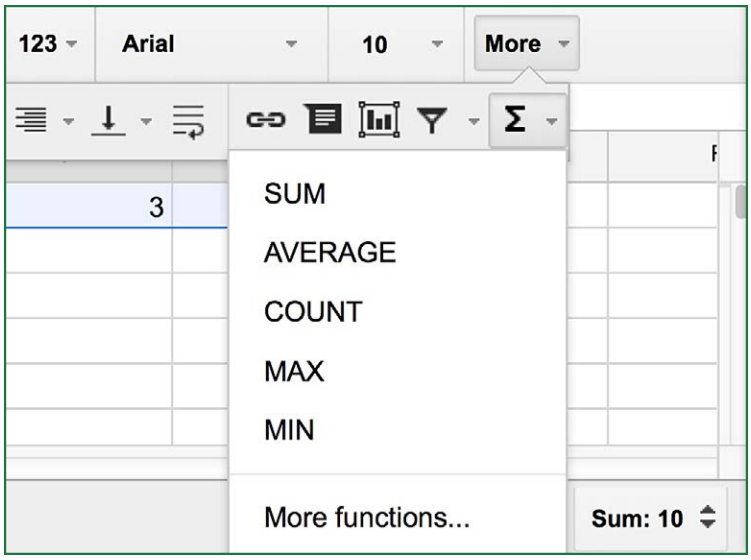


Additional notes

1. The same function works for years, months (date or name), and days of the week (date or name).
2. You also can use Auto-fill to quickly generate results for mathematical functions and formulas across many columns (see example later in this chapter).
3. Clear the numbers in the spreadsheet by highlighting all of the cells and pressing the "delete" key.
4. The Google Sheets app for Android and iOS devices does not support Auto-fill.

SUM and simple math functions

In the browser and Chromebook versions of Google Sheets, the *toolbar* is located above the worksheet. It contains buttons and drop-down menus for common commands and functions, which are alternate ways of expressing mathematical formulas. The Greek Sigma symbol is a drop-down menu for various math functions:

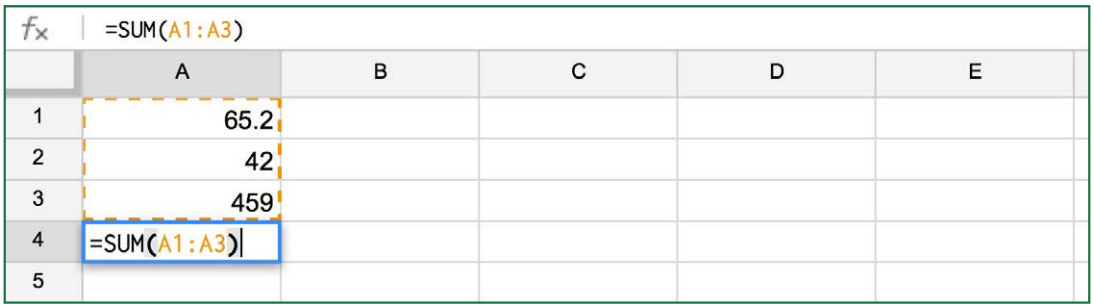


The toolbar and functions are not displayed in the Google Sheets app for Android and iOS, although it is possible to manually type the functions on mobile devices.

Here are some examples that use the SUM function:

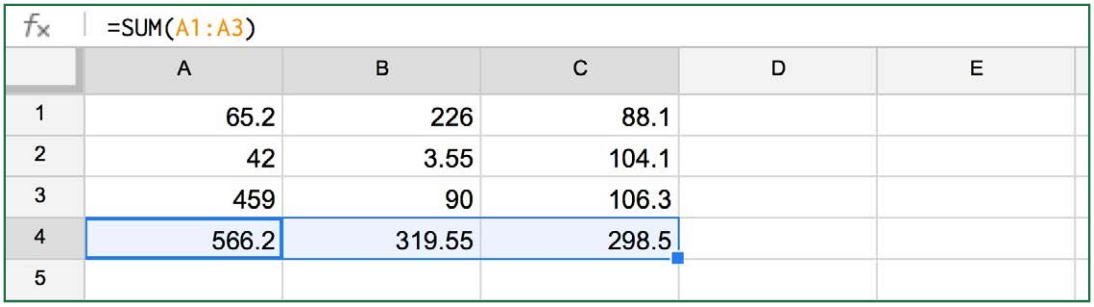
Example: *Single-column addition*

1. In column A, type three single-digit numbers in the first three rows (A1, A2 and A3). You can use the same numbers from the previous exercise demonstrating formulas.
2. Highlight the cells.
3. Click the Sigma symbol to bring up a list of common math functions.
4. Select SUM.
5. In the cell A4 (see example below), you will see *=SUM(A1:A3)*. Sheets is asking, "Show the result for the sum of all numbers between cell A1 and A3?"
6. Press *Return/Enter* to confirm.
7. The sum of the three cells is shown in cell A4.



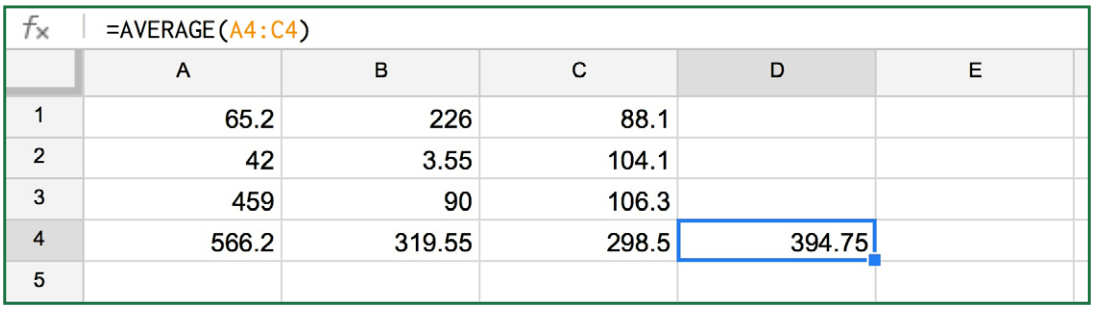
Example: *Multiple column addition and average:*

1. In column A, type three numbers in the first three rows (A1, A2 and A3).
2. In column B, type three different numbers in the first three rows (B1, B2 and B3).
3. In column C, type three more numbers in the first three rows (C1, C2 and C3).
4. Highlight cells in the first row (A1, A2 and A3). Do not highlight any other cells.
5. Click the Sigma symbol, and select SUM.
6. In the cell A4 (immediately below the highlighted cells), you will see "=SUM(A1:A3)".
7. Press *Return/Enter* on your keyboard to confirm.
8. The sum of the three cells is shown in cell A4.
9. Select cell A4 to highlight it.
10. You will see a small dot in the corner of cell A4. Grab it with your mouse and drag it to the right, over the empty cells B4 and C4.
11. Auto-fill will be activated. Cells B4 and C4 will show the totals of their respective columns.



Example: *To calculate the average of all three sums:*

1. Highlight cells A4, B4 and C4.
2. Click the Sigma symbol, and select AVERAGE.
3. In cell D4, you will see "=AVERAGE(A4:C4)".
4. Press *Return/Enter* on your keyboard to confirm.
5. The average will appear in cell D4.



You can experiment with other functions. Common ones include:

- **COUNT:** Counts the number of highlighted cells with numerical data in them.
- **MAX and MIN:** Displays the highest and lowest numerical value in the selected cells.

Additional notes

You can see a full list of functions by selecting *More functions* under the Sigma symbol. The list is exhaustive and covers mathematical, business, and practical functions. For instance, Example: "=TODAY()" displays today's date in the cell.

As with Excel, it's possible to combine/nest functions in Sheets. Here's an example:

=SUM(A1:A3)+AVERAGE(B1:B3)

This function will add the sum of the first column of numbers to the average of the second column of numbers.

For complicated functions or nested functions, I often type them in a different text editor and then paste them into Sheets. It's quicker to make changes this way.

All functions must begin with an equal sign ("="). Using the wrong type of data in a function will also generate errors. Example: Attempting to use AVERAGE() on a column and mistakenly including the header text in the range will generate an error, because text cannot be averaged.

Formatting numbers and cells

The toolbar in Sheets will contain many familiar buttons to change formatting. Some are the same as those used in Docs—for example, buttons to bold or align the contents of a cell, or increase the font size.

Numbers have their own formatting buttons. They include:

- **Dollar:** Instantly formats a number in U.S. dollars. To select another nation's currency, go to *Format* > *More formats* > *More currencies* or use the *More currencies* option under the *123* button.
- **%:** Instantly converts the data to a percentage.
- **123:** Selects other formats, including:
  - Round up to the nearest whole number.
  - Round to two decimal places.
  - Round to *n* decimal places.

- **Financvial**
  - *Example:* –1000 rendered as (1,000)
- **Scientific**
  - *Example:* –1000 rendered as –1.00E+03
- **Dates and Times**

Sorting and filtering data

These powerful features, enabled through the *Filter* button (see screenshot, below), let users pick out pieces of data from large datasets and order them. An example would be reordering the rows from highest to lowest based on the values in column C.

Without getting too technical, here are some basic examples:

Temperatures example

Let's take a look at the weekly high temperatures for four U.S. cities. The first view shows the raw data:

	A	B	C	D	E
1		Boston	New York	Philadelphia	Buffalo
2	Sunday	29	32	34	20
3	Monday	32	34	34	18
4	Tuesday	25	23	28	18
5	Wednesday	24	24	30	20
6	Thursday	26	28	29	22
7	Friday	35	36	33	28
8	Saturday	33	33	31	29
9					
10					

It's also possible to show the data filtered for those days when the temperature in Buffalo was 20 degrees:

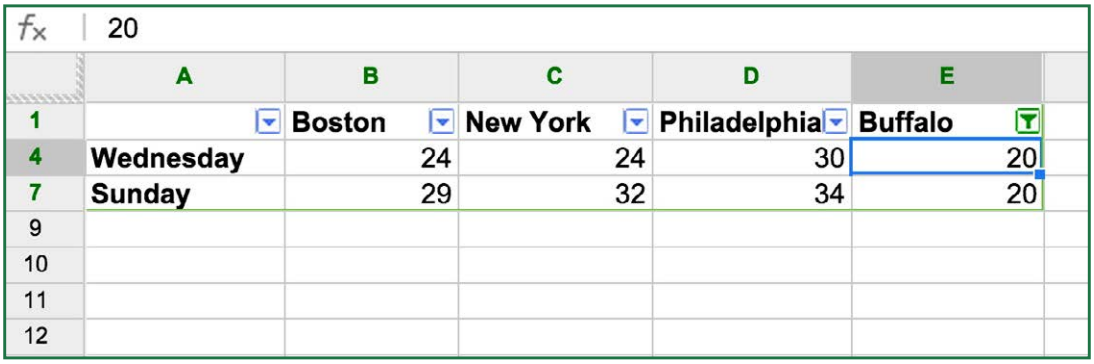
fx 20

	A	B	C	D	E
1		Boston	New York	Philadelphia	Buffalo
2	Sunday	29	32	34	20
5	Wednesday	24	24	30	20
9					
10					

To duplicate the above results from the original raw data, the following steps are required:

1. In column E, under the *Buffalo* heading, select the first cell that contains the number 20 (cell E2).
2. Select *Data* > *Filter*.
3. Tiny triangles will appear at the top of every column. Click the triangle at the top of column E to display the *Sort/Filter* options.
4. Clear the checkmarks next to the numbers (which correspond to the data in that column).
5. Select *20*, and click the *OK* button.

Finally, I sorted the original view to have the colder temperatures under Philadelphia appear higher up in the list:



I did this by pressing the *Sort/Filter* triangle next to *Philadelphia*, and then selected *Sort A-Z*, which arranges the data in that column from smallest to largest. It also altered the order of all of the other columns, so that Wednesday is in the first row below the header (Wednesday contains the lowest temperature for Philly).

It's easy to imagine how these features could be used to quickly isolate and order data from large lists. Examples include:

- **Listing the highest-paid workers** in a department with hundreds of employees.
- **Identifying struggling students** in a large high school, based on grades.
- **Tracking a transaction** in a list of thousands of sales records, based on a specific amount.

How to make a manual list

If you've manually built lists in Excel, you can do the same thing in Sheets.

1. In the top row, enter your headers that describe the data. In a training session scenario, the headers might be *Last Name*, *First Name*, *Department*, etc.

2. Manually enter the data. A typical scenario would involve the owner of the spreadsheet gradually entering the data as people sign up via email or phone.
3. Manipulate the data. Filter and Sort can really help, especially for large lists (Boss: "Get me a list of staff whose last name begins with the letter 'N', pronto!").

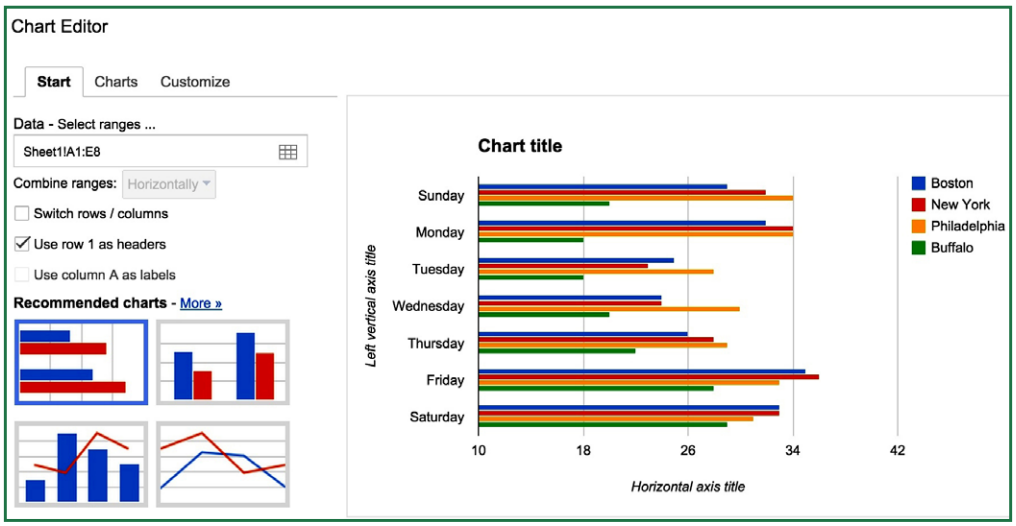
Charts and graphs

Sheets can generate simple charts and graphs. For people who are familiar with Excel's powerful graphing features, Google's tools may seem primitive. But they are more than adequate for basic uses. They even include a few advanced features.

How to make a chart or graph

At a very basic level, making a graph involves selecting a group of data and pressing the *Insert chart* button on the Sheets toolbar.

In the following example, I've selected all of the cells in the Weekly High Temperatures spreadsheet, and then pressed the *Chart* button, which brings up the Chart Editor window. Sheets recommends the following chart:



However, the thin, colorful lines aren't suitable, as they make it difficult to compare temperatures in specific cities from day to day. By exploring the other chart options, I found a simple line chart without any fill colors:

Note that certain types of charts require certain types of spreadsheet data in order to work. For instance, columns that contain lists of names cannot be used to make line, bar, or pie charts, because these types of charts require numbers, not text.

Taking spreadsheets to the next level with Google Forms

While early spreadsheet programs were created to help businesses with their finances, office workers soon found another use: entering text into cells to make lists.

For instance, someone might create a list of the names and departments of attendees at a training session, or the participants in an office betting pool, and then manipulate the data using filtering and sorting functions.

Google Forms takes the list concept a step further with a form creation tool that puts custom forms on the Web and feeds the data into Google Sheets.

How to use Google Forms to gather data

Google Forms is a tool that lets you create an online form. Data entered into the form will automatically be entered into a spreadsheet in Google Sheets.

The forms can really change the way you gather data. Think about it: Instead of manually entering data, you can make a simple form or survey, post it on the Web and let other people do the work for you! This tool is perfect for signup forms and simple reporting.

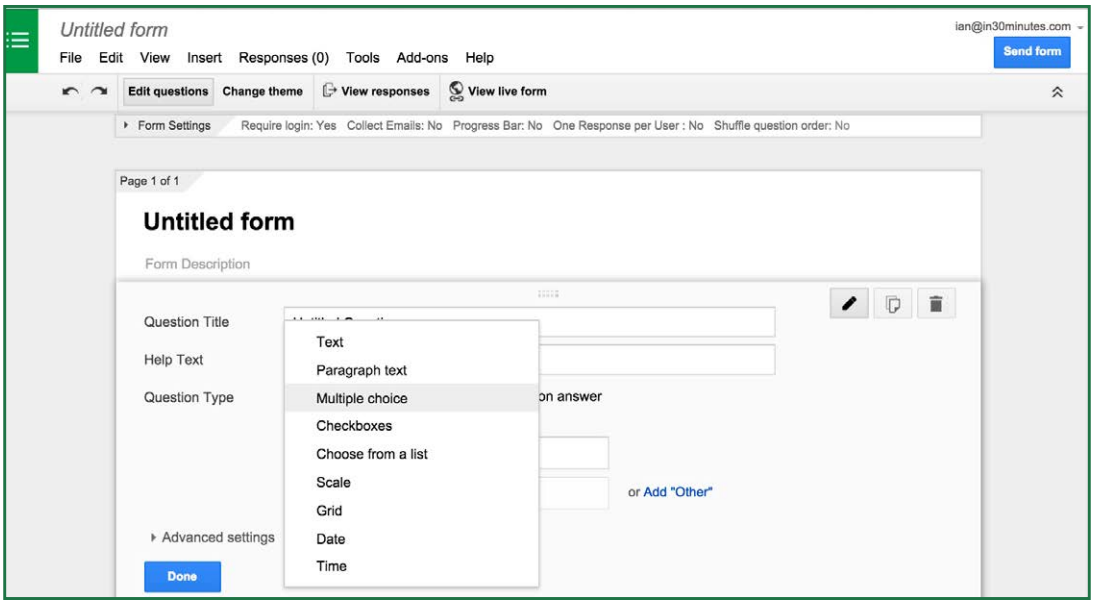
Once a form has been created, it can be accessed via a Google link that you can email or post on a social network. The form can also be embedded on a blog or company Web page. Customization options can make the form look more professional, or match the fonts and colors you want to use.

The data from the form feeds directly into a spreadsheet, which is only visible to you and designated collaborators (as described in Chapter 6).

How to create a form

1. You can either use an existing spreadsheet (select *Tools* > *Create a form*) or make a new form from Google Drive's main screen by pressing the *New* button and selecting *More* > *Google Forms*.
2. The form editor appears (see screenshot, below).
3. Use the checkboxes to choose your preferred settings. For instance, you can require people to log in, or show a progress bar at the bottom of the form.
4. Enter the title.
5. Enter the description. Make it clear what the form is being used for, and add any instructions that can help people complete the form. Absent context or appropriate instructions, users may be reluctant to use the form, or they may enter the wrong type of data.
6. Add a question using the *Add item* button. There are more than a half-dozen types of questions that can be used.

- *Text*. A one-line text field.
- *Paragraph text*. Allows for longer answers.
- *Multiple choice*. Create a multiple-choice question, with as many possible answers as you want.
- *Checkboxes*. People can check off one or more items from a list.
- *Choose from a list*. Creates a drop-down menu.
- *Scale*. Users choose a number from 1 to 10, or any other number combination you choose.
- *Grid*. Users fill in data according to a table.



Data entered into the Web form will be immediately added to a corresponding spreadsheet, which can be accessed from Google Drive, Sheets, or the *View responses* tab at the of the Form editor. Sheets also adds a timestamp for each submission.

Data from the form can be formatted, sorted, filtered and otherwise manipulated using the same methods described earlier in Sorting and filtering data.

When complete, the link to access the form can be found at the bottom of the page (look for the link that says, *You can view the published form here*). You can control the circulation of your form using the following methods:

- Require login access
- Only share the link with selected people
- Embed the form on a blog or webpage (from the spreadsheet, choose *Form > Embed form in a webpage*).

Chapter Four

Google Slides

A few chapters ago, I described Google Docs as being an adequate substitute for Microsoft Word. And while Google Sheets isn't nearly as slick as Excel, it covers the basics as well as advanced features such as Web Forms.

Now we come to Slides, the Google equivalent of Microsoft PowerPoint or Apple's Keynote program. Slides is definitely the runt of the litter. Yes, it handles all of the things you would expect in a standard slideshow application, from animations to themes. But the presentations don't look sophisticated—a potential negative for business users.

In business presentations, positive impressions can help make a sale or win over an audience. PowerPoint and Keynote, when used properly, can be extremely effective business communication tools. But Slides, with its flat designs and simple templates, looks amateurish. It may be enough for a student project or a presentation to a local community group, but for serious business, Slides' primitive designs can actually be a distraction for people who are used to slick PowerPoint decks.

Nevertheless, Slides does have a few saving graces:

- Its relative lack of features makes it very easy to use.
- Collaboration is easier.
- Slides can be instantly ported to the Web.
- It's possible to create, edit, and present Slides offline.
- It's possible to create a draft Slides file to take advantage of Google's collaboration features, and then export the file to PowerPoint for more sophisticated animations and formatting.

Google has also done a lot to improve Google Slides on mobile devices. When I wrote the first edition of this guide, Slides was basically limited to laptop and desktop computers. Now, the Google Slides app for phones and tablets is a superb tool for making quick edits while on the go, or even giving impromptu presentations without having to break out the laptop and projector. You can actually use the Google Slides app to give a 30-second elevator pitch in an elevator, using nothing more than your Android or iOS phone!

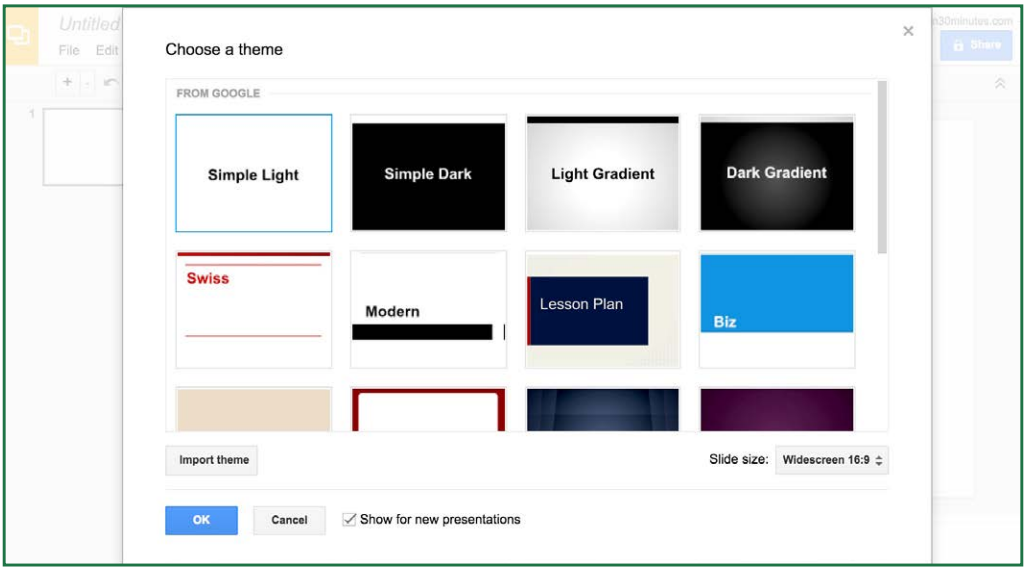
Over the next few pages, I'll introduce the basic features of Slides.

Creating and launching presentations

To create a new presentation in Google Slides, use one of the following methods:

- Google Drive: *New* > *Google Slides*
- Google Slides (browser, Chromebook, or app): Press the "+" symbol to create a new file.

If you are creating a new presentation using the browser or Chromebook versions of Google Slides, you will be prompted to choose a theme:

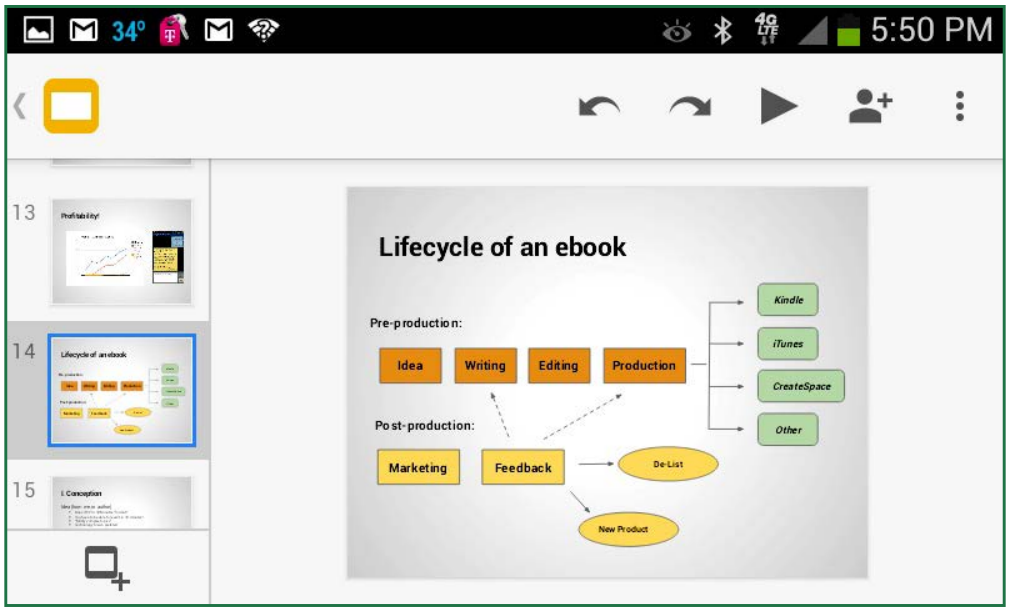


The Google Slides app for phones and tablets does not have the ability to change themes. When the app creates a new presentation, it shows the title slide and options for basic edits.

The browser and Chromebook versions of Google Slides save automatically as you add text, formatting, and other elements. The Google Slides mobile app may require tapping the checkmark icon to save certain changes.

A presentation can be launched using the following methods:

- **Browser/Chromebook:** Press the *Present* button in the upper-right corner of the toolbar area.
- **Mobile app:** Tap the triangular icon at the top of the screen (see screenshot, below).



While Microsoft PowerPoint files can be launched within Google Slides, note that the original formatting and animations may not be reflected in the presentation that plays on the screen. For this reason, I advise launching .ppt and .pptx files using PowerPoint, which is part of Microsoft Office.

How to import and convert PowerPoint files

While Google Slides can import and export PowerPoint files (.ppt and .pptx), formatting does not translate well. This is a particularly serious issue for users who attempt to convert a beautiful PowerPoint presentation. Colors, fonts, shadows, and other elements may appear drastically different in Slides. PowerPoint animations may not work at all.

Fortunately, Google Slides has enabled limited editing of PowerPoint slides (see *Direct editing of Microsoft Office formats* in Chapter 1). This makes it possible to make simple text and formatting changes in an imported PowerPoint file without having to convert it to Google Slides.

To import a .ppt or .pptx file using the browser and Chromebook versions of Google Slides, follow these steps:

1. Open Google Drive, click *New* and select *Upload files*.
2. Find the PowerPoint files (.ppt or .pptx) that you want to use in Slides.
3. A box will appear on the screen, notifying you that the upload is taking place.
4. Once completed, the PowerPoint files can be identified by the "P" icon in the list of files on Google Drive or in Google Slides.

If you can't find the PowerPoint file, it may have been automatically converted to Slides. To prevent Drive from automatically converting PowerPoint files, click the gear icon to access settings and deselect the conversion option for Microsoft imports.

To convert an imported PowerPoint file to Slides format for editing, open the file select *File > Open with Google Slides*.

How to export a presentation

To export or convert a Google Slides presentation, use *File > Download As* in the browser or Chromebook versions of Google Slides. Presentations can be converted to the following formats:

- **PowerPoint** *(.pptx)*. Note that formatting may not be preserved in the exported .pptx file.
- **PDF.**
- **Image formats.** Individual slides can be exported as .jpg, .png or .svg files.
- **Text.** Exported files will contain the text of the original spreadsheet, but no other elements.

If you are using an Android or Apple phone or tablet, export options are limited to PowerPoint files. To access this feature, tap the More icon (which looks like three vertical dots) and select *Share & export > Save as PowerPoint (.pptx)*.

How to add slides to a presentation

To create a new slide, follow these steps:

Browser/Chromebook

1. Click the button with a plus symbol in the upper left corner of the toolbar.
2. The drop-down menu next to the "+" button lets you choose various formats ("blank", "title with body", "content with caption", etc.)

The keyboard shortcut *Ctrl-M* also creates a new slide.

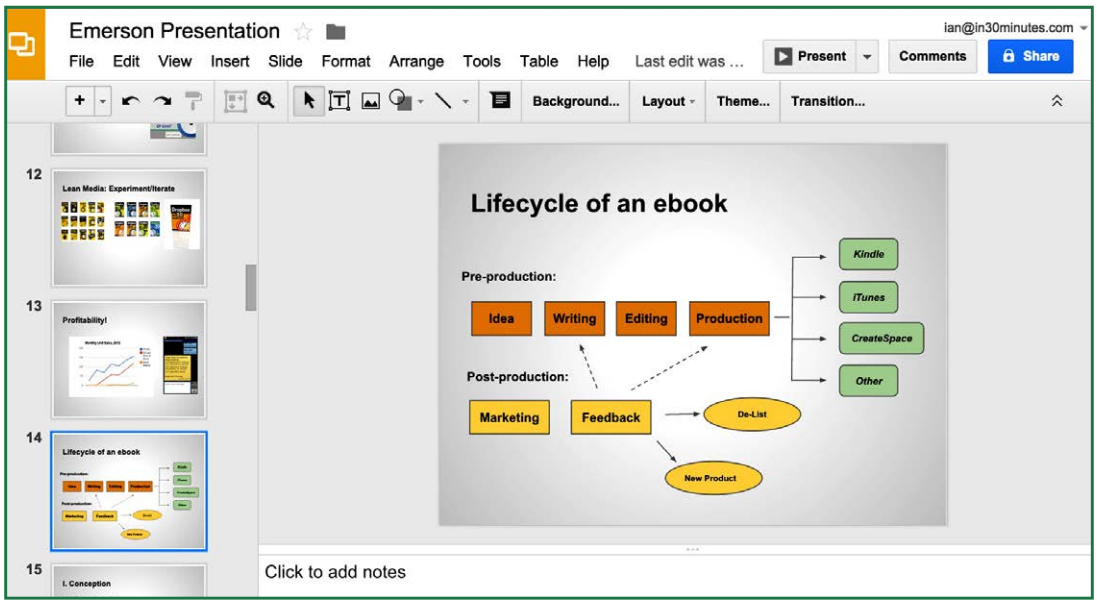
If you have created a complicated slide or formatting that you want to reproduce on another slide, use *Insert > Duplicate* and the delete the text and elements you no longer need.

Android/iOS

1. Tap the New Slide icon, which features a plus symbol.
2. Choose a blank slide or one of the preformatted slide options.

Editing features of Google Slides

When editing a presentation in the browser or Chromebook versions of Google Slides, a toolbar runs across the top and thumbnails of the slides appear on the left side of the screen. The selected slide will occupy the center of the screen:



For the mobile app, thumbnails run across the bottom of the screen. There is no toolbar, but a few icons at the top of the screen show basic editing and sharing options.

As noted earlier, the appearance of the presentations in Google Slides don't hold a candle to a well-designed PowerPoint deck.

On the other hand, the learning curve for Slides is gentle—Google has made it very easy to create, edit, and format presentations.

How to change a theme

When you create a new presentation, you can work with a blank template or select a pre-made *theme*.

Slides themes are very basic. For instance, the *Modern* theme is literally a white background with a black bar for the subtitle.

To change the theme in the browser or Chromebook versions of Google Slides, click the *Theme* button on the default toolbar.

When using the Slides app on your phone or tablet, themes can't be changed after a presentation has been created.

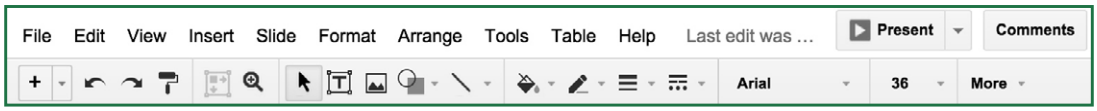
How to format elements in Slides

I recommend using the browser or Chromebook versions of Google Slides to perform formatting changes. The mobile app simply doesn't have much flexibility when it comes to formatting text and other presentation elements, and on small-screen devices manipulating individual elements can be extremely frustrating.

The Slides toolbar has two configurations. When you open an existing presentation, or create a new one, it will look like this:

The buttons can create new text boxes, lines, and shapes, and can also bring up the settings for backgrounds, themes, transitions and animations.

However, once text or some other item on the slide is selected with the mouse or trackpad, the formatting toolbar appears:



The text formatting options (bold, italics, font size, etc.) should be familiar. (For a refresher, please refer to *How to format a document* in Chapter 2). Unlike PowerPoint, Google Slides does not have options for adding text shadows or other sophisticated effects.

Additional buttons include:

- **Fill color (paint bucket icon).** Pressing this button shows a color palette. Selecting a color will change the background color of the selected box or graphic element.
- **Line color (crayon button).** This changes the color of drawn lines and arrows, text boxes, and edges of shapes such as squares and ovals.
- **Line weight.** Changes the thickness of a line, arrow, or shape edge.
- **Line dash.** Turns a line, arrow or edge of an element from a solid line to a dashed line.

How to add new lines, boxes, and other elements

The Google Slides toolbar has buttons for creating the following elements:

- **Text boxes**
- **Images**
- **Lines and arrows** (includes curves, polylines, and scribbles).

- **Shapes** (boxes, cylinders, callout bubbles, large symbols, etc.).

The method for creating each of these elements is basically the same:

1. Press the button for the box/element you want to draw.
2. Crosshairs will appear on the slide area.
3. Hold down the mouse button and drag to draw the element.
4. When the element is the desired size, let go.
5. You may need to click outside the line or shape to complete it.

How to manipulate slide elements

To manually change the position of text, image, graphics boxes, or any other graphic element, follow these steps:

1. Make sure the *Select* tool (the toolbar button that looks like an arrow) is active.
2. Click on the box or element you want to move.
3. Move the square dots that appear along the corners and edges to expand/reduce/change the shape.
4. To move the element, hover the mouse over the edge of the element until a hand appears, then "grab" it to move it.
5. Elements that are partially moved off the slide's surface will be cut off when the presentation is launched.

To move multiple shapes at once, make sure Select is active, and draw a rectangle that touches all of the items you want to move. The items will all be highlighted at the same time. Use your mouse to move the connected objects around the screen.

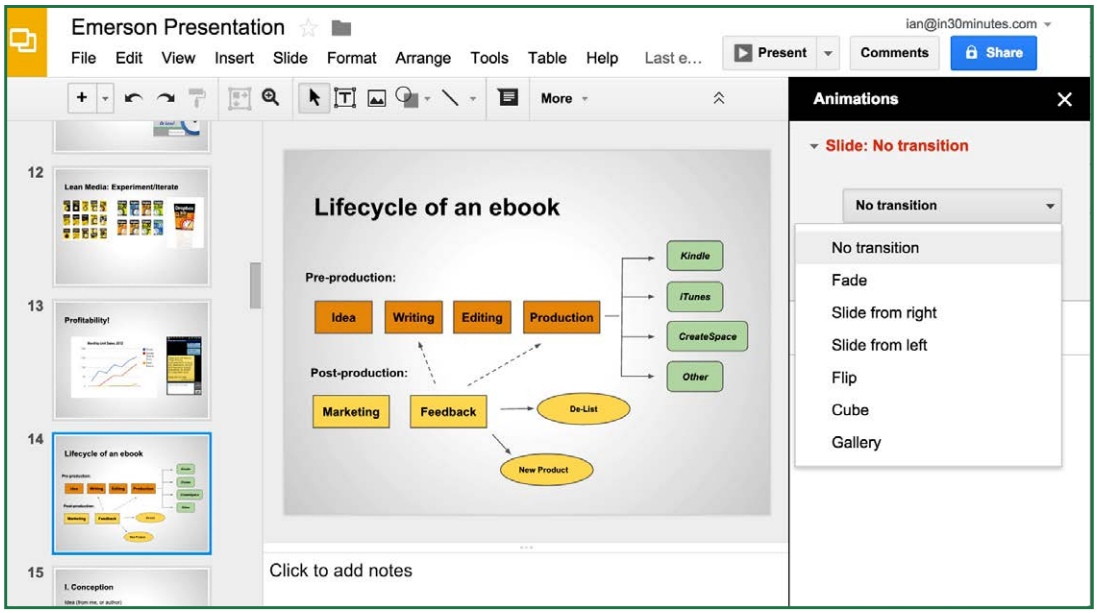
Text boxes and other shapes can be rotated by grabbing the dot above a selected shape and moving the mouse. When it looks good, release the dot.

Transitions and animations

Slides has animation options that can control the appearance and exit of elements on the page, as well as the transitions between slides. These cannot be edited using the mobile app, so the following instructions apply to the browser and Chromebook versions of Google Slides.

How to create transitions

To get started, open a presentation in Slides and navigate to the slide you want to animate. Press the *Transitions* button in the toolbar (if you don't see the *Transitions* button, select the slide thumbnail on the left side of the screen). The Animations pane will appear on the right side of the screen:



At the top of the pane below the *Slide* selector are transitions, which determine how the next slide will appear when the presentation is launched. A standard presentation might fade between slides, but if you're feeling wacky you can select *Flip* or *Cube*. Press the *Apply to all slides* button to have the chosen effect work with all of your slides (as opposed to the one being edited).

How to create animations

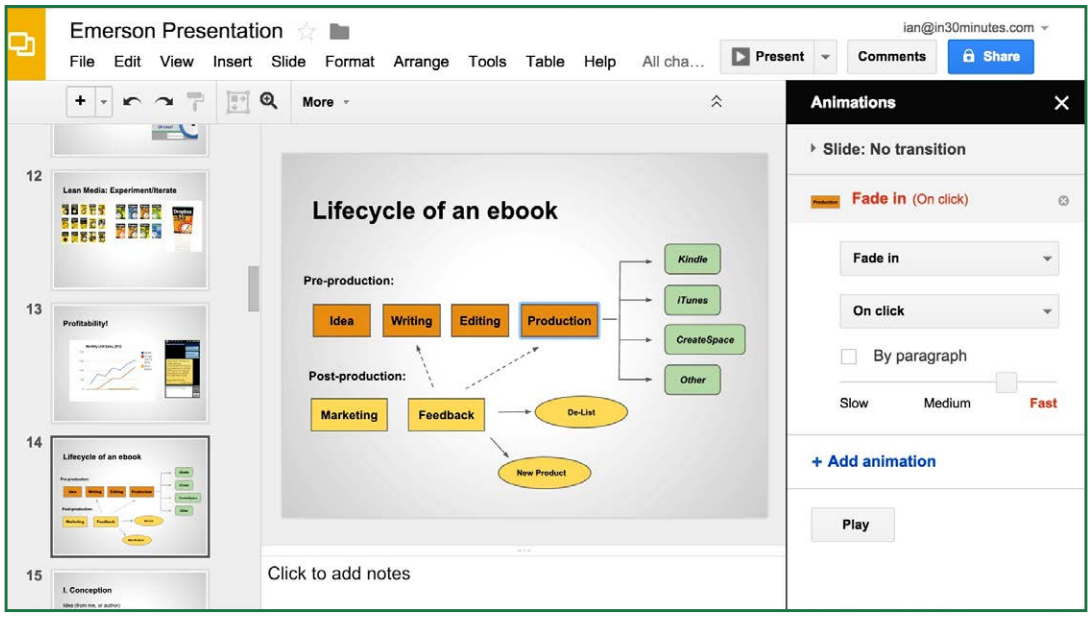
Below the transitions options are Animations for individual elements within a slide. Select an item on the page to get started, and then click *Add animation* (if the Animations pane is not visible, select *Insert* > *Animation*). Options include:

- **Fade in/Fade out**
- **Fly in/Fly out**
- **Zoom in/Zoom out**
- **Spin**

The *On click* drop-down menu controls how the animation will be activated.

- **On click** means an animation will start when the presenter clicks the mouse.
- **With previous** means the animation will follow the animation for another element on the screen. This is useful if you want several items to simultaneously appear or leave the screen.

The speed of each animation also can be adjusted, using the slider.



How to set up transitions

1. At the top of the Animation pop-up window is an option to expand slide transitions.
2. *No transition* is the default, but there are other options including rotating cubes, the next slide rolling in from the right or left, etc.
3. Transitions can apply to individual slides, or press the *Apply to all slides* button.

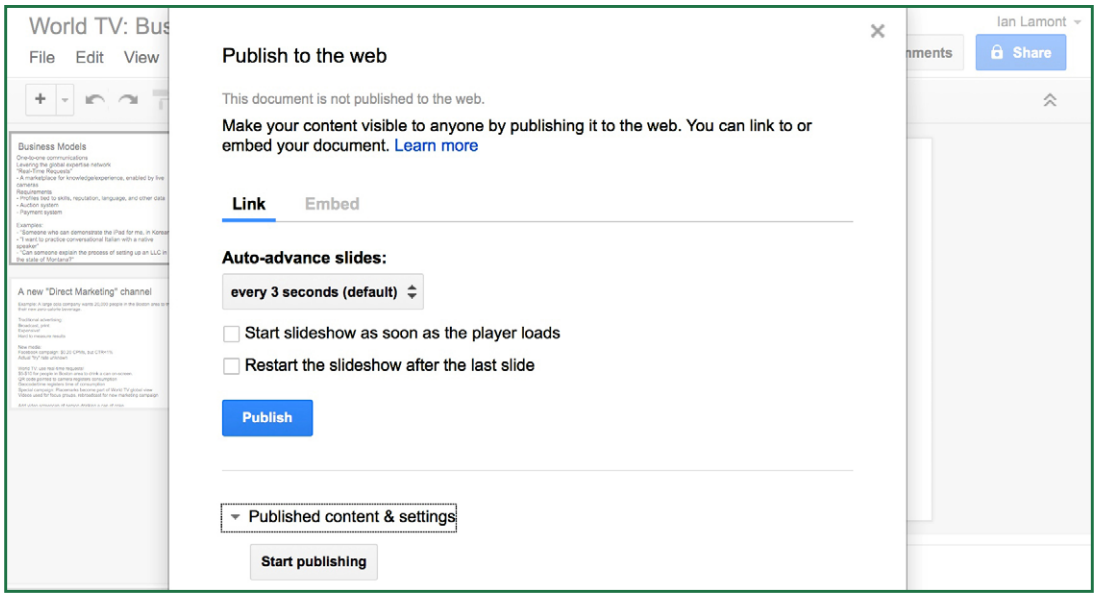
Online options

Besides collaboration (explained in Chapter 6), one of the most powerful options for Slides is the ability to publish on the Web. Google handles the hosting. You can easily email or share the link with others, or even embed the presentation on a company website or blog.

This is a very easy way to do a live presentation over the phone, or have a non-collaborator remotely review a presentation. You can also use this option as a demonstration tool, creating a slideshow that will automatically rotate through the slides and then start over from the beginning.

How to publish a presentation on the Web

To place a Slides presentation online so other people can see it, open the presentation and then select *File* > *Publish to the Web*. A pop-up window will appear (see screenshot, below).



Under *Link* is a *Publish* button. Pressing it makes the presentation available online, using the highlighted link. There are options for auto-advancing the presentation when it is opened in a browser. Select *Embed* if you want to copy the code to place the presentation on a webpage or blog.

Under *Published content & settings* is another button to start or stop the online availability of the presentation. If you are using a Google Apps domain, you may also see options to restrict the presentation to users of your domain. However, if you are using a standard Google Account, the link can be viewed by any person who has the link. This means that the link can be shared and forwarded, but it won't show up in search results.

Chapter Five

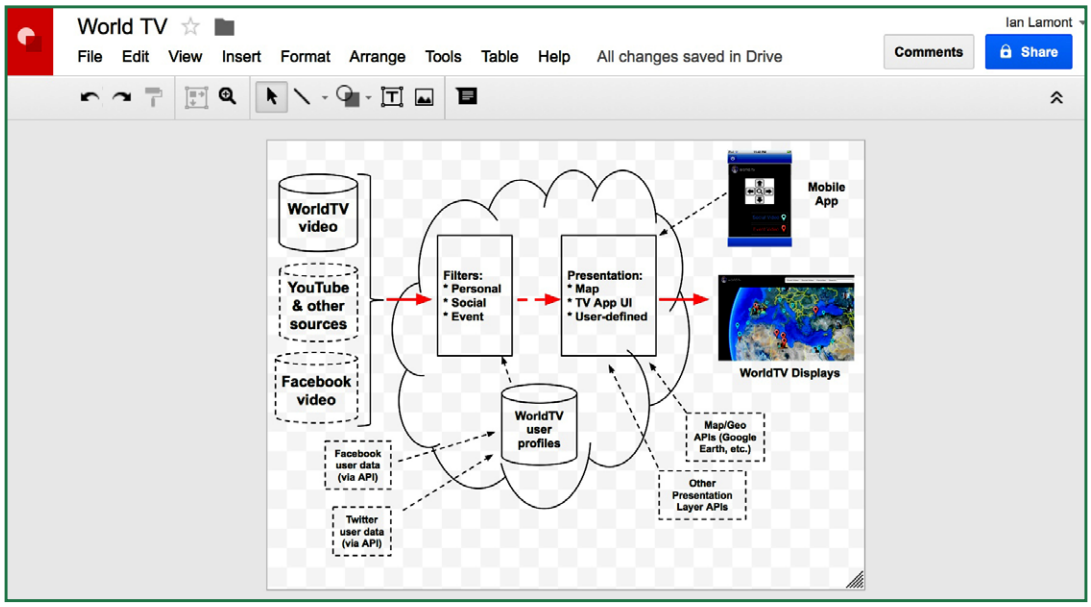
Google Drawings and other apps

Google Drive comes with several additional programs, as well as the option to download compatible apps from other developers. The program that deserves a special mention is Google Drawings, a diagramming and sketching tool included with Google Drive.

What can you do with Drawings?

Drawings is integrated into Google Docs and Google Sheets (via the *Insert* > *Drawing* menu command), but there is also an option of using Drawings as a standalone program. It's very useful. I've used Drawings to create:

- **Diagrams** for my books.
- **Flow models** for business presentations (see example, below).
- **Wireframes** for planning Web and software applications.
- **Annotations** for imported images.
- **Simple maps.**



Creating a new drawing is easy. Press the *New* button in Drive and select *More* > *Google Drawings*. Specific capabilities are described below.

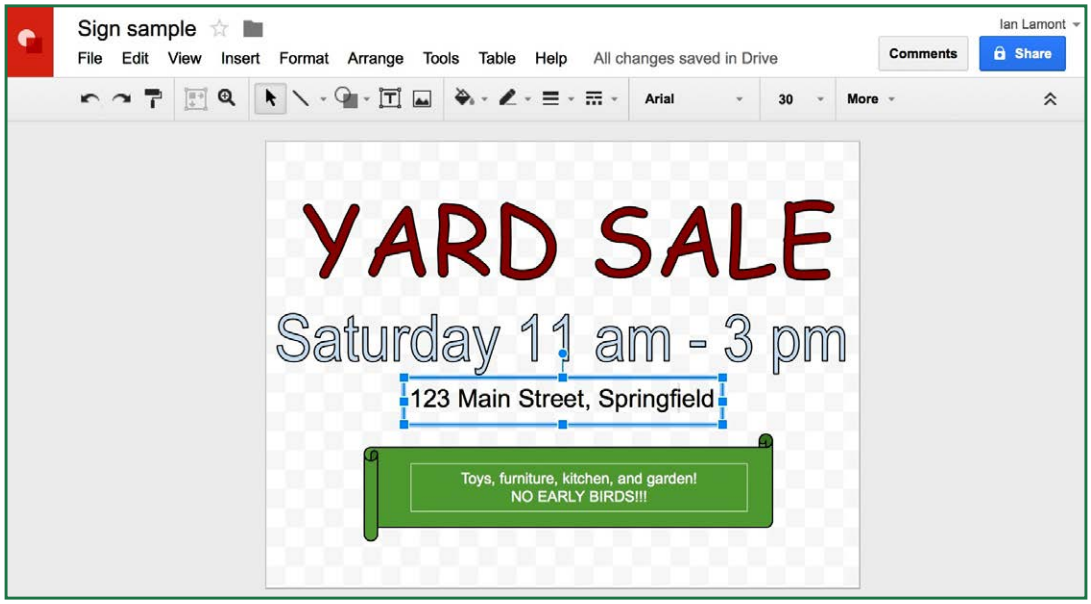
How to create objects in Drawings

After you've created a new drawing, you will be presented with a blank canvas and a toolbar. The buttons may look familiar—Google Slides uses a similar set for inserting objects like text boxes, shapes, lines and arrows. Indeed, the ways in which you create these objects in Drawings is the same:

1. Press the button for the box/element you want to draw. Additional options for each element are available via the drop-down menu attached to the buttons.
2. Crosshairs will appear in the drawing area.
3. Hold down the mouse button and drag to draw the element.
4. When the element is the desired size, let go. Elements can be moved, rotated, and resized using the dots around the edges of a selected shape (see *How to manipulate slide elements* in the previous chapter).

There are a few extra steps for creating things like polylines and curves. Refer to the instructions for Slides, or experiment on your own.

Google Drawings has an additional object type, Word Art, which is useful for making simple signs. Although both text boxes and Word Art can be used to "draw" text, Word Art text is treated as a graphic object. This means you can change line width, fill color and the shape of the Word Art as you would a circle or other shape (see test drawing, below).



How to delete objects in Drawings

If you make a mistake:

- Click the *Undo* button (the toolbar icon that looks like a curved arrow pointing left) or select *Edit* > *Undo*.

To delete a single object:

1. Press the *Select* button.
2. Click once on the item you want to delete.
3. Press the *Delete* button on your keyboard, or use *Edit* > *Delete*.

If you want to get rid of several objects at once:

1. Press the *Select* button.
2. Draw a rectangle that overlaps the objects you want to delete and let go of the mouse.
3. The objects all will be selected and joined by a large rectangle.
4. Press the *Delete* button on your keyboard, or use *Edit* > *Delete*.

How to publish a drawing to the Web

Google's Drawings program allows publishing to the Web. Google handles the hosting.

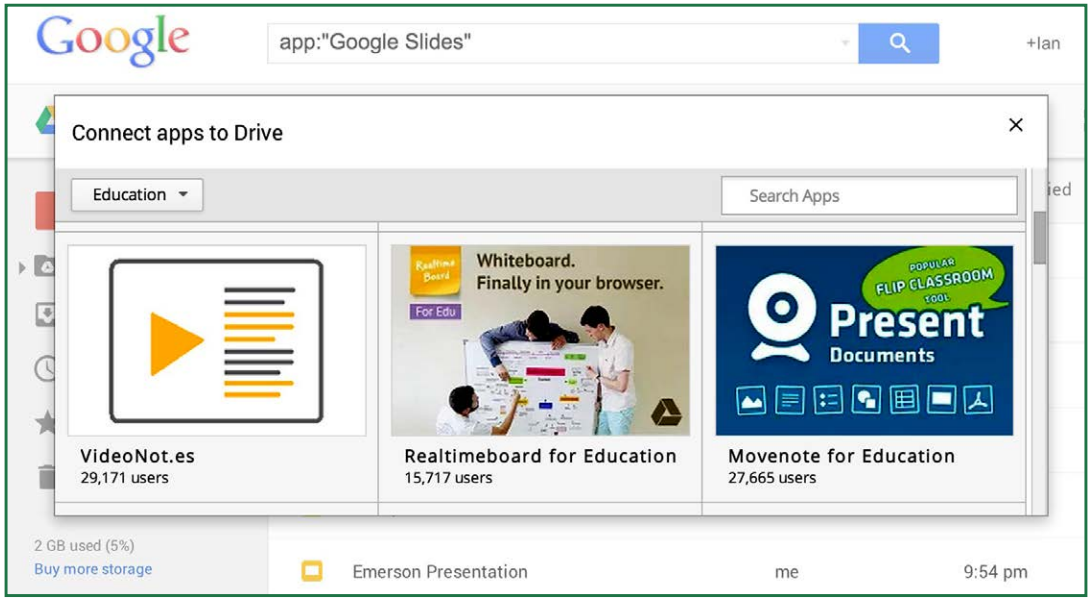
1. Go to *File* > *Publish* to the Web.
2. A pop-up window will appear.
3. Copy the document link. To share, paste it into emails, social networks, etc.
4. To publish on corporate sites, blogs or other Web pages you control, use the provided embed code.
5. Note that drawings on the Web can be viewed by anyone with the link, but only can be modified by collaborators.

Accessing other apps in Google Drive

Independent developers and other companies have built free apps that greatly extend the capabilities of Google Drive, Docs, Sheets, and Slides. Examples include:

- **HelloFax** lets you fax documents and PDFs stored in Google Drive.
- **Drive Notepad** is a simple text editor for jotting down notes, pasting information, writing computer code, or using a scratchpad. Notes are saved in Google Drive and can be printed using Google Cloud Print.

There are dozens of other applications that let users convert between formats, make Gantt charts, edit audio and video, and even check the weather.



How to download other apps

To add third-party apps to your Drive account, take the following steps:

1. Open Google Drive.
2. Press *New* and then *More* > *Connect more apps*. A pop-up window will display some of the available apps that can be connected to your Google Drive account (see screenshot, below).
3. Choose the app you want to install.
4. Follow the onscreen instructions to complete installation.

Once the app is associated with your Google Drive account, you will be able to create new files from the app. Note that some apps may require additional registration steps or a subscription to use premium features.

Press *the New* button, and then *More* to make a new file or open the app.

Chapter Six

Collaboration

As a grad student, I often worked on group projects. "Collaboration" usually involved emailing Word and Excel attachments, or passing USB drives containing files to classmates. It was clumsy and difficult to manage. It was also prone to error and wasted effort if people independently opened and worked on copies of the same file.

Then someone showed me how to collaborate using the *Share* feature in Docs. I don't recall what the report was about. But I vividly remember going to Google Docs, opening a document at the same time other students were working on it, and seeing their differently colored cursors moving around the screen, typing new words and making edits in real time. It was an epiphany.

Sharing is not limited to Docs. This chapter will explain how to enable online collaboration in Sheets and Slides as well as Docs.

What to expect when collaborating in Google Drive

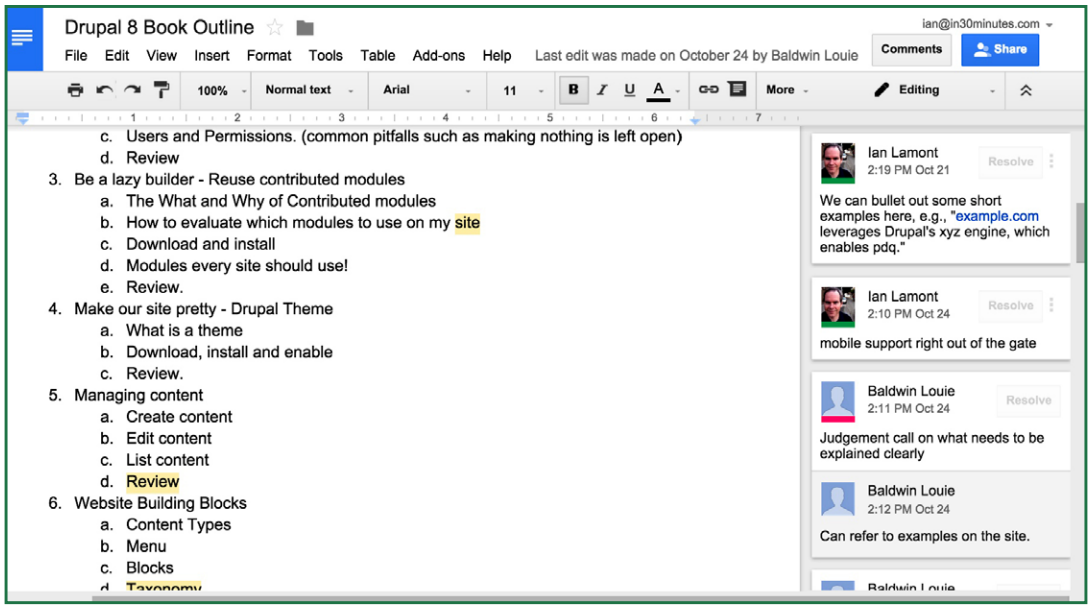
One of the great benefits of collaboration in Docs, Sheets, and Slides is that everyone works with the same copy of the file. It's possible for two or more people to simultaneously work on the same data, and for each to see what others are adding, changing or deleting right on the screen.

This greatly reduces the chances of a document being forked—that is, being split into separate versions, with different editing histories. Forked documents can cause huge problems and lead to loads of wasted time when it's time to reconcile the different versions of the file.

Different modes of collaboration

When working with other people on shared files in the browser and Chromebook versions of Google Docs, Sheets, and Slides, there are generally two modes of collaboration:

- **Simultaneous:** Users work at the same time on a shared document. Differently colored cursors and nametags identify different users. It's also possible to start chats with other logged-in users, by clicking the chat icon in the upper right corner of the window.
- **Asynchronous:** Users work at different times on the same document. Communication about the document generally takes place using comments (see example, below) which can be inserted from the toolbar or *Insert* > *Comment* command, as well as the Email collaborators command (see *Contacting collaborators*, later in this chapter).



Simultaneous collaboration (also known as *live collaboration*) will seem strange at first. The cursors move around the screen without you controlling them. They may select, add, or delete text. Once you get the hang of it, live collaboration will become easy and efficient. Older ways of collaborating, such as emailing attachments back and forth, will seem primitive by comparison.

People don't have to collaborate simultaneously, though. If collaborators are working on the file at different times during the day (typical for teams with people in different time zones or countries), the changes will be saved as each user works on the document for the next user to see.

Setting up collaboration

Google has made it very easy to invite collaborators to work on a file or folder using email. Those who already have Google Accounts can begin to work on the shared file or folder right away. People who don't have Google Accounts will quickly be taken through the registration process. Non-collaborators will not be able to see the files.

It's also possible to grant access to people who don't have Google Accounts or don't use email to share a document on the Web for anyone to see or edit.

While any file stored in Google Drive can be shared with other people, those people won't be able to make edits unless it's one of the following Google formats:

- Docs
- Sheets
- Slides
- Drawings

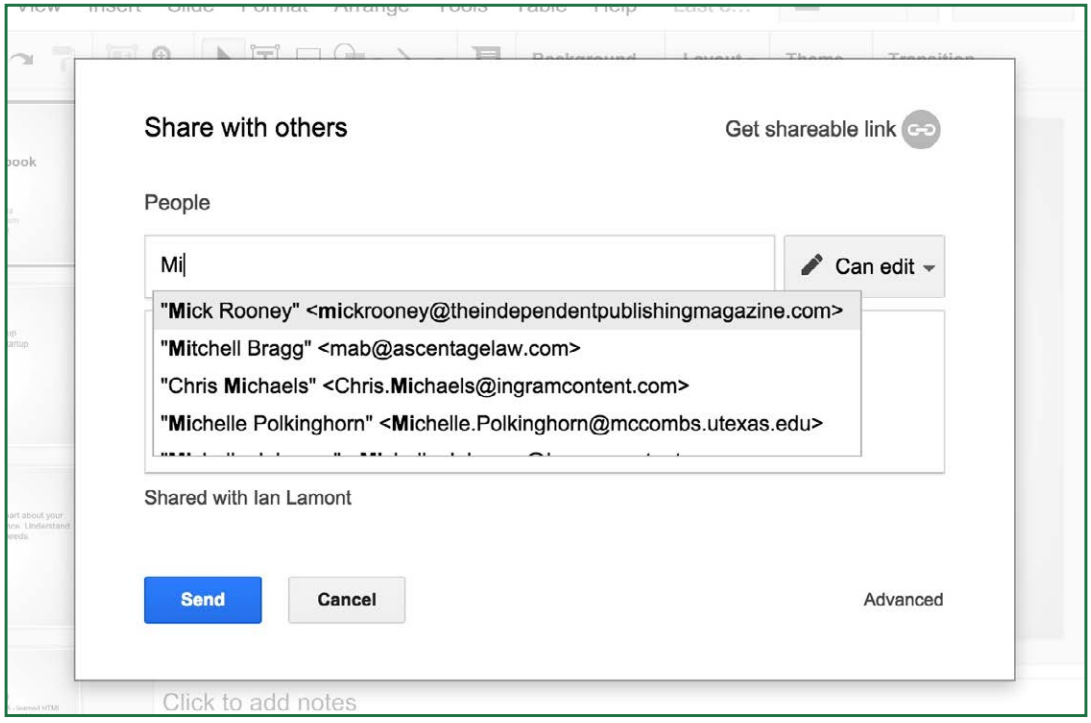
Microsoft Office documents, when opened in Docs, Sheets, and Slides, also show a *Share* button. But true collaboration is not possible—pressing the button merely shows a prompt to convert the documents to the corresponding Google format for editing.

How to invite collaborators

To get started with collaboration using the Google Chrome browser or a Chromebook, confirm you are logged into your Google Account and have an active Internet connection. Then follow these steps:

1. Open the Docs, Sheets, Slides, or Drawings file.
2. Click the *Share* button or go to *File* > *Share*.
3. The *Share with others* pop-up window will appear (see below).
4. Enter the email addresses of collaborators in the *People* field.
5. Use the drop-down menu to the right of the field to control their access. This will determine if they can edit a document, add comments, or only view the contents.
6. To add a personal message to the notification email they receive, start typing in the *Add a note* field.
7. Press the *Done* button.

Here's what the *Share with others* pop-up looks like:



If the email address of an invited collaborator is already associated with a Google account, then only that person will be able to access the document.

However, if the email address is not associated with a Google account, then anyone with a Google account will be able to access it.

Sharing on a phone or tablet

If you are using the Android or iOS app and want to enable sharing, simply follow these steps:

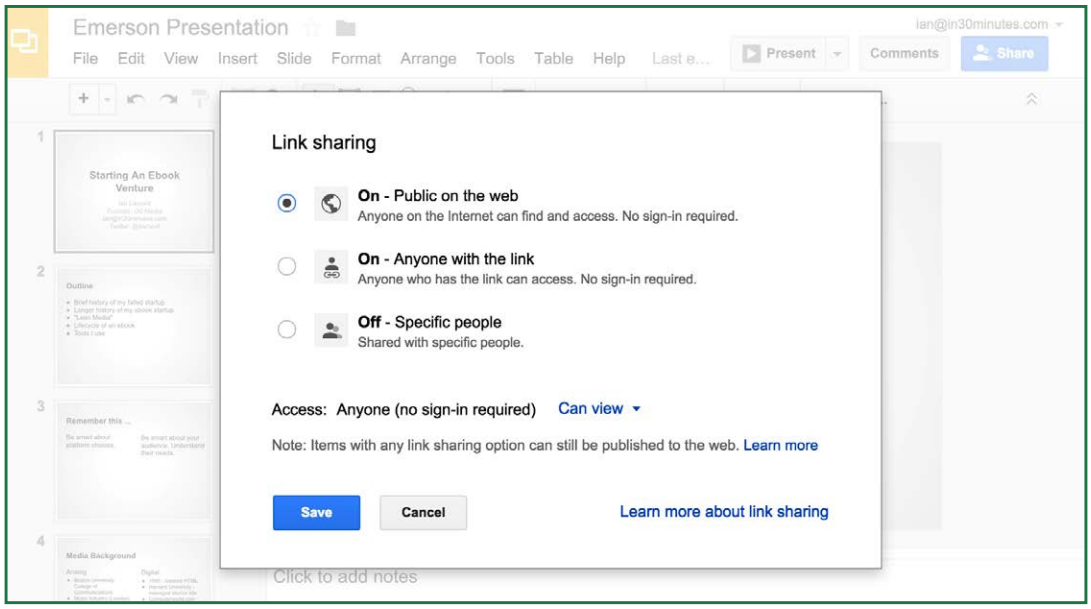
1. Open the file in question and tap the *Add people* icon, which looks like the silhouette of a person.
2. Type the name or email address of the collaborator. Potential matches from your device's address book may be shown below the field—simply tap to select.
3. Select the permission level (*Can edit, Can comment, Can view*)
4. Add an optional note.
5. Tap the Add button to send the invitation.

How to enable public editing

In most collaboration scenarios, only a select group of people are supposed to contribute to the document. Enabling public editing is less common, but it can be helpful for community projects, public education, or situations in which anonymous input is desired.

Here's how to enable public editing. Note that this can only be enabled from a browser or Chromebook:

1. While logged in, open the file in question, and click the *Share* button or choose *File* > *Share*.
2. Click *Advanced*.
3. Next to *Who has access*, click *Change*.
4. Choose *Public on the Web* to let anyone on the Web find and access the shared file, or *Anyone with the link* to let people you manually notify access the file. No sign-in is required for either option.
5. The default permission is *Can view*. Use the drop-down to allow editing or commenting by others.
6. Press *Save*. The link to share the document will be highlighted.
7. Press *Done* to return to editing the document.



How to share a Google Drive folder

If you have a lot of documents that you need to share with colleagues, classmates, or others, you'll want to use Google Drive's sharing features. Put all the relevant files into a single folder in Drive, and then share that folder. It's much easier than sharing one file at a time.

Sharing folders is something that can be done using the browser or Chromebook versions of Google Drive. First, create a folder, and place files in it:

1. Go to *drive.google.com*, and press *New* > *Folder*. Name the folder. You can also use New > *Folder upload* to upload an existing folder on your hard drive. Note that this may take some time if there is a lot of data in the folder.
2. Add additional files by using *New* > *File upload* or dragging and dropping them into the folder to be shared.

Once the folder is ready, select it in Google Drive's home screen and click the Share icon (which looks like a silhouette) or right-click and select *Share*. Follow the same directions used for sharing a file with collaborators, described in How to invite collaborators earlier in this chapter.

How to restrict other editors from sharing a file or folder

The *owner* of a file or folder is the person who created it. Only he or she can permanently *delete* a file or folder, or transfer ownership to another account via the *Share* button or icon.

By default, *editors* are allowed to invite collaborators to a file or folder, or can enable public access. To prevent editors from inviting others:

1. You must be the owner of the file or folder.
2. Select the folder or file, and press the *Share* button or icon.
3. At the bottom of the *Share with others* window, click *Advanced*.
4. In the *Sharing settings* pop-up, a list of editors will be shown. At the bottom of the list, look for "Editors will be allowed to add people and change the permissions" (see screenshot earlier in this section) and click the *Change* link.
5. Select *Only the owner can change permissions*.

How to remove collaborators from a file or folder

There's a personnel crisis at work. Francis in accounting is suspected of being a corporate spy! You need to lock down access to a shared spreadsheet, pronto!

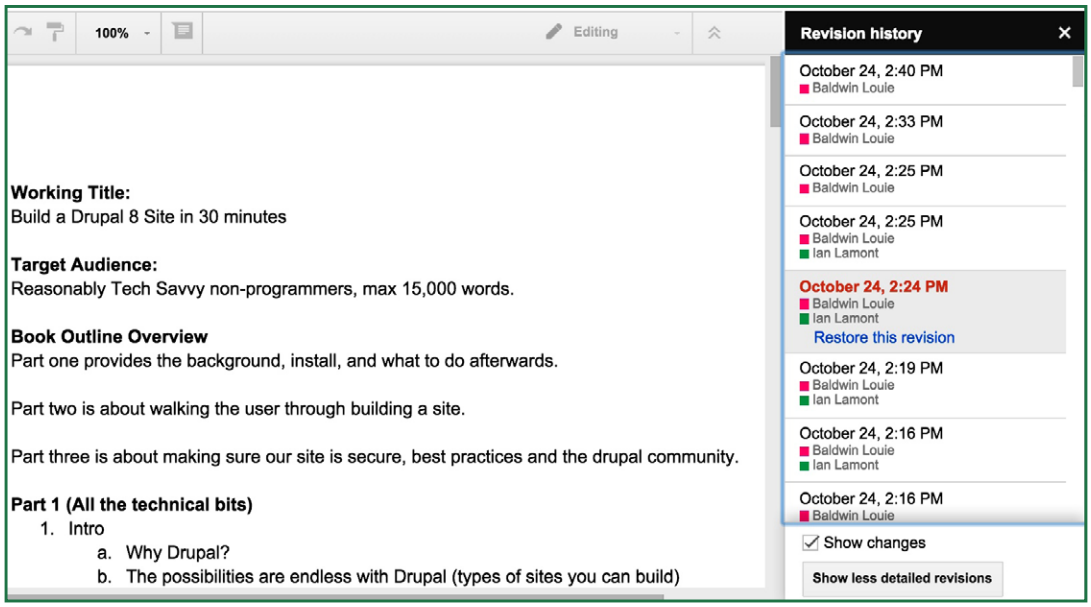
It's easy to do using a browser or Chromebook:

1. Open the spreadsheet in Google Sheets, and click the *Share* button.
2. In the *Share with others* pop-up, click *Advanced*.
3. In the *Sharing settings* pop-up, click the "X" next to Francis' name.
4. To prevent public access, make sure *Link sharing* is turned off. If it is not, click the *Change* link next to the permissions row, and select *Shared with specific people*.

Sharing settings for existing users currently cannot be accessed from the Android and iOS apps.

Tracking edits in shared files

To see a rough summary of who edited what in a specific file, open the file and click *File > See revision history*. A panel will appear, showing who contributed to specific versions of a document. Press the *Show more detailed revisions* button at the bottom of the panel to see a more precise timeline. Click *Restore this revision* to bring an older version back.



While the creators of elements such as text boxes may be shown in the revision history, specific text edits are not shown. In this sense, the revision history in Google Docs, Sheets, and Slides doesn't come close to the details shown in the *Track changes* feature of Microsoft Office.

Contacting collaborators

Consider these common scenarios associated with collaborating on a shared file or folder:

- You want to make sure everyone has reviewed a document, spreadsheet, or presentation before printing it.
- Someone says he or she can't find a shared document.
- You're the owner of a shared file that you want to delete or unshare.

The easy way to handle these scenarios is to notify collaborators via email from within the document. This works best using the browser or Chromebook versions of Docs, Sheets, and Slides:

1. Open the file.
2. Go to *File* > *Email collaborators*.
3. The *Send message* pop-up will appear.
4. Select the people you want to notify using the checkboxes on the right.
5. Add a message.
6. Hit the *Send* button.

This function is not currently supported in the mobile apps for Android and iOS.

Chapter Seven

Offline access and local file storage

Google Drive is an application that lives in "the cloud." This is another way of saying "Internet-connected servers and systems for storing and processing large amounts of data." You access Drive and your files with a Web browser or mobile app, but Google's cloud servers handle most of the heavy lifting when it comes to storage, conversion, and processing.

But there are ways of accessing extended functionality to a PC or Mac that is not connected to the Internet. It's even possible to edit certain types of files, including documents in Google Docs and presentations in Google Slides.

The next few pages will explain how offline access works, and will also describe how to manage files and storage using the Google Drive application for PCs and Macs.

Working offline

If you are using a desktop computer, laptop, phone, or tablet connected to the Internet or a fast mobile network, your files can be accessed by visiting *drive.google.com* in a Web browser or the Google Drive app.

What if you're not connected to the Internet?

When I was writing the first draft of this book in Google Docs, I sometimes had to work offline when I took the subway. At other times, my Wi-Fi connection would cut out in the middle of writing. It didn't matter—Doc's offline editing feature let me continue working. When I reconnected wirelessly, the changes were automatically updated on Google Drive.

Offline setup

If you are using a Chromebook, offline editing works with Docs, Slides, and Drawings right out of the box. Spreadsheets can be viewed in Google Sheets offline, but can't be edited.

If you are using a PC or Mac, the Google Chrome browser is required for offline access. You may need to activate offline access in the settings area:

1. While Chrome is connected to the Internet, click on the settings icon (the gear icon in the upper right corner) and then *Settings*.
2. Make sure the *Offline access* checkbox is checked.

To access the files, simply open Chrome and type *drive.google.com* into the address bar.

Note: PDFs, Microsoft Office files, and other files in your Google Drive account will not be available for offline editing unless they are synced with your hard drive via the Google Drive application for PCs and Macs (see Chapter 7).

Mobile access

The Android and iOS apps for Docs, Sheets, and Slides do not allow offline editing or viewing unless there is an Internet or mobile connection.

Working with offline files and storage in Google Drive

Besides Docs, Sheets, and the other programs described earlier in this book, Google Drive comes with enough free storage space to store thousands of documents, spreadsheets, and digital photos. You can upgrade to 100 gigabytes or more for a reasonable monthly fee. Files generated by Docs, Sheets, and Slides don't count toward the account total.

If you are using a desktop or laptop PC or Mac, the Google Drive application can help you manage your files on your hard drive. This makes it easy to:

- Transfer files from your hard drive to Google Drive or download files from Google Drive, without using the browser interface.
- Keep backup copies of important files or folders.
- Work on files when you don't have an Internet connection.

The following pages explain how it all works.

How to install Google Drive on a PC or Mac

You will need to have a strong Internet connection to install the Google Drive application.

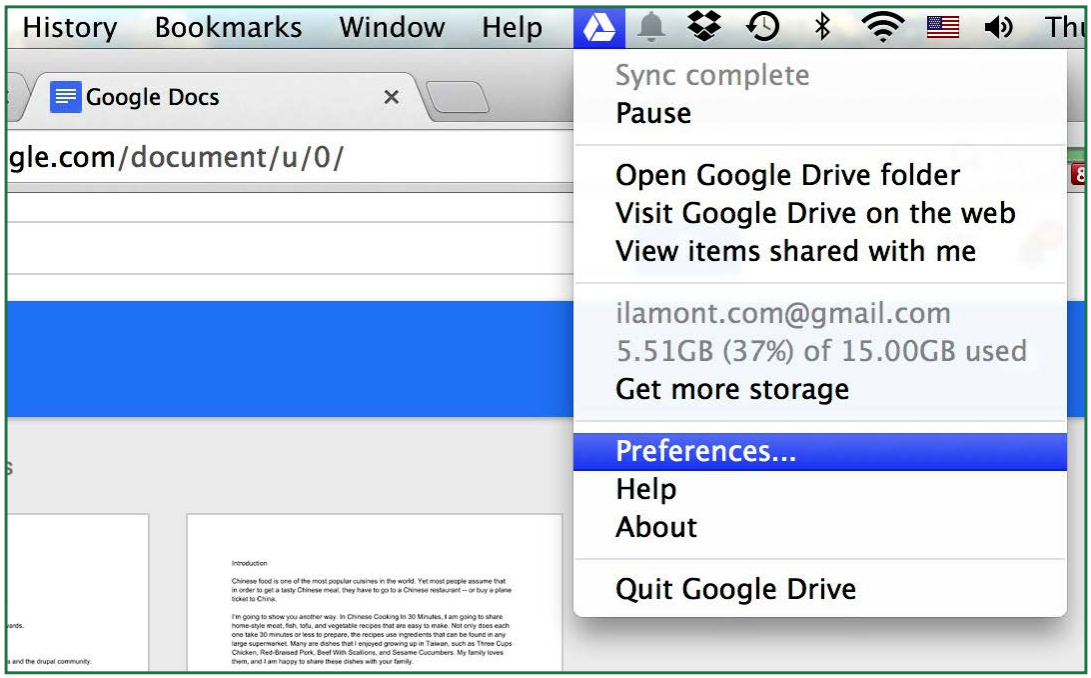
1. Go to *http://drive.google.com*.
2. Click the Settings icon on the right side of the screen.
3. Select *Download Drive*, and then the option for PCs and Macs.
4. Agree to the terms.
5. The installation file should automatically download to your computer. Open the file and follow the installation instructions.
6. Go to your applications list and open the Google Drive application.
7. A login window will appear. Enter the email address and password associated with your Google Account.
8. Follow any additional instructions to complete the installation.

When you first install the Google Drive application, a new Google Drive folder will be installed on your hard drive, and files and folders associated with the account will be synced to the new folder. If you have a lot of data stored on Google Drive, the first sync may take some time.

Accessing preferences via the Google Drive icon

After installing the Google Drive application, you will notice the Google Drive icon in the System Tray (Windows) or Menu Bar (Mac).

- When the icon is animated, syncing is taking place.
- Click the icon to see information about your account, as well as *Preferences* and other options:



How to add files to Google Drive using a PC or Mac

An easy way to upload lots of files and folders to your Google Drive account is to drag and drop them directly from your PC or Mac. The Google Drive application needs to be installed for this feature to work:

1. Open the folder via the Google Drive icon in your System Tray (Windows) or Menu Bar (Mac).
2. You can drag and drop files from your desktop or other locations right into the Google Drive folder. These will be synced with your account when you have a live Internet connection.

If you have a large Google Drive account and/or want to restrict what gets synced to your hard drive, open Preferences and select *Only sync some folders to this computer*. Check the boxes next to the folders you want to sync, and then click the *Apply changes* button.

Versioning in Google Drive

There's another fun feature of Google Drive that allows users to resurrect old versions of Docs, Sheets, and Slides files. If you are the owner or editor of a shared document, you can revert to earlier versions of a document, even if other collaborators have made changes.

The *revision history* feature gets better: If you decide that you don't want to stick with the earlier version (or your collaborator demands that his version is brought back to life!) you can restore it.

For Google Drive files created with Docs, Sheets, or Slides, you can revert to the earliest version of a document, spreadsheet or presentation, without any penalty or risk of deletion.

Revision history is supported for certain non-Google formats, including Microsoft Office, but only for 30 days.

How to revert to an old version of a Google Docs file

1. Open the document, spreadsheet or presentation.
2. Go to *File > See revision history*.
3. The history will appear on the right side of the browser screen, with a list of all of the saved revisions and the people who made them (see screenshot).
4. Select an earlier version to view it onscreen.
5. Click the *Restore this revision* link to revert to that version.
6. To go back to the most recent version, bring up the Revision History and find the version that you want to use (it should be near the top of the list).

How to view an old version of a non-Google file

For non-Google formats (Microsoft Word, PDF, etc.) follow these steps to view older versions of the files:

1. Open Google Drive in Chrome or on a Chromebook.
2. Select the file, but don't open it.
3. Click the More Actions icon (three vertical dots) and select *Manage versions*.
4. Use the Manage Versions pop-up window to view and manage older versions of the files.

Disconnecting the Google Drive application

People typically remove Google Drive for one of the following reasons:

- They aren't using it (or prefer to use Google Drive in a browser)
- There are issues with syncing files, especially if large files or folders are regularly updated.
- The computer is about to be sold or transferred to a new owner or user.

Steps to uninstall Google Drive are covered below. Note that files may still be left on your computer or device even after Drive has been removed.

Removing the Google Drive application from a desktop or laptop

If you want to remove the Google Drive application from your computer, follow these steps:

1. Click the Google Drive icon in the System Tray (Windows) or Menu Bar (OS X) and select *Preferences*.
2. Select *Account*.
3. Press the *Disconnect Account* button.

Then follow these steps:

PC

1. Press *Start* > *Control Panel*.
2. Select *Programs* > *Programs and Features*.
3. Select *Google Drive* > *Uninstall*.

Mac

1. If the Google Drive icon is still visible in the Menu Bar, click it and select *Quit*.
2. Open the Applications folder and drag the Google Drive application to the trash.
3. Removing the Google Drive application will not remove files or folders. Those will have to be deleted separately.

Removing the Google Drive app from mobile devices

To delete the Google Drive app from a phone or tablet, follow these steps:

Android

1. Open Google Play or the Play Store app.
2. Press the Menu icon (three horizontal bars) and select My Apps.
3. Under *Installed*, select Google Drive.
4. Press the *Uninstall* button.

IOS

1. Hold down the Google Drive app icon until it begins to wiggle.
2. Press the "x" to delete it.

Files that have been downloaded to the device from Google Drive will not automatically be deleted from the device. In addition, uninstalling Google Drive will not impact the operation of the Google Docs, Sheets, and Slides apps.

A personal message from the author, and a request

Thank you for purchasing the second edition of *Google Drive & Docs In 30 Minutes!* Revising the guide was a huge challenge, not only because the online office suite has so many features, but also because Google is constantly improving it. Nevertheless, it was fun writing about Google Drive, Docs, Slides, and Sheets, and providing clear, easy-to-understand instructions that will help others get the most out of the online office suite. If you have a question about Google Drive or the guide, please feel free to email me at *ian@in30minutes.com*.

I would also like to ask a favor. Could you take a minute to rate *Google Drive & Docs In 30 Minutes (2nd Edition)* and write a quick review? You can do so via Amazon, Goodreads, or the marketplace where you purchased the guide. An honest appraisal of the contents of *Google Drive & Docs In 30 Minutes* will not only be appreciated by me, but it will also let other potential readers know what to expect.

Thanks for reading!

Ian Lamont

P.S.: If you are interested in browsing other In 30 Minutes guides, please visit *in30minutes.com* to see the available titles.

About the author

Google Drive & Docs In 30 Minutes (2nd Edition) is authored by Ian Lamont, an award-winning business and technology journalist and digital media expert. He has written for more than a dozen online and print publications and has also served as the managing editor of The Industry Standard.

Lamont has released several In 30 Minutes® guides, including *Dropbox In 30 Minutes, Google Drive & Docs In 30 Minutes,* and *Excel Basics In 30 Minutes.*

He is a graduate of the Boston University College of Communication and MIT's Sloan Fellows Program in Innovation and Global Leadership.

Glossary

Keyboard shortcuts for Google Drive

Here is a list of basic shortcut keys for Google Drive, Docs, Sheets, Slides, and Drawings. All you need to do is type the keys in the list below to activate the corresponding commands. There are shortcut keys for both Windows PCs and Macs.

Why go through the trouble of remembering these shortcuts? You'll find typing them on your PC or laptop will save time compared to activating the same commands with a mouse.

Note that while all of the listed shortcuts work in the Google Chrome browser, a few may not work in other browsers (Internet Explorer, Firefox, Safari, etc.).

Google Drive home screen

The following keyboard shortcuts work on Windows and Mac desktops and laptops.

c — Create new file

u — Upload new file

o — Open file

d — Information about file

j or **down arrow** — Advance to next file

k or **up arrow** — Go back to previous file

x — Select file

t — Open settings pane

n — Rename selected file

Google Docs, Sheets, Slides, and Drawings

Some of the keyboard shortcuts in Docs, Sheets, Slides, and Drawings, including commands used for copying and pasting text, are identical to those in Microsoft Office and other programs. Windows shortcuts are listed first, followed by their Mac equivalents.

Windows

Control + **/** — Show all keyboard shortcuts

Control + **'** — Go to next misspelling (Docs only)

Control + **Shift** + **c** — Word count (Docs only)

Control + **o** — Open file

Control + **p** — Print file

Control + **f** — Find text

Control + **z** — Undo

Control + **y** — Redo

Control + **b** — Bold text

Control + **i** — Italicize text

Control + **u** — Underline text

Control + **a** — Select all

Control + **x** — Cut selected text

Control + **c** — Copy selected text

Control + **v** — Paste

Control + **k** — Create link to Web address

Alt + **Shift** + **f** — Open file menu

Alt + **Shift** + **e** — Open edit menu

Alt + **Shift** + **v** — Open view menu

Alt + **Shift** + **i** — Open insert menu

Alt + **Shift** + **t** — Open tools menu

Mac

Command + **/** — Show all keyboard shortcuts

Command + **'** — Go to next misspelling (Docs only)

Command + **Shift** + **c** — Word count (Docs only)

Command + **o** — Open file

Command + **p** — Print file

Command + **f** — Find text

Command + **z** — Undo

Command + **y** — Redo

Command + **b** — Bold text

Command + **i** — Italicize text

Command + **u** — Underline text

Command + **a** — Select all

Command + **x** — Cut selected text

Command + **c** — Copy selected text

Command + **v** — Paste

Command + **k** — Create link to Web address

Control + **Option** + **f** — Open file menu

Control + **Option** + **e** — Open edit menu

Control + **Option** + **v** — Open view menu

Control + **Option** + **i** — Open insert menu

Control + **Option** + **t** — Open tools menu