

# Word

A **word-processing program** helps you write and edit sentences and paragraphs. What you're writing and editing (such as a business letter, report, magazine article, or book) is called the **document**.

A word-processing program's main purpose is to manipulate *paragraphs*.  
To manipulate drawings, get a **graphics program** instead.  
To manipulate a table of numbers, get a **spreadsheet program**.  
To manipulate a list of names (such as customers), get a **database program**.

To use a word-processing program, put your fingers on the keyboard, then type the paragraphs that make up your document, so they appear on the screen. Edit them by pressing special keys on the keyboard. Finally, make the computer send the document to the printer, so the document appears on paper. You can also make the computer copy the document onto a disk, which will store the document for many years.

## How word processing began

Back in the 1950's, 1960's, and 1970's, computers were used mainly to manipulate lists of numbers, names, and addresses. Those manipulations were called **data processing (DP)**, so the typical computing center was called a **data-processing center (DP center)**, run by a team of programmers and administrators called the **data-processing department (DP department)**.

Those old computer systems were expensive, unreliable, and complex. They were run by big staffs that did continuous repairs, reprogramming, and supervision. They were bureaucratic & technological nightmares. The term "data-processing" got a bad reputation. Secretaries who wanted to write and edit reports preferred to use simple typewriters rather than deal with the dreaded "data-processing department".

When easy-to-use word-processing programs were finally invented for computers, secretaries were afraid to try them because computers had developed a scary reputation. The last thing a secretary wanted was a desktop computer, which the secretary figured would mean "desktop trouble".

That's why the term "**word processing**" was invented. Wang, IBM, and other manufacturers told the secretaries, "The machines we'll put on your desks are *not* dreadful computers but rather souped-up typewriters. You like typewriters, right? Then you'll love these cute little machines too!. We call them **word processors**. Don't worry: they're not data-processing equipment; they're not computers."

The manufacturers were lying: their desktop machines *were* computers. To pretend they weren't computers, the manufacturers called them **word processors** and omitted any software dealing with numbers or lists. The trick worked: secretaries acquired word processors, especially the **Wang Word Processor** and the **IBM Displaywriter**. Today's secretaries are unafraid of computers, understand Windows and Macs, and run word-processing programs on them.

## 3 definitions of "word processor"

A "word processor" is supposed to be "a computer whose main purpose is to do word processing". But some folks use the term "word processor" to mean "a word-processing program" or "a typist doing word processing".

In ads, a "\$300 word processor" is a machine; a "\$100 word processor" is a program you feed a computer; a "\$12-per-hour word processor" is a typist who understands word processing.

## Word-processing programs

During the early 1980's, these word-processing programs were popular:

**Electric Pencil** (the first word-processing program for microcomputers), **Wordstar** (which was more powerful), **Multimate** (the first program that made the IBM PC imitate a Wang word-processing machine), **Displaywrite** (which made the IBM PC imitate an IBM Displaywriter word-processing machine), **PC-Write** (shareware you could try for free before sending a donation to the author), and **Xywrite** (which ran faster than any other word processor)

But by 1991, most users had switched to **WordPerfect 5.1**, which ran on the IBM PC (and several other computers) and could perform many fancy tricks.

All those word-processing programs were awkward to learn and use. Beginners preferred these simpler word-processing programs:

**PFS Write** (for the IBM PC), **IBM Writing Assistant** (which was a modified version of PFS Write), **Q&A** (which also included a database program), **Bank Street Writer** (for the Apple 2), and **Mac Write** (which was invented by Apple for the Mac and sometimes given away free)

But those word-processing programs couldn't perform as many tricks as WordPerfect 5.1, which remained the business standard that secretaries were required to learn and use.

In 1992, Microsoft invented **Windows 3.1** (the first version of Windows good enough to become popular). Companies and consumers began switching from DOS to Windows and wanted a good word-processing program for Windows. Unfortunately, WordPerfect 5.1 used DOS, not Windows. Windows 3.1 included a word-processing program called **Write**, but it was stripped down.

The first *good* word-processing programs for Windows were **Ami** (which is the French word for "friend") and an improved version (**Ami Pro**), both published by a company called **Samna**, which got bought by **Lotus**, which got bought by **IBM**, which eventually changed the name to **Word Pro**.

Microsoft invented a word-processing program called **Microsoft Word**. The DOS version of it was terribly awkward, but the Mac and Windows versions of it improved and eventually became even better than Ami Pro and Word Pro. A good Windows version of **WordPerfect** became available but too late: by then companies had already decided to switch to the Windows version of Microsoft Word.

## What to buy

The best word-processing program is **Microsoft Word**, which is part of **Microsoft Office** (for Windows & the Mac).

To pay less, get **Microsoft Works** (which crudely imitates Microsoft Office for Windows) or **iWork** (which crudely imitates Microsoft Office for the Mac). To pay nothing, use **WordPad** (which is part of Windows 95&98&Me&XP&Vista&7&8&8.1&10) or **TextEdit** (which is part of Mac OS X) or **Open Office** (a free Internet download that imitates an outdated version of Microsoft Office).

# Versions of Word

Of all the word-processing programs ever invented, the fanciest and most popular is **Microsoft Word**. Versions of Microsoft Word have been invented for **DOS**, **Windows**, and the **Mac**.

If you're using a **DOS version** of Microsoft Word, it's primitive! Switch to a Windows version.

The **Mac versions** of Microsoft Word resemble the Windows versions. Here's the main difference: instead of pressing a Ctrl key, press the Mac's Command key (on which you'll see a squiggly cloverleaf — and also see an apple if your keyboard is modern).

**Microsoft Word for Windows** is nicknamed **Winword**. It's gone through several versions:

<b>Version 1</b>	was invented in 1989 for Windows 2.	
<b>Version 1.1</b>	was invented in 1990 for Windows 2.	
<b>Version 2</b>	was invented in 1991 for Windows 3.	
<b>Version 6</b>	was invented in 1994 for Windows 3.1. (There was no Winword version 3, 4, or 5.)	
<b>Version 7</b>	was invented in 1995 for Windows 95.	
<b>Version 97</b>	was invented in 1997 for Windows 95.	It's also called <b>version 8</b> .
<b>Version 2000</b>	was invented in 1999 for Windows 98.	It's also called <b>version 9</b> .
<b>Version 2002</b>	was invented in 2001 for Windows Me.	It's also called <b>version 10</b> and <b>version XP</b> .
<b>Version 2003</b>	was invented in 2003 for Windows XP.	It's also called <b>version 11</b> .
<b>Version 2007</b>	was invented in 2006 for Windows Vista.	It's also called <b>version 12</b> .
<b>Version 2010</b>	was invented in 2010 for Windows 7.	It's also called <b>version 14</b> .
<b>Version 2013</b>	was invented in 2013 for Windows 8.	It's also called <b>version 15</b> .
<b>Version 2016</b>	was invented in 2015 for Windows 10.	It's also called <b>version 16</b> .

**This chapter explains how to use versions 2007, 2010, 2013, and 2016. If you're using version 2002 or 2003, read the 31<sup>st</sup> edition instead, which you can get by phoning me at 603-666-6644.**

## Fun

Here's how to enjoy using Microsoft Word.

### *Prepare yourself*

Before starting Microsoft Word, **read and practice my Windows chapter, especially the section about "WordPad"**, which is a stripped-down simplified version of Microsoft Word.

### *Install*

Here's how to put Microsoft Word onto your computer.

**Version 2016** Microsoft Word 2016 is intended to be used with Windows 10. (It can also run on Windows 7, 8, and 8.1, but I'll assume you have Windows 10.)

Microsoft Word 2016 is part of Microsoft Office 2016, which you can get in many ways. For example, you can try clicking the tile saying "Get Office" or "Microsoft Office".

Microsoft Office 2016 is part of the 2016 version of Microsoft Office 365. To copy a 30-day-trial version of Microsoft Office 365 from the Internet to your hard disk, free, go on the Internet to:

<http://products.office.com/en-us/try>

**Version 2013** Microsoft Word 2013 is intended to be used with Windows 8. (It can also run on Windows 7, 8.1, and 10, but I'll assume you have Windows 8.)

Microsoft Word 2013 is part of Microsoft Office 2013, which you can get in many ways. For example, Microsoft Office 2013 is part of the 2013 version of Microsoft Office 365. Here's how to copy a 30-day-trial version of Microsoft Office 365 from the Internet to your hard disk, free:

While you're looking at the Start screen, type "mi". Tap "Microsoft Office".

Tap the "Try" button then "Start your free trial" then the "Product Language" box then "English" then "Get started" then the "Install" button then the "Run" button (which is at the screen's bottom) then "Yes" then "Next" then "Send us information" then "View Agreement" (which is next to "Accept") then "OK" then "Accept" then "Next" then "Next" again then "No, thanks".

The screen will say "You can use Office now" then "You're good to go". Tap "All done".

Close the window (by tapping the X at the screen's top-right corner). You see another X; tap it. Press the Windows Start key, so you can start fresh.

**Version 2010** Microsoft Word 2010 is intended to be used with Windows 7. (It can also run on Windows XP & Vista, but I'll assume you have Windows 7.)

Microsoft Word 2010 is part of Microsoft Office 2010, which you can get in many ways. For example, here's how to copy a 60-day-trial version of Microsoft Office Professional 2010 from the Internet to your hard disk, free:

Using your Web browser (such as Internet Explorer), go to [office.microsoft.com](http://office.microsoft.com). Click "Download a trial".

Scroll down until you see the "Try it now button" that's under "Office Professional 2010". Click that button.

If you already got a Windows Live ID (by signing up for Windows Live Mail or other Windows Live software), click in the Password box and type your Windows Live ID, then click the "Sign in" button. (If you *don't* have a Windows Live ID yet, click the "Sign up for New Account" button instead, then come back to this process.)

Click in the "First name" box. Type your first name (such as "Russ"). Press the Tab key. Type your last name (such as "Walter").

Click the Country/Region box's down arrow then your country (such as "United States") then "Continue Checkout".

The computer will tell you a Product Key (a secret code consisting of 25 characters, plus dashes). Scribble it onto a sheet of paper.

Click "DOWNLOAD NOW".

If the computer asks "Do you want to run or save this file?" click "Run".

If the computer asks "Do you want to allow the following program to make changes to this computer?" click "Yes".

The computer says "Enter your Product Key". Click in the box. Type the Product Key there, then press Enter.

Click "I accept the terms of this agreement" then "Continue". Press Enter.

Click "Close". Close all windows, so you can start fresh.

**Version 2007** Microsoft Word 2007 is intended to be used with Windows Vista (which was invented at the same time) but can also run on Windows XP (which is older) and Windows 7 (which is newer).

I'll assume you have Windows Vista.

Microsoft Word 2007 is part of Microsoft Office 2007, which comes on a DVD disk that you (or your computer store) must copy to your hard disk, by doing this:

Turn on the computer without any floppy or CD-ROM or DVD disks in the drives, so the computer runs Windows Vista and the computer's bottom-left corner shows the Start button.

Into the DVD drive, put the Microsoft Office disk (which is a DVD).

If the computer says "AutoPlay", click "Run SETUP.EXE". If the computer says "A program needs your permission to continue", click the Continue button.

The disk comes in a rectangular jacket whose backside sports a "Product Key" code, which contains 25 letters and digits (separated by dashes). Type the 25 letters and digits; automatically, the computer will capitalize the letters and insert the dashes. When you type the last letter or digit, the computer will pause before showing it on the screen; if you typed it correctly, the computer will show it with a check mark, which means you typed it correctly.

Press Enter. Click "I accept the terms of this agreement". Press Enter twice.

The computer will say "Microsoft Office 2007 has been successfully installed." Click the blue Close button. Remove the DVD from the drive.

If your computer came with a free trial version of Microsoft Office Home & Student edition, install it by doing this:

Make sure you're connected to the Internet.

Double-click the "Microsoft Office — 60 Day Trial" icon (which says "Microsoft Office —...").

Click "Step 1". A 25-character code (including letters and numbers) will appear in the OEM Key box. Write it on a sheet of paper.

Click "Step 2". Type your full name (such as "Russell Mark Walter"). Press the Tab key. Type your initials (such as "RMW") and press Enter. Type your 25-character code. When you've typed it correctly, a green check mark will appear next to it. Press Enter, 3 times. Click "Accept". Press Enter.

## Starting

Here's how to start using Microsoft Word.

**Version 2016** Choose one of these methods:

**Menu method** Tap the Start button. (For old Windows 10, then tap "All apps".) You start seeing an alphabetical list of all apps. Get to the "W" part of that list (by putting your finger in the list's middle and swiping up, or by tapping "A" then "W"). Tap "Word 2016".

**Search method** Next to the Windows Start button is the Windows Search box. Make sure that box is white or light gray. (If it's black or dark gray, make it lighter by tapping it or the Windows Start button.) Type "word". (Type on a physical keyboard, or make an on-screen keyboard appear by tapping the keyboard icon at the screen's bottom.) Your typing appears in the Windows Search box. You see a list of things that contain "word". Tap "Word 2016: Desktop app".

Then tap "Blank document".

**Version 2013** While you're looking at the Apps screen (or Start screen), type "wo". Tap "Word 2013" then "Blank document".

**Versions 2007&2010** Click the Start button (at the screen's bottom-left corner). If you see "Microsoft Office Word 2007" or "Microsoft Word 2010", click it. (Otherwise, click "All Programs" then "Microsoft Office" then "Microsoft Office Word 2007" or "Microsoft Word 2010".)

While doing that, you might face these hassles:

**If the computer says "This copy has expired"**, you've been using a free trial version, which has expired. To continue using Microsoft Word to edit your writing, buy a Product Key Card for Microsoft Word (or Microsoft Office) from your local store (or mail-order) then do the following. Click "Upgrade" then "Enter Product Key". Type the 25-character product key (which is on the orange sticker you bought); the computer will type the hyphens for you automatically. The computer will say "Please wait"; after that message disappears, press Enter twice. The computer will say "Installing"; after that message disappears, close the Microsoft Word window (by clicking its X), then start Microsoft Word again.

**If the computer says "Activation Wizard"**, do the following. Make sure you're connected to the Internet. Press Enter twice. If the computer says "You must restart", close the Microsoft Word window (by clicking its X) then start Microsoft Word again. If you see 3 boxes to check, do this: put check marks in all 3 boxes (by clicking); press Enter; click "Download and install updates from Microsoft Update when available"; press Enter; click the Continue button.

**If the computer says "Help Protect and Improve Microsoft Office"**, click the circle under "Use Recommended Settings" and press Enter.

**If the computer asks "Do you want to allow the following program to make changes to this computer?"** click "Yes".

## See the Microsoft Word screen

Here's what you see:

**Version 2016** The screen's top says "Document1 — Word". You also see this **tab bar**:

File Home Insert Draw Design Layout References Mailings Review View

**Version 2013** The screen's top says "Document1 — Word". You also see this **tab bar**:

FILE HOME INSERT DESIGN PAGE LAYOUT REFERENCES MAILINGS REVIEW VIEW

If the computer also says "RENEW YOUR SUBSCRIPTION", do this soon (because your 30-day trial or 1-year license will end soon):

Click "Buy". Then click the "Buy now" that's next to "\$99.99 per year". Answer questions about how you wish to pay \$99.99. Click "Save" (which you'll see when you scroll down) then "Purchase" then "Continue". The screen will say "AVAILABLE INSTALLS: 4 OF 5". Do *not* click the Install button; instead, close the window (by clicking the X at the screen's top-right corner). Follow the screen's instructions about signing in.

**Versions 2007&2010** The screen's top says "Document1 — Microsoft Word". You also see this **tab bar**:

File Home Insert Page Layout References Mailings Review View

(Version 2007 lacks "File".)

## Type your document

Start typing your document.

Microsoft Word resembles WordPad, so **read these topics on pages 77-79**:

"Use the keyboard"  
"Scroll arrows"  
"Insert characters"  
"Split a paragraph"  
"Combine paragraphs"

Exceptions:

**Ctrl symbols** Microsoft Word understands more Ctrl symbols than WordPad. Here's what Microsoft Word understands:

**Symbol How to type it**

©	While pressing the Ctrl and Alt keys, type the letter “c”.
®	While pressing the Ctrl and Alt keys, type the letter “r”.
™	While pressing the Ctrl and Alt keys, type the letter “t”.
€	While pressing the Ctrl and Alt keys, type the letter “e”.
...	While pressing the Ctrl and Alt keys, type “.”.
¿	While pressing Ctrl and Alt (and Shift), type “?”.
¡	While pressing Ctrl and Alt (and Shift), type “!”.
ç	While pressing Ctrl, tap the “,” key. Then type the letter “c”.
ø	While pressing Ctrl, tap the “/” key. Then type the letter “c”.
ø	While pressing Ctrl, tap the “/” key. Then type the letter “o”.
ñ	While pressing Ctrl (and Shift), type “~”. Then type “n”.
ô	While pressing Ctrl (and Shift), type “^”. Then type “o”.
ü	While pressing Ctrl (and Shift), type “:”. Then type “u”.
â	While pressing Ctrl (and Shift), type “@”. Then type “a”.
æ	While pressing Ctrl (and Shift), type “&”. Then type “a”.
œ	While pressing Ctrl (and Shift), type “&”. Then type “o”.
ß	While pressing Ctrl (and Shift), type “&”. Then type “s”.
è	While pressing Ctrl, type the symbol ` . Then type “e”.
é	While pressing Ctrl, type the symbol ` . Then type “e”.
ö	While pressing Ctrl, type the symbol ` . Then type “d”.
«	While pressing Ctrl, type the symbol ` . Then while Shifting, type “<”.
»	While pressing Ctrl, type the symbol ` . Then while Shifting, type “>”.

**Insert characters** Microsoft Word differs from WordPad in this way:

Tap the screen just if your screen is touch-sensitive.

Ctrl with Page Down makes the pointer move down to the next page.

Ctrl with Page Up makes the pointer move up to the previous page's beginning.

## Automatic editing

The computer will automatically edit what you type.

**AutoCorrect** While you type, the computer will automatically make little corrections to your typing. For example:

If you type “teh” or “hte”, the computer will change your typing to “the”.

If you type “loove”, the computer will change your typing to “love”.

If you type a day (such as “sunday”), the computer will capitalize it.

If you capitalize the first *two* letters of a word, the computer will make the second letter small.

The computer will capitalize each sentence's first word.

The computer will change (r) to ®, change (c) to ©, and change (tm) to ™.

The computer will change (e) to € (just in version 2010).

The computer will change 2nd to 2<sup>nd</sup>, change 3rd to 3<sup>rd</sup>, change 4th to 4<sup>th</sup>, etc.

The computer will change 1/2 to ½, change 1/4 to ¼, and change 3/4 to ¾.

The computer will change -- to –, change --> to ➔, and change <-- to <←.

The computer will change ==> to ➔, change <== to <←, and change <=> to ↔.

The computer will change :) to ☺, change :( to ☹, and change ;| to ☺.

If you type a phrase in quotation marks (“like this”), the quotation marks will become curly (“like this”).

If you type three periods (...), the periods will move farther apart (...).

If you type the first four letters of a month (such as “sept”) or day (such as “wedn”) then press Enter, the computer will finish typing the word and capitalize its first letter.

If you type the current month then press the Space bar then Enter, the computer will type the current date & year.

Some of those corrections happen immediately; others are delayed until you finish typing a word (and press the Space bar or a period).

The computer's ability to make those corrections is called **AutoCorrect**.

If you dislike a correction that the computer made to your typing, **undo** the correction. Here's how:

**Button method** Click the **Undo button**. (It's a curved arrow pointing to the left. It's at the screen's top. In version 2016, it's white and above the words “File” and “Home”. In versions 2007&2013, it's blue and above the word “Home”; in version 2010, it's blue and above the words “File” and “Home”.)

**Keyboard method** While holding down the Ctrl key, tap the Z key.

Those methods work just if done *immediately*, before you do any other typing or editing.

**Red squiggles** While you type, the computer automatically puts a **red squiggle under any word that looks strange**. The computer considers a word to look “strange” if the word's not in the computer's dictionary or if the word's the same as the word before. For example, if you type “For a sentury, I love you you”, the computer will put a red squiggle under “sentury” and under the second “you”.

If you see a red squiggle, you misspelled the word or accidentally repeated the word or forgot to put a space between words or your vocabulary is more advanced than the computer understands. So if you see a red squiggle, look carefully at the squiggled word to make sure it's really what you want.

**If a word has a red squiggle under it, try right-clicking that word** (by using the mouse's right-hand button). Then the computer will make suggestions about what the squiggled word should be.

For example, if you typed “sentury” and the computer put a red squiggle under it, right-clicking the “sentury” will make the computer display two suggestions (“century” and “sentry”) and two other popular choices, so you see this list:

sentry  
century

Ignore All  
Add to Dictionary

Choose what you want:

If you meant “century” or “sentry”, **click the word you meant**.

If you meant “sentury” and want to add that slang word to the computer's permanent dictionary (because the word means “a sentry who watches for a century”), click **“Add to Dictionary”**. Warning: before clicking “Add to Dictionary”, make sure the word “sentury” really exists and you've spelled it correctly and your colleagues give you permission to add slang to the dictionary!

If you meant “sentury” but don't want to add that slang word to the dictionary, click **“Ignore All”**. The computer will ignore the issue about how “sentury” is spelled in this document; the computer will remove the red squiggle from every “sentury” in this document; but since “sentury” is still not in the dictionary, the computer will put red squiggles under any “sentury” in other documents.

If you're not sure what you meant, press the keyboard's **Escape key** (which says Esc on it). The list of choices will disappear; “sentury” will still be in your document and squiggled.

### **Blue squiggles (just in version 2016)**

When you finish typing a sentence and start typing a new one, the computer automatically check the grammar of the sentence you just typed and puts a **blue squiggle under any obvious grammar error**. For example, if you type “We is” instead of “We are”, the computer will draw a blue squiggle under the “is”. (The computer will draw the squiggle when you finish typing that sentence and start typing the next one.) If you accidentally press the Space bar twice instead of once, so you type “They kiss” instead of “They kiss”, the computer will put a blue squiggle under “They kiss” (when you finish typing that sentence and start typing the next one).

**If a word has a blue squiggle under it, try right-clicking that word** (by using the mouse’s right-hand button). Then the computer will suggest what the squiggled word should be.

*If you agree* with the computer’s suggestion, click that suggestion. The computer will fix what you wrote.

*If you disagree* with the computer’s suggestion, click “Ignore Once”. The computer will ignore the issue about that sentence’s grammar and remove the blue squiggle from that sentence.

*If you’re not sure* why the computer is complaining, click “Grammar”. The computer will tell you why it’s complaining. Then click “Change” (to accept the computer’s suggestion) or “Ignore” (to just erase the blue squiggle from that sentence).

### **Green squiggles (just in versions 2007&2010)**

When you finish typing a sentence and start typing a new one, the computer automatically check the grammar of the sentence you just typed and puts a **green squiggle under any obvious grammar error**. For example, if you type “We is” instead of “We are”, the computer will draw a green squiggle under the “is”. (The computer will draw the squiggle when you finish typing that sentence and start typing the next one.) If you accidentally press the Space bar twice instead of once, so you type “They kiss” instead of “They kiss”, the computer will put a green squiggle under “They kiss” (when you finish typing that sentence and start typing the next one).

**If a word has a green squiggle under it, try right-clicking that word** (by using the mouse’s right-hand button). Then the computer will suggest what the squiggled word should be.

*If you agree* with the computer’s suggestion, click that suggestion. The computer will fix what you wrote.

*If you disagree* with the computer’s suggestion, click “Ignore Once”. The computer will ignore the issue about that sentence’s grammar and remove the green squiggle from that sentence.

*If you’re not sure* why the computer is complaining, click “Grammar”. The computer will tell you why it’s complaining. (If you *still* don’t understand why the computer’s complaining, click “Explain” then read the explanation then close the Word Help window.) Then double-click the computer’s suggestion, or click “Ignore Once” (to erase the green squiggle from that sentence), or click “Ignore Rule” (to erase the green squiggle from that sentence and from all similar sentences in that document), or click “Cancel” (if you’re not sure what you want).

**Synonyms** Suppose you’ve typed a word correctly (so it has no squiggle) but wish you could think of a better word instead. Just right-click the word then click “Synonyms”. The computer will show you **synonyms** (words that have similar meaning).

For example, if you type the word “girl” then right-click it then click “Synonyms”, the computer will show you these words, which have similar meaning:

<b>Version 2007</b>	<b>Version 2010</b>	<b>Versions 2013&amp;2016</b>
young woman	lassie	lassie
lass	teenager	teen-ager
schoolgirl	teen-ager	teenager
daughter	miss	miss
youngster	adolescent	adolescent
child	mademoiselle	mademoiselle
teenager	lass	lass
	daughter	daughter

If one of those words appeals to you, click it: that word will replace “girl” in your document. If none of those words appeals to you, press the **Escape key** (which says “Esc” on it) *twice*.

What about the word “hot”? It has 4 popular meanings: “high temperature”, “miserably warm and humid weather”, “spicy food”, and “excited person”. Try typing the word “hot” then right-click it. The computer will start by showing you these synonyms:

<b>Version 2007</b>	<b>Versions 2010&amp;2013&amp;2016</b>
burning	warm
scorching	burning
boiling	scorching
blistering	boiling
sizzling	blistering
searing	sizzling
warm	searing
	broiling

Version 2007 will also show you this **antonym** (word that has the opposite meaning):

cold (Antonym)

If one of those words appeals to you, click it. If none of those words appeals to you, try clicking “Thesaurus” (which appears under the synonym list and means “book of synonyms”): that makes the screen’s right edge show you a special windowpane.

**Versions 2013&2016** The special windowpane is called the “Thesaurus pane”.

**Versions 2007&2010** The special windowpane is called the “Research pane”.

In that special pane, you see this longer list of “hot” synonyms and antonyms, grouped into 4 categories:

<b>warm</b> warm, burning, scorching, boiling, blistering, sizzling, searing, broiling, fiery, heated, scalding cold (Antonym)
<b>sweltering</b> sweltering, stifling, muggy, sultry, boiling, scorching, oppressive, broiling fresh (Antonym)
<b>spicy</b> spicy, peppery, piquant, pungent, fiery, strong, red-hot mild (Antonym)
<b>passionate</b> passionate, fierce, vehement, emotional, strong, intense, excitable, angry, ardent, fervent, stormy, torrid dispassionate (Antonym) mild (Antonym)

(Version 2007 lacks some of those choices.) If you click one of those words, the computer will show you *that* word’s synonyms. If you finally find a word you like, point at it *without pressing the mouse’s button*, then click the word’s down-arrow then “Insert”: that makes the word replace “hot” in your document. When you no longer need the special pane, close it (by clicking its X).

**Translate** The computer can translate words among English, Spanish, French, and many other languages.

This method translates your entire document immediately to many languages but requires you to first connect to the Internet.

While connected to the Internet and using Microsoft Word, right-click anywhere in your document. For versions 2010&2013&2016, click “Translate”; for version 2007, click “Translate” then “Translate...”.

If version 2016 asks “Do you want to proceed?”, click “Don’t show again” then “Yes”.

At the screen’s right edge, in the Research window, click the From box’s down-arrow then the language you want to translate from, such as “English”; click the To box’s down-arrow then the language you want to translate to, such as “Spanish”. (In version 2016, each box gives you these 46 choices: Arabic, Bosnian, Bulgarian, Catalan, Chinese from the mainland’s People’s Republic of China, Chinese from Taiwan, Croatian, Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hebrew, Hindi, Hungarian, Indonesian, Italian, Japanese, Kiswahili, Korean, Latvian, Lithuanian, Malay, Maltese, Norwegian, Persian, Polish, Portuguese, Romanian, Russian, Serbian written in Cyrillic characters, Serbian written in Latin characters, Slovak, Slovenian, Spanish, Swedish, Thai, Turkish, Ukrainian, Urdu, Vietnamese, Welsh. In version 2013, each box gives you 37 choices. In versions 2007&2010, each box gives you 22 choices.)

Afterwards, click the right-arrow below those boxes. Press Enter.

If version 2012 says “The Office Document Cache Handler from Microsoft Corporation is ready for use”, click “Don’t Enable”.

You’ll see the translation. (The computer might make mistakes, especially if the document involves slang or complicated grammar; but you can have fun viewing the computer’s attempt.) When you finish reading it, close its window (by clicking the X at that window’s top-right corner). When you finish using the Research window, close it also (by clicking its X).

Here’s an easier method, but it translates just to Spanish or French, just from English, just occasional words, and works just in version 2007:

Right-click anywhere in your document, then click “Translate” then either “Spanish” or “French”.

Then point at any word in your document *without pressing the mouse’s button*: that makes computer show you how to translate that word from English to the language you requested. You see an entry from a bilingual dictionary. The entry shows you several ways to translate the word and how to translate phrases & slang expressions containing that word. To translate other words, point at them *without pressing the mouse’s button*.

When you tire of viewing translations, turn the feature off by doing this: right-click anywhere in your document, then click “Translate” then “Turn Off Translation ScreenTip”.

## Bottom corners

Look at the screen’s bottom corners.

**Page count** The screen’s bottom-left corner tells you which page of your document you’re on and how many pages are in the entire document. For example, if you’re on page 2 of a 3-page document, that corner says:

<b>Version 2016</b>	Page 2 of 3
<b>Version 2013</b>	PAGE 2 OF 3
<b>Versions 2007&amp;2010</b>	Page: 2 of 3

Here’s how to hop to a different page:

**Versions 2013 & 2016** Click the word “Page” (or “PAGE”). In the Navigation pane (at the screen’s left edge), you see tiny copies of all pages in your document. Click the page you want to go to. Close the Navigation pane (by clicking its X).

**Versions 2007&2010** Click the word “Page”. Type the number of the page you want to go to (and press Enter). Click the word “Close”.

**Word count** To the right of the page count, you see the word count. For example, if your document contains 279 words, you see this:

<b>Version 2016</b>	279 Words
<b>Version 2013</b>	279 WORDS
<b>Versions 2007&amp;2010</b>	Words: 279

To find out more about your document’s length, click “WORDS” or “Words”. The computer will tell you how long your document is:

how many pages
how many words
how many characters if you don’t count blank spaces
how many characters if you <i>do</i> count blank spaces
how many paragraphs
how many lines

When you finish looking at those lengths, press Enter.

**Zoom** Microsoft Word can zoom:

**Versions 2013&2016** Microsoft Word zooms the same way as Windows 10’s WordPad (explained on page 79), except Microsoft Word’s slider is a box instead of a pentagon. To move the slider easily, use your mouse instead of your finger, since your fat finger will probably accidentally bump other icons nearby.

**Versions 2007&2010** Microsoft Word zooms the same way as Windows 7’s WordPad (explained on page 124).

**Page arrows (just in versions 2007 & 2010)** Near the screen’s bottom-right corner, you see this symbol:



If your document contains several pages, clicking that symbol makes the computer go back up and show you the **previous page**. For example, while you’re looking at page 4, clicking that symbol makes the computer show you page 3.

Under that symbol, you see this symbol:



Clicking it makes the computer show you the **next page**. For example, while you’re looking at page 3, clicking that symbol makes the computer show you page 4.

## Page break

After you’ve finished typing a paragraph (and pressed Enter), try this experiment: while holding down the Ctrl key, press Enter again. That creates a **page break**: it makes the next paragraph be at the top of the next page.

If you change your mind, here’s how to remove the page break:

Click at the beginning of the paragraph you’ve put at the top of a page. Then press the Backspace key <i>twice</i> .
--

## All delete

Here’s how to delete the entire document, so you can start over:

While holding down the Ctrl key, press the A key. That means “all”. All of the document turns blue.
---

Then press the Delete key. All of the document disappears, so you can start over!
---

## Quick Access Toolbar

At the screen's top, near the left edge, you see the **Quick Access Toolbar**, which is a row of **icons** (little pictures) called **buttons**, starting with these:

The **Save button** is a purple-and-white square that's supposed to look like a floppy disk (though it also looks like a TV set).

The **Undo button** is an arrow curving toward the left. The arrow is blue (unless you haven't typed anything yet).

If you point at a button (by moving your mouse's arrow there, without clicking), the computer will tell you the button's name.

Here's how to use those buttons....

**Save button** To save the document you've been typing (copy it onto the disk), click the **Save button**. To keep matters simple, then do this if you haven't saved the document before:

**Version 2016** Click "This PC" then "Enter file name here". Invent a name for your document. Type the name and press Enter.

**Version 2013** Click "Computer" then "Documents". Invent a name for your document. Type the name and press Enter.

**Versions 2007&2010** The computer will say "File name". Invent a name for your document. Type the name and press Enter.

That makes the computer copy the document onto the hard disk. For example, if you named the document "mary", the computer puts a document called mary.docx into the Documents folder. (Windows 7 puts it into the Documents library's "My Documents" folder instead.) If you wish, you can prove it by doing this:

**Version 2016 (using Windows 10)** At the screen's bottom, you see an "e". Next to it, you see the **File Explorer** button (which looks like a yellow file folder). Click the File Explorer button then "Documents" (at the screen's left edge, indented under "Quick Access"). If you called the document "mary", you'll see mary is one of the files in Documents. Finally, clear that proof off your screen (by clicking the X at the screen's top-right corner).

**Version 2013 (using Windows 8&8.1)** Near the screen's bottom-left corner, you see an "e". Next to it, you see the **File Explorer** button (which looks like 3 yellow file folders). Click the File Explorer button then "Documents" (at the screen's left edge). If you called the document "mary", you'll see mary.docx is one of the files in Documents. Finally, clear that proof off your screen (by clicking the X at the screen's top-right corner).

**Versions 2007&2010 (using Windows 7)** Click the Start button then "Documents". If you called the document "mary", you'll see mary is one of the files in Documents. If you right-click mary's icon then click "Properties", you'll see the type of file is ".docx". Finally, clear that proof off your screen (by clicking "OK" then the red X button).

Afterwards, if you change your mind and want to do more editing, go ahead! When you finish that extra editing, save it by clicking the Save button again.

Save often! If you're typing a long document, **click the Save button about every 10 minutes**. Click it whenever you get to a good stopping place and think, "What I've typed so far looks good!" Then if an accident happens, you'll lose at most 10 minutes of work, and you can return to the last version you felt good about.

Instead of clicking the Save button, you can use this shortcut: while holding down the Ctrl key, tap the S key (which stands for "Save").

**Undo button** If you make a mistake (such as accidentally deleting some text or accidentally inserting some useless text), click the **Undo button** (which is an arrow turning back). That makes the computer undo your last activity, so your text returns to the way it looked before you made your boo-boo. (To undo your last *two* activities, click the Undo button *twice*.)

Instead of clicking the Undo button, you can use this shortcut: while holding down the Ctrl key, tap the Z key (which stands for "Zap").

**Redo button** If you click the Undo button, the computer might undo a different activity than you expected. For example, it might even erase everything you typed! If clicking the Undo button accidentally makes the text look even worse instead of better, and you wish you hadn't clicked the Undo button, you can "undo the undo" by clicking the **Redo button** (which is next to the Undo button and shows an arrow curving to the right, so it bends forward).

The Redo button appears just after you click the Undo button. At other times, you see a **Repeat button** instead (which is an arrow making a circle). If you click the Repeat button, the computer repeats the last thing you typed.

Instead of clicking the Redo button or Repeat button, you can use this shortcut: while holding down the Ctrl key, tap the Y key (which stands for "Yes, I do want it, very much").

**Touch/Mouse button (just in versions 2013&2016)** Microsoft Word works best if you have a mouse. If you don't have a mouse (or don't like to use it) but have a touchscreen instead, tap the **Touch/Mouse button** (a hand whose index finger points at a circle) then tap "Touch".

That makes all icons be farther apart, so your fat finger can tap an icon without accidentally tapping icons nearby. Since the icons are farther apart, the screen unfortunately shows fewer Style icons and fewer lines of your document. To return to normal (with a mouse), click the Touch/Mouse button then "Mouse".

## File-office button

At the screen's left edge, very close to the top, you see the **File-office button**.

**Versions 2010&2016** That button says "File".

**Version 2013** That button says "FILE".

**Version 2007** That button is a circle holding the Microsoft Office logo.

Click it. Then you see the **File-office menu**:

Version 2007	Version 2010	Version 2013	Version 2016
New	Save	Info	Info
Open	Save As	New	New
Save	Open	Open	Open
Save As	Close	Save	Save
Print	Info	Save As	Save As
Prepare	Recent	Print	Print
Send	New	Share	Share
Publish	Print	Export	Export
Close	Save & Send	Close	Close
Word Options	Help	Account	Account
Exit Word	Options	Options	Options
	Exit		Feedback

From that menu, choose whatever you wish (by clicking it). Here are the most popular choices....

### Save

If you choose **Save** from the File-office menu (by clicking the word "Save" after clicking the File-office button), you get the same result as clicking the Save button that's on the Quick Access Toolbar.

## Save As

Suppose you've already saved a document then edited it some more, but you're not sure you like the new editing. Try this experiment....

Choose **Save As** from the File-office menu, by clicking the phrase "Save As" after clicking the File-office button. (For version 2013, then click the first "My Documents".)

Invent (and type) a new name for the document. At the end of the new name, press Enter.

The computer will copy the document's new, edited version onto the hard disk. That new, edited version will have the new name you invented.

The document's old original version will be on the disk also and keep its old original name. The disk will contain *both* versions of the document.

## Print

Here's how to print the document onto paper. Make sure you've bought a printer, attached it to the computer, turned the printer's power on, and put paper into the printer. Then choose **Print** from the File-office menu (by clicking the word "Print" after clicking the File-office button); when you do that, make sure you click the word "Print", not any arrow next to it.

If the computer says "Microsoft Print to PDF" (instead of your printer's name), do this:

Click the down-arrow next to "Microsoft Print to PDF" then your printer's name.

The computer assumes you want to print just 1 copy of the document. If you want to print *several* copies, do this:

**Version 2007** Type how many copies you want.

**Versions 2010&2013&2016** Click in the "Copies" box. Then type how many copies you want.

Then do this:

**Version 2007** Press Enter.

**Versions 2010&2013&2016** Tap the "Print" button (which is left of "Copies").

The computer will print the document onto paper.

## How to finish

When you finish working on a document, choose **Exit** or **Close** from the File-office menu.

**Exit** If you choose **Exit**, the computer will stop using Microsoft Word. (Version 2007 says "Exit Word" instead of just "Exit". Versions 2013&2016 lacks "Exit": instead click the X at the screen's top-right corner.)

**Close** If you choose **Close** instead of Exit, the computer will let you work on another document, and your next step is to say "new document" or "old document". Here's how....

If you want to **start typing a new document**, choose **New** from the File-office menu then do this:

**Versions 2013&2016** Click "Blank document".

**Version 2010** Double-click the first "Blank document".

**Version 2007** Press Enter.

If you want to **use an old document**, do this:

**Versions 2013&2016** Choose **Open** from the File-office menu. You see a list of the 25 documents you used most recently: that list starts with the most recent.

**Version 2010** Choose **Recent** from the File-office menu. You see a list of the 25 documents you used most recently: that list starts with the most recent.

**Version 2007** Click the File-office button, so you see the File-office menu. To the right of the File-office menu you see a list of the 17 documents you used most recently: that list starts with the most recent.

From that list, click whichever document you want to use. If you want to use an older document (not on that list), do this for version 2016 —

Click "This PC". The computer starts showing you a list of *all* readable documents in the Documents folder. To use one of those documents, click the document's name; the computer will put that document onto the screen and let you edit it.

or do this for version 2013 —

Click "Computer" then "My Documents". The computer starts showing you a list of *all* readable documents in the My Documents folder.

If you want to *use* one of those documents, *double-click* the document's name; the computer will put that document onto the screen and let you edit it. If instead you want to *delete* one of those documents, click the document's name then press the Delete key; the computer will move that document to the Recycle Bin.

or do this for versions 2007&2010:

Choose **Open** from the File-office menu (by clicking Open).

The computer starts showing you a list of *all* readable documents in the Documents folder (or Windows 7's Documents library), unless you've requested a different folder instead. If the list is too long to show completely, here's how to see the rest of the list: either "click in that list then rotate the mouse's wheel toward you" or "repeatedly click the down-arrow that's to the right of that list".

If you want to *use* one of those documents, *double-click* the document's name; the computer will put that document onto the screen and let you edit it. If instead you want to *delete* one of those documents, click the document's name then press the Delete key then the Enter key; the computer will move that document to the Recycle Bin.

**Didn't save?** If you didn't save your document before doing those "how to finish" procedures, here's what happens:

**Versions 2013&2016** The computer asks, "Want to save?" If you click the Save button, the computer copies your document's most recent version to the hard disk; if you click the Don't Save button instead, the computer eventually ignores and forgets your most recent editing.

**Version 2010** The computer asks, "Do you want to save?" If you click the Save button, the computer copies your document's most recent version to the hard disk; if you click the Don't Save button instead, the computer ignores and forgets your most recent editing.

**Version 2007** The computer asks, "Do you want to save?" If you click "Yes", the computer copies your document's most recent version to the hard disk; if you click "No" instead, the computer ignores and forgets your most recent editing.

**How to erase the recently-used list** The list of recently-used documents might annoy you, for 2 reasons:

One of the documents might be embarrassing (because it's pornographic or a private letter), and you want to hide it from your colleagues and family.

Even after you've deleted a document, that document's name might still be on that list.

If the **document list annoys you**, delete documents from it, as follows:

The recently-used list shows just the names of the *last few* Microsoft Word documents you mentioned. Go use other Microsoft Word documents; they'll go onto the recently-used list and bump off the older documents.

Another way to get a document off the recently-used list is to erase that entire list from the File-office menu. You can do that easily & sneakily in versions 2007&2010 (but not 2013&2016). Here's how....

From the File-office menu, choose **Options** (which version 2007 calls "Word Options"). Click "Advanced". Scroll down to the "Display" category. Double-click in the box labeled "Show this number of Recent Documents", type a zero, and press Enter. That erases the recently-used list from the File-office menu. Afterward, let the computer create a *new* recently-used document list in the Office menu, as follows. From the File-office menu, choose **Options** again. Click "Advanced". Scroll down to the "Display" category. Double-click in the box labeled "Show this number of Recent Documents". For version 2007, type 17; for version 2010, type 25. Press Enter.



## Font group

To make sure your computer is acting normally, click the word “**Home**” or “**HOME**” (which is near the screen’s top-left corner).

Then you see these 5 words: **Clipboard**, **Font**, **Paragraph**, **Styles**, **Editing**. Above each word, you see a **group** of icons. I’ll explain how to use each group. Let’s start with the **Font group**, which looks like this:



(Version 2007 lacks **A**.)

## Underline

Here’s how to underline a phrase (like this).

Activate the **Underline button** (which says **U** on it) by clicking it.

**Versions 2013&2016** Activating the button makes it turn gray.

**Versions 2007&2010** Activating the button makes it turn orange.

Then type the phrase you want underlined. Then deactivate the Underline button (by clicking it again).

Go ahead: try it now! Practice using the underline button before you progress to more advanced buttons!

**Shortcut** Instead of clicking the Underline button, you can use this shortcut: while holding down the Ctrl key, tap the U key.

**Fancy underlines** The computer assumes you want each underline to be a simple horizontal line. If you want the underline to be fancier (such as a double underline, a thick underline, a dotted underline, a dashed underline, or a wavy underline), do this instead of clicking the Underline button: click the Underline button’s *down-arrow* then the kind of underline you want. The computer will remember which kind of underline is your favorite and automatically choose that kind for all future underlines — until you tell the computer otherwise or exit from Microsoft Word.

## Advanced fonts

Microsoft Word handles advanced fonts the same way as WordPad. For details, **read these topics on pages 81-82:**

“Bold”  
“Italic”  
“Superscript”  
“Subscript”  
“Strikethrough”  
“Font size”  
“Font”

## Font Color

Normally, the characters you type are black. Here’s how to make them a different color, such as red.

Look at the **Font Color button**, which has an underlined A on it. Notice the color of the A’s underline. If it’s the color you want, click the underline. If it’s *not* the color you want, do this instead:

Click the down-arrow that’s to the right of the A’s underline. You see 70 colors.

If you like one of those colors, click it.

If you *don’t* like any of those colors, click “More Colors” then “Standard”, which shows you 142 colors: *double-click* your favorite.

Afterwards, whatever characters you type will be in the color you chose. (The characters you typed earlier remain unaffected.)

When you finish typing in that color, here’s how to return to typing characters that are normal (black): click the down-arrow that’s to the right of the A’s underline, then click “Automatic” (which means “normal”).

## Select text

Here's how to dramatically change a phrase you typed.

Point at the phrase's beginning, then drag to the phrase's end (while holding down the mouse's left button).

**Versions 2007&2010** The whole phrase turns blue.

**Versions 2013&2016** The whole phrase turns gray.

Turning the phrase's color that way is called **selecting the phrase**.

Then say what to do to the phrase. For example, choose one of these activities:

To underline the phrase, activate the Underline button (by clicking it).

To make the phrase be bold, activate the Bold button (by clicking it).

To italicize the phrase, activate the Italic button (by clicking it).

To make the phrase be tiny and raised, activate the Superscript button (by clicking it).

To make the phrase be tiny and lowered, activate the Subscript button (by clicking it).

To make the phrase look crossed out, activate the Strikethrough button (by clicking it).

To prevent the phrase from being underlined, bold, italicized, superscripted, subscripted, or crossed out, deactivate those buttons (by clicking them again).

To change the phrase's point size, choose the size you want from the Font Size menu.

To change the phrase's font, choose the font you want from the Font menu.

To make the phrase's characters be colored (instead of black), click the Font Color button's down-arrow then your favorite color.

To make the phrase's background be colored (such as yellow) as if you had a highlighting pen, find the **Text Highlight Color button** (which is in the Font group and shows "ab" with a highlighting pen): click that button's down-arrow then your favorite color.

Just in versions 2010&2013&2016: to make the phrase's characters be outlined (**LIKE THIS**), click the **Text Effects button** (which is in the Font group and shows **A**); you see examples of 15 effects in versions 2013&2016, 20 effects in version 2010; click your favorite. Version 2010's effect #20 (purple reflected) works just with capitals; if you choose that effect, the computer automatically capitalizes the phrase.

To change how the phrase is capitalized, click the **Change Case button** (which is in the Font group and shows "Aa") then click "UPPERCASE" (which capitalizes all letters) or "Capitalize Each Word" (which capitalizes just the first letter of each word) or "Sentence case" (which capitalizes just the first letter of each sentence) or "lowercase" (which uncapitalizes all letters) or "tOGGLE cCASE" (which capitalizes what was uncapitalized and uncapitalizes what was capitalized).

To cancel all the formatting you did to the phrase (so the phrase returns to being plain, unformatted 11-point Calibri), click the **Clear All Formatting button**. (That button is in the Font group. In versions 2013&2016, that button shows "A" being erased; in versions 2007&2010, that button shows "Aa" with an eraser.)

To delete the phrase, press the **Delete key**.

To replace the phrase, just type whatever words you want the phrase to become.

Go ahead! Try it now! It's fun!

## Advanced selection

Microsoft Word resembles WordPad, so **read these sections on page 83:**

"Other ways to select"

"Document vanishes"

"Drag a phrase"

Here are differences....

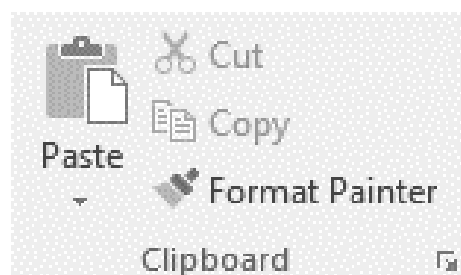
**Other ways to select** Microsoft Word permits this extra method:

Method 10: To select just **one sentence**, click in its middle while holding down the Ctrl key.

**Drag a phrase** Microsoft Word's vertical line is black. In versions 2007&2010, it's dotted.

## Clipboard group

The **Clipboard group** looks like this:



(If your screen isn't wide enough to fit all those words, it hides the words "Cut", "Copy", and "Format Painter" but still shows their icons.)

## Clipboard fundamentals

Microsoft Word resembles WordPad, so **read these topics on page 88:**

"Cut and paste"

"Copy"

Exception: in versions 2013&2016, the selected text is gray instead of blue.

## Format Painter

Suppose one part of your document looks pretty, and one part looks ugly. Here's how to make the ugly part look as pretty as the pretty part:

Drag across the pretty part, so you've selected it (and it's turned blue in versions 2007&2010, gray in versions 2013&2016). Click the **Format Painter button** (which is a paintbrush).

Then drag across the ugly part. The computer will make the ugly part look as pretty as the pretty part. For example, the ugly part will have the same font and font size as the pretty part; it will be underlined, boldfaced, and italicized the same way as the pretty part.

If you do the procedure incorrectly and wish you *hadn't* pressed the Format Painter button, just click the Undo button, which makes the document return to its previous appearance.

If one part of your document looks pretty, here's how to make *several* other parts look as pretty:

Drag across the pretty part, so you've selected it and it's turned blue or gray. *Double-click* the Format Painter button.

Drag across the first ugly part; the computer will make it look pretty. Then drag across the second ugly part; the computer will make it look pretty. Drag across each additional ugly part; the computer will make each look pretty.

When all the ugly parts have turned pretty, deactivate the Format Painter button (by clicking it again or pressing the Esc key).

## Paragraph group

The **Paragraph group** looks like this:

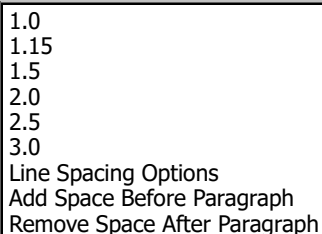


### Alignment buttons

Microsoft Word resembles WordPad, so read **“Alignment buttons” on page 84**. Exception: versions 2013&2016 says “Align Left” instead of “Align text left” and says “Align Right” instead of “Align text right”.

### Line Spacing

While typing a paragraph, you can click the **Line Spacing button** (which has an up-arrow and down-arrow on it), which makes this menu appear:



Clicking **“2.0”** makes the paragraph be double-spaced (so there’s a blank line under each line). Clicking **“3.0”** makes the paragraph be triple-spaced (so there are two blank lines under each line). Clicking **“1.0”** makes the paragraph be single-spaced (without extra space under the lines). Clicking **“1.15”** makes the paragraph have a little extra space between each pair of lines; that’s what the computer assumes you want if you don’t say otherwise.

The computer assumes you want a 10-point-high blank space under the paragraph, to separate that paragraph from the paragraph below. If you don’t want that space, click **“Remove Space After Paragraph”**.

If you click **“Add Space Before Paragraph”**, the computer will put a 12-point-high blank space above the paragraph, to separate that paragraph from the paragraph above.

### Indentation buttons

Before typing a paragraph, you can press the Tab key. That makes the computer indent the paragraph’s first line, half an inch.

If you want to indent *all* lines in the paragraph, do this instead of pressing the Tab key: while typing the paragraph, click the **Increase Indent button** (which shows a right-arrow pointing at lines). That makes the computer indent *all* lines in the paragraph. (The paragraphs you typed earlier remain unaffected.)

When you start typing a new paragraph, the computer indents that paragraph if the paragraph above it was indented.

If you indented a paragraph by clicking the Increase Indent button but then change your mind, here’s how to *unindent* the paragraph: click in the paragraph, then click the **Decrease Indent button** (which shows a left-arrow pointing from lines).

**Example** Suppose you start typing a new document. Here’s how to make just paragraphs 3, 4, and 5 be indented.

Type paragraphs 1 and 2 normally (without pressing the Increase Indent button).

When you start typing paragraph 3, press the Increase Indent button. That makes the computer start indenting, so paragraphs 3, 4, and 5 will be automatically indented.

When you start typing paragraph 6, here’s how to prevent the computer from indenting it: click the Decrease Indent button at the beginning of paragraph 6.

**Changing your mind** To indent a paragraph you typed earlier, click in the middle of that paragraph and then click the Increase Indent button. To *unindent* a paragraph you typed earlier, click in its middle and then click the *Decrease Indent* button.

**Extra indentation** If you click the Increase Indent button *twice* instead of just once, the computer will indent the paragraph farther. After typing that doubly indented paragraph, if you want the paragraph below to be unindented you must click the Decrease Indent button twice.

Each time you click the Increase Indent button, the computer indents the paragraph a half inch farther. Each time you click the Decrease Indent button, the computer indents the paragraph a half inch less.

**Bullets** Here’s a different way to indent an entire paragraph: while typing the paragraph, activate the **Bullets button** (which is the first button in the Paragraph group) by clicking it. That makes the computer indent the paragraph and also put a **bullet** (the symbol •) to the left of the paragraph’s first line. That’s called a **bulleted paragraph**. The bullet symbol is indented a quarter inch; the paragraph’s words are indented a half inch.

After you’ve typed a bulleted paragraph, any new paragraphs you type underneath will be bulleted also — until you request an *unbulleted* paragraph (by deactivating the Bullets button).

**Numbering** Here’s another way to indent an entire paragraph: while typing the paragraph, activate the **Numbering button** (which has 1 and 2 and 3 on it) by clicking it. That makes the computer indent the paragraph and put “1.” to the left of the paragraph’s first line. That’s called a **numbered paragraph**. The number is indented a quarter inch; the paragraph’s words are indented a half in.

When you type a new paragraph underneath, that paragraph will be numbered “2.”, the next paragraph will be numbered “3.”, etc. Any new paragraphs you type underneath will be numbered also — until you request an *unnumbered* paragraph (by deactivating the Numbering button).

### Shading

Here’s how to make a whole paragraph’s background be **colored** (instead of white).

Click in the paragraph. Click the down-arrow of the **Shading button** (which looks like a paint bucket). Click one of the 70 colors (or click “More Colors” then “Standard” then double-click your favorite of the 142 colors).

## Show/Hide ¶

The symbol for “Paragraph” is ¶, which looks like a backwards P.

One of the buttons has a ¶ on it. Microsoft calls it the **Show/Hide ¶ button**, but most folks call it just the **¶ button** or the **Show Symbols button**.

If you activate that button (by clicking it), the screen will show a ¶ symbol at the end of each paragraph, so you can easily tell where each paragraph ends. The screen will also show a dot (·) wherever you pressed the Space bar and show a right-arrow (→) wherever you pressed the Tab key, so you easily tell how many times you pressed those keys.

For example, if you typed “I love you” correctly, the screen will show “I·love·you”. If you see “I·love···you” instead, you know you accidentally pressed the Space bar 3 times after “love” instead of just once, so you should delete the 2 extra spaces (by moving there then pressing the Delete key twice).

When you finish examining the ¶ symbols and dots and right-arrows, and you’re sure you’ve put just one space between each pair of words, here’s how to make those special symbols vanish: deactivate the ¶ button (by clicking it again).

## Sort

Here’s how to alphabetize a list of names (or words or phrases).

Type each item on a separate line, like this:

Zelda  
Al  
Pedro

If the list is the whole document, click in the list. If the list is just *part* of the document, select the list by doing this:

Triple-click in the list’s first line.  
While holding down the Shift key, click in the list’s last line.

Click the **Sort button** (which shows an A over a Z, with a down-arrow). Then press Enter.

That makes the computer alphabetize the lines, so the document looks like this:

Al  
Pedro  
Zelda

## Border

After you’ve typed a paragraph, here’s how to put a box around it:

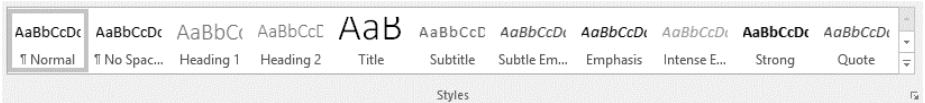
Click in the paragraph. Click the “▼” at the Paragraph group’s right edge. Click “All Borders”.

If you change your mind, here’s how to remove the box:

Click in the paragraph. Click the “▼” at the Paragraph group’s right edge. Click “No Border”.

## Styles group

The **Styles group** looks like this:



(If your screen isn’t wide enough to show all those styles, it shows fewer, such as just the first 4.)

## Visible styles

The first 4 styles are called **Normal**, **No Spacing**, **Heading 1**, and **Heading 2**. Click whichever style you prefer. Here’s how they differ.

**Normal** is good for typing a short business memo. It’s the style that Microsoft assumes you want, unless you say otherwise. It uses 11-point Calibri (which resembles Arial and Tahoma).

Instead of just single spacing, it puts extra space between the lines.

**Versions 2013&2016** use 1.08 line spacing.

**Versions 2007&2010** use 1.15 line spacing.

Below each paragraph, it also puts a blank space.

**Versions 2013&2016** The blank space is 8 points tall.

**Versions 2007&2010** The blank space is 10 points tall.

**No Spacing** resembles Normal (it uses 11-point Calibri) but wastes less space: it puts no extra space between the lines (they’re single spaced) and puts no blank space below each paragraph.

**Heading 1** is good for typing a heading.

It uses a big font.

**Versions 2013&2016** The font is 16-point Calibri Light.

**Versions 2007&2010** The font is 14-point Cambria Bold (which resembles Times Roman Bold).

The font is dark blue (instead of black).

Above the heading, it adds blank space.

**Versions 2013&2016** The added blank space is 12 points tall.

**Versions 2007&2010** The added blank space is 24 points tall.

It makes the paragraph below the heading be Normal. If the paragraph below is too long to fit on the same page as the heading, the computer moves the heading and paragraph together to the next page, so the heading stays immediately above the paragraph.

**Heading 2** resembles Heading 1 but is more modest: it’s smaller (just 13-point), and the added blank space above it is smaller:

**Versions 2013&2016** The added blank space is 2 points (instead of 12 points).

**Versions 2007&2010** The added blank space is 10 points (instead of 24 points). The font’s a lighter blue.

## Table of styles

Those 4 styles are just the beginning of a table of styles. To see the whole table (which includes 16 styles), click the down-arrow that has a dash over it.

In versions 2013&2016, those 16 styles have these features:

Style	Main features
Normal	11-point Calibri, 8-point space below paragraph
No Spacing	11-point Calibri
Heading 1	16-point Calibri Light, blue, 12-point space above para.
Heading 2	13-point Calibri Light, blue, 2-point space above para.
Title	28-point Calibri Light
Subtitle	11-point Calibri, gray, 8-point space below paragraph
Subtle Emphasis	italic, dark gray
Emphasis	italic
Intense Emphasis	italic, blue
Strong	bold
Quote	11-point Calibri, gray, italic, centered, 10-point space above para., 8-point space below para.
Intense Quote	11-point Calibri, blue, italic, bold, underline, centered, 18-point space above para., 18-point space below para.
Subtle Reference	smaller-font capitals, gray
Intense Reference	smaller-font capitals, blue, bold
Book Title	italic, bold
List Paragraph	11-point Calibri, indent, 8-point space below paragraph

In versions 2007&2010, those 16 styles have these features:

Style	Main features
Normal	11-point Calibri, 10-point space below paragraph
No Spacing	11-point Calibri
Heading 1	14-point blue Cambria, bold, 24-point space above para.
Heading 2	13-point blue Cambria, bold, 10-point space above para.
Title	26-point blue Cambria, underline, 15-point space below para.
Subtitle	12-point blue Cambria, italic
Subtle Emphasis	italic, gray
Emphasis	italic
Intense Emphasis	italic, blue, bold
Strong	bold
Quote	11-point Calibri, italic, 10-point space below paragraph
Intense Quote	11-point blue Calibri, bold, italic, underline, indent, 10-point space above para., 14-point space below para.
Subtle Reference	smaller-font capitals, underline, red
Intense Reference	smaller-font capitals, underline, red, bold
Book Title	smaller-font capitals, bold
List Paragraph	11-point Calibri, indent, 10-point space below paragraph

If you click one of those 16 styles, the computer will choose it — and its row of the table will become the main row that you see on the screen (until you choose a different row instead by clicking the up-arrow or dashed down-arrow).

If you click Heading 2, the computer expands the table by including a Heading 3. If you click Heading 3, the computer expands the table by including a Heading 4. The computer can produce up to Heading 9.

In versions 2013&2016, each heading is Calibri Light; here are the differences:

Style	Main features
Heading 1	16-point blue 12-point space above heading
Heading 2	13-point blue 2-point space above heading
Heading 3	12-point dark blue 2-point space above heading
Heading 4	11-point blue italic 2-point space above heading
Heading 5	11-point blue 2-point space above heading
Heading 6	11-point dark blue 2-point space above heading
Heading 7	11-point dark blue italic 2-point space above heading
Heading 8	10.5-point dark gray 2-point space above heading
Heading 9	10.5-point dark gray italic 2-point space above heading

In versions 2007&2010, each heading is Cambria; here are the differences:

Style	Main features
Heading 1	14-point blue bold 24-point space above heading
Heading 2	13-point blue bold 10-point space above heading
Heading 3	11-point blue bold 10-point space above heading
Heading 4	11-point blue bold italic 10-point space above heading
Heading 5	11-point dark blue 10-point space above heading
Heading 6	11-point dark blue italic 10-point space above heading
Heading 7	11-point dark gray italic 10-point space above heading
Heading 8	10-point dark gray 10-point space above heading
Heading 9	10-point dark gray italic 10-point space above heading

## Traditional fonts

Microsoft made Calibri the normal font for Microsoft Word because Calibri's easy to read even on a blurry screen. But to print on paper and high-quality screens, you should make the normal font be Times New Roman instead, which is the easiest font to read if you're not in a fog.

Here's how to make that switch:

**Version 2016** Click **Design** then "Fonts" then "Arial-Times New Roman" (which you'll see when you scroll down) then "Home".

**Version 2013** Click **DESIGN** then "Fonts" then "Arial-Times New Roman" (which you'll see when you scroll down) then "HOME".

**Versions 2007&2010** Click **Change Styles** then "Fonts" then "Office Classic".

That changes the normal (body) font from Calibri to Times New Roman (and changes the headings to Arial), so Calibri is eliminated from that document. (Other documents are unaffected.)

## Traditional style (just in versions 2007&2010)

Microsoft made "blank space below each paragraph" the normal style for Microsoft Word so people writing business letters, e-mails, and Websites wouldn't have to press the Enter key twice at the end of each paragraph. But publishers of books, newspapers, and magazines want a more traditional format where each paragraph's first line is indented and there's no extra space between paragraphs, since "extra space" means "wasted paper".

Versions 2007&2010 let you make that switch easily. Here's how:

Click **Change Styles** then "Style Set" then "Traditional".

That switch affects the whole document. (Other documents are unaffected.)

If you're smart enough to make *both* of those changes (changing fonts to Office Classic and changing Style Set to Traditional), here's what the 16 styles become:

Style	Main features
Normal	11-point Times New Roman, indent first line
No Spacing	11-point Times New Roman
Heading 1	12-point Arial, blue, underline, 30 pt. above, 4 pt. below, bold
Heading 2	12-point Arial, blue, underline, 10 pt. above, 4 pt. below
Title	30-point Arial, blue, green underline, blue overline, center
Subtitle	12-point Arial, italic, 10 pt. above, 45 pt. below, align right
Subtle emphasis	italic, gray
Emphasis	italic, gray, bold
Intense Emphasis	italic, blue, bold
Strong	bold
Quote	11-point Arial, gray, italic, indent first line
Intense Quote	12-point Arial, white-on-blue, italic, green underline, indent all lines, 16 pt. above, 16 pt. below
Subtle Reference	Times New Roman, green underline
Intense Reference	green Times New Roman, underline
Book Title	Arial, italic, bold
List Paragraph	11-point Times N.R., indent all lines, indent first line farther

## Invent your own style

Here's how to invent your own paragraph style.

In your document, create a paragraph whose appearance thrills you (by using the Font, Paragraph, and Styles groups). Then do this:

**Versions 2013&2016** Click in the middle of the paragraph's first word. On the keyboard, tap the Alt key then the H key then the L key then the S key (which stands for "Home Loves Style").

**Versions 2007&2010** Right-click in the middle of the paragraph's first word. Click "Styles" then "Save Selection as a New Quick Style".

Invent a name for your style (such as "Wow"): type the name, and at the name's end press the Enter key.

The style you invented ("Wow") will appear in the Styles group as the first style.

Go ahead and use it! For example, while you're typing another paragraph, you can make that paragraph's style be "Normal" or "Wow": just click the style you want.

The style you invented ("Wow") is part of the computer's repertoire just while you're using that document, not while you're using other documents.

Here's how to improve that style later. Click in a paragraph written in that style. Improve that paragraph's appearance (by using the Font, Paragraph, and Styles groups). Then do this:

**Version 2013&2016** Click in the middle of the paragraph's first word. Right-click the style's name. Click "Update".

**Versions 2007&2010** Right-click in the middle of the paragraph's first word. Click "Styles" then "Update".

## Editing group

In the Editing group, you see 3 choices: **Find**, **Replace**, and **Select**.

### Find

Here's how to make the computer search through your document to find whether you've used the word "love".

**Modern method (just in versions 2010&2013&2016)** Click the word **"Find"** (or press Ctrl with F). At the screen's left edge, you see the **Navigation pane**. Type the word you want to find ("love"), so the word appears in the

Navigation pane's box. That makes the computer highlight every "love" in your document, in yellow.

In the Navigation pane, below where you typed "love", the computer shows a list of your phrases containing "love". If you click in that list, that phrase's "love" turns gray in versions 2013&2016, blue in version 2010.

When you finish using the Navigation pane, close it (by clicking its X). Then the yellow becomes white again.

**Classic method** Click where you want the search to begin. (For example, if you want the search to begin at the document's beginning, click in the middle of the document's first word.)

Then do this:

**Versions 2010&2013&2016** Click **Find's** down-arrow then **Advanced Find**.  
**Version 2007** Click **Find** (or press Ctrl with F).

Type the word you want to find ("love"), and press Enter.

The computer will search for "love". If the computer finds a "love" in your document, it will highlight that "love" so it turns gray in versions 2013&2016, blue in versions 2007&2010. (If the "Find and Replace" window covers the part of your document that says "love", drag that window out of the way, by dragging "Find and Replace".)

If you want to find the next "love" in your document, press Enter.

If you click "Reading Highlight" then "Highlight All", the computer will immediately highlight *every* "love" in your document, in yellow (unless you changed the highlighting pen's color).

Highlighting disappears when you edit the document.

If you do *not* want to search for more "love", click the "Find and Replace" window's X.

**Blue arrows (just in versions 2007&2010)** After you've searched, the previous-page and next-page arrows (at the screen's bottom right corner) turn blue. Clicking them will make the computer find the previous or next "love" (instead of the previous or next page).

**Example: Lincoln** Suppose you've written a history of America and want to find the part where you started talking about Lincoln. If you forget what page that was, no problem! Just put the cursor at the document's beginning and tell the computer to find "Lincoln".

## Replace

Microsoft Word resembles WordPad, so **read "Replace" on page 85.**

## Select

To select everything in the document (so the whole document is highlighted in blue), use one of these methods:

**Click method** Click **Select** then "Select All".

**Ctrl method** While holding down the Ctrl key, tap the A key (which means "All").

If you formatted a phrase (such as by underlining or bolding or italicizing or making the font bigger), here's how to find all other phrases that have been formatted the same way:

Click in the formatted phrase's middle. Click **Select's** down-arrow then "Select All Text with Similar Formatting". The computer will select (highlight in gray or blue) all phrases that have been formatted the same way.

For example, suppose your document's only formatting is that you underlined some words. Here's how to make all those underlined words become bold also:

Click in the middle of one of the underlined words. Click **Select's** down-arrow then "Select All Text with Similar Formatting". The computer will highlight all the underlined words (so they turn blue or gray). Then click the Bold button (which is in the Font group): that makes the computer embolden all the highlighted words (which are the underlined words). Then click anywhere in the document (to turn off the gray or blue highlighting).

# Tab bar

Near the screen's top, you see the **tab bar**. Here's how it looks in **version 2016**:

File Home Insert Draw Design Layout References Mailings Review View

**Other versions** say "Page Layout" instead of just "Layout" and have these other differences:

**Version 2013** omits "Draw" and capitalizes the others (such as "FILE" instead of "File").

**Version 2010** omits "Draw" and "Design".

**Version 2007** omits "File", "Draw", and "Design".

Each word or phrase on the tab bar is called a **tab**.

If you click the **Home tab** (which says "Home" in versions 2007&2010&2016, "HOME" in version 2013), you see the 5 groups I discussed (Clipboard, Font, Paragraph, Styles, and Editing). If you click a different tab instead, you see different groups.

Tab	Groups you see
Home	Clipboard, Font, Paragraph, Styles, Editing
Insert	Pages, Tables, Illustrations, Add-ins (just 2016), Apps (just 2013), Media (just 2013&2016), Links, Comments (just 2013&2016), Header & Footer, Text, Symbols
Draw	Tools (just 2016), Pens (just 2016), Convert (just 2016)
Design	Document Formatting (just 2013&2016), Page Background (just 2013&2016)
Layout	Themes (just 2007&2010), Page Setup, Page Background (just 2007&2010), Paragraph, Arrange
References	Table of Contents, Footnotes, Citations & Bibliography, Captions, Index, Table of Authorities
Mailings	Create, Start Mail Merge, Write & Insert Fields, Preview Results, Finish
Review	Proofing, Insights (just 2016), Language (just 2010&2013&2016), Comments, Tracking, Changes, Compare, Protect, Ink (just 2013)
View	Views (which 2007&2010 call "Document Views"), Show (which 2007 calls "Show/Hide"), Zoom, Window, Macros

## Layout tab

Click the **Layout tab** (which versions 2007&2010&2013 call "Page Layout").

**Margins** Normally, Microsoft Word leaves a 1-inch margin at all 4 edges of your paper. If you want margins that are wider or narrower, click "Margins" (in the Page Setup group). Then click one of these popular choices:

Choice	How big the margins are
Normal	1 inch at all 4 edges
Narrow	½ inch at all 4 edges
Moderate	1 inch at top & bottom, ¾ inch at left & right
Wide	1 inch at top & bottom, 2 inches at left & right
Mirrored	1 inch at 3 edges, 1¼ inches at stapled edge (left edge on odd pages, right edge on even)
Office 2003	1 inch at top & bottom, 1¼ inches at left & right

**Size** In the U.S., a normal sheet of paper is 8½ inches wide and 11 inches tall. Microsoft Word assumes your paper is that size. If you want to print on paper that's a different size, click "Size" (in the Page Setup group) then the paper's size. (To see all the choices, point at the **scroll bar**, which is below the up-arrow, and drag that scroll bar down.)

In the U.S., these sizes are the most popular:

<b>Letter</b>	8½ inches wide and 11 inches tall
<b>Legal</b>	8½ inches wide and 14 inches tall
<b>Executive</b>	7¼ inches wide and 10½ inches tall

Pick a size your printer can handle!

**Orientation** When an artist paints a portrait of a face, the canvas's height is usually bigger than its width. That situation (height bigger than width) is called **portrait orientation**.

When an artist paints a landscape (showing many trees and hills), the canvas's width is usually bigger than its height. That situation (width bigger than height) is called **landscape orientation**.

**The computer assumes you want portrait orientation** (height bigger than width). For example, if you tell the computer to print on paper that's 8½ inches by 11 inches, the computer assumes you want the height to be bigger than the width, so it assumes you want height to be 11 inches and the width to be 8½ inches.

You can force the computer to do landscape orientation instead, so the width is bigger than the height, and so the width is 11 inches and the height is 8½ inches. That makes the paper wide, so you can fit more words on each line. To do that, click "Orientation" (in the Page Setup group) then "Landscape".

To accomplish landscape printing, the computer & printer rotate the paper or words 90 degrees.

For example, to print on a Statement (8½ inches wide and 5½ inches tall) or a #10 Envelope (9½ inches wide and 4⅛ inches tall), tell the computer to do landscape printing (by clicking "Orientation" then "Landscape").

**Columns** In a newspaper, text is printed in many narrow **columns**. In a business letter, text is printed in a single wide column.

The computer assumes you want a single wide column. If you want several narrow columns instead (like a newspaper or magazine), click "Columns" (in the Page Setup group). Then click one of these popular choices:

Choice	How many columns you get
One	1 wide column (like a business letter)
Two	2 narrow columns
Three	3 very narrow columns
Left	2 columns (left column is very narrow, right column is wider)
Right	2 columns (right column is very narrow, left column is wider)

The gap between each pair of columns is a half-inch wide.

After you've finished typing a paragraph (and pressed Enter), try this experiment: while holding down the Ctrl and Shift keys, press Enter again. That creates a **column break**: it makes the next paragraph be at the top of the next column. (If you change your mind, here's how to remove the column break: click at the beginning of the paragraph you've put at the top of a column, then press the Backspace key.)

**Breaks** Here's how to divide your document into two **sections** and give each section its own margins and its own number of columns:

Click where you want the second section to begin. Click "Breaks" (in the Page Setup group). Click either "Continuous" (to start the second section on the same page as the first section ended) or "Next Page" (to start the second section on a separate page from the first section). Afterwards, any margin or columns command you give will affect just the section you're clicking in, not the other section.

If you wish, create extra sections: for each extra section, click where you want the section to begin, then click "Breaks" then either "Continuous" or "Next Page".

**Line Numbers** If you plan to mail the document to a friend and then chat about it by phone, you should number each line, so you can ask your friend “What do you think about line 27?” To make the computer number the lines for you (by writing the numbers in the left margin), click “Line Numbers” (in the Page Setup group). Then click either “Continuous” (which makes the computer number the lines 1, 2, 3, etc., until the document’s end) or “Restart Each Page” (which makes each page’s first line be numbered 1, each page’s second line be numbered 2, etc.).

When you finish chatting with your friend and don’t need the line numbers anymore, here’s how to erase them: click “Line Numbers” then “None”.

## Insert tab

Click the **Insert** tab.

**Symbol** If you click “Symbol” (which is in the Symbols group), you see the symbols you used recently. If you haven’t used any symbols yet, you see these:

€	£	¥	©	®
™	±	≠	≤	≥
÷	×	∞	μ	α
β	π	Ω	Σ	☺

If you want to use one of those symbols now, click it. If you want a different symbol instead, do the following....

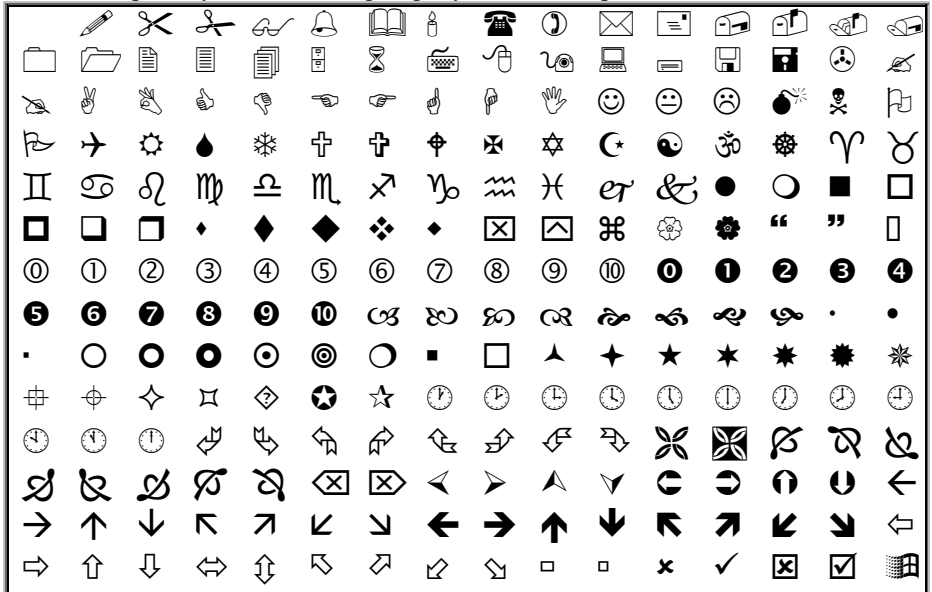
Click “More Symbols”. You see the **Symbol window**.

You see many symbols. If you want one of those symbols, double-click it. If you don’t like any of those symbols, view different symbols by using the scroll arrows or clicking “Special Characters” or the Font box’s down-arrow.

If you click the Font box’s down-arrow, you see a list of different fonts. Scroll down to see the different font choices. For best results, click one of these 6 fonts:

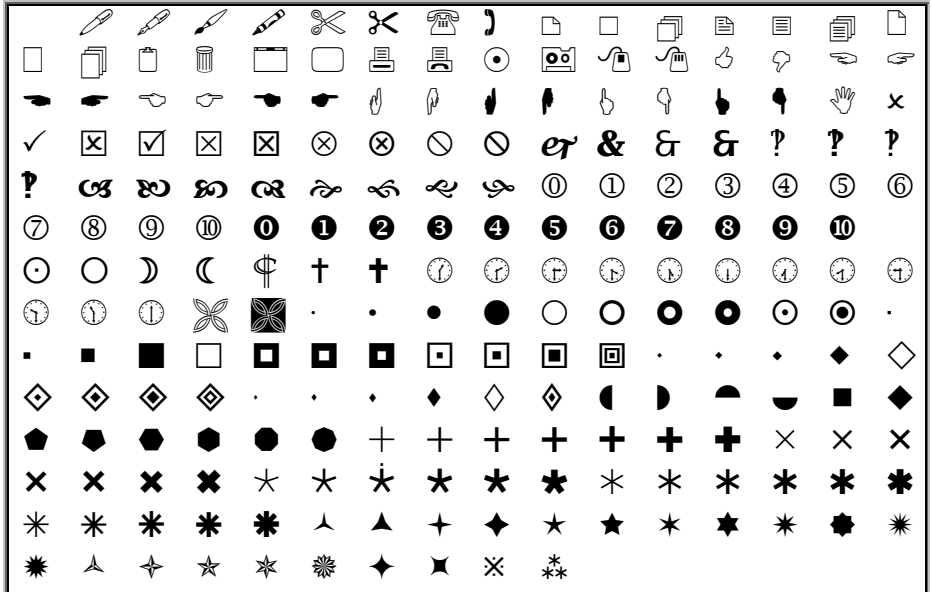
(normal text)  
Symbol  
Webdings  
Wingdings  
Wingdings 2  
Wingdings 3

For example, if you click “Wingdings” you see these pictorial characters:

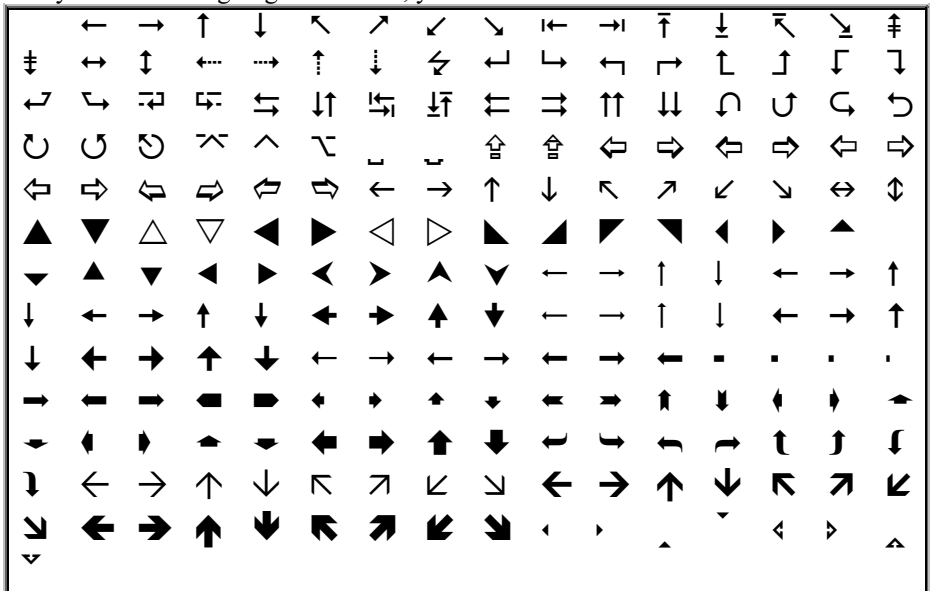


(To see them all, scroll down by clicking that window’s first down-arrow.)

If you click “Wingdings 2” instead, you see these:

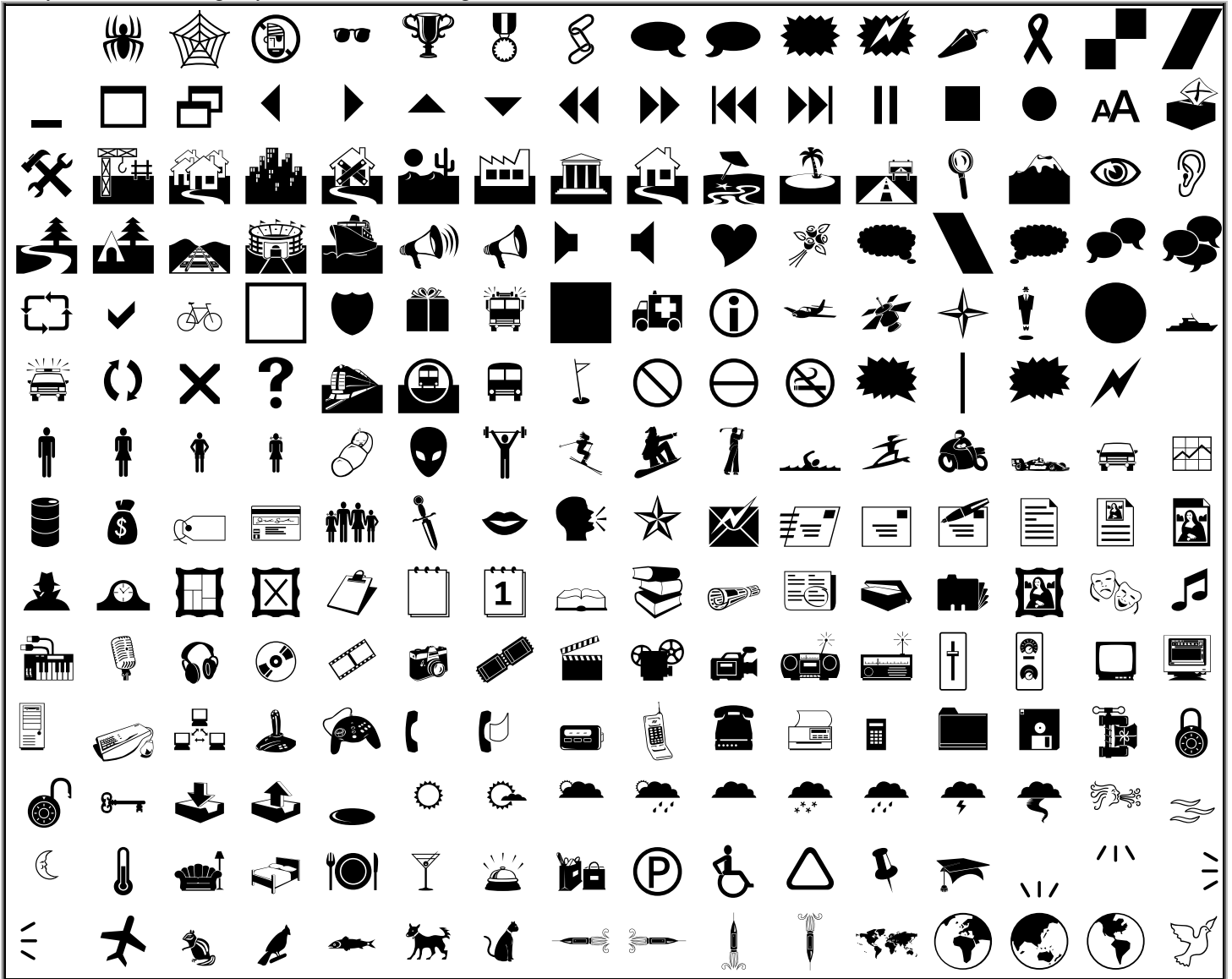


If you click “Wingdings 3” instead, you see these:





If you click “Webdings”, you see fancier drawings:



For fun with young kids, point at those Webdings and play a game of “Do you know what this is?”

If you click “Symbol”, you see math, Greek, and card suits:

	!	∇	#	∃	%	&	ə	(	)	*	+	,	-	.	/
0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
≅	A	B	X	Δ	E	Φ	Γ	H	I	ϑ	K	Λ	M	N	O
Π	Θ	P	Σ	T	Υ	ς	Ω	Ξ	Ψ	Z	[	∴	]	⊥	—
—	α	β	χ	δ	ε	φ	γ	η	ι	φ	κ	λ	μ	ν	ο
π	θ	ρ	σ	τ	υ	ϖ	ω	ξ	ψ	ζ	{		}	~	
	Υ	'	≤	/	∞	f	♣	♦	♥	♠	↔	←	↑	→	↓
°	±	"	≥	×	∞	∂	●	÷	≠	≡	≈	...		—	↵
ℵ	ℳ	℔	℘	⊗	⊕	∅	∩	∪	⊃	⊇	⊄	⊂	⊆	∈	∉
∠	∇	®	©	™	Π	√	·	¬	∧	∨	↔	←	↑	⇒	↓
◇	<	®	©	™	Σ	/		⌊	⌈		⌊	⌈	{		
	>	∫	∫		J	\		⌋	⌋		⌋		}		

**Whenever you see a character you like, double-click it.** That makes the computer put the character into your document. Then double-click any other characters you like.

When you finish using the Symbol window, make it disappear by clicking the button that says “Close” on it.

Warning: **your printer might be too stupid to print those symbols**, especially if the font is “(normal text)”. Instead of printing a symbol, the printer might just leave a blank space. Before giving the printout to a friend, look at the printout yourself to make sure the symbols printed correctly and clearly.

**Date & Time** To type the date or time, click **Date & Time** (which is in the Text group). The computer will show a list of formats, like this:

12/25/2016  
Sunday, December 25, 2016  
December 25, 2016  
12/25/16  
2016-12-25  
25-Dec-16  
12.25.2016  
Dec. 25, 16  
25 December 2016  
December 16  
Dec-16  
12/25/2016 10:59 PM  
12/25/2016 10:59:20 PM  
10:59 PM  
10:59:20 PM  
22:59  
22:59:20

Click the format you want. Press Enter. The computer will type the date or time in the format you requested.

In that procedure, just before you press Enter, you might wish to put a check mark in the “**Update automatically**” box. Here’s how that box works:

Suppose you type a document on Monday, but you print the document the next day (Tuesday). Which date will the computer print on paper? The computer will print the date that the document was typed (Monday), unless you put a check mark in the “Update automatically” box, which makes the computer print the “date printed” (Tuesday).

If you put a check mark in the “Update automatically” box, the computer will automatically update the date & time whenever the document is printed (or print-previewed or opened).

**Page Number** To make the computer put a page number on each page, click **Page Number** (which is in the Header & Footer group). Then click “Top of Page” (if you want the number to be in each page’s top-margin area called the **header**) or “Bottom of Page” (if you want the number to be in each page’s bottom-margin area called the **footer**).

Click “Plain Number 2”. That makes the page number have plain style #2 (centered instead of near the paper’s left edge or right edge).

You see the page number, on the current page. (The computer has automatically put page numbers on all the other pages also.)

Do you want any words to appear to the left of the page number? If so, type them then press the Space bar. For example, if you want the 2<sup>nd</sup> page to say “This is page 2” instead of just “2”, type “This is page” then press the Space bar.

Do you want any words to appear to the right of the page number? If so, press the right-arrow key then the Space bar then type those words. For example, if you want the 2<sup>nd</sup> page to say “This is page 2 of the great American novel” and you’ve already typed “This is page ”, press the right-arrow key (to move past the page number) then the Space bar (to leave 1 blank space after the page number) then type “of the great American novel”.

Whatever words you put to the left and right of the page number appear on all the other page numbers also.

When you finish editing the page number’s line, double-click in the screen’s middle. Then you can continue editing your document’s paragraphs.

If you want to edit the page number’s line again, double-click in the middle of that line.

**Table** To type a table of numbers in the middle of your document, click where you want the table to appear then click **Table** (which is in the Tables group).

You see 80 little boxes (called **cells**), arranged to form a table having 8 rows and 10 columns. How many rows and columns do you want in *your* table? Point at the first cell (box) and drag down and to the right, until your desired number of rows and columns turns orange. For example, **if you want just 3 rows and 4 columns, drag down and to the right until 3 rows and 4 columns turn orange**, so you see 12 orange cells altogether.

When you take your finger off the mouse’s button, you’ll see the table you requested.

**Then just fill in the cells, with whatever numbers and words you wish.** To move from cell to cell, click with the mouse, or press the Tab key (which moves right to the next cell), or press Shift with Tab (which moves left to the previous cell), or press the arrow keys repeatedly.

In a cell, you can type a number, word, sentence, or even an entire paragraph! If you start typing a paragraph in a cell, the computer will automatically make the cell and its row taller, so the entire paragraph will fit in the cell. You can even type *several* paragraphs in a single cell: just press the Enter key at the end of each paragraph. If you want to indent the first line of one of those paragraphs, press the Space bar several times or press Ctrl with Tab.

Here’s how to make the table have more cells.


To create an extra row at the table’s bottom:  
click in the table’s bottom right cell, then press the Tab key.

To insert an extra row into the table’s middle:  
click in the row that’s under where you want the extra row to appear, then the “Layout” that’s under “Table Tools” on the tab bar, then “Insert Above” (in the Rows & Columns group).

To create an extra column at the table’s right edge:  
click in last column, then the “Layout” that’s under “Table Tools” on the tab bar, then “Insert Right” (in the Rows & Columns group). To fit the extra column, the computer will make the previous columns narrower.

To insert an extra column into the table’s middle:  
click in the column that’s right of where you want the extra column to appear, then the “Layout” that’s under “Table Tools” on the tab bar, then “Insert Left” (in the Rows & Columns group). To fit the extra column, the computer will make the other columns narrower.


The computer assumes you want the table’s columns to all be the same width. Here’s how to change that assumption:

For example, here’s how to adjust the width of the table’s left column (column 1). Move the mouse until its pointer is on the vertical gridline that separates column 1 from column 2, and the pointer’s shape turns into this symbol: . Then drag the vertical gridline to the right (to make the column wider) or left (to make the column narrower).

If you make a column wider, the computer makes room for it by shrinking the next column. If you make a column narrower, the computer compensates by expanding the next column.

If you want to fine-tune the widths of *all* columns, work from left to right: adjust the width of column 1 (by dragging the gridline that separates it from column 2), then adjust the width of column 2 (by dragging the gridline that separates it from column 3), then adjust the width of column 3 (by dragging the gridline that separates it from column 4), etc.

If a column contains mostly numbers, here’s how to make that column look prettier, so the numbers are aligned properly:

Move the mouse until its pointer is at the *very top* of the column and is centered on the gridline above the column, so the pointer’s shape turns into this down-arrow: . Then click. The entire column turns gray in versions 2013&2016, blue in versions 2007&2010.

Click “Home” (on the tab bar) then version 2013&2016’s Align Right button (or version 2007&2010’s Align Text Right button), in the Paragraph group. That makes all cells in that column be aligned right, so the numbers are aligned better.

When you’ve finished typing numbers and words into all the cells, here’s how to make the computer adjust the widths of all the columns, so each column becomes just wide enough to hold the data in it:

Click in the table. Click the “Layout” that’s under “Table Tools” on the tab bar then “AutoFit” (in the Cell Size group) then “AutoFit Contents”.

When you’ve finished editing the table, here’s how to put paragraphs below it:

Click below the table by using the mouse, or go below the table by pressing the down-arrow key several times. Then type the paragraphs you want below the table.

Here’s how to delete a row or column:

Click in the middle of what you want to delete. Click the “Layout” that’s under “Table Tools” on the tab bar then “Delete” (in the Rows & Columns group). Click “Delete Rows” (if you want to delete a row) or “Delete Columns” (if you want to delete a column).

Here’s how to delete the entire table:

Click in the table. Click the “Layout” that’s under “Table Tools” on the tab bar then “Delete” (in the Rows & Columns group) then “Delete Table”.

Here’s how to create a table that has a customized shape.

In the middle of your document, press the Enter key several times, to create a blank space for the table. Then click **Table** (which is in the Insert tab’s Tables group) then **Draw Table**.

Where do you want the table to be in your document? **Put the mouse pointer where you want the table’s top left corner to be, and drag to where you want the table’s opposite corner.** (While dragging, hold down the mouse’s left button.) You’ll see a box, which is your table. Inside the box, make a grid of rows and columns by drawing horizontal and vertical gridlines. **To draw a gridline, put the mouse pointer where you want the line to begin, and drag to where you want the line to end.**

If you make a mistake, click the Undo button or do the following....Click the word “Eraser”. (In versions 2013&2016, it’s in the Draw group. In versions 2007&2010, it’s at the screen’s far-right edge.) That makes the mouse pointer turn into an eraser. Move the mouse until the eraser’s bottom corner touches the line you want to erase; then click (press the mouse’s left button). That makes the line disappear. You can make other lines disappear also, by clicking them. When you finish using the eraser, click “Draw Table” (which is in version 2013&2016’s Draw group or near version 2007&2010’s top-right corner) to continue drawing more lines.

## View tab

Click the **View** tab.

**Ruler** If you put a check mark in the Show group’s **Ruler box** (by clicking there), you’ll see a ruler (saying 1", 2", 3") above the page and another ruler at the screen’s left edge. Those rulers show how many inches will be printed on paper.

Afterwards, you’ll be seeing rulers even when you’re viewing other documents and even on other days, until you cancel the rulers (by removing the check mark from the Ruler box).

**Split** To see 2 parts of your document at the same time, click **Split** (which is in the Window group). Here’s what happens next:

**Versions 2013&2016** A thin gray line (with top & bottom edges) appears across your screen’s middle and splits your screen’s window into 2 parts, a **top windowpane** and a **bottom windowpane**. If you dislike the line’s position, drag the line up or down.

**Versions 2007&2010** A fat gray line appears across your screen’s middle and splits your screen’s window into 2 parts, a **top windowpane** and a **bottom windowpane**. Move the mouse slightly (which moves the fat gray line slightly up or down), until you like the line’s position. Then click the mouse’s left button.

Now you can see 2 parts of your document at the same time!

Each windowpane has its own scroll arrows. You can click those scroll arrows to change what you see in that windowpane, without changing what’s in the other windowpane.

You can also click in one windowpane’s text and then use the keyboard’s movement keys (up-arrow, down-arrow, left-arrow, right-arrow, Page Up, Page Down, Home, and End) to change what’s in that windowpane, without changing what you see in the other windowpane.

Both windowpanes show parts of the same document. If you

change a word in one windowpane (by deleting or inserting or revising that word), while the other windowpane happens to show the same part of the document, you see that word automatically change in the other windowpane also, immediately!

Using those 2 windowpanes, you can compare 2 parts of your document and copy from one part to the other (by using the Home tab’s Copy and Paste buttons or using Ctrl C and Ctrl V).

When you stop wanting 2 windowpanes, here’s how to return to a single pane:

Which windowpane do you want to remove? Click in that windowpane. Click **Remove Split** (which is in the Window group). That windowpane disappears, so the entire screen becomes devoted to the other windowpane.

**Arrange All** Here’s how to see 2 documents on the screen at once!

To be safe, make sure both documents have been saved on disk (by using the Save button). Close any documents that are on the screen (by choosing **Close** from the File-office menu), so the screen’s main part is blank.

Open the first document (by using the File-office button). You see the document’s words and paragraphs on the screen.

*While that first document is still on the screen (without closing it),* open the second document. You see the document’s words and paragraphs on the screen; they cover up the first document, so you can’t see the first document at the moment.

Click the View tab then **Arrange All** (which is in the Window group). Then you see 2 windows on the screen. The top window shows the second document; the bottom window shows the first document.

Each window is small, showing just a tiny part of the document. A window might seem blank if it’s so small that it shows just the document’s top margin.

Each window has its own scroll arrows. Use them to scroll through the documents and see the parts of the documents that are *not* blank.

By using those 2 windows, you can easily compare 2 documents and copy from one to the other (by using the Home tab’s Copy and Paste buttons or using Ctrl C and Ctrl V).

When you stop wanting one of the windows, close it (by clicking its X button), then expand the other window (by clicking its maximize button, which is next to its X button).

## References tab

Click the **References** tab.

**Insert Footnote** Suppose you’re writing a religious pamphlet in which you want to say “Read the Bible tonight!” Suppose you want to add a footnote saying “written by God”, so the main text looks like this —

Read the Bible<sup>1</sup> tonight!

and the page’s bottom contains this footnote:

<sup>1</sup> Written by God.

Here’s how to do it all....

Type “Read the Bible”. Click “Insert Footnote” (which is in the Footnotes group) or, while holding down the Ctrl and Alt keys, tap the F key. Type the footnote (“Written by God.”). Go back to the main text, where you left off, by using one of these methods:

**Double-click method** Double-click the footnote’s number, then press the right-arrow key.

**Climb method** Climb back up to the main text (by using the keyboard’s up-arrow key), then go right to where you left off typing (by using the End key).

The computer will automatically number the footnote: it will automatically type <sup>1</sup> after “Bible” and type <sup>1</sup> before “Written by God.” If your document contains more footnotes, the computer will automatically number them <sup>2</sup>, <sup>3</sup>, <sup>4</sup>, etc. (Those numbers are easy to read on paper. On the screen, the numbers are easier to read while the Home tab’s “¶” button is deactivated.)

The computer will put the footnotes at the bottom of the page. If the page is divided into newspaper columns, the computer will put each footnote at the bottom of the column it refers to.

The computer will put a 2-inch horizontal line above the footnotes to separate them from the main text.

If you insert extra footnotes, the computer will automatically renumber the other footnotes, so the first footnote appearing in your document will be numbered <sup>1</sup>, the second footnote will be numbered <sup>2</sup>, etc.

### Here's the easiest way to delete a footnote:

Click the left edge of the footnote's number in the main text; then press the Delete key twice.

## Help

For free help using Word, call my cell phone (603-666-6644) or do the following...

**Version 2016** Click "Tell me what you want to do" (which is to the right of "View" and a lightbulb), then start typing your question (about Word) or the name of a Word topic. Below your typing, you see a list of related topics. Click the topic you want help about.

Instead of doing that, you can try this alternative way to get help:

Press the F1 key. Exception: on that key, if the "F1" is blue (such as on Toshiba's laptop) or very tiny (such as on HP's new laptop) or on a new computer by Microsoft or Lenovo, do this instead: press the F1 key *while holding down the Fn key* (which is left of the Space bar).

You see these topics:

Rotate a page to landscape or portrait  
Insert WordArt  
Track changes in Word  
Change the capitalization of text  
Add a chart to your document  
Change or set the default font  
More  
Word training

If you click "More", you see these topics instead:

Get started  
Troubleshoot problems  
Create and format documents  
Headers and footers  
Page numbers  
Tables of contents  
Links, images, and graphics  
Review a document  
Mail merge  
Share and print  
Accessibility

Click whatever topic you want help about.

**Versions 2007&2010&2013** Click the question mark.

### Version 2013

The question mark is at the screen's top, near the right edge.

### Versions 2007&2010

The question mark is to the right of the tab bar, at the screen's right edge.

To get help about using Microsoft Word, click that question mark or press the F1 key. (You'll get the *best* help if you connect to the Internet before doing that, so Microsoft can give you the *newest* help lessons.)

You see the **Word Help window**, which contains this list of popular topics:

### Version 2007

What's new in Word 2007  
Find Word 2003 commands in Word 2007  
Up to speed with Word 2007  
Header and footer basics

### Version 2010

Getting started with Word 2010  
Introducing the Backstage view  
Create a document  
Create a document to be used by previous versions of Word

### Version 2013

Résumé  
Watermark  
Labels  
Table of contents  
Word count  
Mail merge  
Header  
Line spacing  
Margins  
See what's new  
Keyboard shortcuts  
Get free training  
Learn Word basics  
Use Word Web App  
Tips for tablets

Formatting  
Converting documents  
Creating specific documents  
Page numbers  
Margins and page setup  
Page breaks and section breaks

Collaboration  
Creating documents  
File migration  
Formatting  
Getting started with Word

If one of those topics interests you, click it.

If none of those topics interests you, do this:

**Version 2013** Click "more".

**Version 2010** Click "see all".

**Version 2007** Click "View all categories" (at the screen's bottom, when you scroll down).

Then you'll see this list of topics:

### Version 2007

Accessibility  
Activating Word  
Add-ins  
Automation and programmability  
Collaboration  
Converting documents  
Creating specific documents  
Customizing  
File management  
Formatting  
Getting help  
Headers and footers  
Lists  
Macros  
Mail merge  
Margins and page setup  
Page breaks and section breaks  
Page numbers  
Saving and printing  
Security and privacy  
Tables  
Tables of contents and other references  
Tracking changes and comments  
Training  
Viewing and navigating  
What's new  
Word demos  
Working with graphics and charts  
Writing  
Working in a different language

### Version 2010

Accessibility  
Activating Word  
Add-ins  
Charts  
Collaboration  
Creating documents  
Digital IDs and signatures  
Equations  
Field codes  
File management  
File migration  
Formatting  
Getting help  
Getting started with Word  
Headers, footers, and page numbers  
Installing  
Lists  
Mail merge  
Page breaks and section breaks  
Page setup  
Pictures and clip art  
Reading documents  
Saving and printing  
Security and privacy  
SmartArt graphics  
Spelling, grammar, and thesaurus  
Tables  
Tables of contents and other references  
Tracking changes and comments  
Training courses  
Videos  
Working in a different language

### Version 2013

Make the switch to Word 2013  
Use Word on your tablet  
Use Word Web App  
Start here for basics  
Open documents from earlier versions  
Create a table of contents

If one of those topics interests you, click it. If none of those topics interests you, click in the Search box (the white box at the window's top) then type the question you want help about (or type your topic's main words) and press Enter.

Then you'll see a list of subtopics. (To see them all, click the scroll-down arrow at the window's bottom-right corner.) Click whichever subtopic interests you. You'll see a lesson about that subtopic.

If you want to return to a previous list of topics or subtopics, click the **Back button** (the left arrow at the window's top-left corner). When you finish using the Word Help window, close it (by clicking the X button at its top-right corner).

# Excel

Any table of numbers is called a **spreadsheet**. For example, this spreadsheet deals with money:

	January	February
Income	\$9,030.95	\$12,486.99
Expenses	\$7,000.55	\$9,210.75
-----		
Profit	\$2,030.40	\$3,276.24

A spreadsheet can show how many dollars you earned (or spent or plan to spend), how many goods you have in stock, how people scored in a test (or survey or scientific experiment), or any other numbers you wish!

A **spreadsheet program** helps you create spreadsheets, edit them, and analyze them.

## How spreadsheets arose

The first spreadsheet program was invented in 1979. It was **designed by Dan Bricklin** and **coded by Bob Frankston**. (That means Dan Bricklin decided what features and menus the program should have, and Bob Frankston wrote the program.) They called the program **VisiCalc** because it was a “visible calculator”. VisiCalc’s first version ran on the Apple 2 computer and required 64K of RAM; later versions ran on the Radio Shack TRS-80 and IBM PC.

The second spreadsheet program was called **SuperCalc** because it was superior to VisiCalc. It was invented by a company called **Sorcim** (which is “micros” spelled backwards). The original version of SuperCalc ran on computers using the CP/M operating system. The most popular CP/M computer — the Osborne 1 — came with a free copy of SuperCalc. Later versions of SuperCalc ran on the Apple 2 and IBM PC. Eventually, Sorcim became part of a big conglomerate called **Computer Associates**.

**Multiplan** was the first spreadsheet program that could handle multiple spreadsheets simultaneously — and the relationships among them. Invented by Microsoft, it ran on a greater variety of computers than any other spreadsheet program: it ran on CP/M computers, the Radio Shack TRS-80, Commodore 64, Texas Instruments 99/4, IBM PC, Apple 2, and Apple Mac.

**Context MBA** was the first spreadsheet program that had extras: besides handling spreadsheets, it also handled graphs, databases, word processing, and telecommunications. But it ran slowly and its word processing was limited (it couldn’t center and wouldn’t let you set tab stops). It required a strange operating system (the Pascal P System). It was invented in 1981 by **Context Management Systems**, which later invented an MS-DOS version called **Corporate MBA**.

**All those spreadsheet programs became irrelevant in 1983, when a much better spreadsheet program was invented.** It was **designed by Mitch Kapor** and **coded by Jonathan Sachs** for the IBM PC. They called the program **1-2-3**, because it ran fast and was supposed to handle 3 things: spreadsheets, graphs, and word processing; but when Jonathan examined Context MBA, he realized that putting a good word processor into 1-2-3 would consume too much RAM and make the program run too slowly. He omitted the word processor and replaced it with a stripped-down database processor instead. 1-2-3 handled spreadsheets well, graphs okay, and databases slightly.

Mitch and Jonathan called their company **Lotus Development Corporation**, because Mitch was a transcendental-meditation instructor who got entranced by contemplating lotus flowers.

After inventing 1-2-3, Jonathan Sachs tried to invent a program called **1-2-3-4-5**, which was to handle the same five tasks as Context MBA: spreadsheets, graphs, databases, word processing, and telecommunications.

While developing it, he realized it was becoming too big and confusing, so he stopped developing it and quit the company. Other Lotus employees finished that program and renamed it **Symphony**; but as he feared, it was a big confusing mess whose word processor was awful. Most businesses bought just 1-2-3 instead.

Like Jonathan, Mitch began feeling that Lotus Development Corporation and its products were becoming too big and confusing, so Mitch quit too.

Afterwards, Lotus Development Corporation was run by **Jim Manzi**, who was young, rich, vain, egotistical, and nasty. The rest of the computer industry hated him, though his employees were nice. Finally, he sold Lotus to IBM, which gave lots of money to him and the other shareholders & employees. Then he quit, a rich man!

Other companies invented cheap imitations of 1-2-3. The imitations were called **1-2-3 clones** or **1-2-3 twins**. The first 1-2-3 twins were **The Twin** (published by Mosaic Software) and **VP-Planner** (published by Paperback Software). Lotus sued both of those publishers and put them out of business.

In 1983 — the same year that Lotus invented 1-2-3 — Apple invented **Lisa Calc**. It was **the first spreadsheet program to use a mouse**. It ran just on the Lisa computer, which was expensive (\$8,000). When Apple began selling the Mac computer the next year (1984), Microsoft began selling **Multiplan for the Mac**, which ran on the Mac and combined the best features of Multiplan and Lisa Calc. The next year, 1985, Microsoft invented a further improvement, called **Excel** because it’s excellent. Like 1-2-3, Excel handles spreadsheets, graphs, and databases.

Apple wanted to sue Microsoft for inventing the Windows operating system (which makes the IBM PC resemble a Mac). To avoid the suit, Microsoft agreed to put Excel on just the Mac for a year. Exactly one year later, when that agreement expired, Microsoft put Excel on the IBM PC.

So now **Excel runs on both the Mac and the IBM PC. It’s the best spreadsheet program.**

Another fine spreadsheet program is called **Quattro**, because it’s what came after 1-2-3. It was invented by **Borland**, which later invented an improved version, called **Quattro Pro**. In 1994, Borland sold Quattro Pro to another company, **Novell**, which later sold it to **Corel**. So now Quattro Pro is published by Corel.

## What to do

Get a spreadsheet program!

The best spreadsheet program is **Excel**, which requires that you buy Windows or a Mac.

To pay less, you can use the stripped-down spreadsheet programs that are part of **Microsoft Works** (for Windows) or **AppleWorks** (which has sometimes been called **Claris Works** and is available for the Apple 2, Mac, and Windows).

This chapter explains how to use the most popular spreadsheet program: **Excel**. I’ll explain these versions:

**Excel 2007** (which is part of **Microsoft Office 2007**)  
**Excel 2010** (which is part of **Microsoft Office 2010**)  
**Excel 2013** (which is part of **Microsoft Office 2013**)  
**Excel 2016** (which is part of **Microsoft Office 2016**)

All those versions run in Windows. (Other versions are similar.)

## Prepare yourself

Before using Excel, practice using Microsoft Word, which is simpler and explained in the previous chapter. That chapter explains how to copy Word and Excel to your hard disk.

## Launch Excel

Here's how to start using Excel.

**Version 2016** Choose one of these methods:

**Menu method** Tap the Start button. (For old Windows 10, then tap "All apps".) You start seeing an alphabetical list of all apps. Get to the "E" part of that list (by putting your finger in the list's middle and swiping up, or by tapping "A" then "E"). Tap "Excel 2016".

**Search method** Next to the Windows Start button is the Windows Search box. Make sure that box is white or light gray. (If it's black or dark gray, make it lighter by tapping it or the Windows Start button.) Type "exc". (Type on a physical keyboard, or make an on-screen keyboard appear by tapping the keyboard icon at the screen's bottom.) Your typing appears in the Windows Search box. You see a list of things that contain "word". Tap "Excel 2016: Desktop app".

If the computer says "What's New in Excel", tap "Close". Tap "Blank workbook".

**Version 2013** While you're looking at Windows 8.1's Apps screen (or Windows 8's Start screen), type "ex". Tap "Excel 2013" then "Blank workbook".

**Version 2010** Click the Start button. If you see "Microsoft Office Excel 2010", click it; otherwise, click "All Programs" then "Microsoft Office" then "Microsoft Excel 2010".

**Version 2007** Click the Start button. If you see "Microsoft Office Excel 2007", click it; otherwise, click "All Programs" then "Microsoft Office" then "Microsoft Office Excel 2007".

## Fill in the cells

The screen shows a grid that begins like this:

	A	B	C	D	E	F
1						
2						
3						
4						

The grid's columns are labeled A, B, C, D, E, etc.

A cheap screen (800-by-600, which is called SVGA) shows columns A through L.

A normal screen (1024-by-768, which is called XGA) shows columns A through O.

A modern widescreen (1600-by-900, which is called 900p) shows columns A through X.

The grid's rows are labeled 1, 2, 3, etc.

A cheap screen (800-by-600, which is called SVGA) shows 17 rows in versions 2007&2010.

A normal screen (1024-by-768, which is called XGA) shows 25 rows in versions 2007&2010.

A modern widescreen (1600-by-900, which is called 900p) shows 29 rows in version 2016, 30 rows in version 2013, 32 rows in versions 2007&2010.

The grid is called a **spreadsheet** or **worksheet** (or just **sheet** or **table**).

Notice that the computer puts a box in column A, row 1. If you tap the right-arrow key, that box moves to the right, so it's in column B. If you tap the down-arrow key, the box moves down, to row 2. By tapping the 4 arrow keys, you can move the box in all 4 directions, to practically anywhere on the grid. Try it! (Tap just the arrow keys that are near the right Shift key, not the arrow keys that have numbers on them.)

Another way to move the box is to use a mouse (or a touch screen): click (or tap) where you want the box to go.

Each possible position of the box is called a **cell**.

The box's original position (in column A, row 1) is called **cell A1**. If you move the box there and then tap the right-arrow key, the box moves to column B, row 1; that position is called **cell B1**.

Just move the box from cell to cell, and put into each cell whatever words or numbers you wish!

For example, suppose you run a small business whose income is \$7000 and expenses are \$5000. Those are the figures for January; the figures for February aren't in yet. Let's put the January figures into a spreadsheet, like this:

	A	B	C	D	E	F
1		January				
2	Income	7000				
3	Expenses	5000				
4	Profit					

To begin, move the box to cell A2. Type the word Income. As you type that word, you see it appearing in cell A2. It also appears temporarily near the screen's top (above the grid), in an **input line** (which Excel calls the **formula bar**).

Press the down-arrow key, which moves the box down to cell A3. Type the word Expenses.

Press the down-arrow key (to move to cell A4). Type the word Profit.

Move the box to cell B1 (by pressing the up-arrow three times and then the right-arrow once). Type the word January.

Press down-arrow. Type 7000.

Press down-arrow. Type 5000.

Press down-arrow again.

## Backspace key

If you make a mistake while typing the words and numbers, press the **Backspace key** to erase the last character you typed.

## Alternative keys

Instead of pressing the right-arrow key, you can press the Tab key. Instead of pressing the down-arrow key, you can press the Enter key.

## Type a formula

Although the computer's screen shows the words you typed (Income, Expenses, and Profit), the computer doesn't understand what those words mean. It doesn't know that "Profit" means "Income minus Expenses". The computer doesn't know that the number in cell B4 (which represents the profit) ought to be the number in cell B2 (the amount of income) minus the number in cell B3 (the dollars spent).

You must *teach* the computer the meaning of Profit, by teaching it that the number in cell B4 ought to be the number in cell B2 minus the number in cell B3. To do that, move the box to cell B4, then type this formula:

=B2-B3

Notice that **every formula begins with an equal sign**. The rest of the formula, B2-B3, tells the computer to subtract the number in cell B3 from the number in cell B2 and put the answer into the box's cell (which is cell B4).

**When you've finished typing the formula, press the Enter key.** Then the computer automatically computes the formula's answer (2000) and puts that number into the box's cell (B4), so the screen looks like this:

	A	B	C	D	E	F
1		January				
2	Income	7000				
3	Expenses	5000				
4	Profit	2000				

The formula “=B2-B3” remains in effect forever. It says that the number in cell B4 will always be the B2 number minus the B3 number. If you ever change the numbers in cells B2 and B3 (by moving the box to those cells, retyping the numbers, and pressing Enter), the computer automatically adjusts the number in cell B4, so the number in cell B4 is still B2 minus B3 and still represents the correct profit.

For example, suppose you move the box to cell B2, then type 8000 (to change the January income to \$8000), and then press Enter. As soon as you press Enter, the profit in cell B4 immediately changes to 3000, right in front of your eyes!

A typical spreadsheet contains *dozens* of numbers, totals, subtotals, averages, and percentages. Each cell that contains a total, subtotal, average, or percentage is defined by a formula. Whenever you retype one of the numbers in the spreadsheet, the computer automatically readjusts all the totals, subtotals, averages, and percentages, right before your eyes.

Remember to begin each formula with an equal sign. The rest of the formula can contain these symbols:

Symbol	Meaning
+	plus
-	minus
*	times
/	divided by
.	decimal point

It can also contain E notation and parentheses. For details about how to use those symbols, E notation, and parentheses, read pages 603-604, which explain Python's fundamentals and math.

**Less typing** When you're creating a formula such as “=B2-B3”, you do *not* have to type the “B2”. Instead, you can choose one of these shortcuts:

**Instead of typing “B2”, you can type “b2” without bothering to capitalize.** When you've finished typing the entire formula (“=b2-b3”), press the Enter key. Then the computer will capitalize your formula automatically!

**Instead of typing “B2”, you can move the mouse pointer to the middle of cell B2, then press the mouse's button.** That's called “clicking cell B2”. When you click cell B2, the computer automatically types “B2” for you! So to create the formula “=B2-B3”, you can do this: type the equal sign, then click cell B2, then type the minus sign, then click cell B3. When you've finished creating the entire formula, press Enter.

**Instead of typing “B2”, you can move the box to cell B2 by using the arrow keys.** When you move the box to cell B2, the computer automatically types “B2” for you! So to create the formula “=B2-B3”, you can do this: type the equal sign, then move the box to cell B2 (by using the arrow keys), then type the minus sign, then move the box to cell B3. When you've finished creating the entire formula, press Enter.

## Edit old cells

To edit what's in a cell, move the box to that cell. Then choose one of these editing methods:

**Delete method** Press the Delete key. That makes the cell become totally blank.

**Retype method** Retype the entire text, number, or formula that you want to put into the cell.

**Edit method** In the input line (near the screen's top, above the grid), look at what you typed, find the part of your typing that you want to change, and click that part (by using the mouse). Then edit your typing as if you were using a word processor: you can use the left-arrow key, right-arrow key, Backspace key, Delete key, and mouse. When you finish editing, press the Enter key.

## Functions

Here's how to perform functions.

**Sum of a column** To make a cell be the sum of cells B2 through B9, you can type this formula:

=B2+B3+B4+B5+B6+B7+B8+B9

Instead of typing all that, you can type just this:

=SUM(B2:B9)

A **function** is a word that makes the computer calculate (such as SUM). After each function, you must put parentheses. For example, you must put parentheses after SUM.

Since the computer ignores capitalization, you can type:

=sum(b2:b9)

Here's how to type the formula =sum(b2:b9) quickly. Begin by typing:

=sum(

Then drag from cell B2 to cell B9. To do that, move the mouse to cell B2, then hold down the mouse button while moving to B9. That makes the computer type the “B2:B9”. Then press Enter, which makes the computer automatically type the “)”.

**AutoSum button** Here's an even faster way to type the formula =SUM(B2:B9).

Click the **AutoSum button**. (It's near the screen's top-right corner. It has the symbol  $\Sigma$  on it. The symbol  $\Sigma$  is called “sigma”. It's the Greek version of the letter S. Mathematicians use it to stand for the word “sum”.)

**Clicking the AutoSum button makes the computer type “=SUM()”. It also makes the computer guess what you want the sum of.** The computer puts that guess inside the parentheses.

If the computer's guess differs from what you want (B2:B9), fix the guess (by dragging from cell B2 to cell B9). When you finally see the correct formula, =SUM(B2:B9), press Enter.

**Sum of a row** To find the sum of cells B2 through H2 (which is B2+C2+D2+E2+F2+G2+H2), type this:

=sum(b2:h2)

**Sum of a rectangle** To find the sum of all cells in the rectangle that stretches from B2 to C4 (which is B2+B3+B4+C2+C3+C4), type this:

=sum(b2:c4)

**Average** To find the average of cells B9 through B13, you can type this:

```
=(b9+b10+b11+b12+b13)/5
```

But this way is shorter:

```
=average(b9:b13)
```

Here's how to type that quickly:

Begin by typing “=average(”. Then drag from cell B9 to cell B13. Then press the Enter key, which makes the computer automatically type the “)”.

Here's an even faster way to type the formula “=average(b9:b13)”:

Click the ▼ that's next to the Σ button. Then click “Average”.

To find the average of cells C7, B5, and F2, you can ask for (c7+b5+f2)/3, but a nicer way is to type this:

```
=average(c7,b5,f2)
```

## Undo

If you make a big mistake, click the **Undo button**. (It's at the screen's top, near the left corner. It shows an arrow turning back to the left.)

That makes the computer undo your last activity, so your spreadsheet returns to the way it looked before you made your boo-boo.

To undo your last *two* activities, click the Undo button *twice*.

**Redo** If you click the Undo button, the computer might undo a different activity than you expected. If clicking the Undo button accidentally makes the spreadsheet look even worse instead of better, and you wish you hadn't clicked the Undo button, here's how to “undo the undo”:

Click the Redo button (which is to the right of the Undo button and shows an arrow bending forward to the right).

## Hop far

Here's how to be quick as a bunny and hop far in your spreadsheet.

### Farther rows

The screen shows just a few rows, which are numbered 1, 2, 3, etc. Row 1 is at the top of the screen. Row 15 is near the bottom of the screen.

Try this experiment. Move the box down to row 15 (by pressing the down-arrow key repeatedly). Then press the down-arrow key several more times. Eventually, you'll get to row 30, and later to row 100, and much later to row 1000. (The largest row number you can go to is 1048576.)

To make room on the screen for those new rows, row 1 disappears temporarily. If you want to get back to row 1, press the up-arrow key repeatedly.

**Touch screen** If you have a touch screen, put your finger in the screen's middle, then swipe *up* toward the screen's top. You see higher row numbers (such as row 30).

To return to normal, put your finger in the screen's middle, then swipe *down* toward the screen's bottom.

**Scroll wheel** On your mouse, between the left button and the right button, you see a thin wheel, typically gray, called the **scroll wheel**.

Rotate the scroll wheel *toward you*. You see higher row numbers (such as row 30).

To return to normal, rotate the scroll wheel *away from you*.

## Farther columns

The screen shows just a few columns, which are lettered A, B, C, etc. If you press the right-arrow key repeatedly, you'll eventually get to column Z.

After column Z, you can still continue pressing the right-arrow key. The next 26 columns are lettered from AA to AZ. The next 26 columns are lettered from BA to BA. And so on.

You can have 16384 columns. The last column is XFD.

**Touch screen** If you have a touch screen, put your finger in the screen's middle, then swipe *left*. You see later column numbers (such as column Z).

To return to normal, put your finger in the screen's middle, then swipe toward the *right*.

## AutoRepeat

Here's a shortcut: instead of pressing an arrow key repeatedly, just hold down the key awhile.

## Screenfuls

Here's how to move far:

To move far down, press the **Page Down key**.

To move far up, press the **Page Up key**.

To move far to the right, press the Page Down key while holding down the Alt key.

To move far to the left, press the Page Up key while holding down the Alt key.

Each of those keys moves the box far enough so you see the next screenful of rows and columns.

## Home Key

Cell A1 is called the **home cell**, because that's where life and your spreadsheet begin: at home! Column A is called the **home column**.

Your keyboard has a **Home key**. Here's how to use it:

Pressing the Home key makes the box move far left, so it lands in column A.

If you press the Home key *while holding down the Ctrl key*, the box moves to cell A1.

## Spreadsheet's edge

To move to the spreadsheet's edge, press an arrow key *while holding down the Ctrl key*.

For example, to move the box to the spreadsheet's right edge, press the right-arrow key while holding down the Ctrl key. That moves the box moves to the right, until it reaches the final column (IV or XFD) or a boundary cell (a cell containing data and next to an empty cell).

## Go Key

To make the box go to a distant cell immediately, choose one of these methods:

**G method** While holding down the Ctrl key, tap the G key (which means “Go”).

**F5 method** Press the F5 key. Exception: on that key, if the “F5” is blue (such as on Toshiba's laptop) or very tiny (such as on HP's new laptop) or on a new computer by Microsoft or Lenovo, do this instead: press the F5 key *while holding down the Fn key* (which is left of the Space bar).

Then type the name of the cell where you want to go (such as C9) followed by Enter.

You can also use this alternative:

Above column A, you see the **Name box**, which tells you the name of the cell where the box is. For example, while the box is at cell B4, the name box says “B4”.

To move the box to a distant cell immediately, click in the Name box, then type the name of the cell where you want to go (such as C9) followed by Enter.



# Adjust rows & columns

How many rows and columns are in your spreadsheet, and how big are they? Here's how to adjust them.

## Widen a column

When you start a new spreadsheet, each cell is wide enough to hold an 8-digit number. If you type a longer number, the column widens to fit it.

Here's **how make column D be wider**, so each cell in column D can hold long numbers *and long words*:

At the top of column D, you see the letter D. **Move the mouse** until its pointer is **between the letters D and E**, and **on the vertical gridline that separates them**. The pointer's shape turns into a **double-headed arrow**. Then drag that vertical gridline toward the right (to make the column wider) or left (to make the column narrower).

**Widen several columns** Here's how to widen columns D, E, F, and G simultaneously:

Drag from the letter D to the letter G. All those columns darken. (In versions 2007&2013&2016, they turn gray. In version 2010, they turn blue.)

Look at the vertical gridline to the right of the D. Drag the top of that gridline toward the right. That widens column D; and when you release your finger from the mouse's button, all the other columns you selected will widen also.

**Perfect width** Here's how to make column D just wide enough to hold the widest data in it:

Double-click the gridline that separates the letter D from E.

(If the column doesn't contain data yet, the computer will leave the column's width unchanged.)

Here's how to make columns D, E, F, and G have perfect widths simultaneously:

Drag from the letter D to the letter G, so all those columns turn dark. Then double-click the gridline that separates the letter D from E.

**Long numbers** If you try to type a long number in a cell that's too narrow to hold the number, the cell might display number signs (#) instead of the number.

For example, if you try typing a long number in a cell that's just 4 characters wide, the cell might display 4 number signs (like this: ####).

Although the cell displays just number signs, the computer remembers the long number you typed. To see the long number, widen the cell (by widening its column).

So if you see number signs in a cell, the computer is telling you the cell's too narrow and should be widened.

**Long words** Try this experiment. Make cell B1 be just 4 characters wide. Then try to type the word "January" in that cell.

That cell, B1, might show just the first 4 letters (Janu). But if the next cell (C1) is blank, cell B1 will temporarily widen to hold "January", then contract to its original size (4 characters) when you enter data in cell C1.

## Delete a column

Here's **how to delete column D**:

Right-click the D at the top of column D (by using the mouse's *right* button instead of the left). Then choose Delete from the menu that appears.

The computer erases all the data from column D, so column D becomes blanks, which the computer immediately fills by shifting some data from other columns. Here's how....

Into column D, the computer moves the data from column E. Then into column E, the computer moves the data from column F. Then into column F, the computer moves the data from column G. And so on.

At the end of the process, the top of the screen still shows all the letters (A, B, C, D, E, F, G, etc.); but now column D contains the data that used to be in column E; and column E contains the data that used to be in column F; etc.

After rearranging the spreadsheet, the computer fixes all formulas. For example, after column E's data has moved to column D, the computer hunts through all formulas in the spreadsheet and fixes them by changing each "E" to "D". The computer also changes each "F" to "E", each "G" to "F", etc.

**Delete several columns** You've learned how to delete column D. Here's how to delete *several* columns. To delete columns D, E, F, and G, do this:

Drag from the D to the G. Then *right-click* anywhere in columns D through G (by using the mouse's *right* button instead of the left). Then choose Delete from the menu that appears.

## Delete a row

Here's **how to delete row 2**:

Right-click the 2 (by using the mouse's *right* button instead of the left). Then choose Delete from the menu that appears.

Then the computer erases all the data from row 2, so row 2 becomes empty; but then the computer immediately fills that hole, by shifting the data from other rows. Here's how....

Into row 2, the computer moves the data from row 3. Then into row 3, the computer moves the data from row 4. Then into row 4, the computer moves the data from row 5. And so on.

At the end of the process, the left edge of the screen still shows all the numbers (1, 2, 3, 4, 5, etc.); but now row 2 contains the data that used to be in row 3; and row 3 contains the data that used to be in row 4; etc.

The computer fixes all formulas.

## Insert a column

Here's how to insert an extra column in the middle of your spreadsheet:

Right-click where you want the extra column to appear. For example, if you want the extra column to appear where column D is now, *right-click* the D. Then choose Insert from the menu that appears.

The computer will move other columns out of the way, to make room for the extra column. The computer will also fix each formula.

## Insert a row

Here's how to insert an extra row in your spreadsheet's middle:

Right-click where you want the extra row to appear. For example, if you want the extra row to appear where row 2 is now, *right-click* the 2. Then choose Insert from the menu that appears.

The computer will move other rows out of the way, to make room for the extra row. The computer will also fix each formula.

## Zoom

Here's how to see make your screen show twice as many rows and columns, simultaneously.

**Versions 2013&2016** At the screen's bottom-right corner, you see a plus sign (+). Left of it, you see a minus sign (-). Halfway between those signs, you see box, called the **zoom slider**. (The box is black in version 2016, white in version 2013.)

If you drag the zoom slider toward the left, the screen's characters shrink, so you can fit more characters and pages onto the screen. For example, if you drag the zoom slider toward the left until the number right of the plus sign is "50%", the computer will make all the screen's characters tiny (half as tall and half as wide), so twice as many rows and twice as many columns fit on the screen. If you drag the zoom slider toward the right instead, the screen's characters enlarge, so you can read them even if

you're sitting far from the screen or have poor vision.

When you finish playing with the zoom slider, put it back to its normal position (the middle), so the number right of the plus sign is "100%".

**Versions 2007&2010** At the screen's bottom-right corner, you see a plus sign (+). Left of it, you see a minus sign (-). Halfway between those signs, you see a pentagon, called the **zoom slider**.

If you drag the zoom slider toward the left, the screen's characters shrink, so you can fit more characters and pages onto the screen. For example, if you drag the zoom slider toward the left until the number left of the minus sign is "50%", the computer will make all the screen's characters tiny (half as tall and half as wide), so twice as many rows and twice as many columns fit on the screen. If you drag the zoom slider toward the right instead, the screen's characters enlarge, so you can read them even if you're sitting far from the screen or have poor vision.

When you finish playing with the zoom slider, put it back to its normal position (the middle), so the number left of the minus sign is "100%".

**Touch screen** If you have a touch screen, do this:

Put two fingers near the screen's middle, then **pinch** those fingers together (by sliding them). That shrinks all the grid's characters & cells, so more rows & columns fit on the screen.

To return to normal, put two fingers together at the screen's middle, then **spread** those fingers apart (by sliding them). That enlarges all the grid's characters & cells, so you can read them more easily without squinting.

**Scroll wheel** If your mouse has a scroll wheel, do this:

While holding down the **Ctrl** key, rotate the scroll wheel toward you. That shrinks all the grid's characters & cells, so more rows & columns fit on the screen.

To return to normal, rotate the scroll wheel away from you while holding down the **Ctrl** key. That enlarges all the grid's characters & cells, so you can read them more easily without squinting.

**What's on paper?** All those zoom methods affect just what you see on the screen. They do *not* affect what's printed on paper.

## Freeze title panes

You should put a title at the top of each column.

For example, if column B contains financial information for January, and column C contains financial information for February, you should put the word January at the top of column B, and the word February at the top of column C. Since the words January and February are at the top of the columns, they're in row 1. They're called the **column titles**.

If row 2 analyzes Income, and row 3 analyzes Expenses, you should put the word Income at the left edge of row 2, and the word Expenses at the left edge of row 3. Since the words Income and Expenses are at the left edge of the spreadsheet, they're in column A. They're called the **row titles**.

So in a typical spreadsheet, the column titles are in row 1, and row titles are in column A.

Unfortunately, when you move beyond column M or beyond row 25 (by pressing the arrow keys repeatedly), the titles normally disappear from the screen, and you forget the purpose of each row and column. Here's how to solve that problem.

Get cell A1 onto the screen (by pressing **Ctrl** with **Home**). Click cell B2 then "View" (at the screen's top) then **Freeze Panes** then "Freeze Panes" again then "Home" (at the screen's top).

Now the window is divided into 4 **panes**, separated by thick black gridlines. The main top pane contains the column titles (January, February, etc.); the main left pane contains the row titles (Income, Expenses, etc.); a tiny pane in the upper-left corner contains a blank cell; and a huge pane contains all the spreadsheet's data.

Then move through the huge pane, by using the arrow keys or mouse. As you move, the column and row titles stay fixed on the

screen, since they're not in the big pane.

To stop using freeze title panes, click "View" (at the screen's top) then Freeze Panes then Unfreeze Panes then "Home" (at the screen's top).

## Move

On your spreadsheet, find these cells: B2, B3, B4, C2, C3, and C4. Those six cells are next to each other. In fact, they form a giant rectangular area, whose top left corner is B2.

Here's how to take all the data in that rectangle and move it to a different part of your spreadsheet.

**Drag from the rectangle's first cell (B2) to the rectangle's last cell (C4).** The entire rectangle turns dark (except for the first cell, which stays white).

Surrounding the rectangle, you'll see four walls. Those walls are the four sides of the rectangle.

Using your mouse, **point at one of the rectangle's walls**. (Do *not* point at a corner.) When you've pointed correctly, the mouse pointer turns into 4 arrows, pointing in all 4 directions.

Then hold down the mouse's button and **drag the wall**. While you drag the wall, the rest of the rectangle drags along with it. Drag until the entire rectangle is at a part of the spreadsheet that was blank. Then lift your finger from the mouse's button.

That's how you move a rectangle of data to a new place in your spreadsheet that had been blank.

Try it!

After moving the rectangle of data, the computer automatically adjusts all formulas mentioning the moved cells. For example, if the data in cell B2 has moved to cell E7, the computer searches through the entire spreadsheet and, in each formula, changes "B2" to "E7".

## Copy

Spreadsheet programs let you copy info in several ways.

### Fill to the right

Here's how to make lots of love with the computer!

In a cell, type the word "love".

Click in that cell (to make sure the cell is highlighted), then take your finger off the mouse's button. With your finger still off the mouse's button, move the mouse until the mouse's pointer is at that cell's bottom right corner. When the pointer is exactly at the corner, the pointer changes to this thin cross: +.

Then hold down the mouse's left button, and drag toward the right, until you've dragged across several cells.

When you lift your finger off the mouse's button, all those cells will contain copies of the word in the first cell. They'll all say "love"!

Go ahead! Try turning your computer into a lovemaking machine! Do it *now*! This is an important exercise to try before you get into more advanced computer orgies!

Here's another example:

In a cell, type the word "tickle". To make lots of tickles, click in that cell, then point at that cell's bottom right corner (so you see +) and drag it to the right. The cells you drag across will all say "tickle".

### Fill down

When you point at a cell's bottom right corner and drag, you usually drag to the *right*. But if you prefer, you can drag *down*, so you're copying to the cells *underneath* (instead of the cells to the right).

## Extend a series

You've learned that if the original cell said "love", the adjacent cells will say "love"; and if the original cell said "tickle", the other cells will say "tickle".

But if the original cell said "January", the adjacent cells will *not* say "January". Instead, the computer makes them say "February", "March", "April", "May", etc.

So **here's how to put the words "January", "February", "March", "April", etc., across your spreadsheet's top:**

Begin by typing "January" in cell B1. Then drag that cell's bottom right corner to the right, to column H or I or even farther! The farther you drag, the more months you'll see!

Your computer performs these tricks:

If you start with January,	the computer will say February, March, April, etc.
If you start with Jan,	the computer will say Feb, Mar, Apr, etc.
If you start with October,	the computer will say November, December, January, etc.
If you start with Oct-98,	the computer will say Nov-98, Dec-98, Jan-99, etc.
If you start with 29-Jan,	the computer will say 30-Jan, 31-Jan, 1-Feb, etc.
If you start with 12/29/2016,	the computer will say 12/30/2016, 12/31/2016, 1/1/2017, etc.
If you start with 29-Dec-98,	the computer will say 30-Dec-98, 31-Dec-98, 1-Jan-99, etc.
If you start with 29-Dec-99,	the computer will say 30-Dec-99, 31-Dec-99, 1-Jan-00, etc.
If you start with Monday,	the computer will say Tuesday, Wednesday, Thursday, etc.
If you start with Mon,	the computer will say Tue, Wed, Thu, etc.
If you start with 10:00 AM,	the computer will say 11:00 AM, 12:00 PM, 1:00 PM, etc.
If you start with 10:00,	the computer will say 11:00, 12:00, 13:00, etc.
If you start with 22:00,	the computer will say 23:00, 0:00, 1:00, etc.
If you start with Quarter 2,	the computer will say Quarter 3, Quarter 4, Quarter 1, etc.
If you start with Q2,	the computer will say Q3, Q4, Q1, etc.
If you start with 2nd Quarter,	the computer will say 3rd Quarter, 4th Quarter, 1st Quarter, etc.
If you start with 2nd Qtr,	the computer will say 3rd Qtr, 4th Qtr, 1st Qtr, etc.
If you start with 2 Q,	the computer will say 3 Q, 4 Q, 1 Q, etc.
If you start with Idiot 1,	the computer will say Idiot 2, Idiot 3, Idiot 4, etc.
If you start with Year 2016,	the computer will say Year 2017, Year 2018, Year 2019, etc.
If you start with 2016 Results,	the computer will say 2017 Results, 2018 Results, 2019 Results, etc.
If you start with 1st,	the computer will say 2nd, 3rd, 4th, etc.
If you start with 1st Idiot,	the computer will say 2nd Idiot, 3rd Idiot, 4th Idiot, etc.

Limitation: if you start with just a plain number (such as 1), the computer will just copy that number; it will *not* say 2, 3, 4, etc. If you start with just the plain number 2016, the computer will just copy that number; it will *not* say 2017, 2018, 2019, etc. To make the computer do more than just copy, include a word. For example, instead of saying just 1, say "Idiot 1"; then the computer will say "Idiot 2", "Idiot 3", "Idiot 4", etc. Instead of saying just 2016, say "Year 2016" or "2016 Results" or "People We Accidentally Shot In 2016"; then the computer will generate similar headings for 2017, 2018, etc.

## Copy a formula's concept

If you ask the computer to copy a formula, the computer will copy the *concept* underlying the formula.

Here's an example:

Suppose you put this formula in cell B4: =B2+B3. That means cell B4 contains "the sum of the two numbers above it". If you drag that cell's bottom right corner to the right, the computer will copy that formula's *concept* to the adjacent cells (C4, D4, E4, etc.).

For example, the computer will make C4's formula be "the sum of the two numbers above it", by making C4's formula be =C2+C3. The computer will make D4's formula be =D2+D3. The computer will make E4's formula be =E2+E3.

Here's another example:

Suppose cell B4 contains the formula =2\*B3, so that B4 is "twice the cell above it". When the computer copies that concept to cell C4, the computer will make C4's formula be "twice the cell above it"; the computer will make C4's formula be =2\*C3.

Here's another example:

Suppose cell B4 contains the formula =2\*A4, so that B4 is "twice the cell to the left of it". When the computer copies cell B4 to C4, the computer will make C4's formula be "twice the cell to the left of it"; the computer will make C4's formula be =2\*B4.

**Absolute addresses** Notice again how copying from B4 to C4 turns the formula =B2+B3 into =C2+C3: it turns each B into a C.

If you want to prevent those changes, put dollar signs in the original formula. For example, if you want to prevent B3 from turning into D3, put dollar signs around the B3, so cell B4 contains this formula:

=B2+\$B\$3

When you copy that cell to C4, the dollar signs prevents the computer from turning the B3 into C3; C4's formula will become =C2+\$B\$3 (instead of =C2+C3).

Here's how to type "=B2+\$B\$3" quickly. Type the "=" sign, then move the box to cell B2, then type the "+" sign. Finally, **create the \$B\$3 by using this trick: move the box to cell B3, then press the F4 key.** When you've finished creating the entire formula, press Enter.

A cell's name (such as B3) is called the cell's **address**, because the cell's name tells you where to find the cell. An address that contains dollar signs (such as \$B\$3) is called an **absolute address**, because the address is absolutely fixed and will never change, not even when you copy the formula. An address that lacks dollar signs is called a **relative address**, because when you copy that address you'll be copying the cell's relationship to the other cells.

## After you've finished

Finished creating your spreadsheet? Here's how to copy it to the disk and printer and move on to another task.

## Find the buttons

Most spreadsheet programs (such as old versions of Excel) have 4 buttons near the screen's top left corner:

The first is the **New button**.

It can look like a new blank sheet of paper.

The second is the **Open button**.

It looks like a file folder pried open.

The third is the **Save button**.

It looks like a 3½-inch floppy disk.

The fourth is the **Print button**.

It can look like a printer, printing on paper.

But Excel's modern versions have these peculiarities:

**Versions 2010&2016** Click "**File**" to see "New", "Open", and "Print". The Save button is at the screen's top, near the left edge.

**Version 2013** Click "**FILE**" to see "New", "Open", and "Print". The Save button is at the screen's top, near the left edge.

**Version 2007** Click the **File-office button** (the circle at the screen's top-left corner) to see the New, Open, and Print buttons. The Save button is next to the Office button.

Here's how to use the helpful buttons....

## Save button

To save the spreadsheet (copy it onto the disk), click the **Save button**.

**Version 2016** If you haven't saved the spreadsheet before, then click "This PC", to keep matters simple.

**Version 2013** If you haven't saved the spreadsheet before, then click "Computer" then "Documents", to keep matters simple.

If you haven't saved the spreadsheet before, the computer will say "File Name". Invent a name for your spreadsheet. Type the name and press Enter.

That makes the computer copy the spreadsheet onto the hard disk.

For example, if you named the spreadsheet "mary", the computer makes that spreadsheet be a file called mary.xlsx (meaning "Mary's Excel spreadsheet extended"). The computer puts that file into the Documents folder. (Windows 7 puts it into the Documents library's "My Documents" folder instead.)

Afterwards, if you change your mind and want to do more editing, go ahead! When you finish that extra editing, save it by clicking the Save button again.

**Save often** If you're typing a long document, click the Save button about every 10 minutes. Click it whenever you get to a good stopping place and think, "What I've typed so far looks good!"

Then if an accident happens, you'll lose at most 10 minutes of work, and you can return to the last version you felt good about.

## Print button

To print your spreadsheet onto paper, click the **Print button** then press Enter.

## Page Setup

Before clicking the Print button, you can tell the computer what kind of printing you prefer. Here's how....

Click **Page Layout** (which is to the right of "Home" and "Insert").

If you want the computer to rotate the spreadsheet 90 degrees, so more columns will fit on the paper, click **Orientation** then **Landscape**.

If the spreadsheet has many columns and you want to make the characters small enough so all columns fit on one sheet of paper, click the **Width box's** down-arrow then "1 page". If the spreadsheet has many rows and you want to make the characters small enough so all rows fit on one sheet of paper, click the **Height box's** down-arrow then "1 page". If you change your mind and want to return to normal-size printing, do this for the Width box and Height box: click the box's down-arrow then "Automatic".

Normally, the left and right margins are each 0.7 inches wide. To make the left and right margins narrower (so you can fit more columns on the paper), click **Margins** then **Narrow**. That makes the left and right margins each be just 1/4-inch wide.

Normally, the computer doesn't bother to print the spreadsheet's gridlines (the lines that separate the columns from each other and the rows from each other). If you *insist* that the computer print the gridlines, put a check mark in the **Gridlines Print** box, by clicking that box.

Normally, the computer doesn't bother to print the column names (A, B, C) and row names (1, 2, 3). If you *insist* that the computer print those names, put a check mark in the **Headings Print** box, by clicking that box.

Click **Insert** (which is to the right of "Home") then **Header & Footer**.

If you want the top of each page to say "Annual blood drive", type "Annual blood drive". If you want the top of each page to show the page number also, do this afterwards: type a comma, press the Space bar, type the word "Page", press the Space bar, then click "Page Number".

Finally, to return your screen to normal, click one of the cells then "View" then "Normal".

When you finish expressing your preferences to the computer, click **Home** then the File-office button (which says "FILE" in version 2013, "File" in version 2010, but is a circle in version 2007) then "Print" then Enter.

## Leave the spreadsheet

When you finish working on a spreadsheet, do this....

**Version 2016** If you want to stop using Excel, click the X at the screen's top-right corner.

If instead you want to continue using Excel, click **File** then **Close**. Then the computer lets you work on another document. Your next step is to say "new document" or "old document". Here's how....

If you want to **start typing a new spreadsheet**, click "File" then **New** then "Blank workbook".

If you want to **use an old spreadsheet**, click "File" then **Open**. You see a list of the **25 spreadsheets you used most recently**. Click whichever spreadsheet you want to use. If you want to use a spreadsheet that's not on that list of 25, click "This PC" then proceed as follows....

The computer starts showing you a list of *all* spreadsheets in the Documents folder (unless you've requested a different folder instead). If the list is too long to show completely, here's how to see the rest of the list: either "click in that list then rotate the mouse's wheel toward you" or "repeatedly click the down-arrow that's to the right of that list". If you want to *use* one of those spreadsheets, *double-click* the spreadsheet's name; the computer will put that spreadsheet onto the screen and let you edit it. If instead you want to *delete* one of those spreadsheets, click the spreadsheet's name then press the Delete key; the computer will move that spreadsheet to the Recycle Bin.

**Version 2013** If you want to stop using Excel, click the X at the screen's top-right corner.

If instead you want to continue using Excel, click **FILE** then **Close**. Then the computer lets you work on another document. Your next step is to say "new document" or "old document". Here's how....

If you want to **start typing a new spreadsheet**, click "FILE" then **New** then "Blank workbook".

If you want to **use an old spreadsheet**, click "FILE" then **Open**. You see a list of the **25 spreadsheets you used most recently**. Click whichever spreadsheet you want to use. If you want to use a spreadsheet that's not on that list of 25, click "Computer" then "Documents" then proceed as follows....

The computer starts showing you a list of *all* spreadsheets in the Documents library (unless you've requested a different folder instead). If the list is too long to show completely, here's how to see the rest of the list: either "click in that list then rotate the mouse's wheel toward you" or "repeatedly click the down-arrow that's to the right of that list". If you want to *use* one of those spreadsheets, *double-click* the spreadsheet's name; the computer will put that spreadsheet onto the screen and let you edit it. If instead you want to *delete* one of those spreadsheets, click the spreadsheet's name then press the Delete key; the computer will move that spreadsheet to the Recycle Bin.

### **Version 2010** Click **File**. Then click **Exit** or **Close**.

If you choose **Exit**, the computer will stop using Excel.

If you choose **Close** instead of Exit, the computer lets you work on another document. Your next step is to say “new spreadsheet” or “old spreadsheet”. Here’s how....

If you want to **start typing a new spreadsheet**, click “File” then **New** then double-click the first “Blank workbook”.

If you want to **use an old spreadsheet**, click “File” then **Recent**. You see a list of the **25 spreadsheets you used most recently**. Click whichever spreadsheet you want to use. If you want to use a spreadsheet that’s not on that list of 25, click **Open** then proceed as follows....

The computer starts showing you a list of *all* spreadsheets in the Documents library (unless you’ve requested a different folder instead). If the list is too long to show completely, here’s how to see the rest of the list: either “click in that list then rotate the mouse’s wheel toward you” or “repeatedly click the down-arrow that’s to the right of that list”. If you want to *use* one of those spreadsheets, *double-click* the spreadsheet’s name; the computer will put that spreadsheet onto the screen and let you edit it. If instead you want to *delete* one of those spreadsheets, click the spreadsheet’s name then press the Delete key then the Enter key; the computer will move that spreadsheet to the Recycle Bin.

### **Version 2007** Click the **File-office button**. Then click **Exit Excel** or **Close**.

If you choose **Exit Excel**, the computer will stop using Excel.

If you choose **Close** instead of Exit Excel, the computer lets you work on another document. Your next step is to say “new spreadsheet” or “old spreadsheet”. Here’s how....

If you want to **start typing a new spreadsheet**, click the Office button then **New** then press Enter.

If you want to **use an old spreadsheet**, click the Office button, so you see the Office menu. To the right of the Office menu, you see a list of the **17 spreadsheets you used most recently**. Click whichever spreadsheet you want to use. If you want to use a spreadsheet that’s not on that list of 17, click **Open** then proceed as follows....

The computer starts showing you a list of *all* spreadsheets in the Documents folder (unless you’ve requested a different folder instead). To see the rest of the list, either “click in that list then rotate the mouse’s wheel toward you” or “repeatedly click the down-arrow that’s to the right of that list”. If you want to *use* one of those spreadsheets, *double-click* the spreadsheet’s name; the computer will put that spreadsheet onto the screen and let you edit it. If instead you want to *delete* one of those spreadsheets, click the spreadsheet’s name then press the Delete key then the Enter key; the computer will move that spreadsheet to the Recycle Bin.

**Didn’t save?** If you didn’t save your spreadsheet yet, the computer asks, “Do you want to save the changes?” If you click “Yes” or “Save”, the computer copies your document’s most recent version to the hard disk; if instead you click “No” or “Don’t Save”, the computer ignores and forgets your most recent editing.

## *Beautify your cells*

Here’s how to make the cells in your spreadsheet look beautiful.

First, if you’re in the middle of typing a number or word, finish typing it and then press the Enter key.

Next, **select which cells you want to beautify**. Here’s how.

To select **one cell**, click it. To select **several adjacent cells**, drag from the first cell you want to the last cell. To select **a whole rectangular area**, drag from one corner of rectangle to the opposite corner.

To select **column D**, click the D. To select **columns D through G**, point at the D and drag to the G.

To select **row 2**, click the number 2 at the left edge of row 2. To select **rows 2 through 5**, point at the 2 and drag to the 5.

To select **the entire spreadsheet**, click the box that’s left of the letter A.

When doing one of those selections, use the mouse.

The part of the spreadsheet you’ve selected is called the **selection** (or **range**). It’s turned entirely dark, except for the cell where the box is. (In versions 2007&2013&2016, “dark” is gray; in version 2010, “dark” is blue.)

If your selection includes at least 2 numbers, you can make the screen’s bottom show you statistics.

The screen’s bottom can show you 6 statistics: the **count** (how many cells you selected), **numerical count** (how many of the selected cells are numbers), **sum** (total of the selected numbers), **average** (sum divided by the numerical count), **minimum** (which of the selected numbers is the smallest), and **maximum** (which of the selected numbers is the biggest). The first time you use Excel, the computer assumes you want to see just 3 of those statistics: the count, sum, and average. Here’s how to make all 6 statistics appear: right-click one of the statistics you see; then you see a list of those 6 statistics; put check marks in front of each of those 6 (by clicking). That makes the computer show those 6 statistics forevermore (every day for every spreadsheet), until you say otherwise (by right-clicking one of the statistics and removing check marks).

After you’ve made your **selection**, tell the computer how to beautify it. Choose one of the following forms of beauty....

### *Italic*

Here’s how to make all writing in the selection be italicized (*like this*).

Find the *I* button (which is near the screen’s top, above column B or C). Activate that button by clicking it. **Activating the button changes the button’s appearance.**

<b>Version 2016</b>	The button turns gray.
<b>Version 2013</b>	The button turns green.
<b>Versions 2007&amp;2010</b>	The button turns orange.

That makes all writing in the selection be italicized.

If you change your mind and want the writing *not* to be italicized, select the writing again (so it turns dark again) then deactivate the *I* button (by clicking it again).

### **Bold**

Here’s how to make all writing in the selection be bold (**like this**).

Find the **B** button (which is near the screen’s top, next to the *I* button, and above column A, B, or C). Activate that button by clicking it. That makes all writing in the selection be bold.

If you change your mind and want the writing *not* to be bold, select the writing again (so it turns dark again) then deactivate the **B** button (by clicking it again).

To get bold italics, activate the bold button and also the italic button (by clicking both of them).

### Underline

Here’s how to make all writing in the selection be underlined (like this).

Find the U button (which is near the screen’s top, next to the *I* button, and above column B or C). Activate that button by clicking it. That makes all writing in the selection be underlined.

If you change your mind and want the writing *not* to be underlined, select the writing again (so it turns dark again) then deactivate the U button again (by clicking it again).

## Font size

You see the number 11 above column C, D, or E. To make all writing in the selection get bigger (like this), click the down-arrow to the right of that number, then click a font size that's a bigger number. (For example, click 14 or 16.)

To make your spreadsheet easier to read, use big writing for the column headings (such as January), the row headings (such as Income, Expenses, and Profit), any totals, and the bottom-line results (such as the \$2000 profit).

## Align

Here's how to make all writing in the selection be nudged slightly to the left or slightly to the right.

Click one of these three buttons:



Those buttons are near the screen's top, above column E, F, or G.

Here's what those buttons do.

Clicking the left button makes each cell's writing be aligned left

like this

Clicking the center button makes each cell's writing be centered

like this

Clicking the right button makes each cell's writing be aligned right

like this

**Don't click?** If you don't click any of the buttons, here's what happens:

If the cell contains a **word**, the computer puts the word **aligned left**.  
If the cell contains a **number** instead, the computer puts the number **aligned right**.

**Align the headings** In a simple spreadsheet, row 1 usually contains words that are column headings. Below those headings are numbers, which are aligned right. **To align the headings with the numbers beneath them, make the headings be aligned right also.** To do that, select row 1 (by clicking the 1), then click the right button.

## Delete

To make all writing in the selection vanish (so it's erased), press the Delete key.

## Money

The computer can handle money.

To make each number in the selection look like dollars-and-cents, click the \$ button. That makes the computer put a dollar sign before each number and put two digits after the decimal point. If the number is big, the computer inserts commas.

For example, if the number is 1538.4, the computer turns it into:

\$1,538.40

**Rounding** If the number is .739, the computer rounds it and shows you this:

\$ 0.74

**Negative numbers** If a number is negative (because you lost money instead of gained), the computer follows the tradition of accountants and the Internal Revenue Service: it puts the number in parentheses (instead of writing a minus sign).

For example, suppose the number is -974.25. The computer shows you this:

\$ (974.25)

**Advanced features** When showing a number, the computer puts the dollar sign at the cell's left edge (aligned left), so all dollar signs in that column will line up. The computer puts the digits (and parentheses) aligned right, and widens the cell if necessary to make them all fit.

Near the \$ button, you see a button that has a comma on it. Clicking the comma button has the same effect as clicking the \$ button, except that the comma button does *not* make the computer write a dollar sign.

## Percent

The computer can handle percentages.

To make each number in the selection look like percentage, click the % button. For example, if the number is .74, the computer turns it into 74%.

When writing the percentage, the computer doesn't write any decimal point. For example, if the number is .519, the computer rounds it to 52%.

If the number is negative the computer puts a negative sign in front.

## Decimal places

If you click the \$ or comma button, the computer normally puts two digits after the decimal point. If you click the % button, the computer normally puts no digits after the decimal point.

Here's how to change those tendencies.

If you click the **Increase Decimal button** (which shows a .0 becoming a .00), the computer will put an extra digit after the decimal point. If you click it *several* times, the computer will put *several* extra digits after the decimal point.

If you click the **Decrease Decimal button** (showing a .00 becoming a .0) several times, the computer will put fewer digits after the decimal point. For example, here's how to round to the nearest dollar: click the \$ button (which produces dollars and cents) and then twice click the Decrease Decimal button (which gets rid of the cents by rounding).

## Font

Normally, the characters you type are in a font called **Calibri**. To make all writing in the selection have a different font (such as Times New Roman), click the down-arrow that's next to "Calibri", then click whichever font you want.

For spreadsheets, the most useful fonts are Calibri, Arial Narrow, Tahoma, and Times New Roman. They look like this in 11 points:

This font is Calibri. It's the normal font for spreadsheets. It's plain and simple. It's what Excel assumes you want. **It looks like this when bold.**

This font is Arial Narrow. It resembles Calibri but is narrower, so you can squeeze more words into the same space, more columns onto a page. **It looks like this when bold.**

This font is Tahoma. It resembles Calibri but has a better capital "I". It's also wider. **It looks like this when bold.**

This font is Times New Roman. It's the easiest to read, especially if you're writing lots of words instead of numbers. **But its bold looks awkward.**

## Text color

Normally, the characters you type are black. Here's how to make all characters in the selection be a different color (such as red).

Above column D or E, you see the **Font Color button**, which has an underlined A on it. Notice the color of the A's underline.

If it's the color you want, click the underline.

If it's *not* the color you want, do this instead: click the down-arrow that's to the right of the A's underline; you'll see 70 colors; click the color you want.

## Background color

Normally, you type on a white background. Here's how to make the entire selection's background become a different color (such as yellow).

Above column C, D, or E, you see the **Fill Color button**, which shows a paint can pouring onto a floor. Look at the floor's color.

If it's the color you want, click the paint can.

If it's *not* the color you want, do this instead: click the down-arrow that's to the right of the paint can; you'll see 70 colors; click the color you want.

**Distorted color** If you selected *several* cells, some of them temporarily show distorted colors, until you click a single cell.

## Sort

This spreadsheet shows how three students (Zelda, Al, and Pedro) scored on a test:

	A	B	C	D	E	F	G	H
1	Student	Score						
2	Zelda	42						
3	Al	7						
4	Pedro	100						

**Alphabetize** In that list of students, Zelda is on the top; Pedro is on the bottom. Here's how to rearrange the rows, to put the students in alphabetical order (from A to Z).

Click any student's name. Click "**Sort & Filter**" then "**Sort A to Z**".

That makes the spreadsheet become:

	A	B	C	D	E	F	G	H
1	Student	Score						
2	Al	7						
3	Pedro	100						
4	Zelda	42						

**Increasing scores** Here's how to rearrange the rows, to put the scores in numerical order (starting with the lowest score and ending with the highest).

Click any score. Click "**Sort & Filter**" then "**Sort Smallest to Largest**".

That makes the spreadsheet become:

	A	B	C	D	E	F	G	H
1	Student	Score						
2	Al	7						
3	Zelda	42						
4	Pedro	100						

**Decreasing scores** Here's how to make the computer put the scores in *reverse* numerical order (from highest score to lowest score).

Click any score. Click "**Sort & Filter**" then "**Sort Largest to Smallest**".

That makes the spreadsheet become:

	A	B	C	D	E	F	G	H
1	Student	Score						
2	Pedro	100						
3	Zelda	42						
4	Al	7						

That list is useful, since it puts the winners at the top and the losers at the bottom.

## Chart

You can graph your data. In modern spreadsheet programs (such as Excel), graphs are called **charts**.

For example, suppose you want to graph the data from a company you run. Your company sells Day-Glo Pink Hair Dye. (Your motto is: "To brighten your day, stay in the pink!")

You have two salespeople, Joe and Sue. Joe's worked for you a long time, and sells about \$8,000 worth of dye each month. Sue joined your company recently and is rapidly improving at encouraging people to turn their hair pink. She does that by inventing slogans for various age groups, such as:

"Feminine babes wear pink!"  
 "You look so sweet, hair as pink as cotton candy!"  
 "Don't be a dink! Think pink!"  
 "Pink is punk!"  
 "Pink means I'll be your Valentine, but lighten up!"  
 "Be what you drink — a Pink Lady!"  
 "Let the sexy, slinky, pink panther inside you glow!"  
 "Love is a pink Cadillac — with hair to match!"  
 "When in a sour mood, look like a pink grapefruit!"

This spreadsheet shows how many dollars' worth of dye Joe and Sue sold each month:

	A	B	C	D	E	F	G	H
1		January	February	March				
2	Joe	8000	6500	7400				
3	Sue	2000	4300	12500				

The spreadsheet shows that Joe sold \$8000 worth of dye in January, \$6500 in February, and \$7400 in March.

Sue's a trainee. She sold just \$2000 worth in January, but her monthly sales zoomed up to \$12500 by March.

Here's how to turn that spreadsheet into a graph (chart).

**First, type the spreadsheet.**

**Next, format the numbers.** To do that, drag from the first number (cell B2) to the last number (cell D3), click the \$ button (to put dollar signs in front of the numbers), then twice click the Decrease Decimal button (to round to the nearest dollar). The spreadsheet becomes this:

	A	B	C	D	E	F	G	H
1		January	February	March				
2	Joe	\$ 8,000	\$ 6,500	\$ 7,400				
3	Sue	\$ 2,000	\$ 4,300	\$ 12,500				

**Tell the computer which cells to graph.** To do that, drag from the blank starting cell (A1) to the *last number* (cell D3). Drag just to *that cell*, since the computer gets confused if you drag across extra cells or rows or columns.

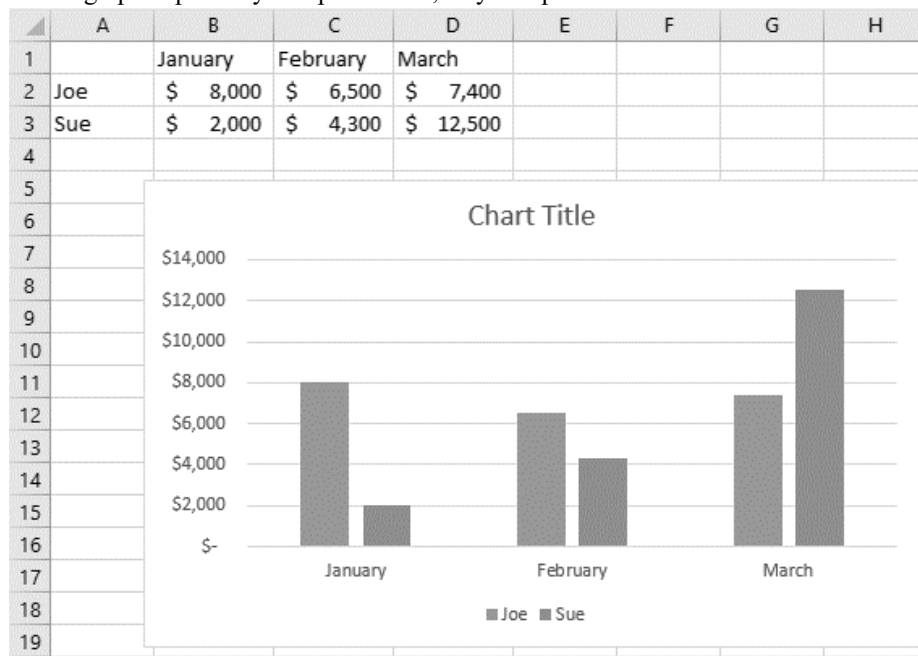
Then do this:

**Version 2016** Click "Insert" (which is near the screen's top-left corner, next to "Home"). Click "Recommended Charts". Press Enter. Then the computer draws the graph. To return the screen's top part to normal, click "Home" (which is near the screen's top-left corner).

**Version 2013** Click "INSERT" (which is near the screen's top-left corner, next to "HOME"). Click "Recommended Charts". Press Enter. Then the computer draws the graph. To return the screen's top part to normal, click "HOME" (which is near the screen's top-left corner).

**Versions 2007&2010** Click "Insert" (which is near the screen's top-left corner, next to "Home"). Click **Column**. You see the Column menu; click its first square (which is the **Clustered Column button**). Then the computer draws the graph. To return the screen's top part to normal, click "Home" (which is near the screen's top-left corner).

The graph is part of your spreadsheet, so your spreadsheet looks like this:



**Edit** If you change the numbers in the spreadsheet's cells, the graph will change too, automatically!

The entire graph is inside a box. Try this experiment: click inside that box, but near the box's outer edge. Then you'll see 8 **handles** at the box's edges.

**Version 2016** Each handle is a gray circle with white interior.

**Version 2013** Each handle is a tiny white square bulge.

**Versions 2007&2010** Each handle is a group of 3 or 4 dark-gray dots.

Those handles mean the white box is **selected**. Four of those handles are at the corners; they're called the **corner handles**.

To change the size of the box (and the graph inside it), drag one of the corner handles.

To move the box (and the graph inside it), put the mouse inside the box and near (but not on) a corner handle, then drag in the direction you want to box to move.

To delete the box (and the graph inside it), press the Delete key.

**Print** Here's how to print the graph onto paper.

Click in the graph's box. Then do this:

**Versions 2010&2016** Click "File".

**Version 2013** Click "FILE".

**Version 2007** Click the File-office button.

Then click "Print". Then press Enter.

That procedure begins by having you click *in* the graph's box. If you click *outside* the graph's box instead, the printer will print *entire spreadsheet*, including the graph! (But before you do that procedure, you should move the graph's box closer to the screen's left edge and closer to the spreadsheet's numbers, to avoid wasting paper.)

**Save** If you click the Save button, your hard disk will store a copy of the entire spreadsheet, including the graph.



# PowerPoint

If you give a speech, you can make the speech more interesting by letting the audience watch “slides” while they listen to you. The “slides” can be film slides (on 35-millimeter film, projected onto the room’s wall by using a slide projector) or **electronic slides** (generated by a computer attached to either a traditional monitor or a **computer projector**, which projects the images onto the room’s wall).

The slides can include photographs, drawings, graphs, tables of numbers, and an outline of what you’re talking about.

The best way to create such a slide show is to use a **presentation-graphics program**.

This chapter explains how to use the most popular presentation-graphics program: **PowerPoint**. I’ll explain these versions:

**PowerPoint 2007** (which is part of **Microsoft Office 2007**)  
**PowerPoint 2010** (which is part of **Microsoft Office 2010**)  
**PowerPoint 2013** (which is part of **Microsoft Office 2013**)  
**PowerPoint 2016** (which is part of **Microsoft Office 2016**)

(An earlier version, **PowerPoint 2003**, is explained in an earlier *Secret Guide* edition, the 31<sup>st</sup>, available by phoning 603-666-6644.)

Before you try using PowerPoint, practice using Microsoft Word 2007 or 2010 or 2013 or 2016 (explained on pages 231-249) and make sure it works fine.

## Launch PowerPoint

Here’s how to start using PowerPoint.

**Version 2016** In the Windows 10 search box (which is on the screen, next to the Start button), type “po”. Tap “PowerPoint 2016: Desktop app” then “Blank Presentation”.

**Version 2013** While you’re looking at Windows 8.1’s Apps screen (or Windows 8’s Start screen), type “po”. Tap “PowerPoint 2013” then “Blank Presentation”.

**Version 2010** Click the Start button then “All Programs” then “Microsoft Office”. Click “Microsoft Office PowerPoint 2010”.

**Version 2007** Click the Start button then “All Programs” then “Microsoft Office”. Click “Microsoft Office PowerPoint 2007”.

## Type your outline

Here’s the fastest way to create a slide show:

**Version 2016** Click “View” (which is at the screen’s top center) then “Outline View” (which is near the screen’s left edge). Then click anywhere in the huge light-gray area that’s under “Presentation Views”.

**Version 2013** Click “VIEW” (which is at the screen’s top center) then “Outline View” (which is near the screen’s left edge) then “Outline” (which is at the screen’s left edge). Then click anywhere in the huge light-gray area that’s under “Presentation Views”.

**Versions 2007&2010** Click the word “Outline” (which is at the screen’s left edge), then click anywhere in the huge white area that’s under “Outline”.

Type an outline of your speech. For example, suppose you want to give a speech, with slides, about who should be the USA’s next president, according to youngsters. Type this outline:

- 1 ☐ **Who should be president?**  
Advice from America’s youth  
Analyzed by Smart E. Pants
- 2 ☐ **The top two candidates**
  - Barbie
  - Barney
- 3 ☐ **Arguments for Barbie**
  - She’s so attractive, we all call her a “doll”
  - She has no ideas, so not controversial
  - She’d give feminists a reason to unite
- 4 ☐ **Arguments for Barney**
  - “Colored,” he shows we don’t discriminate
  - If anyone calls him a “dinosaur,” he laughs
  - Believes in family values, sings of them
- 5 ☐ **Act now**
  - Make your feelings known
  - Throw the eggs from your packet

While typing, remember 3 principles:

To save you time, the computer automatically puts a number (1, 2, 3, 4, 5) and a slide icon (□) in front of each slide, puts a bullet (•) in front of each indented line (except on the first slide), and capitalizes each line’s first word. If you indent a line extra-far, its bullet’s shape changes to a dash.

Press the **Enter key** at the end of each line (except the outline’s final line).

While typing a line, the computer assumes you want it indented the same amount as the line above. To indent a line more, press the **Tab key** while typing the line (or before typing the line). To indent a line less, press **Shift with Tab** while typing the line (or before typing the line).

So here’s how to start typing:

The computer’s already typed the “1” and the slide icon (□). On that same line, type your speech’s **title** (“Who should be President?”). At the end of that title, press the Enter key.

The next line should be your speech’s **subtitle** (“Advice from America’s youth”) and be indented. To make it indented, begin the line by pressing the Tab key. Then type the subtitle’s words (“Advice from America’s youth”). At the end of the subtitle, press Enter.

The next line can be an extra subtitle (“Analyzed by Smart E. Pants”). Type those words; the computer automatically indents them. At the end of the line, press Enter.

For the next line (“The top two candidates”), unindent (by pressing Shift with Tab). Then the computer will automatically number the slide (2). Type the words (“The top two candidates”). Press Enter.

For the next line (“Barbie”), indent (by pressing Tab). The computer automatically types a bullet (•). Type “Barbie”. Press Enter.

Type “Barney”. Press Enter.

Unindent (by pressing Shift with Tab), type “Arguments for Barbie”, and press Enter.

Indent (by pressing Tab).

Continue typing the outline. Remember to **press Tab whenever you want the computer to indent more, Shift Tab to indent less, and Enter to end the line.**

## Undo

If you make a mistake, click the **Undo button** (which is near the screen’s top and shows an arrow curving toward the left).

## Watch your panes

The outline, which you’re typing, is at the screen’s left edge, in a windowpane called the **outline pane**.

While you type (in the outline pane), the screen’s middle shows the slide you’re creating or editing. That middle part of the screen is called the **slide pane**.

You can click and type in either the outline pane or the slide pane. Any words you type in one pane appear in the other also, simultaneously and automatically. Those 2 panes just give you 2 different views of the same words.

Though you can type directly into the slide pane, typing into the outline pane is faster because, while typing in the outline pane, you can progress to the next line (and slide) without fiddling with the mouse: just press Enter (and sometimes Tab or Shift Tab).

While typing in the outline pane, glance at the slide pane, to see how the words will really look on your slide and whether they'll really fit.

Below the slide pane is a **notes pane**, which is a box that temporarily says "Click to add notes". You can click it and then type your own personal notes about the slide above it. The notes will not appear on the slide. Type notes that will help you prepare your speech, or type notes to hand out to the audience afterwards.

The outline pane, slide pane, and notes pane are separated by **dividers**.

**Versions 2013&2016** The dividers are thin gray lines.

**Versions 2007&2010** The dividers are light-blue thick lines.

You can drag the dividers to make your favorite pane bigger (and the other panes smaller). But beware: if you make your favorite pane too big, one of the other panes will become too small (or disappear!) and frustrate you.

## Delete

Here's how to delete part of your slide show:

In the outline, click a slide icon (to delete the entire slide) or a subtopic's bullet (to delete a subtopic) or the blank space left of a subtitle (to delete a subtitle). Then press the Delete key.

## Insert

Here's how to insert an extra line into your outline:

Where do you want the extra line? Which line will be above it? Click the end of the line that will be above the extra line. Then press Enter.

Type the extra line. While typing, if you want the extra line to be indented more, tap the Tab key. If you want the extra line to be indented less, press Shift with Tab.

## View different slides

After you've created a set of slides (by typing the outline), here's how to change which slide you're viewing.

**Outline-pane method** In the outline pane, click whichever slide you want to view.

**Slide-pane method** Click in the slide pane's top-left corner; then do one of the following activities. To move ahead to the next slide, press the **Page Down** key (or rotate the mouse's wheel toward you). To move back to the previous slide, press the **Page Up** key (or rotate the mouse's wheel away from you). To skip ahead to the final slide, press the **End** key. To skip back to the first slide, press the **Home** key.

## Design

The word "Design" is near the screen's top. Here's how to use it...

### Version 2016

The word "Design" is on the **tab bar**, which looks like this:

File Home Insert Draw Design Transitions Animations Slide Show Review View

Click "Design". You start seeing pictures of these 37 designs (which are also called "themes"):

Used	Office	Facet	Gallery	Integral	Ion	Ion B.	Organic	Retrospect	Slice
Wisp	Badge	Banded	Basis	Berlin	Celestial	Circuit	Crop	Damask	Depth
Dividend	Droplet	Feathered	Frame	Gallery	Headlines	Main Event	Mesh	Metro.	Parallax
Parcel	Quotable	Savon	Slate	Vapor T.	View	Wood Type			

At first, you see just the top row; to see the other rows, click the down-arrow that's to the right of the last "Aa".

Try clicking a design, then look at the slide pane and see whether you like what the design does to *your* slide. If you don't like the result, click a different design instead.

When you've found a design you like, try clicking one of its "Variants", which are to the right of the "Themes". The "Variants" have their own down-arrow, which you can click if the down-arrow is black (instead of gray).

### Version 2013

The word "DESIGN" is on the **tab bar**, which looks like this:

FILE HOME INSERT DESIGN TRANSITIONS ANIMATIONS SLIDE SHOW REVIEW VIEW

Click "DESIGN". You start seeing pictures of these 30 designs (which are also called "themes"):

Used	Office	Facet	Integral	Ion	Ion B.	Organic	Retrospect	Slice	Wisp
Banded	Basis	Berlin	Celestial	Circuit	Damask	Depth	Dividend	Droplet	Frame
Main Event	Mesh	Metro.	Parallax	Quotable	Savon	Slate	Vapor	View	Wood T.

At first, you see just the top row; to see the other rows, click the down-arrow that's to the right of the last "Aa".

Try clicking a design, then look at the slide pane and see whether you like what the design does to *your* slide. If you don't like the result, click a different design instead.

When you've found a design you like, try clicking one of its "Variants", which are to the right of the "Themes". The "Variants" have their own down-arrow, which you can click if the down-arrow is black (instead of gray).

### Versions 2007&2010

The word "Design" is on the **tab bar**, which looks like this:

File Home Insert Design Animations Slide Show Review View

Click "Design".

In version 2010, you start seeing pictures of these 51 designs:

Used	Office	Adjacency	Angles	Apex	Apothecary	Aspect	Austin
Black Tie	Civic	Clarity	Composite	Concourse	Couture	Elemental	Equity
Essential	Executive	Flow	Foundry	Grid	Hardcover	Horizon	Median
Metro	Module	Newsprint	Opulent	Oriel	Origin	Paper	Perspective
Pushpin	Slipstream	Solstice	Technic	Thatch	Trek	Urban	Verve
Waveform	Decatur	Kilter	Macro	Mylar	Sketchbook	SOHO	Summer
Thermal	Tradeshaw	Urban Pop					

In version 2007, you start see pictures of these 21 designs:

Used	Office	Apex	Aspect	Civic	Concourse	Equity	Flow
Foundry	Median	Metro	Module	Opulent	Oriel	Origin	Paper
Solstice	Technic	Trek	Urban	Verve			

At first, you see just the top row; to see the other rows, click the down-arrow that's to the *left* of "Fonts".

Try clicking a design, then look at the slide pane and see whether you like what the design does to *your* slide. If you don't like the result, click a different design instead.

After you've chosen a design, you can modify its color by doing this:

Click "Colors". You see many color schemes, whose names are the same as the designs (except that one of the color schemes is "Grayscale" instead of "Used"). The computer assumes you want the color scheme to be the one whose name is the same as the design, but you can click a different color scheme instead, which affects all current uses of that design throughout your presentation.

## Check carefully

The design affects *all* your slides, so look at *all* your slides to make sure you like the result. (To see them all, press the Page Up or Page Down key repeatedly.) The design treats your first slide (which has the title and subtitles) differently than the other slides, so make sure you look at that first slide and other slides also.

Unfortunately, some designs use fonts that are too big to fit your words on the slide nicely. Check carefully!

If you don't like the result, click a different design instead. If you want to return to the original plain design, click the 2<sup>nd</sup> design ("Office").

## What's affected?

If you want the design to affect just the slide you see in the slide pane, without affecting all the other slides, do this: *right-click* the design then click "Apply to Selected Slides".

If you want the design to affect just a *few* slides, do this:

At the screen's left edge, make sure you see tiny pictures of the slides, numbered. To see them, do this: for versions 2013&2016, click "View" (or "VIEW") then "Normal"; for versions 2007&2010, click "Slides" (which is at the screen's left edge).

Those tiny pictures are called **thumbnails**, because they're nearly as tiny as your thumb's nail. Click the thumbnail (tiny picture) of the first slide you want to affect. While holding down the Ctrl key, click the thumbnails of the other slides you want to affect, so they're all **selected** (have orange borders). Right-click the design you wish to give them (which in versions 2013&2016 you can do after clicking "Design" or "DESIGN"), then click "Apply to Selected Slides".

After you've done "Apply to Selected Slides", those selected slides are treated special: clicking a design afterwards might ignore those slides or treat them differently than other slides. So after doing "Apply to Selected Slides", do future design changes more precisely, by always following this procedure:

To make sure you affect *all* the slides, right-click the desired design then click "Apply to All Slides". To affect just one or a few slides, highlight them then right-click the desired design then click "Apply to Selected Slides".

## Finish design

When you finish playing with designs, do this:

**Version 2016** Make the outline pane appear again by clicking "View" then "Outline View". Click "Home" (which is near the screen's top-left corner).

**Version 2013** Make the outline pane appear again by clicking "VIEW" then "Outline View". Click "HOME" (which is near the screen's top-left corner).

**Versions 2007&2010** Make the outline pane appear again by clicking "Outline". Click "Home" (which is near the screen's top-left corner).

## Font Size

If one of your bulleted lines is too long to fit on the slide, do this:

In the slide pane, click that line by using a mouse or trackpad (*not* by touching a touchscreen). Press Ctrl with A (which highlights *all* the bulleted lines). Look at the number in the Font Size box (which is near the screen's top, toward the left). Switch to a smaller font size instead (by clicking the Font Size box's down-arrow then clicking a smaller number). That makes *all* the bulleted lines on that slide have a smaller font. If a line *still* doesn't fit on the slide properly, choose an even smaller number.

## Watch the show

To watch your entire slide show, from beginning to end,

**tap the F5 key.** (Exception: if the "F5" is blue or tiny or you're on a new computer by Microsoft, HP, Lenovo, or Toshiba, tap the F5 key *while holding down the Fn key*, which is left of the Space bar.)

If you'd rather watch just *part* of the slide show, starting at the current slide, do this instead: *while holding down the Shift key* (and Fn key if necessary), tap the F5 key.

Your first slide (which has the speech's title) will consume the whole screen.

Everything else will disappear. You'll see no outline, no notes, no menu bar, no toolbar, and no Windows: you won't even see the Start button. You won't see any X button.

While watching the slide show, you can give these commands:

To progress to the **next slide**, press the **Page Down or Enter** key (or the Space bar or down-arrow or right-arrow or N or click the mouse's button or rotate the mouse's wheel toward you or, if you have a touch screen, put your finger in the screen's middle and swipe toward the left).

To go **back to the previous slide**, press the **Page Up or Backspace** key (or up-arrow or left-arrow or P or rotate the mouse's wheel away from you or, on a touch screen, swipe your finger toward the right).

To go back to the **first slide**, press the **Home** key (or while holding down the mouse's left button, press the right button for 2 seconds).

To skip ahead to the **final slide**, press the **End** key.

To go to **slide 3**, press 3 then Enter — or press **Ctrl with S** (which shows a slides menu, then double-click slide 3).

To make the screen be all **black**, press the **B** key. That makes the slide temporarily disappear, so you can talk to the audience without letting the slide distract the audience. To resume, press the B key again.

To make the screen be all **white**, press the **W** key. (Press it again to resume.)

To see the mouse pointer (an arrow), move the mouse awhile. Then the arrow appears on the screen, along with buttons at the screen's bottom left corner. To make the arrow & buttons disappear again, stop moving the mouse for 3 seconds.

To make the mouse pointer appear as a **pen**, press **Ctrl with P**. Then the mouse pointer becomes a pen that has red ink. To scribble on the slide, just drag your finger on the screen (if you have a touch screen) or drag the mouse (move the mouse while holding down the mouse's left button). To emphasize a phrase, scribble a *circle around it* or an *underline below it* or *arrows aimed at it*. Your scribbles are called **annotations**. When you finish using the pen, make it return to an ordinary arrow by pressing the **Esc** key.

To make the mouse pointer appear as a **laser pointer** (in versions 2010&2013&2016), hold down the Ctrl key; and while you keep holding down the Ctrl key, drag the mouse (holding down the left mouse button). That makes the mouse pointer look like a laser pointer (red circle) instead of an arrow.

For further **tricks**, **right-click** to see a menu of choices.

To **escape from the slide show**, press the **Esc** key. That returns you to **normal view**, where you can edit the slide you were looking at, then edit other slides too. After editing, press the **F5** key again (if you want to see the slide show from the beginning again) or press **Shift with F5** (to skip the slide show's beginning and jump to the current slide).

## How it ends

If you look at the final slide and then try to progress further by pressing Page Down (or Enter or equivalent), the computer will say "End of slide show" and wait again for you to press Page Down (or Enter or equivalent), which returns you to the normal 3-pane view.

## Keep ink annotations?

If you ever scribbled on a slide during the show (by turning the mouse pointer into a pen with Ctrl P), here's what happens when you end (or escape from) the show: the computer asks:

**Versions 2013&2016** "Want to keep your ink annotations?"

**Versions 2007&2010** "Do you want to keep your ink annotations?"

To make things simple, click "Discard".

## Save

To copy your presentation to your hard disk, click the **Save button** (which is near the screen's top-left corner and looks like a 3½-inch floppy disk).

If you haven't named your presentation yet, this happens:

**Version 2016** To keep things simple, click "This PC" then "Documents". The computer assumes you want your presentation's name to be the same as the first slide's title. (If you want the presentation's name to be different, type what you want.) Press Enter. The computer puts your presentation into the Documents folder.

**Version 2013** To keep things simple, click "Computer" then "Documents". The computer assumes you want your presentation's name to be the same as the first slide's title. (If you want the presentation's name to be different, type what you want.) Press Enter. The computer puts your presentation into the Documents folder.

**Version 2010** The computer assumes you want your presentation's name to be the same as the first slide's title. (If you want the presentation's name to be different, type what you want.) Press Enter. The computer puts your presentation into the My Documents folder (which is part of the Documents library).

**Version 2007** The computer assumes you want your presentation's name to be the same as the first slide's title. (If you want the presentation's name to be different, type what you want.) Press Enter. The computer puts your presentation into the Documents folder.

The computer makes your publication's filename end in ".pptx", which stands for "PowerPoint eXtended".

Afterwards, if you change your mind and want to do more editing, go ahead! When you finish that extra editing, save it by clicking the Save button again.

## Finish

When you finish working on your presentation, do this....

### Versions 2013&2016

If you want to stop using PowerPoint, click the X at the screen's top-right corner.

If instead you want to continue using PowerPoint, click "File" (or "FILE") then "Close". Then the computer lets you work on another presentation. Your next step is to say "new presentation" or "old presentation". Here's how:

If you want to **start creating a new presentation**, click "File" (or "FILE") then "New" then "Blank Presentation".

If you want to **use an old presentation**, click "File" (or "FILE") then "Open". You see a list of the **25 presentations you used most recently**. Click whichever presentation you want to use. If you want to use a presentation that's not on that list of 25, click "This PC" (which version 2013 called "Computer") then "Documents" then proceed as follows....

The computer starts showing you a list of *all* presentations in the Documents folder (unless you've requested a different folder instead). If the list is too long to show completely, here's how to see the rest of the list: repeatedly click the down-arrow that's to the right of that list. If you want to *use* one of those presentations, *double-click* the presentation's name; the computer will put that presentation onto the screen and let you edit it. If instead you want to *delete* one of those presentations, click the presentation's name then press the Delete key; the computer will move that presentation to the Recycle Bin.

### Version 2010

Click **File**. Then click **Exit** or **Close**.

If you choose **Exit**, the computer will stop using PowerPoint.

If you choose **Close** instead of Exit, the computer lets you work on another presentation, and your next step is to say "new presentation" or "old presentation". Here's how....

If you want to **start typing a new presentation**, click File then **New** then double-click the first "**Blank presentation**".

If you want to **use an old presentation**, click File then **Recent**. You see a list of the 25 presentations you used most recently: that list starts with the most recent. From that list, click whichever presentation you want to use. If you want to use an older presentation (not on that list), click **Open** then proceed as follows....

The computer starts showing you a list of *all* presentations in the Documents library (unless you've requested a different folder instead). If the list is too long to show completely, here's how to see the rest of the list: either "click in that list then rotate the mouse's wheel toward you" or "repeatedly click the down-arrow that's to the right of that list". If you want to *use* one of those presentations, *double-click* the presentation's name; the computer will put that presentation onto the screen and let you edit it. If instead you want to *delete* one of those presentations, click the presentation's name then press the Delete key then the Enter key; the computer will move that presentation to the Recycle Bin.

### Version 2007

Click the **Office button** (the circle at the screen's top-left corner). Then click **Exit PowerPoint** or **Close**.

If you choose **Exit PowerPoint**, the computer will stop using PowerPoint.

If you choose **Close** instead of Exit PowerPoint, the computer lets you work on another presentation. Your next step is to say "new presentation" or "old presentation". Here's how....

If you want to **start typing a new presentation**, click the Office button then **New** then press Enter.

If you want to **use an old presentation**, click the Office button, so you see the Office menu. To the right of the Office menu, you see a list of the **17 presentations you used most recently**. Click whichever presentation you want to use. If you want to use a presentation that's not on that list of 17, click **Open** then proceed as follows....

The computer starts showing you a list of *all* presentations in the Documents folder (unless you've requested a different folder instead). To see the rest of the list, either "click in that list then rotate the mouse's wheel toward you" or "repeatedly click the down-arrow that's to the right of that list". If you want to *use* one of those presentations, *double-click* the presentation's name; the computer will put that presentation onto the screen and let you edit it. If instead you want to *delete* one of those presentations, click the presentation's name then press the Delete key then the Enter key; the computer will move that presentation to the Recycle Bin.

### Didn't save?

If you didn't save your document before doing those procedures, the computer asks, "Do you want to save?" If you click the Save button (which version 2007 calls "Yes"), the computer copies your presentation's most recent version to the hard disk; if you click the Don't Save button instead (which version 2007 calls "No"), the computer ignores and forgets your most recent editing.

## Advanced features

PowerPoint is powerful!

### Print

Besides showing slides onto the computer's screen and the room's wall, you can print copies of the slides onto paper, to hand to your audience (as handouts) and keep for yourself. Here's how.

**Versions 2010&2013&2016** Click “File” (which version 2013 calls “FILE”) then “Print”.

The computer assumes you want to print just 1 copy (for yourself). If you want to print *many* copies (for yourself and everybody in your audience), double-click in the “Copies” box then type how many copies you want to print. For example, if you’re giving a speech to 50 people and want to hand each member of the audience a printout, plus have a printout for yourself, type “51”.

The computer assumes you want “Full Page Slides”, which makes each slide consume an entire page. To print differently, click “Full Page Slides”; then you’ll see many choices; these are the most popular:

Choice	What each person will receive
Full Page Slides	many pages; each page contains 1 slide
Notes Pages	many pages; each page contains 1 slide (shrunk) & its notes
2 Slides	a few pages; each page contains 2 slides (shrunk)
6 Slides Horiz.	even fewer pages; each page contains 6 slides (shrunk)
Outline	1 page; it contains the outline

Click the choice you want.

Finally, click the Print button. The computer will print on paper.

**Version 2007** Click the **Office** button then **Print**.

The computer assumes you want to print just 1 copy (for yourself). If you want to print *many* copies (for yourself and everybody in your audience), type how many copies you want to print. For example, if you’re giving a speech to 50 people and want to hand each member of the audience a printout, plus have a printout for yourself, type “51”.

Then click the “Print what” box’s down-arrow. You’ll see these 4 choices:

Choice	What each person will get
Slides	many pages; each page contains 1 slide
Handouts	a few pages; each page contains 6 slides (shrunk)
Notes Pages	many pages; each page contains 1 slide (shrunk) and its notes
Outline View	1 page; it contains the outline

Click the choice you want.

Finally, click “OK”. The computer will print on paper.

## Tables

Here’s how to put a table of numbers onto a slide.

Start a new slide, as follows:

In the outline pane, click at the end of the previous slide’s last line. Press Enter (to create a new line in your outline). Press Shift with Tab (to unindent). Type a title for your table, but do *not* press Enter afterwards.

Then click the **Insert Table** button, which is in the slide pane.

**Versions 2013&2016** The Insert Table button is a 4-by-3 grid made of gray lines.  
**Versions 2007&2010** The Insert Table button is a 4-by-4 grid made of blue lines.

**Pick a size** How many columns do you want in your table? Type how many, then press Tab. How many rows do you want in your table? Type how many, then press Enter.

You see a blank table. Fill it in, by typing whatever words and numbers you wish. Move from cell to cell by using the arrow keys. (Another way to move to the next cell is to press the Tab key. Another way to move back to the previous cell is to press Shift with Tab.)

**Multi-line cells** Normally, each cell holds just a single number or a single phrase. If you want to squeeze *several* lines of info into a single cell, just press the Enter key at the end of each line. If you type more lines than the cell can hold, the computer will automatically make the cell be taller (by making the entire row be taller).

**Improve the alignment** Here’s how to make the numbers line up better.

Click one of the numbers, then drag across all the numbers (so they all change color). Then do this:

**Versions 2013&2016** Click “Layout” (which appears on the tab bar) then the **Align Right** button (the 3<sup>rd</sup> button in the Alignment group).

**Versions 2007&2010** Click “Layout” (which appears on the tab bar) then the **Align Text Right** button (the 3<sup>rd</sup> button in the Alignment group).

## Charts

Here’s how to put a chart (graph) onto a slide.

Start a new slide, as follows:

In the outline pane, click at the end of the previous slide’s last line. Press Enter (to create a new line in your outline). Press Shift with Tab (to unindent). Type a title for your chart, but do *not* press Enter afterwards.

Then do this:

Click the **Insert Chart** button. It’s in the slide pane; it shows a blue bar, a yellow bar, and third bar (which is gray in versions 2013&2016, red in versions 2007&2010). Then press Enter.

You see a table of numbers and a chart based on that table.

Edit the numbers in the table, so the table shows *your* numbers.

Edit the words in the table, so the table shows *your* words.

Then the chart will be a chart of *your* data.

**Hide the datasheet** The table of numbers is called the **datasheet**. The slide includes just the chart and its headline, not the datasheet. While you’re editing the datasheet, the datasheet temporarily blocks your view of the slide.

To hide the datasheet, click its X button.

To make the datasheet reappear (so you can edit it some more), do this:

**Version 2016** In the slide, click the chart. Click “Design” (which is on the tab bar) then the grid above “Edit Data” (which is in the ribbon’s Data group).

**Versions 2010&2013** In the slide, click the chart. Click “DESIGN” (which is on the tab bar) then “Edit Data” (which is in the ribbon’s Data group).

**Version 2007** In the slide, double-click the chart. Click “Edit Data” (which is the ribbon’s Data group).

**Types of charts** The computer assumes you want a column chart. To switch to a different type of chart (such as a bar chart or line chart), do this:

**Versions 2010&2013&2016** In the slide, click the chart. Click “Design” (which is on the tab bar) then “Change Chart Type” (which is near the screen’s top-right corner in versions 2013&2016, top-left in version 2010).

**Version 2007** In the slide, click the headline then the chart. Click “Change Chart Type” (which is near the screen’s top-left corner).

Then you see this list of **chart types**:

**Version 2016** column, line, pie, bar, area, XY (scatter), stock, surface, radar, treemap, sunburst, histogram, box&whisker, waterfall, funnel, combo

**Version 2013** column, line, pie, bar, area, XY (scatter), stock, surface, radar, combo

**Versions 2007&2010** column, line, pie, bar, area, XY (scatter), stock, surface, doughnut, bubble, radar

Click the type you want. To the right of it, you see subtypes; double-click the subtype you want.

## Shapes

Here’s how to decorate your slide by adding stars, arrows, and other shapes.

In normal 3-pane view, make the slide pane show the slide you want to decorate.

Request “shapes”, as follows:

Near the screen’s top-left corner, click “Home” (to make sure your screen is normal). Above the word “Drawing”, click the word “Shapes” or the symbol ▾ (which you’ll see if you have a wide screen).

You see these simple categories:

lines, rectangles, basic shapes, block arrows, equation shapes, flowchart, stars and banners

You also see these two advanced categories:

call-outs, action buttons

The “call-outs” category lets you put words into a balloon coming out of somebody’s mouth, as in a cartoon. The “action buttons” category lets you create Internet-style links, which you can click on to hop to different slides in your show.

Click the shape you want.

Imagine that the shape is enclosed in a box. Point at the slide, where you want the box’s top left corner to be, and drag to where you want the box’s opposite corner.

If you chose the “call-outs” category, type whatever words you want in the balloon. If you chose the “action buttons” category, make whatever adjustments you wish (such as clicking “Mouse Click” then “Hyperlink to”) then click “OK”.

**Adjust the shape** After you’ve drawn a shape, here’s how to adjust it.

If you don’t like the shape’s position, point at the shape’s middle and drag it wherever you want. (Exception: if the shape is a call-out, point at the shape’s edge instead of middle.)

Here’s how to stretch the shape, to make it wider or taller:

Click in the shape’s middle.

(If the shape’s a call-out, click the shape’s edge instead.)

Surrounding the shape, you see 9 tiny **handles** (which are gray circles with white centers in version 2016, white squares in version 2013, light blue squares & circles in versions 2007&2010). To stretch the shape, drag one of the handles.

If you see a **rotation circle** (which is gray & white in version 2016, white in version 2013, green in versions 2007&2010), you can drag it to rotate the shape.

In versions 2007&2010, if you see a tiny yellow diamond, drag it to stretch the shape’s special feature.

If you make a mistake, click the Undo button. To delete a shape, do this:

Click the shape. (If the shape’s a call-out, do this instead: click outside the shape, then click inside the shape but *not* in the shape’s text.) Then press the Delete key.

## Slide Sorter

To see many slides simultaneously, **click the Slide Sorter button, which looks like 4 squares**. (It’s near the screen’s bottom-right corner but left of the percentage.)

You’ll see the **Slide Sorter view**: many slides, next to each other, all numbered. If you right-click one of the slides, you’ll see a menu giving you many choices: explore them!

When you finish admiring that view, double-click your favorite slide. Then you’ll return to a usual 3-pane view.

## Transitions

While you’re presenting a slide show, you make the computer switch to the next slide by pressing Page Down or Enter or equivalent. When you do, the computer tends to display the next slide immediately and simply. Here’s how to make the computer perform a fancier transition to that slide, so the slide appears gradually and spookily....

**Versions 2010&2013&2016** While that slide is on the screen in usual 3-pane view, click “**Transitions**” (which is on the tab bar).

Click the bottom down-arrow that’s to the *left* of “Effect Options”.

Version 2010 shows these 35 transition choices:

none, cut, fade, push, wipe, split, reveal, random bars, shape, uncover, cover, flash, dissolve, checkerboard, blinds, clock, ripple, honeycomb, glitter, vortex, shred, switch, flip, gallery, cube, doors, box, zoom, pan, Ferris wheel, conveyor, rotate, window, orbit, fly through

Versions 2013&2016 show these 49 (or 48) transition choices:

none, morph, cut, fade, push, wipe, split, reveal, random bars, shape, uncover, cover, flash, fall over, drape, curtains, wind, prestige, fracture, crush, peel off, page curl, airplane, origami, dissolve, checkerboard, blinds, clock, ripple, honeycomb, glitter, vortex, shred, switch, flip, gallery, cube, doors, box, comb, zoom, random, pan, Ferris wheel, conveyor, rotate, window, orbit, fly through

(Version 2013 lacks “morph”).

Click the transition choice you want.

To change the transition’s speed, you can click in the **Duration box** and change the number of seconds. To change the transition’s details, you can click “**Effect Options**” then click the effect you prefer.

The computer assumes you want the transition to apply to just one slide. If you want the transition to apply to *all* slides, click **Apply To All**.

**Version 2007** While that slide is on the screen in usual 3-pane view, click “Animations” (which is on the tab bar).

Click the down-arrow that points at “Transition to This Slide”. You see these 59 transition choices:

no transition, fade (smoothly or through black), cut, cut through black, dissolve, wipe (down, left, right, or up), wedge, uncover (down, left, right, up, left-down, left-up, right-down, or right-up), box (in or out), wheel clockwise (1 spoke, 2 spokes, 3 spokes, 4 spokes, or 8 spokes), split (horizontal in, horizontal out, vertical in, or vertical out), strips (left-down, left-up, right-down, or right-up), shape (circle, diamond, or plus), newflash, push (down, left, right, or up), cover (down, left, right, up, left-down, left-up, right-down, or right-up), blinds (horizontal or vertical), checkerboard (across or down), comb (horizontal or vertical), random bars (horizontal or vertical), random transition

Click the transition choice you want. (If you’re not sure, try any one. If you like surprises, choose “random transition”, which lets the computer surprise you each time by making its own choice.)

Click the **Transition Speed** box’s down-arrow, then say how fast you want the computer to perform the transition: click “Slow” or “Medium” or “Fast”. (While you’re experimenting, I recommend “Slow” so you can see the transition more clearly.)

The computer assumes you want the transition to apply to just one slide. If you want the transition to apply to *all* slides, click **Apply To All**.

## Animated lines

Usually, while you’re presenting a slide show, the computer shows an entire slide at once. Here’s how to **animate** a slide, so the computer shows just one line at a time and waits for you to say when to show the next line.

**Versions 2010&2013&2016** While that slide is on the screen in usual 3-pane view, click (in the slide pane) a line that’s *not* the title. Click “**Animations**” (which is on the tab bar). Click the bottom down-arrow that’s to the *left* of “Effects Options”.

You see these 52 animation choices....

None: none

Entrance: appear, fade, fly in, float in, split, wipe, shape, wheel, random bars, grow & turn, zoom, swivel, bounce

Emphasis: pulse, color pulse, teeter, spin, grow/shrink, desaturate, darken, lighten, transparency, object color, complementary color, line color, fill color, brush color, font color, underline, bold flash, bold reveal, wave

Exit: disappear, fade, fly out, float out, split, wipe, shape, wheel, random bars, shrink & turn, zoom, swivel, bounce

Motion paths: lines, arcs, turns, shapes, loops, custom path

Click one of those choices. (I recommend “fly in” because it’s simple but dramatic.)

When you run the slide show (by pressing F5 or Shift F5, with the Fn key if necessary) and the computer comes to that slide, here’s what happens....

If your animation is from the “Entrance” category, the computer does this:

The computer will show just that slide’s title. When you say “go” (by pressing Page Down or Enter or equivalent), the computer will show the slide’s first subtopic (bulleted line or subtitle), animated the way you requested.

When you say “go” again, the computer will show the slide’s next subtopic, animated the same way. Each time you say “go”, you’ll see one more line of text.

If your animation is from the other categories, the computer does this:

The computer will show the whole slide. When you say “go” (by pressing Page Down or Enter or equivalent), the computer will animate the slide’s first subtopic (bulleted line or subtitle), the way you requested: if your animation is from the Emphasis category, the subtopic will be emphasized; if your animation is from the Exit category, the subtopic will vanish from the screen in an amusing way; if your animation is from the Motion paths category, the subtopic will move to a different part of the screen.

When you say “go” again, the computer will animate the slide’s next subtopic, in the same way. Each time you say “go”, you’ll animate one more line of text.

**Version 2007** While that slide is on the screen in usual 3-pane view, click (in the slide pane) a line that’s *not* the title. Click “**Animations**” (which is on the tab bar) then the Animate box.

You see these 7 animation choices:

no animation	
fade all at once	fade by 1 <sup>st</sup> level paragraphs
wipe all at once	wipe by 1 <sup>st</sup> level paragraphs
fly in all at once	fly in by 1 <sup>st</sup> level paragraphs
custom animation	

The most useful choices are:

<b>Choice</b>	<b>Meaning</b>
no animation	cancel any animation you created before
fade by 1 <sup>st</sup> level paragraphs	make each bulleted line appear gradually (changing from white to gray to black)
wipe by 1 <sup>st</sup> level paragraphs	make each bulleted line appear gradually (the line’s bottom part then the line’s top part)
fly in by 1 <sup>st</sup> level paragraphs	make each bulleted line move into position (fly up from the screen’s bottom)

Click one of those choices. (I recommend “fly in by 1<sup>st</sup> level paragraphs” because it’s the most dramatic.)

When you run the slide show (by pressing F5 or Shift F5) and the computer comes to that slide, the computer will show just that slide’s title. When you say “go” (by pressing Page Down or Enter or equivalent), the computer will show the slide’s first subtopic (bulleted line or subtitle), animated the way you requested. When you say “go” again, the computer will show the slide’s next subtopic, animated the way you requested. Each time you say “go”, you’ll see one more line of text.

## Timing

When you give a slide show, you typically want the computer to keep showing the same slide until you press Page Down or Enter or equivalent.

But sometimes, you’d rather have the computer switch to the next slide *automatically*, without waiting for you to say so.

For example, if you’re giving a passionate speech (“Oh, darling, I love you!”) or playing in a rock band, you might want the images on the wall to change automatically without forcing you to interrupt your performance to press a key or click a mouse. If you’re running an animated ad in an airport or shopping mall or store (by hiding a computer inside a kiosk), you’ll want the computer’s kiosk to run a PowerPoint presentation even when no salesperson is present.

Here’s how:

Click “Slide Show” (on the tab bar).

Click “Rehearse Timings” (or, in versions 2010&2013&2016, click “Record Slide Show” then “Start Recording from Beginning” then “Start Recording”, which makes the computer also record your laser-pointer motions and your voice, if your computer has a microphone).

That makes the computer run a **rehearsal**. The computer starts the rehearsal by showing you slide 1 (as if you had pressed F5.) To progress from slide to slide, the computer waits for you to press Page Down or Enter or equivalent. **The computer notices how long it waits; each waiting time is recorded.**

When you finish viewing the final slide (and press Page Down or Enter or equivalent again), the computer tells you how many minutes and seconds your entire slide show lasted. Press Enter.

Here’s what you’ve accomplished:

In the future, whenever you start the slide show (by pressing the F5 key), the computer will automatically move to the next slide after the appropriate amount of time (the time you took in rehearsal), even if nobody’s pressed Page Down or Enter or equivalent yet.

If you made a mistake about timings, you can try the procedure again.

If you just want to cancel the timings, here’s how. For versions 2010&2013&2016, use one of these methods:

**Method 1** Try to undo all the timings (by clicking the Undo button’s down-arrow then “Record Slide Show”, if you see that choice).

**Method 2** Click “Slide Show” (at the screen’s top) then remove the check mark from the “Use Timings” box (by clicking it).

For version 2007, use one of these methods:

**Method 1** Try to undo all the timings (by clicking the Undo button’s down-arrow then “Rehearse Timings”, if you see that choice).

**Method 2** Click “Slide Show” (at the screen’s top) then remove the check mark from the “Use Rehearsed Timings” box (by clicking it).

## Puppets

When you give a PowerPoint presentation, don’t just read the slides to your audience. Be more active!

Walk into the audience. Get emotional. Jump around while you talk. Be a fascinating human, not a wooden puppet.

Use the slides whenever you wish, but remember that *you’re* in control. Don’t let the slides control *you*.

Use the slides to *supplement* what you have to say. Don’t make the slides be the whole presentation. If your presentation’s just a bunch of slides, your audience will wonder why you didn’t just distribute printouts instead of forcing the audience to listen to you read slides.

Use your personality to add your own drama to the event.

If you’re giving a speech about something that seems boring (such as a table of numbers), reveal why it’s interesting. Be bold enough to laugh at the material and be cynical about it. Tell the audience how you really feel, and why, and get them to think about it. Use your emotions to excite the audience into thinking about the issues.

If the audience looks at your slides without seeing or hearing your emotion, the presentation can become boring. Since sitting through a PowerPoint presentation can be painfully boring (a pain in the ass), PowerPoint is nicknamed **PowerPain**.

When I’m in front of an audience, I avoid PowerPoint. I prefer to talk from my soul; I want my audience to look at my face, not slides. I’d rather scribble on a whiteboard (while I bang it or kiss it) than be in a darkened room dominated by a slide show.

PowerPoint has wrecked the U.S. military. Too many military bureaucrats have been giving fancy PowerPoint presentations instead of getting real work done. The U.S. military is in the process of banning PowerPoint. Soldiers joke that the best way for the U.S. to win battles is to donate PowerPoint to the enemy.

# Publisher

To write and print a document, you can use a word-processing program. To print a fancier document, use a **desktop publishing program** instead, such as **Microsoft Publisher**, which is part of Microsoft Office.

## Famous programs

The first popular desktop-publishing program was **PageMaker**.

### How PageMaker arose

PageMaker was invented in 1985 by Paul Brainerd, who'd been a newspaper executive. PageMaker ran on the Mac and used Apple's laser printer (the LaserWriter).

PageMaker lets you combine words and graphics to form a newspaper page, including headlines, columns of articles, photographs, diagrams, captions, and ads, all on the same page. PageMaker let you see the page on your computer's screen, while you moved the words and graphics by using your mouse.

According to traditional nerd jargon, such a program should have been called a "page-layout", "page-composition", or "computer-aided publishing" program. But to sell the program he coined a new term: he decided to call it a **desktop-publishing program**, because it used the Mac's "desktop" screen to help publishing, and because it let you run your own publishing company from a desktop in your home without having to hire typesetters, graphic artists, and other outside help.

The PageMaker program and the term "desktop publishing" both became instant hits. Many would-be authors, publishers, and designers bought Apple computers just for the purpose of running PageMaker. They used PageMaker to create newspapers, newsletters, reports, books, flyers, posters, and ads.

Most ad agencies standardized on using Apple computers and PageMaker to create ads. That's why Apple computers became popular in the graphics-arts community. Even today, nearly every ad agency uses Apple computers, not IBM-compatibles.

At first, the IBM PC couldn't handle desktop publishing at all. Eventually, Windows (and a competitor called **Gem**) improved enough so that the IBM PC's screen could look Mac-like. Finally, a Windows version of PageMaker became available.

### PageMaker's competitors

Competitors to PageMaker arose. Now your main choices are **PageMaker**, **Quark XPress**, and **InDesign**.

Here's how they compare:

<b>PageMaker</b> (for Mac & Windows) is the easiest to learn. It's the best for handling graphics and short ads.
<b>Quark XPress</b> is the best for handling text and fonts. Its Mac version is better than its Windows version.
<b>InDesign</b> (for Mac & Windows) tries to combine the best features of PageMaker and Quark XPress.

### Merger

PageMaker was published by Paul Brainerd's company, Aldus. In 1994, Aldus merged into a company called **Adobe**, which had invented many other desktop-publishing tools, such as Postscript (the font system used in Apple's Laserwriter), Illustrator (a draw program), and Photoshop (a photo-manipulation program).

Quark XPress is published by Quark, which is still independent.

### Difficulties

Using desktop-publishing software can be difficult. That's why PageMaker is often called "PageWrecker", Quark XPress is called "Quark Distress", and InDesign is called "UnDesign".

## Frames

Like a word-processing program, a desktop-publishing program lets you type words onto the screen. But when you start using a desktop-publishing program, the first thing to do is divide your screen (and page) into boxes. Each box is called a **frame**.

In one frame, type a headline. In another frame, put a picture. (You can create the picture by using the draw tools that are included as part of the desktop-publishing program, or else **import** a drawing or painting or photo that you created by using some other graphics program.) In another frame, put a table of contents or an index. In another frame, put an ad. In another frame, put column 1 of an article. In another frame, put column 2.

You can **link** one frame to another. For example, you can link column 1 to column 2, so if you type an article that's too long to fit in column 1, the excess will **spill** into column 2.

You can link a frame on page 1 to a frame on page 7, so if an article's too long to fit on your newspaper's front page, it will continue on page 7. (Continuing on a far-away page is called a **jump**. Newspapers do it frequently. I wish they didn't!)

### Master page

If most of the pages in your newspaper resemble each other, create a **master page** that shows how the typical page should look. On that master page, put frames for each column, and at the top of the page put a header that includes the page number and your newspaper's name & date (so when a reader rips out an article, the reader knows where it came from).

Special pages can diverge from the master.

### Clutter

The typical beginner makes the mistake of trying to be too fancy. Use just a *few* typetypes and frames per page, to avoid making your publication look like a disorganized cluttered mess.

Put enough frames on your page to add spice; but if you add too many frames, your publication will look chopped-up, dicey, as amateurish as an oil painting by a 2-year-old kid given his first paint box.

Adding some frames will make it look spicy. Too many frames will make it look dicey.
---

Gentle control shows a master who knew. Out-of-control shows a kid who acts 2.
---

Mozart's music was masterfully charming because its overall structure was simple, though it had a few subtle surprises. Imitate him.



## Cheaper solutions

Unfortunately, professional desktop-publishing programs are expensive: about \$500 each!

**Kiddle pub** Cheaper, easier desktop-publishing programs have been invented, for kids and novices. The most famous is **Print Shop**, published by Broderbund.

It's particularly good at creating greeting cards, posters, and banners. The first version was popular among kids using Apple 2 computers because it was amazingly easy to use, though the graphics it produced were low-resolution and crude. (I guess you call that "folk art".)

It's been translated to the Mac, IBM PC, and most other computers, too. The newest versions produce graphics that are better (but still not good enough to pass as professional). Unfortunately, the newer versions are harder to learn.

Print Shop's price has been reduced to \$50 because nobody wants it anymore. Instead, folks want **Microsoft Publisher**.

Like Print Shop, Microsoft Publisher can produce greeting cards, posters, and banners. Better than Print Shop, it can handle high-resolution graphics and tiny fonts well and produce professional-looking newspapers, newsletters, reports, business cards, and origami paper airplanes. It produces a terrific-looking document with fake words, which you replace with your *own* words. It lets you fine-tune your publication's graphics and layouts by using your mouse and professional desktop-publishing techniques.

Bill Gates, who runs Microsoft, liked the design of Microsoft Publisher so much that he took the head of the design team and married her!

Microsoft Publisher is pricey: it lists for \$140. But **Microsoft Publisher is included free as part of Microsoft Office Professional**.

**Word processing** Recently, word-processing programs have grown to include lots of desktop-publishing features.

The first word-processing program that let you create frames was **Ami Pro**. Other word-processing programs have copied Ami Pro's idea of permitting frames, so now you can create frames in WordPro (which is Ami Pro's successor), Microsoft Word, and WordPerfect.

If what you're writing has a simple layout, with very few frames or graphics per page, you can use a word-processing program instead of a desktop-publishing program.

**How I published this book** I wrote this book by using just Microsoft Word. I got by with Microsoft Word instead of a desktop-publishing program because I kept my layout simple, with very few frames and graphics per page.

For most of this book, I used just 8 fonts:

This font is called "Times New Roman". It's from Microsoft. I used it for most of my writing. It's therefore called my "body-text font". I used the 10-point size for most of the text, 8½-point for small text (which I put in boxed paragraphs, like this). Unlike other Times Roman fonts, Microsoft's has the nice property: when working in small font sizes (such as 8½-point), each digit is as wide as two blank spaces, and each period takes up as much space as one blank space. That makes it easy to keep the columns lined up! (Microsoft wants you to line up columns by using fancy features such as "tables" and "decimal tabs", but pressing the space bar is simpler.)

*This is "Times New Roman Italic". It's elegant but hard to read, so I use it rarely, just for emphasis, such as to emphasize the word "not".*

This is "Tahoma", from Microsoft, used in Windows XP menus. It resembles Helvetica or Arial but is clearer: for example, it makes the capital "I" look different from a small "L".

**This is "Tahoma Bold". I used it for column headings (at the top of tables) and for words being defined. To make defined words less overwhelming, I made them 1 point smaller than the surrounding text: I made them 9-point Tahoma Bold when surrounded by 10-point Times New Roman; I made them 7½-point Tahoma Bold when surrounded by 8½-point Times New Roman.**

This is "Lucida Console". It's monospaced, used in the windows XP "Notepad" program.

***This is "Andy Italic" widened (scaled to 125% of original width) and with a gray background. It's lively! I used this combo (Andy Italic 125% grayed) at the top of each sub-subchapter. Andy Italic is not from Microsoft: I got it from a CD-ROM disk that contains 2500 fonts I bought that disk for just \$18 at Sam's Club. The disk is published by Summitsoft (www.summitsoft.com).***

*This is "Comic Sans MS Italic" with a gray background. It's supposed to look funny, like a comic book, so it makes the reader feel cheery. It's easy to read and from Microsoft. I used it in big type (20-point and boxed) at the top of each subchapter.*

*This is "Flaemische Kanzleischrift" with a gray background. It's an elegant script, the kind of thing you'd put on a wedding invitation or the label of a fine wine or fine piano. Unfortunately, some of its letters are very hard to read, and some bugs make it hard to use. I used it in huge type (55½-point and boxed) at the top of each chapter, to encourage you to think this is a fine book! I got it from Summitsoft's 2500-font disk.*

So here's a summary of what I did. Typical text (like you're reading now) is Times New Roman 10-point (with 11-point line spacing, so there's a 1-point gap between lines).

Typical small text (like you're reading now) is Times New Roman 8½-point (with 9½-point line spacing), boxed. Emphasized words (*like this*) are Times New Roman Italic. Windows menus (*like this*) are Tahoma. Column headings (**like this**) are Tahoma Bold. Defined words (**like this**) are Tahoma Bold, 1 point smaller. Monospaced computer output (*like this*) is Lucida Console.

Bigger headings have a gray background: they're Andy Italic 125% (**like this**), Comic Sans MS Italic (*like this*), or Flaemische Kanzleischrift (*like this*).

To squeeze as much info as possible onto each page without clutter, I set my left and right margins at .5", top margin at .3", bottom margin at .6" (to leave space for the footer), and distance between columns at .3".

The typical page contains 2 columns, each 3.6" wide. When I needed a wider column (to hold a wide table or graphic), I widened the column to 4.8" instead, so the page's other column shrunk to 2.4". On a few pages, I used 3 narrow columns, each 2.3".

## Versions of Publisher

Fancy editions of Microsoft Office include a desktop-publishing program called **Microsoft Publisher**.

This chapter explains how to use the newest versions, **Microsoft Publisher 2010, 2013, and 2016**.

**Microsoft Publisher 2010** is part of **Microsoft Office 2010**'s Professional Edition (but not Home & Student Edition or Home & Business Edition).

**Microsoft Publisher 2013** is part of **Microsoft Office 2013**'s Professional Edition (but not Home & Student Edition or Home & Business Edition). It's also part of **Microsoft Office 365** (Home Premium and Small Business Premium Editions).

**Microsoft Publisher 2016** is part of **Microsoft Office 2016**'s Professional Edition (but not Home & Student Edition or Home & Business Edition). It's also part of **Microsoft Office 365** (all editions: Personal, Home, University, Business, and Business Premium).

**If you're using Microsoft Publisher 2003 or 2007, get an earlier edition** of *The Secret Guide to Computers* (such as the 31<sup>st</sup> edition) by phoning 603-666-6644.

Before using Microsoft Publisher 2010 or 2013 or 2016, practice using Microsoft Word 2010 or 2013 or 2016, which I explained on pages 231-249. Make sure Microsoft Word works fine before you try using Microsoft Publisher.

## Launch Publisher

To start using Microsoft Publisher, do this:

**Version 2016** In the Windows 10 search box (which is on the screen, next to the Start button), type "pu". Tap "Publisher 2016: Desktop app" then "BUILT-IN".

**Version 2013** At the Apps screen (or Start screen), type "pu". Tap "Publisher 2013" then "BUILT-IN".

**Version 2010** Click the Start button then "All Programs" then "Microsoft Office" then "Microsoft Publisher 2010".

You see many **publication categories**.

**Versions 2013&2016** You see these 26 publication categories (if you scroll down): advertisements, award certificates, banners, brochures, business cards, business forms, calendars, catalogs, e-mail, envelopes, flyers, gift certificates, greeting cards, import Word documents, invitation cards, labels, letterhead, menus, newsletters, paper-folding projects, postcards, programs, quick publications, résumés, signs, with-compliments cards.

**Version 2010** Under the heading "Most Popular", you see these 7 popular publication categories: brochures, business cards, calendars, greeting cards, labels, newsletters, postcards. Under the heading "More Templates", you see 20 other publication categories: advertisements, award certificates, banners, business forms, catalogs, e-mail, envelopes, flyers, gift certificates, import Word documents, invitation cards, letterhead, menus, paper-folding projects, programs, quick publications, résumés, signs, with-compliments cards, more categories. Near the screen's top, you see 4 other choices: blank 8.5×11", blank 11×8.5", more blank page sizes, my templates.

## Quick publications

The most powerful publication category is "quick publications". Find it!

**Versions 2013&2016** Scroll down to see "Quick Publications".

**Version 2010** Quick Publications is under the heading "More Templates".

Try clicking "Quick Publications" now! Here's what happens....

### Templates

Under the heading "Installed Templates", you see 10 popular **templates**:

arrows, bounce, brocade, color band, marker, modular, perforation, photoscope, simple divider, tabs

Under the heading "More Installed Templates", you see 66 more templates (if you scroll down):

accent box, accessory bar, arcs, argyle, astro, axis, bars, birthday, blank, blends, blocks, border flowers, borders, bouquet, bubbles, butterfly, capsules, cascade, checkers, circles, confetti, corner art, crossed lines, diamonds, echo, eclipse, edge, floating oval, handprint, hearts and circles, jumbled boxes, jungle, layers, leaves, level, linear accent, marquee, maze, mobile, network, pansies, party time, pinwheel, pixel, profile, punctuation, quadrant, radial, refined, retro, ribbons, romance, scallops, signpost, soap bubbles, starfish, steps, straight edge, stripes, studio, tilt, triangles, wallpaper, watermark, waves, wavy frame

Under the headings "Blank Sizes" and "Manufacturers", you see other choices.

You can click whichever template you want; but for your first experience, choose "Accent Box" (which is under the heading "More Installed Templates").

### Defaults

At the screen's right edge, you see the phrase "Color scheme". The box below it normally says:

(default template colors)

If it says something else, make it normal by doing this:

Click in the box. Press the Home key then the Enter key.

At the screen's right edge, you see the phrase "Font scheme". The box below it normally says:

(default template fonts)

If it says something else, make it normal by doing this:

Click in the box. Press the Home key then the Enter key.

### Layout

The computer assumes you want your publication to contain 3 **objects**:

a **picture** (such as a photo or drawing)

a **heading** (a few words in big letters)

a **message** (a few sentences in small letters)

The computer assumes you want to display the picture on top, then the heading, then the message (since the viewer's eye will naturally be attracted to the picture first, then the heading, then the message); but you can change that layout. For example, you can omit the picture, omit the heading, omit the message, make the picture smaller, move the picture to below the heading, twist the heading 90° (so it becomes a **sidebar heading**), or insert a fourth object: info about your business!

Near the screen's right edge, you see the word "Layout". Click the down-arrow below it. You start seeing 15 layouts to choose from; use the scroll arrows to see all 15.

Here are the 15 **layouts**:

Blank  
Large picture at the top  
Large picture in the middle  
Small picture at the top  
Small picture in the middle  
Sidebar heading, picture at the top  
Sidebar heading, picture at the bottom  
Sidebar heading, no picture  
No message, picture at the top  
No message, picture at the bottom  
No picture  
No heading  
Message only  
Heading only  
Business information with picture

The computer assumes you want the second layout, “Large picture at the top”. To try a different layout instead, click one that interests you and look at its effect.

After you’ve experimented by clicking several layouts, make up your mind which one to use. For your first publication, I recommend you stay with “Large picture at the top”.

Click the layout you choose.

## Create

Click the Create button (which is at the screen’s bottom-right corner).

## Heading

You see your publication. In it, click the word “Heading”, then type whatever words you want the heading to be.

If you type *many* words, the computer will automatically switch them all to a smaller font, so the words will still fit in the space allotted. If you type a word that’s not in the computer’s dictionary (because the word is weird or you misspelled it), the computer will put a red squiggle under it.

## Message

Under the heading, you see a sentence saying “Place your message here”. Click in that sentence, then type the message you want to be under the heading. (If your message contains *many* words, the computer will automatically switch them all to a smaller font, so the words will still fit in the space allotted.)

While typing, you can use do formatting as if you were using Microsoft Word. For example, you can click the **B** button for boldface, the *I* button for italics, and the U button for underlining.

If your message contains *many* words — a whole paragraph! — you should make the paragraph be justified, by clicking the Justify button (which acts like Microsoft Word’s).

If you want your message to contain *several* paragraph, press the Enter key once or twice at the end of each paragraph (except the bottom paragraph).

**If your message becomes too tiny to read on the screen, press the F9 key.** (Exception: if “F9” is blue, press that key *while holding down the Ctrl key*.) That makes the type look bigger on the screen, so you can read the type easily, but then the type is too big to fit the whole page on the screen. If you want to switch back to the “whole page” view, press F9 again. F9 is a **toggle** that switches back and forth between “Easy to read” and “See the whole page at once” views.

## Picture

Above the heading, you see a blank space. To put a picture in that space, do this:

**Version 2016** Double-click that space’s middle. The computer says **Insert Pictures**. Then you have 5 choices; here are the 2 most popular...

If you tap “**From a file**”, you see whatever pictures are in **your hard disk’s Pictures folder**. (That folder includes what you drew by using the Windows Paint program and whatever photos you put there from your digital camera.) Double-click the picture you want to use.

If instead you tap “**Bing Image Search**” (and then type a topic such as “girl” or “egg” or “France”, then press Enter), you see relevant pictures (drawings or photos) in Microsoft’s **Office.com Website**. (To see more pictures about that topic, scroll down.) Click the picture you want to use then click “Insert”.

**Version 2013** Click that space’s middle. The computer says **Insert Pictures**. Then you have 4 choices; here are the 2 most popular...

If you tap “**From a file**” (and then tap the “Pictures” that’s at the screen’s left edge), you see whatever pictures are in **your hard disk’s Pictures library**. (That library includes what you drew by using the Windows Paint program and whatever photos you put there from your digital camera.) Double-click the picture you want to use.

If instead you tap “**Office.com Clip Art**” (and then type a topic such as “girl” or “egg” or “France”, then press Enter), you see relevant pictures (drawings or photos) in Microsoft’s **Office.com Website**. (To see more pictures about that topic, use the scroll arrow.) Click the picture you want to use then click “Insert”.

**Version 2010** Click that space’s middle. You see the **Insert Picture window**, which shows whatever pictures are in your hard disk’s Pictures library. (That library includes what you drew by using the Windows Paint program and whatever photos you put there from your digital camera.)

If you want to use one of those pictures, double-click it. If you prefer to use a picture supplied by Microsoft, do the following instead.... Click “Cancel”. Make sure your computer is connected to the Internet. Click the Insert tab (which is near the screen’s top-left corner) then “Clip Art”. Double-click in the “Search for” box (which is near the screen’s right edge). Type whatever topic you want a picture of (such as “girl” or “egg” or “France”) and press Enter. You’ll see several pictures (drawings or photos) about your topic; to see more, use the scroll arrow. Click the picture you want.

Then adjust the picture’s size by doing this:

Click the Format tab (which is at the screen’s top) then “Fit” (which is near the screen’s top-right corner and near the word “Crop”). The picture will shrink to fit in the space.

Make the screen return to normal by doing this:

**Version 2016** Click the Home tab (which is near the screen’s top-left corner).

**Version 2013** Click the HOME tab (which is near the screen’s top-left corner).

**Version 2010** Close the Clip Art pane (which is at the screen’s right edge) by clicking its X. Click the Home tab (which is near the screen’s top-left corner).

## Undo

If you make a mistake, click the **Undo button** (which is near the screen’s top-left corner and shows an arrow curving toward the left). If that doesn’t completely undo your mistake, try clicking that button several more times.

## Save

To copy your publication to your hard disk, click the **Save button**, which is near the screen’s top-left corner and looks like a 3½-inch floppy disk.

**Version 2016** If you haven’t saved the document before, then click “This PC” then “Documents”, to keep matters simple.

**Version 2013** If you haven’t saved the document before, then click “Computer” then “Documents”, to keep matters simple.

If you haven’t saved your publication before, the computer will say “File name”. Invent a name for your publication. Type the name and press Enter.

That makes the computer copy your publication onto the hard disk. For example, if you named the publication “mary”, the

computer puts a document called mary.pub into version 2016's Documents folder (or version 2010&2013's "My Documents" folder, which is in the Documents library).

While you're editing and improving your publication, you should click the Save button frequently.

## File

When you finish editing your publication, click the File tab (which is at the screen's left edge, near the top). Then you see the **File menu**, which looks the same as Microsoft Word's:

<b>Version 2010</b>	<b>Versions 2013&amp;2016</b>
Save	Info
Save As	New
Open	Open
Close	Save
Info	Save As
Recent	Print
New	Share
Print	Export
Save & Send	Close
Help	Account
Options	Options
Exit	

From that menu, choose whatever you wish (by clicking it). Here are the most popular choices....

To print your publication onto paper, choose **Print** from the File menu. The computer assumes you want to print just 1 copy of the publication. (If you want to print *several* copies, click in the "Copies" box then type how many copies you want.) Click the Print button. The computer will print the publication onto paper.

To switch to a different publication, choose **Close** from the File menu then say "new publication" or "old publication". If you say "new publication" (by choosing **New** from the File menu), you can start the process of creating a new publication. Here's how to say "old publication" instead:

**Version 2016** Choose **Open** from the File menu. You see a list of recent publications; click the one you want (or click "This PC" then the publication you want).

**Version 2013** Choose **Open** from the File menu. Then click any publication listed under "Recent Publications" (or click "Computer" then "My Documents" then double-click the publication you want).

**Version 2010** Choose Recent from the File menu, then click any publication listed. (Otherwise, do this: choose Open from the File menu, then double-click the publication you want.)

Whenever you want to stop using Microsoft Publisher, click the X at the screen's top-right corner.

If you clicked the X at the screen's top-right corner (or chose Close or Exit from the File menu) but didn't save the publication you were working on, the computer asks "Do you want to save?" If you click the Save button, the computer copies your publication's most recent version to the hard disk; if you click the Don't Save button instead, the computer ignores and forgets your most recent editing.

Congratulations! You've learned all the important techniques of Microsoft Publisher! You can create your own publications!

Now let's dig deeper....

## Page design

While you're editing your publication, click the Page Design tab.

Above the word "Schemes", you see a few **color schemes**. To the right of them, you see an up-arrow, a down-arrow, and a "down-arrow that has a line over it". If you click the "down-arrow that has a line over it", you see *all* the color schemes.

**Versions 2013&2016** You see 93 color schemes.

**Version 2010** You see 92 color schemes.

For the "accent box" template, the computer normally uses the waterfall color scheme; to use a different color scheme, click your favorite.

Normally, your design's background is white (which is called "no background"). To change that, click "**Background**" (which is near the screen's top-right corner). You see 22 choices:

no background  
10% tint (of Accent 1, Accent 2, Accent 3, or Main)  
30% tint (of Accent 1, Accent 2, Accent 3, or Main)  
50% tint (of Accent 1, Accent 2, Accent 3, or Main)  
horizontal gradient (of Accent 1, Accent 2, Accent 3, or Main)  
vertical gradient (of Accent 1, Accent 2, Accent 3, or Main)  
more backgrounds

Click your favorite.

When using the "accent box" template, the computer normally makes the heading and message both use a font called "Gill Sans". To change that, click "**Fonts**" (which is near the screen's top-right corner). You start seeing these 24 new font schemes —

<b>Scheme</b>	<b>Heading font</b>	<b>Message font</b>
Apex	Lucida Sans	Book Antiqua
Aspect	Verdana	Verdana
Calligraphy	Gabriola	Gabriola
Civic	Georgia	Georgia
Concourse	Candara	Candara
Equity	Franklin Gothic Book	Perpetua
Flow	Calibri	Constantia
Median	Twentieth Century	Twentieth Century
Metro	Consolas	Corbel
Module	Corbel	Corbel
Office 1	Cambria	Calibri
Office 2	Calibri	Cambria
Office 3	Calibri	Calibri
Office Classic 1	Times New Roman	Arial
Office Classic 2	Arial	Arial
Opulent	Trebuchet	Trebuchet
Oriel	Century Schoolbook	Century Schoolbook
Origin	Bookman Old Style	Gill Sans
Paper	Constantia	Constantia
Solstice	Gill Sans	Gill Sans
Technic	Franklin Gothic Book	Arial
Trek	Franklin Gothic Medium	Franklin Gothic Book
Urban	Trebuchet	Georgia
Verve	Century Gothic	Century Gothic

and these 31 classic font schemes —

<b>Scheme</b>	<b>Heading font</b>	<b>Message font</b>
Archival	Georgia Bold	Georgia
Basis	Arial Bold	Arial
Binary	Verdana	Georgia
Breve	Bodoni Black	Franklin Gothic Book
Capital	Perpetua Titling	Perpetua
Casual	Comic Sans Bold	Comic Sans
Data	Courier New Bold	Arial
Deckle	Papyrus	Gill Sans
Dictation	Lucida Sans Typewriter	Lucida Sans
Economy	Franklin Gothic Demi Condensed	Times New Roman Bold
Etched	Copperplate Gothic Bold	Garamond
Facet	Gill Sans	Gill Sans
Foundation	Times New Roman	Arial Bold
Foundry	Rockwell Extra Bold	Rockwell
Fusion	French Script	Calisto
Galley	Arial Rounded Bold	Times New Roman
Impact	Impact	Georgia
Industrial	Franklin Gothic Heavy	Franklin Gothic Book
Literary	Bookman Old Style	Arial Rounded Bold
Modern	Twentieth Century Bold	Garamond
Monogram	Edwardian Script	Twentieth Century
Offset	Imprint Shadow	Franklin Gothic Book
Online	Verdana Bold	Verdana
Optical	OCR A Extended	Franklin Gothic Book
Perspective	Goudy Old Style	Franklin Gothic Heavy
Punch	Gill Sans Ultra Bold	Comic Sans
Streamline	Bodoni Condensed	Twentieth Century Bold
Textbook	Century Schoolbook	Arial Bold
Verbatim	Agency Bold	Agency
Versatile	Times New Roman Bold	Times New Roman
Virtual	Trebuchet Bold	Trebuchet

and a font scheme called “Template: Quick Publication” (whose headline and message fonts depend on which template you chose).

Those font schemes are too many to fit on the screen. To see them all, use the scroll arrows.

At first, the computer assumes you want “Template: Quick Publication”, but you can click whichever font scheme interests you and look at its effect. If you don’t like that effect, try clicking a different font scheme instead. Keep clicking until you find a font scheme whose effect makes you happy.

**When you finish using the Page Design tab, click the Home tab, to make your screen return to normal.**

## Alignment

The heading and message both contain words. The computer assumes you want each line of words to be centered. Centering is fine if your heading and message are both short. But if your message contains *many* lines of words, centering makes your message hard to read.

To change whether a paragraph is centered, click in the paragraph then click one of these **alignment buttons** (which are above the word “Paragraph” and are the same as Microsoft Word’s alignment buttons):

The **Align Left button** makes the paragraph’s **left margin** be straight, the right margin be ragged, so the paragraph looks like this. This is the easiest to read and the friendliest, since it looks informal. But it looks lopsided.

The **Align Right button** makes the paragraph’s **right margin** be straight, the left margin be ragged, so the paragraph looks like this. This is the hardest to read. It’s the least popular choice.

The **Justify button** makes the paragraph’s **left & right margins** both be straight (except for the end of the paragraph’s last line), so the paragraph looks like this. This is the most sophisticated. It’s fairly easy to read, though it puts too much space between the words. It’s the best choice for a long message. It’s what I used for most paragraphs in this book.

The **Center button** makes each line in the paragraph be **centered** again, so the paragraph looks like this. This looks the neatest for short headlines and messages, but it’s hard to read if the message is long. It’s what I used for the headlines in this book.

## Frames

Your publication contains 3 main objects: the picture, the heading, and the message. It also contains several other objects (border decorations near the paper’s edge).

You can change each object’s size and position. Here’s how....

Click in the object’s middle. Then the entire object will be surrounded by a pack of white dogs! Each dog is a little white circle (or square), called a **handle**.

The dogs (little white circles & squares) are arranged to form a box surrounding the object, so the object is boxed in. The box surrounding the object is called the object’s **frame**. Yeah, Louie, we’ve been framed!

Then you can manipulate the object in 4 ways:

To make the object bigger or smaller without distorting it, drag one of the white circles (by using the mouse).

To distort the object by stretching or shrinking, drag one of the white squares.

To move the object, drag an edge of its frame (but don’t drag a handle).

To rotate (tilt) the object, do this....Version 2010: drag the green circle (which is nearby). Versions 2013&2016: drag the special white circle (which is nearby and leashed to a square).

# Signs

Instead of clicking “Quick Publications”, try clicking “Signs”. That lets you create signs.

## Templates

Under the heading “Installed Templates”, you see 40 **templates** written by Microsoft (if you scroll down):

authorized only, beware of dog, business hours, checks accepted  
closed, closed for remodeling, for rent, for rent #2, for rent #3  
for sale, for sale #2, for sale #3, for sale #4  
garage sale, garage sale #2, garage sale #3, garage sale #4  
gone fishing, help wanted, information, inventory  
keep off the grass, keep out, kid’s room, lemonade for sale  
no loitering, no parking, no smoking, open, open house, out of order  
private property, restrooms, return time, special offer, turn off the lights  
we speak, wet paint, wet paint #2, wheelchair access

You see other choices under the headings “Blank Sizes” and “Manufacturers” (and version 2010’s “Office.com Templates”).

Click whichever template you want — but for your first experience, choose “Kid’s Room” (which is under the heading “Installed Templates”).

## Defaults

At the screen’s right edge, you see the “Color scheme” and “Font scheme” boxes. If one of those boxes doesn’t contain the word “default” yet, fix it by doing this:

Click in the box. Press the Home key then the Enter key.

## Create

Click the Create button (which is at the screen’s bottom-right corner).

## Edit the words

You see your publication. It’s a sign that says “Kid’s Room” and includes a drawing of a moon with stars.

Change the word “Kid’s” to your own name. For example, if your name is “Joan”, change “Kid’s Room” to “Joan’s Room”. Here’s how: click “Kid’s”, then type your name, then type ’s.

Change “Room” to a word that’s more descriptive, such as one of these:

Bedroom, Hideaway, Lair, Hovel  
Office, Headquarters, Classroom  
Home, Castle, Garden, Pond, Swimming Hole, Woods  
Closet, Locker, Trunk, Corner, Secret Passage, Private Parts

To do that, click “Room” then type whatever replacement you want.

## Finish

To finish your editing, you can try using the same techniques as for “Quick publications”, so reread these sections:

Undo  
Save  
File  
Page design  
Alignment  
Frames

You’ll encounter these little surprises:

Since this sign starts as black & white, just 5 of the color schemes work well: click “black & gray”, “brown”, “dark blue”, “green”, or “red”. If your printer can’t print colors, choose “black & gray”.

Since this sign has no message (just headings), it ignores the message font.

# Banners

A **banner** is a big sign that nearly a foot tall and *several* feet wide. You can create a banner by taping several sheets of paper together, side-by-side.

To create banners, click “Banners” instead of “Quick publications”.

## Templates

You start seeing these 39 banner templates, organized into 8 categories:

**Congratulations:** baby congratulations, champions, congratulations, graduation, promotion, retirement, the greatest, to the best

**Event:** anniversary, birthday, bon voyage, enter to win, grand opening, open house, pageant, school dance, street fair, team spirit

**Get Well:** get well

**Holiday:** New Year

**Informational:** apartment for rent, caution, checked-frame, information, interwoven-frame, new management, order here, plain-background, registration, reservations, safety equipment

**Romance:** marry me

**Sale:** bake sale, clearance sale, sale, yard sale

**Welcome:** welcome, welcome back, welcome new addition

(To see the last few templates in the Event category, click “All Event”. To see the last few templates in the Informational category, click “All Informational”. To stop seeing those last few templates, click “Banners”).

Click whichever template you want. The screen’s top-right corner shows it enlarged.

## Defaults

At the screen’s right edge, you see the “Color scheme” and “Font scheme” boxes. If one of those boxes doesn’t contain the word “default” yet, fix it by doing this:

Click in the box. Press the Home key then the Enter key.

## Options

The computer assumes you want the banner to be 5 feet wide and 8½ inches tall. If you want the banner to be bigger than that (so it will use even more paper and make your Mom yell at you for wasting paper), at the screen’s right edge click the “**Page size**” box then the size you want.

The computer assumes you want a border around the message. (The border is a fancy box.) If you don’t want a border, click the **Border** box then “No border”.

The computer assumes you want a little graphic (a picture) on both sides of the banner’s message (words). If you want the graphic placed differently, click the **Graphic** box then one of these choices: put the graphic just to the **left** of the message, just to the **right** of the message, on **both** sides of the message, or nowhere so you have **none**.

## Create

Click the Create button (which is at the screen’s bottom-right corner).

## Edit the words

To change the message’s words, click the message then type what you want instead.

## Finish

To finish your editing, you can try using the same techniques as for “Quick publications”, so reread these sections”

Undo  
Save  
File  
Page design  
Alignment  
Frames

You’ll encounter these little surprises:

Since most of the banner starts as black & white, just 5 of the color schemes work well: click “black & gray”, “brown”, “dark blue”, “green”, or “red”. If your printer can’t print colors, choose “black & gray”. The color scheme will affect the message’s color; but the border will stay black, and the graphic’s color will stay unchanged.

**The typical banner template uses the font scheme’s message font** and ignores the scheme’s headline font, but *some* banner templates do the opposite: they use the font scheme’s headline font and ignore the scheme’s message font.

The banner prints onto several sheets of paper, which you must tape together, after using a scissors to cut off the margins. Examine the banner carefully before you hang it on your wall: a few letters or graphics might be missing, because your printer doesn’t contain enough RAM memory chips or your printer can’t print close enough to the paper’s edge.

# Greeting cards

To create a greeting card, click “Greeting Cards” instead of “Quick Publications”.

## Templates

You start seeing 321 installed greeting-card templates, organized into 4 categories:

Category	How many templates
Birthday	78
Holidays	89 (24 Christmas, 5 Easter, 3 Halloween, 3 Hanukkah, 2 Kwanzaa, 3 New Year, 4 Ramadan, 1 Rosh Hashanah, 1 St. Patrick’s Day, 3 Thanksgiving, 6 Mother’s Day, 5 Father’s Day, 12 Valentine’s Day, 1 Bar Mitzvah, 1 Bat Mitzvah, 3 Grandparents Day, 12 general)
Occasions and events	104 (7 anniversary, 1 bon voyage, 4 graduation, 7 congratulate new baby, 2 new home, 1 promotion, 1 retirement, 3 wedding, 3 general congratulations, 12 friendship, 8 romance, 2 I’m sorry, 12 get well, 6 sympathy, 3 good luck, 2 miss you, 5 we’ve moved, 3 engagement, 6 birth announcement, 1 reminder)
Thank you	50

(Version 2010 also shows greeting-card templates that must be downloaded from the Internet.)

In each category, you see the first few templates, plus a folder called “All”. If you click the “All” folder, you see all the templates for that category. (To go back to the previous screen, click “Greeting Cards”).

Click whichever template you want. The screen’s top-right corner shows it enlarged.

## Download/Create

If the template must be downloaded from the Internet, the screen’s bottom-right corner shows a Download button; otherwise, it shows a Create button. Click the Download or Create button.

## View 4 pages

Your card has 4 pages. You're seeing the front cover, which is page 1.

At the screen's left edge, you see the numbers 1, 2, 3, and 4. To see page 2, click the 2. That makes you see page 2 (and you'll simultaneously see page 3, next to it). To see page 4 (which is the back cover), click the 4. To see page 1 again, click the 1.

## Edit the words

To edit text, click it then type what you want instead.

## Finish

To finish your editing, you can try using the same techniques as for "Quick publications", so reread these sections:

Undo  
Save  
File  
Page design  
Alignment  
Frames

## Printer settings

To print onto paper, choose "Print" from the File menu but then check two settings before you click the Print button....

First, make sure you see the word "Letter" (which means the paper is the typical American size for a letter, 8½"×11"). If you see "A4" instead, you downloaded a European template that requires bigger paper; to fix the problem, choose one of these methods:

**Method 1** Choose an American template instead.

**Method 2** Buy bigger paper (such as A4 or legal) then click A4 then the size you bought.

**Method 3** Click the Page Design tab. (To make that tab appear in version 2013, tap the left-arrow button at the screen's top-left corner.) Then click "Size" then "1/4 Letter Side Fold" then the File tab again then Print again then A4 then Letter.

Make sure you see "Side-fold, quarter sheet." (If you see otherwise, such as "One page per sheet", click it then click "Side-fold, quarter sheet." That makes all four pages of the greeting card appear on a single sheet of paper. After printing, fold that sheet of paper in half (to divide pages 1&4 from pages 2&3), then fold in half again (to divide page 1 from 4).

## Other publication categories

You've learned how to use 4 publication categories: "quick publications", "signs", "banners", and "greeting cards". You can use other publication categories, too!

Versions 2013&2016 gives you these 26 normal publication categories:

advertisements, award certificates, banners, brochures, business cards, business forms, calendars, catalogs, e-mail, envelopes, flyers, gift certificates, greeting cards, import Word documents, invitation cards, labels, letterhead, menus, newsletters, paper-folding projects, postcards, programs, quick publications, résumés, signs, with-compliments cards

Version 2010 gives you the 26 normal publication categories arranged like this:

brochures, business cards, calendars, greeting cards, labels, newsletters, postcards advertisements, award certificates, banners, business forms, catalogs, e-mail, envelopes, flyers, gift certificates, import Word documents, invitation cards, letterhead, menus, paper-folding projects, programs, quick publications, résumés, signs, with-compliments cards

Try those publication categories. They resemble the categories you already mastered.

## Blank publications

Instead of clicking one of those normal publication categories, try clicking **Blank 8.5×11"**. (When you start Publisher, that's the first category mentioned. So to see that category, either restart Publisher or do this: from the File menu, choose New. To see that category in versions 2013&2016, do *not* tap "BUILT-IN"; tap "FEATURED" instead.)

When you've clicked **Blank 8.5×11"**, you see a picture of a blank, clean sheet of paper, on which you can create any publication you wish, without locking yourself into one of the traditional categories. Be creative! Here's how....

## Typing with F9

Start typing on the blank page. Your typing will be too small to read: to see it bigger, press the F9 key. (Exception: if the "F9" is blue or tiny or you're on a new computer by Microsoft, HP, Lenovo, or Toshiba, tap the F9 key *while holding down the Fn key*.)

That makes the type look bigger, but too big to fit the whole page on the screen. If you want to switch back to the "whole page" view, press F9 again. F9 is a **toggle** that switches back and forth between "easy to read" and "whole page" views.

## Similar to word processing

While you're typing, Microsoft Publisher resembles Microsoft Word. After you've practiced using Microsoft Word, Microsoft Publisher is easy! Here are the main differences:

The Page Up and Page Down keys don't move the cursor. Ctrl symbols don't work. Microsoft Publisher can't check your grammar.

Microsoft Publisher expects your entire message to fit on one page (unless you use special tricks I explain later), so you can't give a simple page break.

When you start typing, the Font Size is 10-point (not 11-point). The Font Size menu starts at 4 points (instead of 8 points).

If you click in the Font Size box and type a point size, you can put any digit after the decimal point. For example, you can type "12.4" to get 12.4 points. (The digit after the decimal point doesn't have to be 5.)

## Frames

The text you've been typing is in a box, called a **frame**.

The frame has 8 **size handles**: a white circle at each corner and a white square at each side's midpoint. The frame also has a **rotation handle** (a nearby circle, green in version 2010, white in versions 2013&2016).

Try this experiment: make sure you're seeing the whole page (by pressing F9 if necessary), then make the frame smaller (by dragging one of the 8 size handles toward the frame's center). Now the frame is small, so it does *not* consume the whole page, so you can create extra frames elsewhere on the page.

The frame that's already on the page is called a **text frame**, because it contains text you typed. Here's how to make an extra text frame:

Click the Insert tab then "Draw Text Box". Decide where on the page you want the extra text frame to begin; put the mouse pointer there; that will be the frame's top-left corner; drag to where you want the frame's bottom-right corner. The frame will appear.

In that frame, type whatever text you wish. To see your typing more easily, press F9.

You can change a frame's position:

To change a frame's size, click inside it then drag one of its size handles.

To rotate a frame, click inside it, then drag its rotation handle.

To move a frame, drag one of its edges (but not a handle).

You can make 5 kinds of frames. To make a frame containing normal **text**, you've learned to do this:

Click the Insert tab then "Draw Text Box". Drag across the page, to form the frame. Type the text (and press F9 to see it better).

To make a frame containing a **picture** that's in your hard disk's Pictures library, do this:

Click the Insert tab.

**Version 2016** Click "Pictures". You see what's in your Pictures folder.

**Version 2013** Click "Pictures". You see what's in your Pictures library.

**Version 2010** Click "Picture". You see what's in your Pictures library.

Double-click the picture you want. Drag the picture where you want it. Adjust its size by dragging its size handles.

To make a frame containing **clip art** from Microsoft's Website (Office.com), do this:

Make sure your computer is connected to the Internet. Click the Insert tab. For versions 2013&2016, click "Online Pictures"; for version 2010, click "Clip Art" then double click in the "Search for" box (which is near the screen's right edge). Type whatever topic you want a picture of (such as "girl" or "egg" or "France") and press Enter. You'll see several pictures (drawings or photos) about your topic; to see more, use the scroll arrow. Click the picture you want. (For versions 2013&2016, then click "Insert".) Drag the picture where you want it. Adjust its size by dragging its size handles.

To make a frame containing **word art** (which is artistic text), do this:

Click the Insert tab then "Word Art". You see 30 ways to make text look artistic (by bending it or creatively coloring it). Click your favorite. Type the text you want to beautify; make it brief (just a few words); if you want *several* lines, press Enter at the end of each line. When you finish your typing, click OK. Drag the artistic text where you want it. Adjust its size by dragging its white-circle handles. Distort its size by dragging its white-square handles. If you want to change the amount of slanting or curvature, drag the yellow-diamond handle (which is nearby).

To make a frame containing a **table** (of numbers or words), do this:

Click the Insert tab then "Table", which works like Microsoft Word's Table button. You see 80 little boxes (called **cells**), arranged to form a table having 8 rows and 10 columns. How many rows and columns to you want in *your* table? Point at the first cell and drag down and to the right, until your desired number of rows and columns turns orange. When you take your finger off the mouse's button, you'll see the table you requested. To move the table, put the mouse pointer on the table's edge so that the mouse pointer turns into a 4-headed arrow; then drag. To change the size of a column or row, put the mouse pointer on the edge of that column or row so that the mouse pointer turns into a 2-headed arrow; then drag. In that table, type whatever numbers or words you wish; press F9 to see better; press Tab to move to the next cell.

To delete a frame, right-click in its middle then click "Delete Object".

If you type text that's too long to fit in its frame, the frame's white handles turn red. The last few words you typed are temporarily invisible: the computer stores them in an **overflow area** (which you can't see) until you make the frame bigger (by dragging its handles) or make the text shorter — or make a 2<sup>nd</sup> frame, to display the overflow. To make that 2<sup>nd</sup> frame, use one of these methods:

**Tools-tab method** Click in the frame that's too small. Click the "Text Box Tools Format" tab then "Create Link". Your mouse pointer becomes a pouring cup. Use it to click where you want the 2<sup>nd</sup> frame's top-left corner. You'll see the 2<sup>nd</sup> frame. Adjust its size (by dragging its handles).

**Insert-tab method** Click the Insert tab then "Draw Text Box". Drag across the page, to form the 2<sup>nd</sup> frame. Click in the first frame then "Create Link". Your mouse pointer becomes a pouring cup. Use it to click in the 2<sup>nd</sup> frame.

Here's a way to force text to fit in its frame. Click in its frame then click the "Text Box Tools Format" tab then "Text Fit". You see a menu of 4 choices:

<b>Menu choice</b>	<b>What the computer will do</b>
Best Fit	decrease or increase the font size, so the text exactly fills the frame
Shrink Text On Overflow	if the text is too big to fit the frame, decrease the font size
Grow Text Box to Fit	if the text is too big to fit the frame, make the frame taller
Do Not Autofit	nothing (so if the text is too big to fit the frame, the frame shows just the text's beginning)

## Extra pages

So far, your publication contains just one page. To make your publication longer by adding a second page, do this: while holding down the Ctrl and Shift keys, tap the N key (which means "New page").

Now your publication has two pages. You're seeing page 2. To see page 1, click the "1" at the screen's left edge. To see page 2 again, click the "2" at the screen's left edge. Press F9 to toggle between "full page" view and "easy to read" view.



# Access

A **database program** is a program that manipulates lists of facts. It can store info about your friends & enemies, customers & suppliers, employees & stockholders, students & teachers, hobbies & libraries. It puts all that data about your life and business onto a disk, which acts as an electronic filing cabinet. Then it lets you retrieve the data easily. It can generate mailing lists, phone directories, sales reports, and any other analyses you wish.

It's called a **database program** or **database management system (DBMS)** or **information retrieval system**. The terms are synonymous.

In an old-fashioned office that lacks a computer, you'll see a filing cabinet containing several drawers:

One drawer's labeled "Customers"; another drawer's labeled "Employees"; another drawer's labeled "Suppliers". Each drawer contains alphabetized index cards.

For example, the drawer labeled "Customers" contains a card about each customer; the first card might be labeled "Adams, Joan"; the last card might be labeled "Zabronski, Jill". The first card contains all known information about Joan Adams: it contains her name, address, phone number, everything she bought, how much she paid, how much she still owes, and other personal information about her. That card is called her **record**. Each item of information on that card is called a **field**.

If the card is a pre-printed form, it allows a certain amount of space for each item: for example, it might allow only 30 characters for the person's name. The number of characters allowed for a field is called the **field's width**. In that example, the width of the Name field is 30 characters.

Each drawer is called a **file**. For example, the drawer that contains information about customers is called the **customer file**; another drawer is the **employee file**; another drawer is the **supplier file**.

The entire filing cabinet — which contains all the information about your company — is called the **database**.

Here's a file about amazing students in the School of Life:

Last name: Smith                      First name: Suzy  
Age: 4                      Class: 12  
Comments: Though just 4 years old, she finished high school because she's fast.

Last name: Bell                      First name: Clara  
Age: 21                      Class: 10  
Comments: The class clown, she never graduated but had fun trying. Super-slow!

Last name: Smith                      First name: Buffalo Bob  
Age: 7                      Class: 2  
Comments: Boringly normal, he's jealous of his sister Suzy. Always says "Howdy!"

Last name: Kosinski                      First name: Stanislaw  
Age: 16                      Class: 11  
Comments: He dislikes Polish jokes.

Last name: Ketchopf                      First name: Heinz  
Age: 57                      Class: 1  
Comments: His poor grades make him the slowest Ketchopf in the West.

Last name: Nixon                      First name: Tricky Dick  
Age: 78                      Class: 13  
Comments: The unlucky President, he disappointed our country.

Last name: Walter                      First name: Russy-poo  
Age: 53                      Class: 0  
Comments: This guy has no class.

That file consists of 7 **records**: Suzy Smith's record, Clara Bell's record, Buffalo Bob Smith's record, Stanislaw Kosinski's record, Heinz Ketchopf's record, Tricky Dick Nixon's record, and Russy-poo Walter's record. Each record consists of 5 **fields**: last name, first name, age, class, and comments. The age and class fields are narrow; the comments field is very wide.

A database program is like a word processing program: it lets you type info, put it onto a disk, edit it, and copy it onto paper.

In a word processing system, the info's called a **document**, consisting of paragraphs which in turn consist of sentences.

In a database system, the info's called a **file** (instead of a document); it consists of records, which in turn consist of fields.

Since a database program resembles a word processor, a word processor can act as a crummy database program. A *good* database program offers these extras, which the typical word processor lacks:

A good database program can **alphabetize**, **put info into numerical order**, and **check for criteria**. For example, you can tell it to check which customers are women under 18 who have light red hair and live in a red-light district, make it print their names and addresses on mailing labels in ZIP-code order, and make it print a phone book containing their names and numbers. Database programs are very potent and can be nasty tools for invading people's privacy!

## Famous programs

Many database programs have been invented.

### PFS

Most database programs are hard to use. In 1980, John Page invented the first *easy* database program. He called it the **Personal Filing System (PFS)**.

It ran on Apple 2 computers. He developed it while sitting in his garage.

He showed the program to two friends: Fred Gibbons and Janelle Bedke. The three of them tried to find a company willing to market his program, but no company was interested, so they decided to market the program themselves by forming a company, **Software Publishing Corporation**.

The program became very popular. Software Publishing Corporation became a multi-million-dollar corporation. It developed improved versions of PFS for the Apple 2 family, Radio Shack models 3 & 4, Commodore 64, Mac, and IBM PC. The fanciest version of PFS is **Professional File**, which runs on the IBM PC using the DOS operating system.

The company also invented a word processor, whose IBM version is called **Professional Write**. It works well with Professional File. You can write a memo by using Professional Write, build a mailing list by using Professional File, then use those programs together to print personalized copies of your memo to everybody on your mailing list.

Software Publishing Corporation invented an even easier program, called **PFS First Choice**. It includes the easiest parts of both Professional File and Professional Write. It also includes spreadsheets, graphics, and communication.

In 1988, John Page and Janelle Bedke got bored and quit the company. Fred Gibbons and the rest of his staff hung on but sold PFS First Choice to **Spinnaker**, which later became part of **Softkey**, which later became part of **The Learning Company**, which later became part of the **Mattel** toy company.

Those products (PFS, Professional Write, Professional File, and PFS First Choice) are no longer marketed. Exciting newer competitors took their place. Let's look at those competitors....

## Q&A

Inspired by the PFS series, a company called **Symantec** developed a similar program, called **Q&A**.

Q&A uses almost the same commands and keystrokes as the first IBM version of PFS; but Q&A understands many extra commands, making Q&A much more powerful than the PFS series. Q&A handles just two topics — databases and word processing — but very well! It's easy (almost as easy as the PFS series) and powerful enough to handle the computing needs of most businesses. Q&A is the database program I use to run my own business.

Symantec has stopped selling Q&A. For a while, an improved version was sold by **Professional Computer Technology**, but that company has stopped marketing Q&A and wants Q&A customers to switch to a newer database program using similar keystrokes: the **Sesame Database Manager** by **Lantica**.

## Reflex

**Reflex** was the first database program to let you view your data in 5 ways: it lets you see a **form view** (a filled-in form showing a record), a **list view** (a big spreadsheet showing the whole file), a **graph view** (a graph of all the data), a **report view** (a report on the entire file, with subtotals), and a **crosstab view** (a table of totals for statisticians).

Reflex can show you many views simultaneously, by dividing your screen into windows. As you edit the view in one window, the views in other windows change simultaneously. For example, if one window shows numbers and another window shows a graph, the graph changes automatically as you edit the numbers.

Reflex is partly a database program and partly a spreadsheet. Many of Reflex's features were copied by Microsoft's spreadsheet, Excel.

Reflex is published by **Borland**; but Borland has stopped marketing it, because competition from newer database programs has become too fierce.

## Relational databases

Reflex is a **simple flat-file system**, which means it manipulates just one file at a time. Q&A goes a step further: while you're editing a file, Q&A lets you insert data from a second file.

Software that goes even further than Q&A and lets you edit two files simultaneously is called a **relational database program** (or **relational database management system** or **relational DBMS**).

The most popular relational database programs for DOS are **dBase**, **FoxPro**, and **Paradox**. You can customize them to meet *any* need, because they include complete programming languages.

Another relational database program for DOS is **Alpha 4**. It lets you accomplish some tasks more easily than dBase, FoxPro, and Paradox but lacks a programming language.

## Windows wars

Programmers have been trying to invent database programs for Windows. Going beyond DOS programs such as Q&A, Windows database programs let the screen display pretty fonts and photos.

The first popular Windows database program was **Approach**, which is now published by the Lotus division of IBM.

Borland has invented Windows versions of **dBase** and **Paradox** and a new Windows database program called **Delphi**. Microsoft has invented a Windows version of **FoxPro** and a new Windows database program called **Microsoft Access**. Alpha Software has invented **Alpha 5**, which resembles Alpha 4 but handles Windows and is also programmable.

The most popular database program for the Mac is **FileMaker Pro**. It's as easy as Q&A! It's published by the FileMaker company, which is owned by Apple but has had the good sense to also invent a Windows version of FileMaker Pro.

**Microsoft Works** includes a database program that's very limited. For example, it can't handle big mailing lists, since it's limited to 32,000 records.

Symantec invented a Windows version of **Q&A**, but Q&A's Windows version is hated by everybody.

It's worse than the DOS version and worse than all other major Windows databases. If you use Q&A, stick with Q&A's DOS version.

Though Q&A for Windows is terrible, the other Windows database programs are fine. Here's the hierarchy:

The simplest Windows database program is the database part of **Microsoft Works**; but it comes with no instruction manual, and you'll outgrow the program's abilities. Microsoft has stopped marketing it.

The next step up is **FileMaker Pro**. It's wonderful! People who buy it love it. It's more powerful than the Microsoft Works database — it performs more tricks and handles a wider variety of problems. It comes with a decent instruction manual.

The next step up is **Approach**. By a "step up", I mean it's more powerful than the Microsoft Works database and Filemaker Pro — it performs more tricks and handles a wider variety of problems — but it's also more complex (harder to learn & use). Unlike Microsoft Works and Filemaker Pro, it's relational. But it's still not programmable.

The next step up (in power and complexity) is **Alpha 5**. It's relational and also programmable! But its programming language is small.

The next step up is **Microsoft Access**. Its programming language is bigger.

The next step up is the triumvirate: the Windows versions of **dBase**, **FoxPro**, and **Paradox**. They're powerful, fancy, and more than most folks can understand. If you buy one of them, you'll probably admire the big box it comes in, put it on the shelf, and invite friends to visit you and admire your big box, but you won't figure out how to use it.

## What to buy

To make your life *easy*, get one of the *easy* database programs: Q&A for DOS, Microsoft Works, or FileMaker Pro. Go beyond them just if your database needs are too complex for them to handle.

Even if your database needs are complex, begin by practicing with an *easy* database program first, so you master database fundamentals easily and quickly without getting distracted by needlessly complex details.

Complex database programs are like sneakers with untied shoelaces: though their overall design can let you perform amazing feats, you'll probably trip, get bloodied, and have to call in a computer "first-aid squad", which is a team of high-priced computer consultants.

To avoid the need for consultants, use Microsoft Works, FileMaker Pro, or Q&A.

In general, the best database program to use is **FileMaker Pro**. It's published by the FileMaker company, which is owned by Apple. It's the most popular database program for Macintosh computers, and a Windows version is also available.

Like Q&A, it's easy to learn how to use. It has two main advantages over Q&A: it can handle databases that are more advanced, and its Windows version is excellent. (Q&A's Windows version is terrible.) FileMaker Pro has been nicknamed "Q&A for Windows, done right." It's also been nicknamed "Microsoft Access, made reasonable" (because Microsoft Access is unreasonably hard).

The newest version of FileMaker Pro is **FileMaker Pro 12**. It lists for \$299. Pay just \$179 if you're upgrading from version 10 or 11. You can download a 30-day trial version free if you fill a form at:

<http://info.filemaker.com/US-en-FMP-Trial-Form.html>

## Versions of Access

Many companies use a database program called **Microsoft Access** because it comes free as part of **Microsoft Office Professional**.

**This chapter explains how to use versions 2007, 2010, 2013, and 2016.**

If you're using version 2002 or 2003, read the 31<sup>st</sup> edition instead, which you can get by phoning me at 603-666-6644.

If you're using version 2000, read the 27<sup>th</sup> edition instead, which you can get by phoning me at 603-666-6644.

If you're using version 97, switch to a newer version.

## Launch Access

Click Start then do this:

**Version 2016** (For old Windows 10, tap "All apps".) Tap "Access 2016".

**Version 2013** At the Apps screen (or Start screen), type "ac". Tap "Access 2013".

**Version 2010** If you see "Microsoft Access 2010", click it. Otherwise, click "All Programs" then scroll down and click "Microsoft Office" then "Microsoft Access 2010".

**Version 2007** If you see "Microsoft Office Access 2007", click it. Otherwise, click "All Programs" then scroll down and click "Microsoft Office" then "Microsoft Office Access 2007".

## Create a database

To create a new database, do this:

**Version 2016** Tap "Blank database" then the box under "File Name".

**Version 2013** Tap "Blank desktop database".

**Version 2010** Click the first "Blank database" then the box under "File Name".

**Version 2007** Click "Blank database" then hold down the Delete key awhile (to erase the name "Database1").

For our first experiment, let's create a database like this:

First name	Last name	Comments
Sue	Smith	wiggles toes
Sam	Smith	picks nose
Tina	Ash	class clown
Tina	Smith	incredible

Here's how to create it...

**Invent a name for your database** (such as "Friends"). Type the name. **At the end of the name, press Enter.**

If the computer says "The file already exists", do this:

Press Enter. (For version 2007, then double-click the name you typed.)

Type a different name instead (such as "Friends2" or "Buddies" or "Pals" or "Enemies"), then press Enter. If the computer says "The file already exists" again, do this whole procedure again.

You see the **Datasheet View**, which is a grid that looks like a spreadsheet table. It begins like this:

ID	Click to Add
(New)	

(Version 2007 says "Add New Field" instead of "Click to Add".)

**Hide the ID column** by doing this:

**Versions 2010&2013&2016** Right-click "ID" then click "Hide Fields".

**Version 2007** Right-click "ID" then click "Hide Columns".

Now the grid begins like this:

Click to Add

We're trying to create a database whose column headings are these:

First name	Last name	Comments
------------	-----------	----------

To type them, do this:

**Versions 2013&2016** Click "Click to Add" then "Short Text". Type the column heading you want there ("First name") and press Enter. Click "Short Text". Type the next column heading ("Last name") and press Enter. Click "Short Text". Type the next column heading ("Comments"). After the final column heading ("Comments"), press the down-arrow key instead of Enter.

**Version 2010** Click "Click to Add" then "Text". Type the column heading you want there ("First name") and press Enter. Click "Text". Type the next column heading ("Last name") and press Enter. Click "Text". Type the next column heading ("Comments"). After the final column heading ("Comments"), press the down-arrow key instead of Enter.

**Version 2007** Double-click "Add New Field". Type the column heading you want there ("First name"), press Enter, type the next column heading ("Last name"), press Enter, and type the next column heading ("Comments"). After the final column heading ("Comments"), press Enter *twice*.

Now the grid begins like this —

First name	Last name	Comments

and you're ready to type in the blank box under "First name".

Type the data that you want in the table, moving from cell to cell by pressing the Enter key. So type "Sue", press Enter, type "Smith", press Enter, type "wiggles toes", press Enter, type "Sam", press Enter, etc., until you've finally typed the last entry ("incredible"), so the spreadsheet table looks like this:

First name	Last name	Comments
Sue	Smith	wiggles toes
Sam	Smith	picks nose
Tina	Ash	class clown
Tina	Smith	incredible

Congratulations! You've created a **database table**.

While you're typing that data, the computer automatically copies it to the hard disk. (You don't have to click the Save button.)

In a database table, each row of data is called a **record**; each column of data is called a **field**. In the database table you created, here are the records and fields:

The first record (row of data) is Sue Smith's record.

The second record is Sam Smith's.

The third record is Tina Ash's.

The fourth record is Tina Smith's.

So altogether, there are 4 records.

The first field (column) is called "First name".

The next field is "Last name".

The next field is "Comments".

So altogether, there are 3 fields (columns), whose **field names** (column headings) are "First name", "Last name", and "Comments".

## Edit the table

While you're viewing the database table, you can edit it by retyping it. To move to different places in the table, you can use the mouse or keyboard:

To move down, to the cell below, press the keyboard's down-arrow key.  
To move up, to the cell above, press the keyboard's up-arrow key.

To move right, to the next character, press the keyboard's right-arrow key.  
To move left, to the previous character, press the keyboard's left-arrow key.

To move far right, to the next cell, press the Enter key (or Tab key or repeatedly press the right-arrow key).

To move far left, to the previous cell, press Shift with Tab (or repeatedly press the left-arrow key).

## Add extra records

To add an extra record, just type the extra record in the blank row *below* the other records. (The computer won't let you type an extra record *between* other records.)

If your table contains many records, the fastest way to hop down to the blank row is to click the **New (blank) record button** (which is at the screen's bottom and shows ► pointing at a white-and-gold starburst).

## Delete

Here's how to delete:

To delete a character, click before it then press the Delete key.

To delete an entire word, double-click it then press the Delete key.

To delete an entire cell, put the mouse pointer before the cell's first word, so the pointer turns into a white cross, then click (so the whole cell is highlighted), then press the Delete key.

To delete an entire row (record), click the gray square to the left of the row, then press the Delete key then Enter.

## Undo

If you make a mistake while using Microsoft Access, you can typically undo the mistake by clicking the **Undo button** (which is at the screen's top and shows an arrow bending toward the left). Clicking the Undo button makes the computer undo your last action.

Be cautious! Sometimes the Undo button's curved arrow is gray instead of blue: the gray means the Undo button is refusing to work.

Though you can sometimes undo your last action, you cannot undo your last *two* actions; you cannot usefully click the Undo button twice in succession.

So if you make a mistake, you can undo it just if you click the Undo button *immediately*, before performing other actions, and just if the Undo button is in a good mood, so its arrow is blue instead of gray.

## Make a column look wider

Here's how to make a column look wider, so it can show longer words:

Look at the column's heading (the field name, such as "First name"), and look at the vertical gridline that's to the right of that column heading. Drag that gridline to the right (by using your mouse).

To make the column become narrower again, drag the gridline back toward the left. To make the column look just wide enough to hold everything in it, double-click the gridline.

Fiddling with the gridlines affects just what you see on the screen, not what the computer stores in the RAM memory chips or on disk. If you make a column narrow by dragging its gridline, you'll see just part of the column's contents on the screen, but the contents are still stored, invisibly: afterward, if you drag the gridline to make the column look wider again, you'll see the full contents again.

## Find

To find everybody whose last name is "Smith", click **Home** (which is near the screen's top-left corner) then choose one of these 4 methods.

### Method 1: Search

Click in the **Search box**. (It's the white box at the screen's bottom, to the right of "No Filter").

Type "smith". As you type "smith", the computer will go back to the beginning of the data, search for "smith", and highlight the first "smith" or "Smith" it finds in the data.

If you press Enter, the computer will highlight the next

"Smith". Keep pressing Enter, to keep finding Smiths.

### Method 2: Find

Click at the data's beginning (in the first record's first field, which says "Sue"). Click the **Find button** (which is near the screen's top and shows binoculars above the word "Find"), or press Ctrl with F. You'll see the **Find and Replace window**.

Type "smith" and press Enter. The computer will search for "smith" and highlight the first "smith" or "Smith" it finds.

If you press Enter again, the computer will continue looking for Smiths, find another "Smith", and highlight that Smith. Keep pressing Enter, to keep finding Smiths.

After the computer has found all the Smiths, if you press Enter again the computer will try to find another Smith but fail, so the computer will say "The search item was not found." Press Enter.

Whenever you get tired of having the computer look for Smiths, close the Find and Replace window (by clicking its X button).

### Method 3: Selection

Look down the "Last name" column, until you notice a "Smith". Click that "Smith". Click **Selection** (which is near the screen's top) then **Equals "Smith"**.

You see an abridged datasheet, whose records show just people whose last name is Smith:

First name	Last name	Comments
Sue	Smith	wiggles toes
Sam	Smith	picks nose
Tina	Smith	incredible

You don't see Tina Ash's record, since she's not a Smith. You see a **filtered datasheet**, where the Smiths are still visible but Tina Ash has been filtered out and is invisible.

When you finish admiring that abridged datasheet, see the full datasheet again by clicking **Toggle Filter**.

### Method 4: Filter By Form

Click **Advanced** then **Filter By Form**.

You should see this form:

First name	Last name	Comments

Make sure its bottom row is clear (contains no words, no numbers). If it's not clear yet, clear it by clicking **Advanced** again then **Clear Grid**.

To find everybody whose last name is Smith, click the box below "Last name", then put "Smith" into the box using one of these methods:

**Keyboard method** Start typing "smith". After you've typed the beginning of "smith", the computer will type the rest of it for you automatically.

**Menu method** Click that box's down-arrow. You'll see an alphabetical list of all the last names. From that list, choose "Smith" by clicking it.

Click **Toggle Filter**.

You see an abridged datasheet, whose records show just people whose last name is Smith:

First name	Last name	Comments
Sue	Smith	wiggles toes
Sam	Smith	picks nose
Tina	Smith	incredible

You don't see Tina Ash's record, since she's not a Smith.

When you finish admiring that abridged datasheet, see the full datasheet again by clicking **Toggle Filter** again.

Here's a summary of the Filter By Form method:

Click Advanced then Filter By Form (then Advanced then Clear Grid). To see just the Smiths, put "smith" in the "Last name" field then click Toggle Filter.

To see just Tina Smith's record (without seeing the other Smiths and without seeing Tina Ash), do this:

Click Advanced then Filter By Form (then Advanced then Clear Grid). Put "tina" in the "First name" field, put "smith" in the "Last name" field, then click Toggle Filter.

To see everybody whose first name is not Sam, do this:

Click Advanced then Filter By Form (then Advanced then Clear Grid). Put "not sam" in the "First name" field, then click Toggle Filter.

To see everybody whose first name is Sue or Tina (without seeing Sam), do this —

Click Advanced then Filter By Form (then Advanced then Clear Grid). Put "sue or tina" in the "First name" field, then click Toggle Filter.

or do this:

Click Advanced then Filter By Form (then Advanced then Clear Grid). Put "sue" in the "First name" field, click "Or" (which is at the screen's bottom), put "tina" in the "First name" field, then click Toggle Filter.

To see everybody whose first name begins with "S", do this:

Click Advanced then Filter By Form (then Advanced then Clear Grid). Put "s\*" in the "First name" field, then click Toggle Filter.

## Alphabetize

To make the computer look at each person's last name and put the last names in alphabetical order, do this:

Click "Home" then "Last name".

Click the **Ascending button** (which shows A above Z, with a down-arrow).

That makes the computer alphabetize the table by Last name, so Tina Ash's record is at the top of the table and the Smiths are under her.

If you change your mind and want to undo the alphabetizing, click the **Remove Sort button**, which shows A above Z with an eraser. (Version 2007 calls that button "Clear All Sorts".)

## File-office button

At the screen's left edge, very close to the top, you see the **File-office button**. (In versions 2010&2013&2016, it says "File". In version 2007, it's a circle with the Microsoft Office symbol inside it.)

Click it. Then you see the **File-office menu**:

Version 2007	Version 2010	Version 2013	Version 2016
New	Save	Info	Info
Open	Save Object As	New	New
Save	Save Database As	Open	Open
Save As	Open	Save	Save
Print	Close Database	Save As	Save As
Manage	Info	Print	Print
E-mail	Recent	Close	Close
Publish	New	Account	Account
Close Database	Print	Options	Options
	Save & Publish		Feedback
	Help		
	Options		
	Exit		

From that menu, choose whatever you wish (by clicking it). Here are the most popular choices....

### Print

To print records onto paper, choose **Print** from the File-office menu (by clicking the word "Print" after clicking the File-office button), then do this:

**Versions 2010&2013&2016** Click "Quick Print".  
**Version 2007** Press Enter.

That makes the computer print the table, including the column headings and the data.

If you want to print just *some* of the records, filter them before printing. If you want the records to be alphabetized, alphabetize them before printing.

If you want to print just *one* person's record, do this instead:

Click in that person's record. Choose Print from the File-office menu. For versions 2010&2013&2016, click the Print icon (not Quick Print). Click "Selected Records(s)". Press Enter.

### Close Database

When you finish using the table you created, do this:

**Version 2013&2016** Choose **Close** from the File-office menu.  
**Versions 2007&2010** Choose **Close Database** from the File-office menu.

The computer automatically saved your data while you were typing it, but the computer might not have saved your table's overall design (such as which columns to display and which columns to alphabetize). If the computer asks "Do you want to save changes to the design of table?", press Enter. Afterwards, if the computer says "Table1", press Enter again.

Then you have 3 choices:

To **start creating a different database**, do the "Create a database" process again (explained on page 280).

To **stop using Microsoft Access**, click its X button.

To **use a database you previously created**, tell the computer which database.

Here's how to "tell the computer which database":

**Version 2016** Click "Open". You see recent database names. Click your favorite or do this: click "This PC" then "Documents" then double-click the database you want. (If the computer says "Security Warning", click "Enable Content".) Double-click "Table1". The database's table will appear on the screen, alphabetized the same way as when you last used it (but unfiltered).

**Version 2013** Click "Open". You see recent database names. Click your favorite or do this: click "Computer" then "Documents" then double-click the database you want. (If the computer says "Security Warning", click "Enable Content".) Double-click "Table1". The database's table will appear on the screen, alphabetized the same way as when you last used it (but unfiltered).

**Version 2010** The computer puts 4 recent database names in the File-office menu. Find your favorite database name there, or choose "Recent" from the File-office menu to see 17 recent names. Click your favorite name, or do this: click Open from the File-office menu then double-click your favorite name. (If the computer says "Security Warning", click "Enable Content".) Double-click "Table1". The database's table will appear on the screen, alphabetized the same way as when you last used it (but unfiltered).

**Version 2007** The computer puts 9 recent database names at the screen's right edge. Click your favorite database name there, or click "More" then double-click your favorite. (If the computer says "Security Warning", click "Options" then "Enable this content" then "OK".) Double-click "Table1 : Table". The database's table will appear on the screen, alphabetized the same way as when you last used it (but unfiltered).

## Improve the fields

While you're looking at the table (datasheet), you can change its fields (columns).

### Add an extra field

Here's how to add an extra field in versions 2013&2016:

If you want the extra field to be the last field, click "Click to Add" then "Short Text" then type a name for that field (such as "Year born") and press the down-arrow key.

If you want the extra field to be where another field is now, do this: right-click that other field's name, click "Insert Field", double-click "Field1", then type a name for that field (such as "Year born") and press Enter.

Here's how to add an extra field in version 2010:

If you want the extra field to be the last field, click "Click to Add" then "Text" then type a name for that field (such as "Year born") and press the down-arrow key.

If you want the extra field to be where another field is now, do this: right-click that other field's name, click "Insert Field", double-click "Field1", then type a name for that field (such as "Year born") and press Enter.

Here's how to add an extra field in version 2007:

If you want the extra field to be the last field, double-click "Add New Field" then type a name for that field (such as "Year born") and press Enter.

If you want the extra field to be where another field is now, do this: right-click that other field's name, click "Insert Column", double-click "Field1", then type a name for that field (such as "Year born") and press Enter.

### Delete a field

Here's how to delete a field:

Click the field's name. Press the Delete key then Enter.

That makes the field (column) disappear. The fieldname (column heading) disappears, and so does all the data in that column.

### Move a field

Here's how to move a field:

Click the field's name. Take your finger off the mouse's button. While pressing the mouse's left button again, drag the field's name to where you want it (between other fields).

## Data types

At the screen's left edge, above the word "View", you see the **Design View button**.

**Versions 2013&2016** That button shows a blue pencil, red ruler, and gray triangle.

**Versions 2010&2007** That button shows a yellow pencil, yellow ruler, and blue triangle.

You see the **Design View**, which looks like this:

Field Name	Data Type	Description
ID	AutoNumber	
First name	Text	
Last name	Text	
Comments	Text	

Whenever you want to switch back to Datasheet View (which shows your data), click the **Datasheet View button** (which is

above the word "View", where the Design View button was, and looks like a grid) then answer any questions the computer asks (such as whether to save your changes and whether to accept a shorter field).

In Design View, the left column shows the field names you invented: "First name", "Last name", and "Comments". It also shows "ID", which is the field name you hid.

Each field name you invented has a data type of "Short Text" in versions 2013&2016 ("Text" in versions 2007&2010), unless you say otherwise (or the field is the ID or the first record's data implies you want otherwise).

If you click that data type, you see a down-arrow next to it. If you click that down-arrow, you see these choices:

<b>Versions 2007&amp;2010</b>	<b>Versions 2013&amp;2016</b>
Text	Short Text
Memo	Long Text
Number	Number
Date/Time	Date/Time
Currency	Currency
AutoNumber	AutoNumber
Yes/No	Yes/No
OLE Object	OLE Object
Hyperlink	Hyperlink
Attachment	Attachment
Calculated	Calculated
Lookup Wizard	Lookup Wizard

(Version 2007 lacks "Calculated".)

Click whichever choice you want; then the screen's bottom might show boxes, such as "Field Size" and "Decimal Places". The more accurately you choose, the more accurately the computer will store, find, filter, and sort your data.

The bottom 5 choices ("OLE Object", "Hyperlink", "Attachment", "Calculated", and "Lookup Wizard") are unpopular, so I won't bother to discuss them. Here's what the popular choices and boxes mean....

### Currency

Choose "Currency" if the field's data will be an amount of money, written as dollars and cents (such as \$7,893.20). For example, choose "Currency" if the field is "Amount paid" or "Balance due" or "Profit" or "Debt" or "Income" or "Cost" or "Sales").

Then when you type the data in Datasheet View, here's what will happen:

The computer will automatically put a dollar sign before the number, put two digits after the decimal point, and insert a comma if the number is big. If the number is negative, the computer will imitate an accountant: it will put the number and dollar sign all in parentheses (instead of writing a minus sign).

The amount of money can be very big (up to \$922,337,203,685,477.58), so you can say you're even richer than Bill Gates! To see such a big number, widen the Datasheet's column by dragging its vertical gridline.

If you try to go higher than \$922,337,203,685,477.58, the computer will say "The value you entered does not match the Currency data type in this column"; click "Enter new value" then type a smaller number.

When you choose "Currency" in Design View, the screen's bottom usually shows that the Decimal Places box contains the word "Auto", which makes the computer automatically put 2 digits after the decimal point. You can force the computer to display 4 digits after the decimal point by putting 4 in the Decimal Places box (which will make the biggest number be \$922,337,203,685,477.5807). If you want the computer to round to the nearest dollar (and show no decimal point and no pennies), put 0 in the Decimal Places box. You can put 0, 1, 2, 3, or 4 in the Decimal Places box; the computer can't handle more than 4 accurately.

Each currency amount is stored by using a special code that consumes just 8 bytes of your hard disk, even if the number contains many digits.

## Date/Time

Choose “Date/Time” if the field’s data will be a date or time. For example, choose “Date/Time” if the field is “Date of birth” or “Date the loan began” or “Date due” or “Date processed” or “Appointment time”.

In Datasheet view, you can type a date/time like this: “12/31/1920 11:59:45 PM”, which means December 31<sup>st</sup>, 1920, at 45 seconds after 11:59PM.

If you don’t want to be so detailed, type just part of that: type just the date or just the time.

When typing the time, you can omit the number of seconds.

You can write AM or PM or use 24-hour military time.

The computer can handle any 4-digit year from 0100 (which was near Jesus’s birth) to 9999.

When typing a year from 1930 through 2029, you can omit the first two digits.

When typing a year from 0100 through 0999, you can omit the first zero.

Each date/time consumes 8 bytes of your hard disk.

## AutoNumber

Choose “AutoNumber” if you want the field’s data to be a simple counting number (such as 1, 2, 3, 4,...) that the computer will generate automatically.

In Datasheet View, the computer will automatically type a “1” in that field for the first record, “2” in that field for the second record, etc. That counting number will act as an ID. Each such counting number consumes 4 bytes on your hard disk.

You can name the field “ID” or “ID number” or “Record number”.

The computer lets you choosing “AutoNumber” just if you haven’t put any data in the table yet.

## Number

Choose “Number” if the field’s data will be a number that’s not an amount of money, not a date or time, and not an identification number. For example, choose “Number” if the field is “Age” or “Test score” or “Population” or “Number of children” or “Temperature” or “Discount percentage”.

(For an amount of money, choose “Currency” instead. For a date or time, choose “Date/Time” instead. For a simple identification number generated by the computer, choose “AutoNumber” instead. For other kinds of identification number, such as a social-security number or phone number or ZIP code, choose “Text” instead.)

When you choose “Number” in Design view, the screen’s bottom usually shows that the Field Size box contains “Long Integer”. Instead of “Long Integer”, choose a different size instead, if it fits your data better. Here are the most popular choices:

Choice	Meaning	Memory
Byte	a whole number from 0 to 255, no decimals, no negatives	1 byte
Integer	an integer from -32768 to 32767, no decimals	2 bytes
Long Integer	an integer from -2147483648 to 2147483647, no decimals	4 bytes
Single	a number that can contain decimals, minus sign, exponents, 7 significant digits	4 bytes
Double	a number that can contain decimals, minus sign, exponents, 15 significant digits	8 bytes
Decimal	a number that can contain decimals, minus sign, 18 digits	12 bytes

In that chart, the “Memory” column shows how many bytes of your hard disk each number consumes. The fewer the number of bytes, the shorter your data file will be and the faster your Access will run. Choose the shortest choice that’s still big enough to hold your data.

## Yes/No

Choose “Yes/No” if you want the field’s data to be a box, in which a check mark means “yes”; an empty box means “no”. For example, choose “Yes/No” if the field is “Was contacted?” or “Was sold?” or “Has diabetes?” or “Has retired?” or “Is a member now?” or “Is female?” or “Is an adult yet?”

Then when you create data in Datasheet View, you’ll see an empty box in that field. Put a check mark into that box (by clicking the box) if you want to say “yes”; leave the box blank if you want to say “no”.

Each yes/no answer consumes just 1 bit of your hard disk. (1 bit is very little: it’s  $\frac{1}{8}$  of a byte.)

## Memo

“Memo” is the only popular choice that lets the field’s data be longer than 255 characters. “Memo” lets you write an entire long essay about the person and make that essay become part of the person’s record. The essay can be up to 65535 characters long. It consumes as many bytes as there are characters in the memo.

For example, choose “Memo” if the field is “Psychoanalytical comments about the patient” or “What the employee should do to improve” or “What I really think about this person”.

## Text

Stay with “Text” just if none of the other choices is better. Choose “Text” if the field either includes words (up to 255 characters) or is an ID number (such as a social-security number or phone number or ZIP code) that’s not an AutoNumber. For example, stay with “Text” if the field is “First name” or “Last name” or “Street address” or “City” or “State” or “ZIP code” or “Phone number” or “Social Security number” or “Product name”.

The computer lets you type up to 255 characters because 255 is the number in the Field Size box. Your text consumes as many bytes as the Field Size box says. To avoid wasting bytes, make the number in the Field Size box be as small as possible, but still big enough to hold your longest data.

## Why use data types?

Suppose you create a numeric field about “Test score”.

To display the students from lowest score to highest score, do this:

In Datasheet View, click the down-arrow to the right of “Test score” then “Sort Smallest to Largest”.

To display the students from highest score to lowest score, do this:

In Datasheet View, click the down-arrow to the right of “Test score” then “Sort Largest to Smallest”.

To display just the students who scored below 60, do this:

In Datasheet view, click “Home” then “Advanced” then “Filter By Form”.  
You see a form. If its bottom row isn’t clear yet, clear it (by clicking “Advanced” again then “Clear Grid”).  
Click the box below “Test score”. Type “<60”.  
Click “Toggle Filter”.

You can use these symbols:

Symbol	Meaning
<60	less than 60 (below 60)
<=60	less than or equal to 60 (at most 60)
>60	greater than 60 (over 60)
>=	greater than or equal to 60 (at least 60)
not 60	not equal to 60 (not 60)
between 60 and 70	at least 60 but not over 70

You can apply those techniques to the other data types also! For example, in Datasheet View you can click a date/time field's down-arrow then "Sort Oldest to Newest" or "Sort Newest to Oldest"; you can use the filter form "<1/1/1920" to get all records before 1920.

## Forms

In Datasheet View, the computer shows you many records on the screen simultaneously, but each record is restricted to being just one line of the table. If you want a person's record to include more info than can fit on a single line of your screen, Datasheet View is inconvenient.

Create a **form** instead. In a form, a record can consume your whole screen instead of just one line. Here's how to create a form.

### Lay out a form

Click "Create" (which is near the screen's top-left corner, to the right of "Home") then the first "Form".

If the computer asks "Do you want to save", press Enter.

You see a form displaying the first person's record, like this:

First name:	<input type="text" value="Sue"/>
Last name:	<input type="text" value="Smith"/>
Comments:	<input type="text" value="wiggles toes"/>

You can rearrange the form by dragging its fieldnames and boxes. For example, let's move "Last name" above "First name", so the form becomes this:

Last name:	<input type="text" value="Smith"/>
First name:	<input type="text" value="Sue"/>
Comments:	<input type="text" value="wiggles toes"/>

To do that in version 2007, drag "Last name" above "First name". To do that in versions 2010&2013&2016 requires 3 steps:

Drag "Last name" above "First name".  
Drag Last name's box above First name's box.  
Click the empty space where Last name used to be, and press the Delete key.

The typical box is wide (almost as wide as the screen). If it's a text box, it's 2 lines tall.

If you want a box to be even taller,  
click in the box then drag its bottom edge down.

If you want a box to be less tall,  
click in the box then drag its bottom edge up.

If you want to narrow all the boxes, click in the first box then drag its right edge to the left; that narrows *all* the boxes simultaneously.

### Name the form

Click the **Save button** (which is at the screen's top, near the left edge, and looks like a floppy disk or TV set). Invent a name for your form and type it. For example, name it "Table1 form" or "A wild look at my friends". When you finish typing the name, press Enter.

## Form View

In the screen's bottom-right corner, just above the time, you see 3 buttons. The first is the **Form View button**, which looks like a tiny form. (If you see the words "Num Lock", the Form View button is immediately to the right of them.)

**Click the Form View button.**

You still see the first record in a form, but now you can **edit data in the boxes** (instead of the filenames and box sizes) by using the mouse or these keyboard shortcuts:

To move to the next box (field), press Enter (or Tab).  
To move back to the previous box (field), press Shift with Tab.  
To move to the bottom box, press the End key.  
To move back to the top box, press the Home key.

## See other records

Here's how to see other records:

To see the **next person's record**, click the ► button (at the screen's bottom) or press the Page Down key.  
To see the **previous person's record** again, click the ◀ button or press the Page Up key.  
To hop back to the **first record**, click the |◀ button or press Ctrl with Home.  
To hop ahead to the **final record**, click the ►| button or press Ctrl with End.  
To create an **extra record**, click the ►\* button or press Ctrl with +.

## Switching

At the screen's left edge, you see two choices: if you double-click Table1 (which version 2007 calls "Table1 : Table"), you'll see the Datasheet View again (the table that looks like a spreadsheet); if you double-click your form's name instead, you'll see the Form View again.

When you're looking at a table or form, you see two tabs above it. One tab says "Table1"; the other tab says your form's name (such as "Table1 form" or "A wild look at my friends"). Another way to switch between the Datasheet View and the Form View is to click one of those tabs.