A Brain-Friendly Guide

Head First Excel

Explore your data with pivot tables

Visualize data with charts and graphs

Sort, zoom, and filter worksheets

Nest formulas for complex operations

Organize your information

Make calculations across worksheets

O'REILLY®

Michael Milton

Table of Contents (Summary)

Table of Contents (the real thing)

Intro

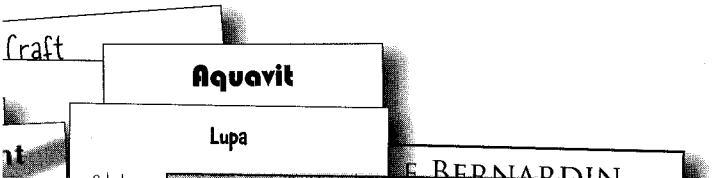
Your brain on Excel. Here *you* are trying to *learn* something, while here your *brain* is doing you a favor by making sure the learning doesn't *stick*. Your brain's thinking, "Better leave room for more important things, like which wild animals to avoid and whether naked snowboarding is a bad idea." So how *do* you trick your brain into thinking that your life depends on knowing spreadsheets?

Introduction to formulas

1 Excel's real power

We all use Excel to keep lists.

And when it comes to lists, Excel does a great job. But the real Excel ninjas are people who have mastered the world of formulas. Using data well is all about executing the **calculations** that will tell you what you need to know, and **formulas** do those calculations, molding your data into something useful and illuminating. If you know your formulas, you can really make your numbers *sing*.

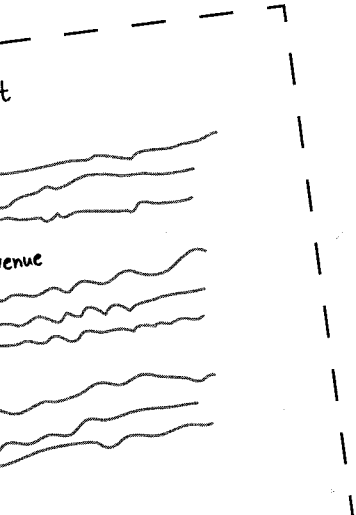


visual design

2 Spreadsheets as art

Most people usually use Excel for page layout.

A lot of formula-writing masters, who are familiar with just how powerful Excel can be, are shocked that people "just" use the software for showing information with a grid. But Excel, especially in its more recent versions, has become quite handy as a page layout tool. You're about to get comfortable with some important and not-so-obvious Excel tools for serious visual design.



3

references

Point in the right direction

A formula is only as good as its references.

No matter how creative and brilliant your formula is, it won't do you much good if it does not point to the correct data. It's easy to get references right for short, individual formulas, but once those formulas get long and need to be copied, the chance of reference mistakes increases dramatically. In this chapter, you'll exploit **absolute and relative references** as well as Excel's advanced new **structured reference** feature, ensuring that no matter how big and numerous your references are, your formulas will stay tight and accurate.

4

change your point of view

Sort, zoom, and filter

The details of your data are tantalizing.

But only if you know *how* to look at them. In this chapter, you'll forget about formatting and functions and just focus on how to change your perspective on your data. When you are exploring your data, looking for issues to investigate, the **sort, zoom, and filter** tools offer surprising versatility to help you get a grip on what your data contains.

5 data types

Make Excel value your values

Excel doesn't always show you what it's thinking.

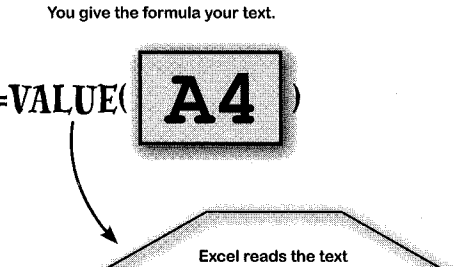
Sometimes, Excel will show you a number but think of it as text. Or it might show you some text that it sees as a number. Excel will even show you data that is neither number nor text! In this chapter, you're going to **learn how to see data the way Excel sees it**, no matter how it's displayed. Not only will this knowledge give you greater control over your data (and fewer "What the #$%! is going on?" experiences), but it will also help you unlock the whole universe of formulas.

dates and times

6 Stay on time

Dates and times in Excel are hard.

Unless you understand *how Excel represents them* internally. All of us at one point or another have had to do calculations involving these types of figures, and this chapter will give you the **keys to figuring out** how many days, months, years, and even seconds there are between two dates. The simple truth is that dates and times are a really **special case** of the data types and formatting that you already know. Once you master a couple of basic concepts, you'll be able to use Excel to ***manage scheduling flawlessly***.

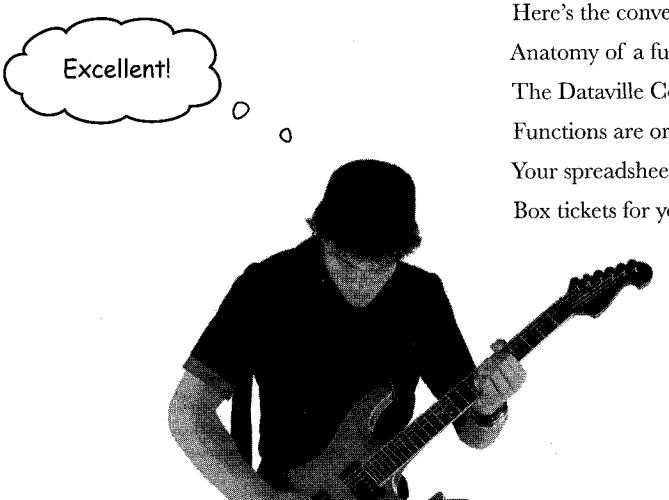


7 Finding functions

Mine Excel's features on your own

Excel has more functions than you will ever use.

Over many years and many versions, the program has accumulated specialized functions that are terribly important to the small group of people who use them. That's not a problem for you. But what ***is*** a problem for you is the group of functions **that you don't know** but that **are useful in your work**. Which functions are we talking about? Only you can know for sure, and you're about to learn some tips and techniques to finding quickly the formulas you need to get your work done efficiently.

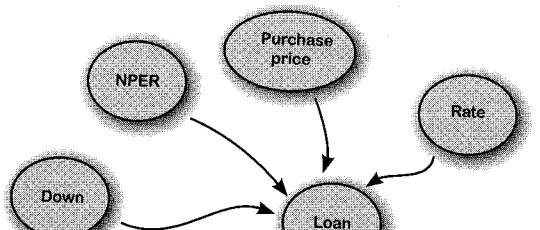


formula auditing

8 Visualize your formulas

Excel formulas can get really complicated.

And that is the point, right? If all you wanted to do was simple calculation, you'd be fine with a paper, pen, and calculator. But those complicated formulas can get unwieldy—especially ones written by other people, which can be almost impossible to decipher if you don't know what they were thinking. In this chapter, you'll learn to use a simple but powerful graphical feature of Excel called **formula auditing**, which will dramatically illustrate the flow of data throughout the *models* in your spreadsheet.



charts

9 Graph your data

Who wants to look at numbers all the time?

Very often a nice graphic is a more engaging way to present data. And sometimes you have so much data that you actually can't see it all without a nice graphic. Excel has extensive charting facilities, and if you just know where to click, you'll unlock the power to make charts and graphs to display your data with drama and lucidity.

what if analysis

10 Alternate realities

Things could go many different ways.

There are all sorts of ***quantitative factors*** that can affect how your business will work, how your finances will fare, how your schedule will manage, and so forth. Excel excels at helping you model and manage all your *projections*, evaluating how changes in those factors will affect the variables you care about most. In this chapter, you'll learn about three key features—**scenarios**, **Goal Seek**, and **Solver**—that are designed to make assessing all your "what ifs" a breeze.

text functions

11 Letters as data

Excel loves your numbers, but it can also handle your text.

It contains a suite of functions designed to enable you to manipulate **text data**. There are many applications to these functions, but one that all data people must deal with is what to do with ***messy*** data. A lot of times, you'll receive data that isn't at all in the format you need it to be in—it might come out of a strange database, for example. Text functions shine at letting you pull elements out of messy data so that you can make analytic use of it, as you're about to find out....

pivot tables

12 Hardcore grouping

Pivot tables are among Excel's most powerful features.

But what are they? And why should we care? For Excel newbies, pivot tables can also be among Excel's most *intimidating* features. But their purpose is quite simple: **to group data quickly** so that you can analyze it. And as you're about to see, grouping and summarizing data using pivot tables is ***much faster*** than creating the same groupings using formulas alone. By the time you finish this chapter, you'll be slicing and dicing your data in Excel faster than you'd ever thought possible.

Lots of raw data

booleans

13 TRUE and FALSE

There's a deceptively simple data type available in Excel.

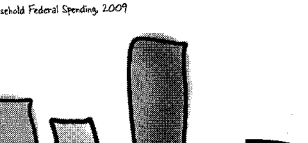
They're called **Boolean values**, and they're just plain ol' `TRUE` and `FALSE`. You might think that they are too basic and elementary to be useful in serious data analysis, but nothing could be further from the truth. In this chapter, you'll plug Boolean values into **logical formulas** to do a variety of tasks, from cleaning up data to making whole new data points.

segmentation

14 Slice and dice

Get creative with your tools.

You've developed a formidable knowledge of Excel in the past 13 chapters, and by now you know (or know how to find) most of the tools that fit your data problems. But what if your problems ***don't fit those tools***? What if you don't even have the data you need all in one place, or your data is divided into categories that don't fit your analytical objectives? In this final chapter, you'll use **lookup functions** along with some of the tools you already know to slice new **segments** out of your data and get really creative with Excel's tools.



leftovers

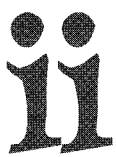
The Top Ten Things (we didn't cover)

You've come a long way.

But Excel is a complicated program, and there's so much left to learn. In this appendix, we'll go over 10 items that there wasn't enough room to cover in this book, but should be high on your list of topics to learn about next.

install excel's solver

The Solver



Some of the best features of Excel aren't installed by default.

That's right, in order to run the optimization from Chapter 10, you need to activate the **Solver**, an add-in that is included in Excel by default but not activated without your initiative.