

10 Excel Functions Everyone Should Know

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The past 10 years have seen a wave of innovative big data software designed to analyze, manipulate, and visualize data. Yet for the regular knowledge worker, Microsoft Excel, 30 years on, remains the go-to product for people looking to make sense of data. Satya Nadella, Microsoft's CEO, maintains that Excel is still the one Microsoft product that stands above the rest — and 750 million knowledge workers worldwide support that claim every day.

We've been teaching and testing Microsoft Excel for a decade, and a survey of several hundred office staff we ran suggests we spend more than 10% of our working lives spreadsheeting, and for those working in research and development or finance, it's more like 30%, or 2.5 hours a day.

Imagine, then, if this substantial proportion of the global workforce were a little better at using the application. Time would be saved, and productivity would improve.

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Last year we put together The Definitive 100 Most Useful Excel Tips, for which we consulted Excel experts and looked at tens of thousands of test results and course usage data. Though every Excel feature has a use case, no single person uses every Excel

feature themselves. Cut through the 500+ functions, and you're left with 100 or so truly useful functions and features for the majority of modern knowledge workers. We've selected ten from that list which are especially easy to learn (approximately 2 hours total) and which can make a material difference to productivity. These ten are listed in decreasing order of utility from our top 100 list. If, like many, you're stuck on what to learn next in Excel, you might want to look at this 2x2 matrix, which factors in usefulness and time needed to learn a skill.

Paste Special (10 minutes to learn)

Copy and paste is one of the simplest and most used functions in Excel. But we often carry over a format we don't want, or we copy a formula over, when instead we just want a value.

These little frustrations can take time to fix, which is why Paste Special is so... special. Paste Special enables you to pick which elements of the copied cell you bring over. After you've copied your cell (Ctrl+C) hit **Ctrl+Alt+V** (or go to the Clipboard section of the Home ribbon, or Edit > Paste Special) to bring up Paste Special and make your selection. **Alt+E+S+V** is the shortcut to just paste values — probably the most common use of Paste Special.

Add Multiple Rows (2 minutes to learn)

We often need to add new rows between existing rows. The shortcut (**Ctrl, shift, +**) is pretty handy, especially as you can toggle the + to add multiple rows. Often, just highlighting the number of rows you want to add (say 5) and using **right click, insert** is quicker when adding in bulk as it will add the number of rows you've highlighted.

Flash Fill (30 minutes to learn)

Excel developed a mind of its own in 2013 with this feature. Flash Fill automatically fills your data when it senses a pattern.

Suppose you have a list of product numbers in the first ten cells of column A, e.g. 'ABC-00001' to 'ABC-00010' and you only need the numbers after the '-'. You can easily discard the 'ABC' using Flash Fill. Pre-2013 this was possible, but relied on a combination of functions (FIND, LEFT, &, etc). Now, this is much faster and *will* impress people.

Establish the pattern by typing '00001' into the first blank cell. If Flash Fill is turned on (File Options, Advanced) just start to type the next product number in the cell below and Flash Fill will recognize the pattern and fill down the remaining product numbers for you. Just hit the Enter key to accept. Or, get it going manually by clicking **Data > Flash Fill, or Ctrl+E**.

Flash Fill is like magic, and can be used in many different scenarios. It's a fantastic time saver when you need to input or change a lot of data quickly and accurately. Flash Fill is a jaw-dropping feature.

INDEX-MATCH (45 minutes to learn)

Aside from VLOOKUP (which looks up the value in one column and returns a corresponding value from another column), INDEX and MATCH are the most widely used and most powerful tools in Excel for performing lookups. Used separately, these functions are invaluable, but it's when you combine them that their true power is unleashed. INDEX and MATCH used in combination help you extract the data you need from a large dataset efficiently and precisely. Mastering these functions will not only make you look like an Excel whiz to your colleagues and manager, but can make a tedious, mundane task quick and simple. Here's how these functions work:

VLOOKUP is a great function, but it has its limitations. It can only look up values from left to right. The lookup value must be on the left in the lookup table. INDEX and MATCH allows you to look up a value anywhere in the lookup table regardless of its position.

Let's say you have a spreadsheet with a list of products. You have columns titled "Product Number", "Profit", "Product Name", and "Revenue". On another spreadsheet, you have a list of the product names and you want to look up how much profit each product has generated. In this scenario, we are using the product name (our lookup value) to look up the profit. The product name sits to the right of the profit and so VLOOKUP would not work. This is the perfect scenario for INDEX and MATCH.

The syntax would be:

=INDEX(Profit column,MATCH(Lookup Value,Product Name column,0))

Here's a good way to remember how it works:

=INDEX (Column I want a return value from, MATCH (My Lookup Value, Column I want to Lookup against, Enter "0"))

(Zero gives you an exact match, you can match against less than (-1) or greater than (1) as well.)

At first and even second glance, INDEX and MATCH looks complex. It certainly needs some practice, but it's worth getting your head around as it is more flexible and more powerful than a VLOOKUP. It's one of the most important uses of Excel, period.

SUM (2 minutes to learn)

This is one of the first functions you're likely to learn in Excel — how to sum a row or column. But did you know you can select the cell at the end of a row or column and press **Alt** + to do this functions in seconds?

CTRL Z / CTRL Y (1 minutes to learn)

This is your Excel get-out-of-jail-free card. If you aren't using **Ctrl Z** to undo mistakes in Excel, then you should be. What many people don't know is that **Ctrl Y** does the opposite — redo. The two work in tandem very nicely, and you cycle through iterations of your work until you find the right one.

Remove Duplicates (10 minutes to learn)

This is so simple and quick to use. Remove Duplicates does exactly what you'd expect — it removes the duplicates in any given range of data. Our advice is to remove the values you want to dedupe and place them in another sheet. It's found on the **Data tab in the Data Tools** section of the Ribbon.

If you just want to highlight duplicates, you can do this using Conditional Formatting. The shortcut to get you there is **Alt H L**. (Or find it on the Home ribbon under Styles).

Freeze Panes (15 minutes to learn)

Ever scroll down a large table of data only to forget which columns are which? Freeze Panes is the answer here. You can freeze just the top row, first column or any number of either. Identify the columns and rows of the area you want to freeze. Then select the cell immediately to the right of those columns and beneath those rows. Go to the View tab and Freeze Panes in the Window section. **Alt W F** is the shortcut.

F4 (10 minutes to learn)

There are two especially satisfying ways to use F4 in Excel. The first is when creating an Absolute Reference: F4 toggles you through the various options. The second is one that few people know about, but could seriously improve your Excel productivity. F4 repeats your last action, where available. For example, if you've just applied a border to one cell, use F4 to apply it to others.

CTRL + Arrows (5 minutes to learn)

If you’ve found yourself scrolling through a dataset to reach the bottom of it, stop right now and start using **Ctrl + the arrow keys!** This simple shortcut takes you straight to the end of the data in a column or row you are using. Combine it with Ctrl, Shift to highlight/select large areas of data in seconds.

Warning: If you have gaps in your data this will just take you down to the first gap. So if you want to get to the bottom fast, choose a column of data which has no gaps.

Harness just a few of these ten items, and you can transform your typical work day. Whether you want to help justify data-driven business decisions at a high level, or simply get home to your family earlier, mastering the right Excel functions is a quick and easy way to maximize your productivity.

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