


Tutorial: Introduction to Excel





By the end of this lesson, you will...

- Understand how to navigate around a worksheet
- Be able to input original data and reference data from other cells
- Be able to calculate values based on other cells

Tip:

Any time you see a , be sure to pay careful attention. The icon signals a new skill or technique that will help facilitate your work!

Navigating and Organizing a Dataset

1. Navigate to the “Raw” worksheet. You can do this by directly clicking on the tab, or you can press  **Ctrl + PgDn** to toggle through the worksheets.
2. You should see three rows: the first for year, the second for the Consumer Price Index (CPI) for that year, and a third for median household income for that year. We want adjusted household income. But, first, we want to organize the data in a more intuitive way.
3. Let’s start by copying the data. Click on the number “1” on the left-hand side of the window. It should highlight the entire row. Next, while still holding down the right-click on your mouse, drag your mouse over the number “3” and release your mouse. All three rows should now be highlighted.
4. Now,  copy the selection by either right-clicking anywhere over the highlighted region and selecting **Copy** from the pop-up menu, or by simply pressing **Ctrl + C**.
5. Next, navigate to the “Final” worksheet either by clicking on the “Final” tab using your mouse or by toggling back to it using **Ctrl + PgUp**.
6.  To paste your data, click on cell “A1” and either right-clicking in the cell and selecting **Paste** from the pop-up menu, or by simply pressing **Ctrl + P**.
7. Unfortunately, the data still isn’t in a friendly format. Let’s undo that last part.  Press **Ctrl + Z**.

8. Now, we're going to paste the data again, but we're going to add a twist. 💡 Right-click anywhere in cell "A1." Now, click on **Paste Special**. This menu will be very useful into the future. For now, just click the box next to "Transpose" at the bottom of the pop-up window.
9. And voila! You now have the data in long format so that the data goes down the page instead of left-to-right.

Calculating New Fields

10. This first new concept is a bit advanced, so let's work through it slowly. First, we want to create the inflation Index. This value is calculated by dividing the CPI for the most recent year (2015) by the CPI of the year you are interested in. If you multiply this by the unadjusted income for that year, you will get the income, adjusted to current dollars.
11. We'll start by creating a new column. 💡 Right-click anywhere in column C. Select **Insert New Column**. You should see a new blank column between the "CPI" and "Income" columns.
12. Click on cell "C2." This cell should be blank, but will represent the inflation index for the year 2000. Mathematically, this is just the CPI for the year 2015 divided by the CPI for the year 2000.
13. Excel can actually make calculations for you! 💡 To signal to Excel that you want to calculate information in "C2" based on information from other cells, simply type the "=" sign.
14. Next, we want to input our formula. Click on the cell with information for the CPI in 2015. Next type the divided sign (/). Finish the formula by clicking on the CPI for 2000. In your formula bar, you should see the expression "=B17/B2." If this is correct, press **Enter**. Excel should now have calculated the inflation index for you.
15. Okay, but it would be tedious to do this for each year, right? Fortunately, Excel allows you to not only copy-and-paste values (like we did earlier), but also formulas!
16. First, we have to set an absolute reference. Click on cell "C2." Click the formula bar. Click anywhere in the numerator (i.e., "B17"). 💡 Now, press **F4**. You should see two dollar signs, one before "B", and one before "17." This tells Excel that when we copy the formula, we always want the numerator to be cell "B17." Press **Enter**.
17. Now, copy cell "C2." Highlight cells "C3" through "C17" in the method outlines in Step 4. And press **Ctrl + V**. And, like magic, the whole column is now filled with the correct inflation index! If you move through each cell in column "C", you will see that the numerator in the formula is always "B17", but the denominator varies with the row!
18. You will now be returned to the "Analysis" tab. You can now see the Estimate for the Total number of people age 25-54.

19. To calculate the “percent of total characteristic,” it might be easiest to use an example. Start in cell **D12**. Type “=”, and using the arrow keys navigate to cell **C12**. Then, type “/” and navigate
20. Okay, we’re almost done. Now, create a new column called “Adjusted Income.” In cell “E2”, type “=C2*D2.” Press **Enter**. Now, copy-and-paste this cell down through “E17.”
21. And you’re done! For extra practice, see if you can calculate the percentage change in adjusted income each year.

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