AI Tools in Excel

A Practical Guide for Everyday Users

Prompts | Ideas | Step-by-Step Tips

Microsoft Copilot + ChatGPT + Built-in Excel AI

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01 WHAT AI TOOLS ARE AVAILABLE IN EXCEL

Excel is no longer just a grid of numbers. Microsoft has been layering AI features into the application since 2020, and the pace has accelerated with the introduction of Copilot in 2023. There are also external AI tools that work alongside Excel to make your workflow significantly faster.

Tool	Where It Lives	Best Used For	Cost
Microsoft Copilot	Excel ribbon (M365)	Formulas, summaries, pivot tables	M365 Business/Enterprise
Analyze Data	Home tab, Excel 365	Quick insights, auto charts	Included in M365
Flash Fill	Data tab / Ctrl+E	Text cleanup, pattern fill	Free, built-in
Power Query AI	Data > Get Data	Column transforms, data cleaning	Included in Excel
ChatGPT (external)	Browser / API	Formula writing, logic help	Free / Plus plan

TIP
You do not need all five tools at once. Start with Flash Fill and Analyze Data. They require zero setup and are already inside Excel.

02   GETTING STARTED QUICKLY

Flash Fill (30 seconds to start)

Open any Excel file. In column A, put full names like 'John Smith'. In B1 type 'John'. Press Ctrl + E. Excel fills the rest automatically. That is Flash Fill. No settings, no AI subscription needed.

Analyze Data (1 minute to start)

Select your data range. Click the Home tab. Find 'Analyze Data' on the far right. A panel opens on the right side with auto-generated charts and pattern highlights. Click any suggestion to insert it.

ChatGPT for Formulas (5 minutes to start)

Open chat.openai.com in your browser. Describe what you need in plain English. Copy the formula it gives you. Paste into Excel. Always test on a small sample before applying across the full dataset.

Microsoft Copilot (requires M365 plan)

If your Microsoft 365 plan includes Copilot, click the Copilot button in the Home ribbon. Type your request in natural language. For example: 'Create a pivot table showing total sales by region.' Copilot builds it.

> **NOTE**
> Copilot works best with clean, table-formatted data. If your sheet has merged cells or blank rows scattered throughout, clean those first before using any AI feature.

03   READY-TO-USE PROMPTS

Use these prompts directly in ChatGPT or Microsoft Copilot. Copy and adjust them to match your column names and data structure.

For ChatGPT (Formula Writing)

1   Write a Lookup Formula

Write an Excel XLOOKUP formula that searches for the value in cell A2 within column F, and returns the corresponding value from column H. If not found, return "Not Found".

2   Nested IF Statement

Write an Excel formula using nested IF statements. If the value in B2 is above 90, return "Excellent". If it is between 70 and 90, return "Good". If it is below 70, return "Needs Improvement".

3   Conditional Sum

Write an Excel SUMIFS formula that adds values in column D only when column A equals "North" and column C is greater than 500.

4   Text Extraction

Write an Excel formula to extract everything before the first space in cell A2. I want just the first word from a full name.

5   Dynamic Date Filter

Write an Excel formula that checks if the date in column B falls within the current month and current year, and returns TRUE or FALSE.

6   Data Cleaning Formula

Write an Excel formula that removes all extra spaces, converts the text in A2 to proper case, and trims any leading or trailing spaces in one single formula.

For Microsoft Copilot (Inside Excel)

7 **Auto Pivot Table**

Create a pivot table from this data showing total revenue grouped by product category and sorted from highest to lowest.

8 **Highlight Key Values**

Apply conditional formatting to highlight the top 10 values in column C in green and the bottom 10 values in red.

9 **Quick Summary**

Summarize this dataset. Tell me which column has the most variation, the highest average value, and any obvious outliers.

10 **Forecast Request**

Using the sales data in columns A and B, generate a forecast for the next three months and display it as a line chart.

TIP

When writing prompts, always mention the specific column letters or names from your spreadsheet. The more specific your prompt, the more accurate the result.

04 — IDEAS TO APPLY AI IN YOUR WORK

These are practical scenarios where AI tools in Excel create real time savings. Each idea can be implemented today with the tools covered in this guide.

IDEA 01   Monthly Sales Report

Use Analyze Data to auto-generate charts from raw sales data. Ask Copilot to create a pivot summary by region. What took two hours now takes under ten

IDEA 02   Clean a Messy Client Database

Use Flash Fill to separate first and last names. Use Power Query's Column From Examples to standardize phone number formats. Use ChatGPT

IDEA 03   Build a Budget Tracker

Ask ChatGPT to write all your formulas: total expenses, variance from budget, month-over-month change. Then use Copilot to add conditional

IDEA 04   Automate Repetitive Grading

Teachers and trainers can use nested IF formulas written by ChatGPT to convert raw scores into letter grades or pass/fail labels across hundreds of rows

IDEA 05   HR Attendance Summary

Use COUNTIFS formulas from ChatGPT to count present days, absences, and late arrivals per employee. Ask Copilot to create a summary table

IDEA 06   Inventory Management

Use XLOOKUP written by ChatGPT to pull product prices from a reference sheet. Use Analyze Data to identify which products are consistently low in stock

IDEA 07   Customer Segmentation

Ask Copilot to group customers by purchase frequency and average order value into tiers. Use conditional formatting to visually separate

IDEA 08   Project Timeline

Ask ChatGPT to write formulas that calculate task duration, percentage completion, and days remaining. Ask Copilot to build a Gantt-style

05   TIPS, MISTAKES TO AVOID, AND BEST PRACTICES

Best Practices

Format data as a proper Excel Table

Press Ctrl + T on your data range before using any AI feature. Excel Tables give AI tools clean structure to work with and make formulas more readable.

Use descriptive column headers

Headers like 'Monthly Revenue (USD)' give AI tools far more context than 'Col_D' or 'Data'. Better headers produce better AI suggestions every time.

Test formulas on a small sample

Before applying any AI-generated formula across 5,000 rows, test it on 10 rows where you already know the expected output. This catches edge cases early.

Save versions before AI edits

Before letting Copilot make changes to a large dataset, save a copy of the file. AI suggestions are usually correct, but you want a rollback option.

Be specific in your prompts

Vague prompts produce vague results. Instead of asking for 'a chart', ask for 'a clustered bar chart comparing Q1 and Q2 sales by product category'.

Common Mistakes to Avoid

Mistake	Why It Matters
Using AI on unstructured data	AI tools struggle with merged cells, inconsistent formats, and missing headers. Clean the data first.
Trusting formulas without testing	AI-generated formulas are accurate most of the time but not always. Always verify against known results.
Ignoring built-in features	Flash Fill and Analyze Data are free, fast, and require no subscription. Many users skip them and look for complex solutions instead.
Over-prompting Copilot	One clear request at a time works better than long paragraphs. Keep your Copilot prompts concise and specific.
Not naming your tables	When you use Ctrl + T, give the table a meaningful name like SalesData or InventoryList. This makes formulas and Copilot requests much cleaner.

> **TIP**
> The biggest shift in thinking: AI tools in Excel are not a replacement for knowing Excel. They amplify what you already know. The better you understand Excel, the better results you get from AI.

Quick Reference: Keyboard Shortcuts

Ctrl + T	Convert range to Table (do this first)
Ctrl + E	Trigger Flash Fill
Alt + H + Y	Open Analyze Data panel
Alt + Enter	New line inside a cell
Ctrl + Shift + L	Add / remove filter dropdowns
F4	Lock a cell reference (add $ signs)

You Are Ready to Start

You now have everything you need to bring AI into your Excel workflow. Start small. Use Flash Fill on your next data cleanup task. Try Analyze Data on your next report. Write one formula using ChatGPT instead of searching for it manually.

The goal is not to use every tool in this guide at once. The goal is to find one step in your current workflow where AI saves you time, and start there. Once you see results, the rest will follow naturally.

Sources and Further Reading

- Microsoft Copilot for Microsoft 365 - Official Documentation: microsoft.com/en-us/microsoft-365/copilot

- Excel Analyze Data feature - Microsoft Support: support.microsoft.com

- Flash Fill in Excel - Microsoft Support: support.microsoft.com/en-us/office/using-flash-fill-in-excel

- Power Query documentation - Microsoft Docs: learn.microsoft.com/en-us/power-query

- ChatGPT by OpenAI - chat.openai.com