Excel Intellect

www.excelintellect.com

Data Analysis Toolkit

A practical workflow, formulas and checklists for analyzing data in Excel.

A seven-step workflow

Step	Stage	What to do
1	**Define**	Write the question and the decision it supports.
2	**Import**	Bring data in with Power Query where possible, so refreshes can repeat the steps.
3	**Clean**	Remove spaces and duplicates. Fix dates, text-numbers and inconsistent names.
4	**Profile**	Count rows, blanks and unique values. Check minimums, maximums and outliers.
5	**Analyze**	Summarize with PivotTables and formulas. Compare periods, groups and targets.
6	**Visualize**	Choose one chart per message, and label what it shows.
7	**Verify**	Reconcile totals to the source, and have someone else review key results.

Clean

Problem	Formula or tool
Extra spaces and hidden characters	`=TRIM(CLEAN(A2))`
Numbers stored as text	`=VALUE(A2)`
Dates stored as text	`=DATEVALUE(A2)`
Inconsistent capitals	`=PROPER(A2)`
Repeated rows	`Data > Remove Duplicates`
Splitting one column	`Data > Text to Columns, or Ctrl + E for Flash Fill`

Profile a column

Question	Formula
How many rows have a value?	`=COUNTA(A2:A5000)`
How many are blank?	`=COUNTBLANK(A2:A5000)`
How many unique values?	`=SUMPRODUCT((A2:A5000<>"")/COUNTIF(A2:A5000,A2:A5000&""))`
What is the range?	`=MIN(C2:C5000) and =MAX(C2:C5000)`
What is typical?	`=MEDIAN(C2:C5000)`
How spread out is it?	`=STDEV.S(C2:C5000)`
Upper outlier limit	`=QUARTILE.INC(C2:C5000,3)+1.5*(QUARTILE.INC(C2:C5000,3)-QUARTILE.INC(C2:C5000,1))`

PivotTable checklist

- Convert the data to a table with Ctrl + T.
- Keep one header row and no blank columns.
- Put categories in Rows and measures in Values.
- Show values as % of total when comparing shares.
- Refresh after the data changes.

Analysis ToolPak

Enable it in Excel for Windows with File, Options, Add-ins, Excel Add-ins, then open Data, Data Analysis. It offers Descriptive Statistics, Correlation, Regression, Histogram, t-Tests and Moving Average.

Choose the right chart

Your message	Use
Change over time	Line or column chart
Compare categories	Bar chart, sorted
Share of a total, with few categories	Stacked bar. Use a pie only for two or three parts
Relationship between two measures	Scatter chart
Spread of values	Histogram or box and whisker chart
Actual against target	Bar with a target marker, or a variance column

Before you share results

- Reconcile totals to the source system.
- State the date range, filters and exclusions.
- Separate correlation from cause.
- Review AI-written findings against the numbers.

Every function, free templates and practical AI guides for Excel and Google Sheets. www.excelintellect.com