



Chart Elements



Chart Options

Chart Types



Column: Used to compare different values vertically side-by-side. Each value is represented in the chart by a vertical bar.



Line: Used to illustrate trends over time (days, months, years). Each value is plotted as a point on the chart and values are connected by a line.



Pie: Useful for showing values as a percentage of a whole when all the values add up to 100%. The values for each item are represented by different colors.



Bar: Similar to column charts, except they display information in horizontal bars rather than in vertical columns.



Area: Similar to line charts, except the areas beneath the lines are filled with color.



XY (Scatter): Used to plot clusters of values using single points. Multiple items can be plotted by using different colored points or different point symbols.



Stock: Effective for reporting the fluctuation of stock prices, such as the high, low, and closing points for a certain day.



Surface: Useful for finding optimum combinations between two sets of data. Colors and patterns indicate values that are in the same range.

Charts

Create a Chart: Select the cell range that contains the data you want to chart. Click the **Insert** tab on the ribbon. Click a chart type button in the Charts group and select the chart you want to insert.

Move or Resize a Chart: Select the chart. Place the cursor over the chart's border and, with the 4-headed arrow showing, click and drag to move it. Or, click and drag a sizing handle to resize it.

Change the Chart Type: Select the chart and click the **Design** tab. Click the **Change Chart Type** button and select a different chart.

Filter a Chart: With the chart you want to filter selected, click the **Filter** button next to it. Deselect the items you want to hide from the chart view and click the **Apply** button.

Position a Chart's Legend: Select the chart, click the **Chart Elements** button, click the **Legend** button, and select a position for the legend.

Show or Hide Chart Elements: Select the chart and click the **Chart Elements** button. Then, use the check boxes to show or hide each element.

Insert a Trendline: Select the chart where you want to add a trendline. Click the **Design** tab on the ribbon and click the **Add Chart Element** button. Select **Trendline** from the menu.

Charts

Insert a Sparkline: Select the cells you want to summarize. Click the **Insert** tab and select the sparkline you want to insert. In the Location Range field, enter the cell or cell range to place the sparkline and click **OK**.

Create a Dual Axis Chart: Select the cell range you want to chart, click the **Insert** tab, click the **Combo** button, and select a combo chart type.

Print and Distribute

Set the Page Size: Click the **Page Layout** tab. Click the **Size** button and select a page size.

Set the Print Area: Select the cell range you want to print. Click the **Page Layout** tab, click the **Print Area** button, and select **Set Print Area**.

Print Titles, Gridlines, and Headings: Click the **Page Layout** tab. Click the **Print Titles** button and set which items you wish to print.

Add a Header or Footer: Click the **Insert** tab and click the **Header & Footer** button. Complete the header and footer fields.

Adjust Margins and Orientation: Click the **Page Layout** tab. Click the **Margins** button to select from a list of common page margins. Click the **Orientation** button to choose Portrait or Landscape orientation.

Additional Chart Elements

Data Labels: Display values from the cells of the worksheet on the plot area of the chart.

Data Table: A table added next to the chart that shows the worksheet data the chart is illustrating.

Error Bars: Help you quickly identify standard deviations and error margins.

Trendline: Identifies the trend of the current data, not actual values. Can also identify forecasts for future data.

Intermediate Formulas

Absolute References: Absolute references always refer to the same cell, even if the formula is moved. In the formula bar, add dollar signs (\$) to the reference you want to remain absolute (for example, **\$A\$1** makes the column and row remain constant).

Name a Cell or Range: Select the cell(s), click the Name box in the Formula bar, type a name for the cell or range, and press **Enter**. Names can be used in formulas instead of cell addresses, for example: **=B4*Rate**.

Reference Other Worksheets: To reference another worksheet in a formula, add an exclamation point '!' after the sheet name in the formula, for example:
=FebruarySales!B4.

Reference Other Workbooks: To reference another workbook in a formula, add brackets '[']' around the file name in the formula, for example:
=[FebruarySales.xlsx]Sheet1!\$B\$4.

Order of Operations: When calculating a formula, Excel performs operations in the following order: Parentheses, Exponents, Multiplication and Division, and finally Addition and Subtraction (as they appear left to right). Use this mnemonic device to remember them:

Please	Parentheses
Excuse	Exponents
My	Multiplication
Dear	Division
Aunt	Addition
Sally	Subtraction

Concatenate Text: Use the CONCAT function **=CONCAT(text1,text2,...)** to join the text from multiple cells into a single cell. Use the arguments within the function to define the text you want to combine as well as any spaces or punctuation.

Payment Function: Use the PMT function **=PMT(rate,nper,pv,...)** to calculate a loan amount. Use the arguments within the function to define the loan rate, number of periods, and present value and Excel calculates the payment amount.

Date Functions: Date functions are used to add a specific date to a cell. Some common date functions in Excel include:

Date	=DATE(year,month,day)
Today	=TODAY()
Now	=NOW()

Display Worksheet Formulas: Click the **Formulas** tab on the ribbon and then click the **Show Formulas** button. Click the **Show Formulas** button again to turn off the formula view.

Manage Data

Export Data: Click the **File** tab. At the left, select **Export** and click **Change File Type**. Select the file type you want to export the data to and click **Save As**.

Import Data: Click the **Data** tab on the ribbon and click the **Get Data** button. Select the category and data type, and then the file you want to import. Click **Import**, verify the preview, and then click the **Load** button.

Use the Quick Analysis Tools: Select the cell range you want to summarize. Click the **Quick Analysis** button that appears. Select the analysis tool you want to use. Choose from formatting, charts, totals, tables, or sparklines.

Outline and Subtotal: Click the **Data** tab on the ribbon and click the **Subtotal** button. Use the dialog box to define which column you want to subtotal and the calculation you want to use. Click **OK**.

Use Flash Fill: Click in the cell to the right of the cell(s) where you want to extract or combine data. Start typing the data in the column. When a pattern is recognized, Excel predicts the remaining values for the column. Press **Enter** to accept the Flash Fill values.

Create a Data Validation Rule: Select the cells you want to validate. Click the **Data** tab and click the **Data Validation** button. Click the **Allow** list arrow and select the data you want to allow. Set additional validation criteria options and click **OK**.

Tables

Format a Cell Range as a Table: Select the cells you want to apply table formatting to. Click the **Format as Table** button in the Styles group of the Home tab and select a table format from the gallery.

	A	B	C	D
1	Excursion	Jan	Feb	Mar
2	Beijing	6,010	7,010	6,520
3	Las Vegas	35,250	28,125	37,455
4	México DF	20,850	17,200	27,010
5	Paris	33,710	29,175	35,840
6	Tokyo	12,510	14,750	11,490
7	Total	108,330	96,260	118,315

Sort Data: Select a cell in the column you want to sort. Click the **Sort & Filter** button on the Home tab. Select a sort order or select **Custom Sort** to define specific sort criteria.

Filter Data: Click the filter arrow for the column you want to filter. Uncheck the boxes for any data you want to hide. Click **OK**.

Add Table Rows or Columns: Select a cell in the row or column next to where you want to add blank cells. Click the **Insert** button list arrow on the Home tab. Select either **Insert Table Rows Above** or **Insert Table Columns to the Left**.

Tables

Remove Duplicate Values: Click any cell in the table and click the **Data** tab on the ribbon. Click the **Remove Duplicates** button. Select which columns you want to check for duplicates and click **OK**.

Insert a Slicer: With any cell in the table selected, click the **Design** tab on the ribbon. Click the **Insert Slicer** button. Select the columns you want to use as slicers and click **OK**.

Table Style Options: Click any cell in the table. Click the **Design** tab on the ribbon and select an option in the Table Style Options group.

Intermediate Formatting

Apply Conditional Formatting: Select the cells you want to format. On the **Home** tab, click the **Conditional Formatting** button. Select a conditional formatting category and then the rule you want to use. Specify the format to apply and click **OK**.

Apply Cell Styles: Select the cell(s) you want to format. On the Home tab, click the **Cell Styles** button and select a style from the menu. You can also select **New Cell Style** to define a custom style.

Apply a Workbook Theme: Click the **Page Layout** tab on the ribbon. Click the **Themes** button and select a theme from the menu.

Collaborate with Excel

Add a Cell Comment: Click the cell where you want to add a comment. Click the **Review** tab on the ribbon and click the **New Comment** button. Type your comment and then click outside of it to save the text.

Invite People to Collaborate: Click the **Share** button on the ribbon. Enter the email addresses of people you want to share the workbook with. Click the permissions button, select a permission level, and click **Apply**. Type a short message and click **Send**.

Co-author Workbooks: When another user opens the workbook, click the user's picture or initials on the ribbon, to see what they are editing. Cells being edited by others appear with a colored border or shading.

Protect a Worksheet: Before protecting a worksheet, you need to unlock any cells you want to remain editable after the protection is applied. Then, click the **Review** tab on the ribbon and click the **Protect Sheet** button. Select what you want to remain editable after the sheet is protected.

Add a Workbook Password: Click the **File** tab and select **Save As**. Click **Browse** to select a save location. Click the **Tools** button in the dialog box and select **General Options**. Set a password to open and/or modify the workbook. Click **OK**.

Excel Intermediate Cheat Sheet

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Chart Elements

Chart Title: Bon Voyage Excursions

Data Bar: Horizontal bars representing sales data for each tour type and location.

Axis Titles: The vertical axis is labeled 'SALES' and the horizontal axis is labeled 'Legend'.

Legend: Mexico (orange), Las Vegas (blue), Paris (grey).

Chart Area: The area containing the data bars and gridlines.

Chart Elements: Labels pointing to various parts of the chart including the title, data bars, axis titles, legend, gridline, chart area, chart elements, chart styles, and chart filters.

Tour Type	Mexico	Las Vegas	Paris
Peace Boat	18,000	25,000	30,000
Sahara One	28,000	35,000	38,000
Berry One	15,000	22,000	28,000
Cruise One	25,000	32,000	35,000

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