



Microsoft®
Excel 2019 Intermediate
 Quick Reference Card



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Chart Elements

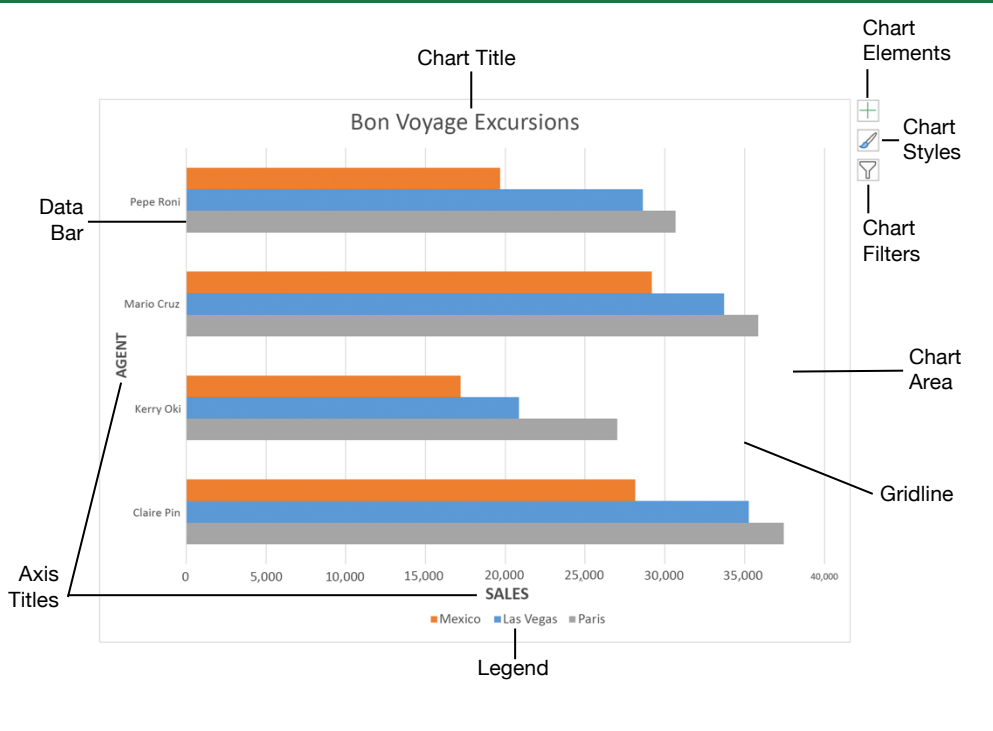


Chart Options

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.

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.

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 you want to manipulate. 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 you want to change and click the **Design** tab on the ribbon. Click the **Change Chart Type** button and select a different chart from the available options. Or, right-click the chart and select **Change Chart Type** from the menu.

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.

Insert a Sparkline: Select the cell range that contains the data you want to chart and click the **Insert** tab on the ribbon. Select the sparkline you want to insert from the Sparkline group. Select the cell or cell range where you want to add the sparkline and click **OK**.

Charts

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.

Print and Distribute

Set the Page Size: Click the **Page Layout** tab. Click the **Size** button and select the page size desired for the worksheet.

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 use the dialog box to set which items you wish to print.

Add a Header or Footer: Click the **Insert** tab on the ribbon and click the **Header & Footer** button. Add the desired information to the header and footer fields that appear in the worksheet.

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 from either Portrait or Landscape orientation.

Intermediate Formulas

Reference Other Worksheets: To reference another worksheet in a formula, add '!' 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 help you remember the order of operations:



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.

The 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**.

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.

Manage Data


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**. **Note:** The column you are subtotaling must be sorted alphabetically. After the subtotals are applied, outline buttons appear to the left of the data.


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.

Tables

	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

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.

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**.


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.


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**.


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.


Create a Custom Cell Style: Apply the desired formatting to a cell in the worksheet. Click the **Cell Styles**  button on the Home tab. Select **New Cell Style** in the menu. In the dialog box, the formatting from the selected cell is captured. Enter a name for the custom style and click **OK**.

Find and Replace Formatting: Click the **Find & Select**  button on the Home tab. Select **Replace** from the menu. In the dialog box, click the **Options** button and define the formatting criteria for the data you want to find and the data you want to replace it with. Click **Replace** or **Replace All** and then click the **OK** button.


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. If you wish, add a password to unprotect the sheet and click the **OK** button.

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**.