

Sort Table Data

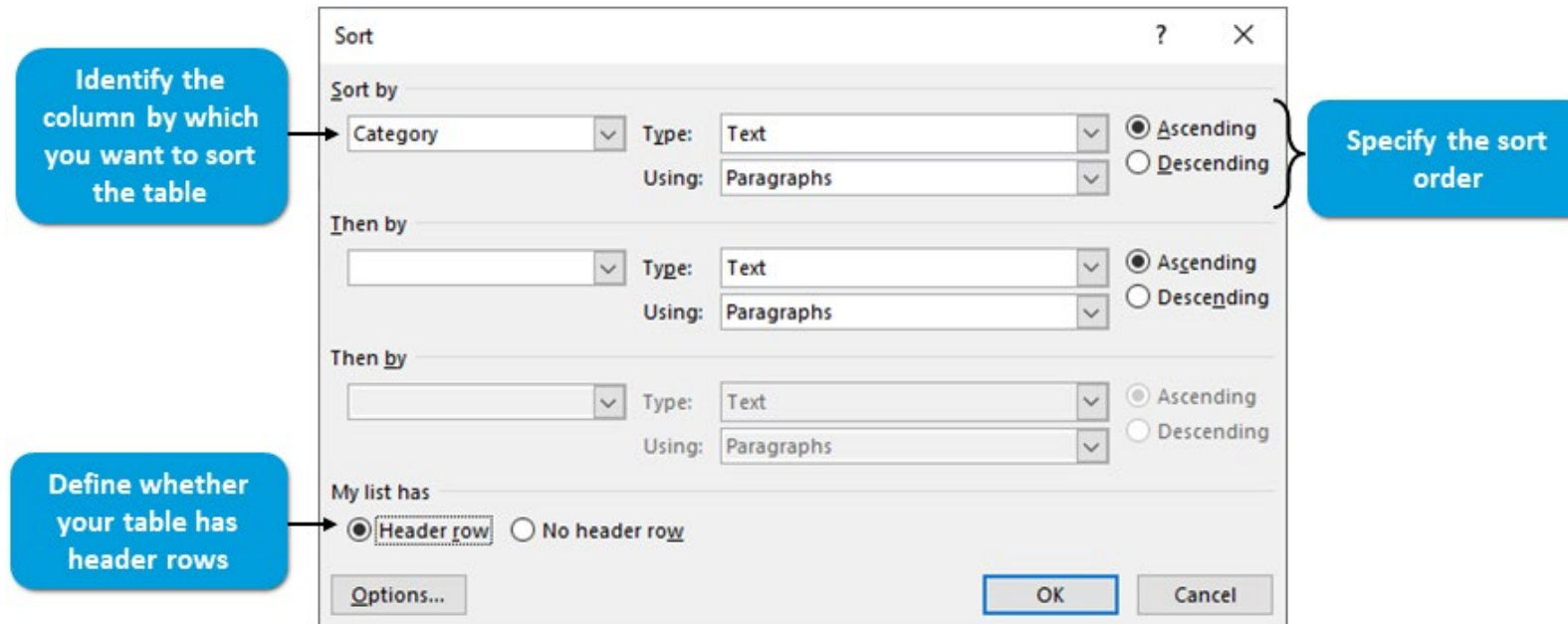


Word 2021

Table Sorting

Sorting data in a table puts the data in ascending or descending alphabetical or numerical order. You can sort tables on a single level or on multiple levels. For example, if you are sorting a list of customers, you might first sort by city, then by ZIP code if there are numerous ZIP codes within the city, and then by street.

It is not necessary to have column headings, but it makes it easier and more meaningful if the columns do have headings. You can refer to the headings when sorting in Word. If you have headings, but don't indicate that you do in the **Sort** dialog box by selecting the **Header row** option, Word sorts the column headings with the rest of the data and thus the headings won't remain at the top of the columns.



Activity 04. Sorting Table Data

Control Cell Layout



Cell Merging

Cell merging combines multiple adjacent cells into a single cell that is the size and shape of the original cells. You can combine cells from rows, columns, or both.

Cells merged from two columns and three rows to create this cell			Cells merged from five rows to create this cell	
Cells merged from five columns to create this cell				

HouSalvage Greene City Inventory				
Category	Item Name	Wholesale Price	Retail Price	Quantity on Hand
Appliances	Dishwasher	\$99.95		4
	Electric cooktop	\$125.99		2
	Electric front-loading washer	\$119.99		6
	Electric top-loading washer	\$69.99		3
	Electric water heater (50 gallons)	\$139.99		2
	Gas cooktop	\$149.99		7
	Gas water heater (50 gallons)	\$159.99		7
	Refrigerator side by side—25.4 cubic feet	\$499.99		3
Cabinets	Maple kitchen	\$229.99	\$252.99	8

Merging cells is useful when you want to add a title that goes across all the rows in a table or when you have sorted data and want the common information listed just once for the grouping where it applies.

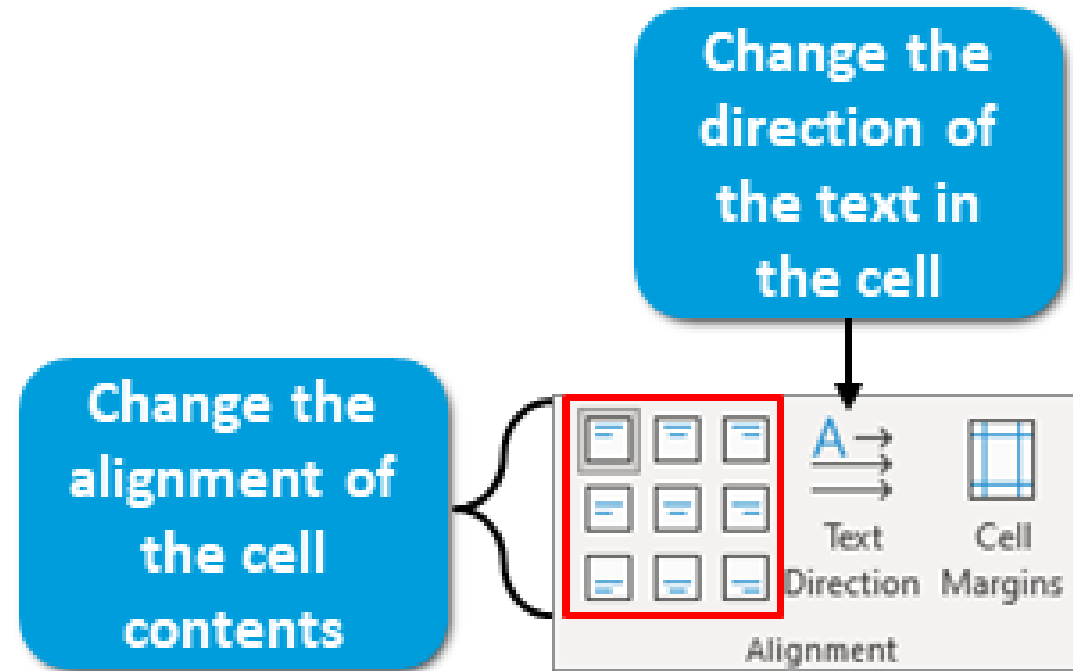
If data already exists in the cells before you merge them, Word will list the data in the merged cell as multiple paragraphs. In the example in the previous figure, “Appliances” was listed in each row of the table for the items adjacent to the merged **Appliances** cell. When Word initially merged the cells, it listed “Appliances” eight times within the merged cell. The person who merged the cells then deleted all except one instance of the word.

Cell Splitting

Cell splitting divides one or more cells into multiple adjacent cells. If you are splitting a single cell into two or more cells, you can right-click the cell and select **Split Cells**. If you are splitting multiple cells, you can do so only from the **Layout** contextual tab.

Cell Alignment

The cell alignment options on the **Layout** contextual tab, in the **Alignment** group, enable you to position the cell contents in one of nine positions. The button images show the alignment positioning, such as top left, top center, top right, center left, center, center right, bottom left, bottom center, and bottom right.



Text Direction

Text direction options in the **Alignment** group of the **Layout** contextual tab enable you to position the text horizontally or vertically in a table cell. The default is horizontal. You can turn it 90 degrees and flow up the left side of the cell or down the right side of the cell.

Activity 05. Controlling Cell Layout

Perform Calculations in a Table



Word 2021

Formulas in Word

Word is most appropriate for creating text documents, but it can also perform simple calculations. Word enables you to insert formulas and functions into your document so that you can perform calculations on numbers in the document.

A formula is a type of field code you use to perform mathematical calculations on data in a table. You can perform mathematical operations such as adding, subtracting, or averaging the numbers in a row or column. You can also enter numbers directly into the formula. By default, the formula adds the numbers above or to the left of the cell in which you insert the formula.

You must always begin a formula with an equal sign, then add one of the following:

- A function (for example, SUM or AVERAGE) and arguments (ABOVE, BELOW, LEFT, specific cells, numbers, bookmarks, and more)
- Numbers and operators (for example, =32*.25)
- A combination of the two

=SUM(LEFT)

Sums all numerical values in columns to the left of the formula

=32*.25

Performs the mathematical calculation

=SUM(LEFT)*.25

Sums all numerical values in columns to the left and multiplies that value by .25

Number Format

In the **Formula** dialog box, you can change how the number that Word calculates with your formula is displayed. The **Number format** list provides a variety of options that can be used to specify how Word displays the numbers, such as formatting with dollar signs or percent signs and the number of decimal places to use. The following table describes the available number formats.

Number Format	Description
#,##0	Displays whole numbers with commas to separate thousands, millions, and so on.
#,##0.00	Displays numbers with two decimal places and commas to separate thousands, millions, and so on.
\$#,##0.00;(\$#,##0.00)	Displays numbers preceded by the dollar sign (\$), followed by two decimal places, and with commas to separate thousands, millions, and so on. In addition, displays negative numbers in parentheses.
0	Displays whole numbers only, without commas to separate thousands, millions, and so on.
0%	Displays decimal values as percentages.
0.00	Displays numbers with two decimal places and no comma separators.
0.00%	Displays numbers as percentages with two decimal places.

Formula Results

Word doesn't automatically update the formula results when you change a number. Word updates the formula results when you open the document, or you can manually update the results. To manually update the calculation, select the field and then press **F9**, or right-click the field and then select **Update field**. To update all calculations in the table or document, select the entire table or document before you press **F9**.

You can also prevent Word from updating a formula. To lock a formula to prevent updates, select the formula and then press **Ctrl+F11**. To unlock the formula, select it, and then press **Ctrl+Shift+F11**.

Functions

A function is the action that Word performs on the values in a formula. Examples of functions are SUM, AVERAGE, and COUNT. The functions that you can use in a formula are listed in the **Formula** dialog box under the **Paste function** heading. The default function is SUM, which adds the numbers above or to the left of the formula.

You can delete everything from the **Formula** box and then enter a different function. Be sure to begin the formula with an equal sign. You can either type the function into the **Formula** box or select the function from the **Paste function** drop-down list. The examples in the table show some of the functions you might use.

Arguments

The arguments for a function are the entities within the parentheses following the function name in a formula. There are several types of arguments you can use in a function. For example, you can use the positional argument LEFT in the SUM function to have Word sum the values in all cells to the left of the cell that contains the formula.

Argument Types

Argument Type	Description	Examples
Numbers	The actual value to use in the computation	=SUM(3,5)
Positional arguments	Computes the values of numbers to the left, right, above, or below the current cell	LEFT, RIGHT, ABOVE, BELOW (and combinations of these positions) =PRODUCT(ABOVE,LEFT)
Bookmarks	Define a bookmark for a cell and then use the bookmark name in the formula	(Interest_rate, LEFT) where Interest_rate is the bookmark name of a cell containing a number
Cell references—RNCN	RNCN references where RN refers to a row number and CN refers to a column number	(R2C2) Refers to the second row, second column in the table
Cell references—A1	A1 references where the first column in a table is A and the first row is 1 (like in a Microsoft® Excel® spreadsheet)	(B3) Refers to the second column, third row (B3, C3) Refers to the second and third columns, third row (B2:C4) Refers to all of the cells from the second column, second row, through the third column, fourth row =AVERAGE(B2:B15)

- All of the functions except FALSE require arguments. Refer to the Word Help topic “Use a formula in a Word table” for a description of all of the functions with examples.

Equations

An equation is a document element for adding complex mathematical symbols to your document. There are several predefined equations that you can insert into your document. You can also use the equation editor to create your own equations.

- By default, the equations are formatted in professional format. You can also format them in linear format.

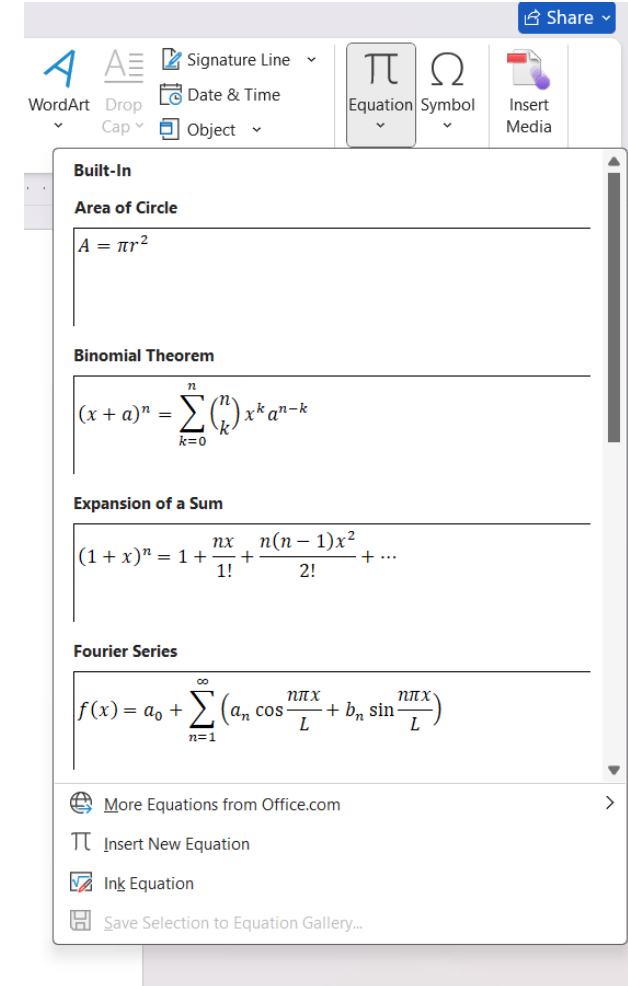
Professional format:

$$(1 + x)^n = 1 + \frac{nx}{1!} + \frac{n(n-1)x^2}{2!} + \dots$$

Linear format:

$$(1 + x)^n = 1 + nx/1! + (n(n-1) x^2)/2! + \dots$$

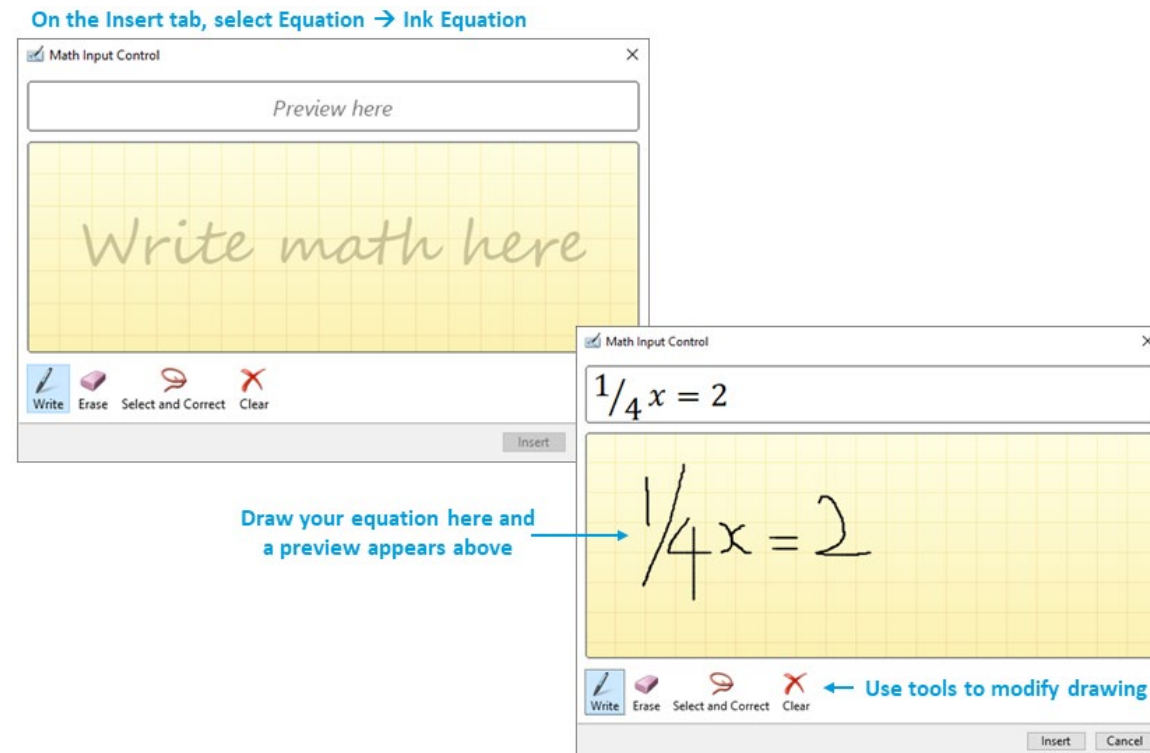
- In Word Help, you can find additional information on creating and using equations.



Ink Equations

Ink equations enable you to input complex formulas by writing them with your mouse or a stylus. You create and insert an ink equation by selecting the drop-down arrow on the **Equation** button on the **Insert** tab, and then selecting **Ink Equation**.

As shown in the following figure, you draw your equation in the **Write math here** area. Word displays a typed equivalent in **Preview here**. You can use the available tools to modify the equation. When it's finished, select **Insert** to insert the formula into your document.



Activity 06. Performing Calculations in a Table

Create a Chart



Word 2021

Charts

A chart is a graphical interpretation of data. The information can be organized as points on a line, grouped into columns or bars, or shown as slices in a circle or a pie. Line and bar charts have a vertical and a horizontal axis with a scale showing the values on one axis and labels describing the data on the other axis. All types of charts should have a title. Pie charts use a legend to indicate what each color in the chart represents.

A chart is composed of several components. Some components are displayed by default, and others you can add if necessary. Some chart components can be moved, resized, or reformatted.

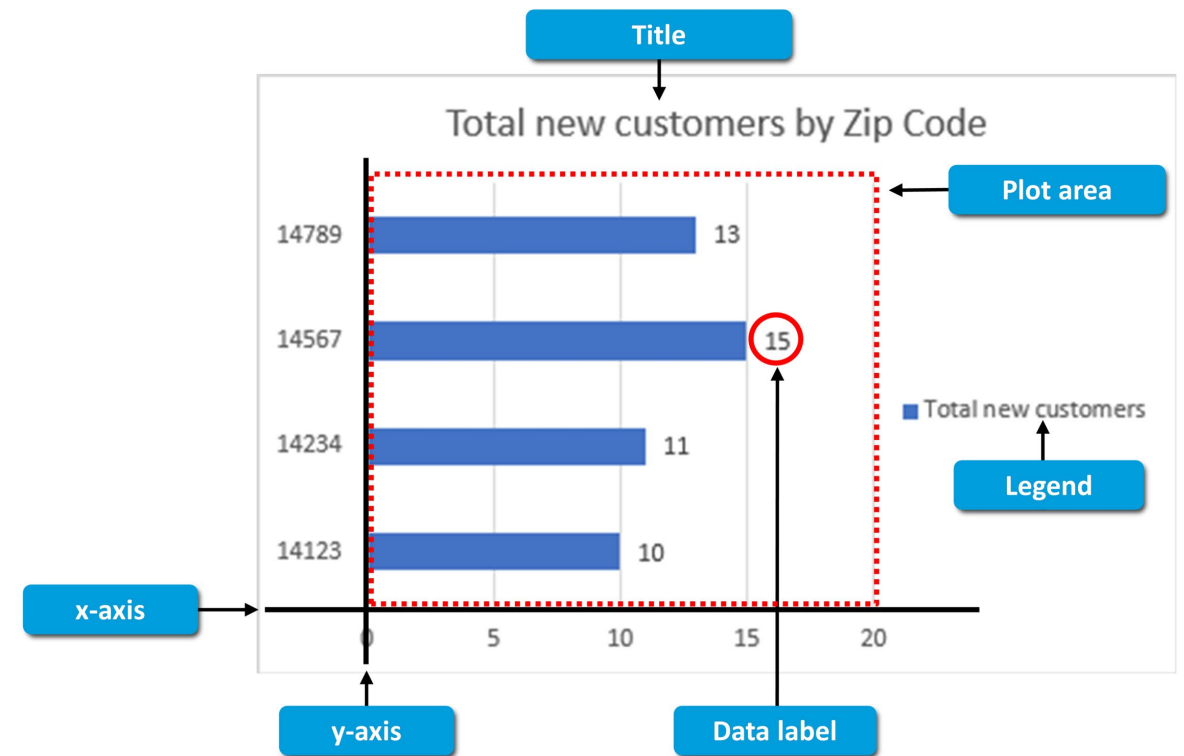


Chart Components

Chart Component	Description
Chart area	The entire chart and all chart components.
Plot area	The area inside the two axes where the data series are located.
Axis	There are two axes. The vertical, or y-axis, usually contains numerical data. The horizontal, or x-axis, usually contains categories. These can be reversed, as shown in the preceding figure.
Title	The text that identifies or describes the chart. It can be aligned with an axis or centered above the chart.
Data label	Labels can be added to provide additional information, such as showing the actual value of a bar on a bar chart inside the bar.

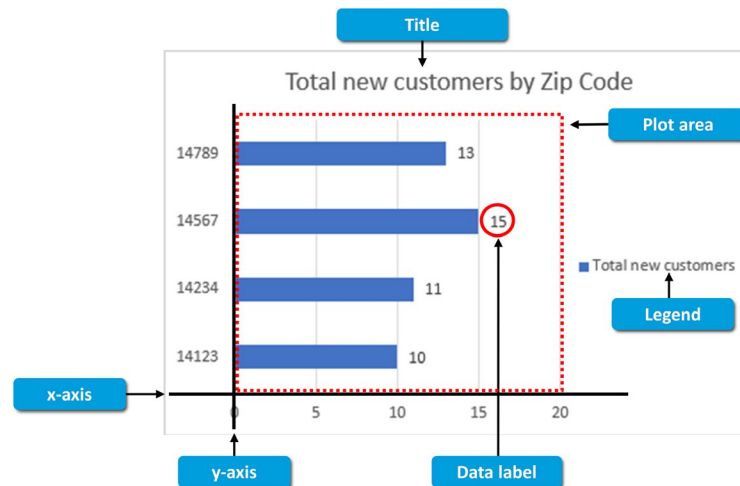


Chart Types

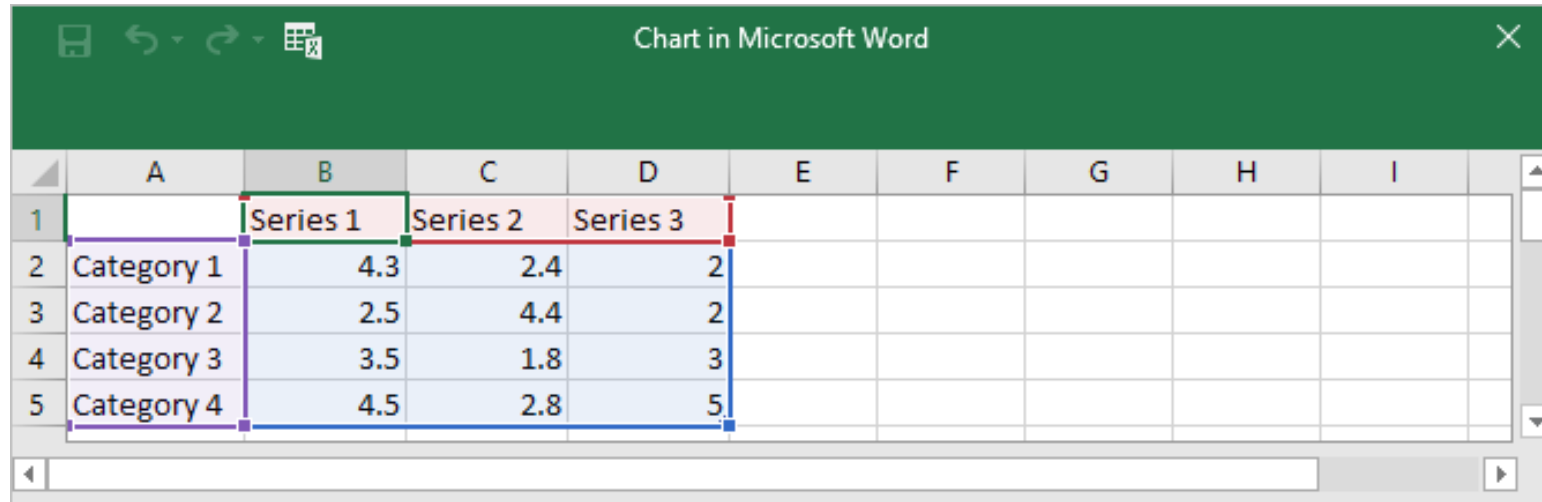
Chart Type	Description
Column	Displays data changes over a period of time or used to illustrate comparisons among values. Typically, the categories are displayed on the horizontal axis and the values on the vertical axis.
Line	Shows trends in data over time and at equal intervals.
Pie	Shows the relative size of values in one data series, compared to the whole and to parts of the whole.
Bar	Displays comparisons among individual values in several categories. Similar to column charts; however, the categories are organized on the vertical axis and the values on the horizontal axis.
Area	Shows the magnitude of change of each data category over time and illustrates the total value in a trend.
XY (Scatter)	Shows relationships between two categories of data in irregular intervals, or clusters. Scatter charts are commonly used to represent numeric values such as scientific or statistical data.
Map	Displays data plotted across geographical areas, such as states or countries.
Stock	Displays the change in stock prices over time or in other fluctuating sets of values over time, such as rainfall or temperature.
Surface	Displays three-dimensional representations of data. Finds optimal or favorable combinations between data sets; typically used with three sets of data.
Radar	Compares the aggregate values of multiple data series.

Chart Types

Chart Type	Description
Treemap	Displays a hierarchical view of your data. Used to analyze across hierarchies and compare different levels of categorization.
Sunburst	Displays hierarchical data in rings or circles with the top of the hierarchy being represented by the innermost ring. Sunbursts help to identify the largest contributing segments within a hierarchy of multiple levels.
Histogram	Displays the frequencies in a distribution with columns representing bins containing values that can be changed. Histograms are commonly used to represent statistical data.
Box & Whisker	Displays the distribution of data, but it can also provide insight about distribution in a single view, including quartiles to show how much variation there is in a large data set, mean, and outliers. Useful for summarizing and comparing multiple data sets that relate to each other.
Waterfall	Displays a running total of financial data as values are added or subtracted. It is often used to show how an initial value is affected by a series of positive and negative values.
Funnel	Displays values across different stages of a process that are shown as a bar chart with the highest values at the top and the lowest values at the bottom.
Combo	Combines two or more chart types into a single display, such as a column and a line chart. Combo charts often include a secondary axis.

The Chart in Microsoft Word Window

When you add a chart to your Word document, the **Chart in Microsoft Word** window opens. This is an actual instance of Microsoft Excel that opens with sample data already displayed. You can copy data from your Word document or manually enter data in the spreadsheet to be graphed. By default, the **Chart in Microsoft Word** window has four rows and three columns for your data. If you paste data that doesn't consist of as many columns and/or rows, you must delete the extra data in order for Word to chart your data properly. When you close the window, the chart is added to your document at the location where your cursor was when you chose to insert the chart.



The screenshot shows a window titled "Chart in Microsoft Word" with a green header bar. The window contains a spreadsheet with the following data:

	A	B	C	D	E	F	G	H	I
1		Series 1	Series 2	Series 3					
2	Category 1	4.3	2.4	2					
3	Category 2	2.5	4.4	2					
4	Category 3	3.5	1.8	3					
5	Category 4	4.5	2.8	5					

Contextual Chart Tabs

After you create a chart, you can make changes to the design, layout, and format of the chart using the **Chart Design** and **Format** contextual tabs in Word. Select the chart to display these contextual tabs.

The **Chart Design** contextual tab enables you to:

- Add chart elements.
- Apply a **Quick Layout**.
- Select a predefined chart style.
- Switch the rows with the columns.
- Select, edit, or refresh data.
- Select a predefined chart layout.
- Change the chart type.

The **Format** contextual tab enables you to:

- Format the current selection.
- Reset the current selection to match the selected style.
- Insert and configure shape styles, including selecting predefined styles, shape fill, shape outline, and shape effects.
- Configure WordArt Styles, including adding WordArt, text fill, text outline, and text effects.
- Arrange the chart position and text wrap options.
- Specify a specific height and width for the chart.

Chart Buttons

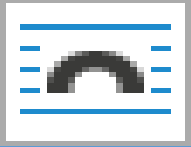
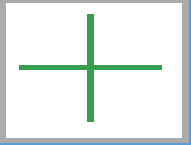
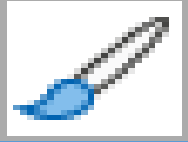

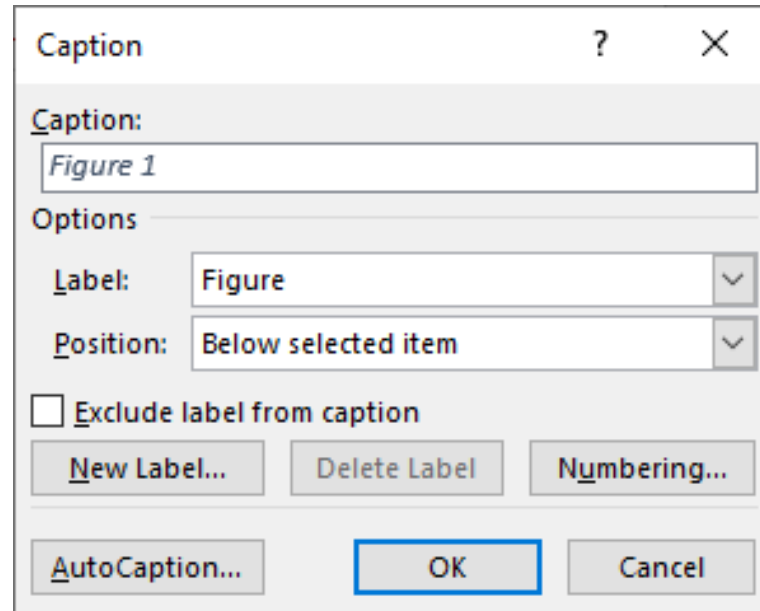
Button	Options	Description
Layout Options 	<ul style="list-style-type: none">• In Line with Text• With Text Wrapping• Move with text• Fix position on page	Choose how your chart interacts with the text around it.
Chart Elements 	<ul style="list-style-type: none">• Axes• Axis Titles• Chart Title• Data Labels• Data Table• Error Bars• Gridlines• Legend• Trendline	Add, remove, or change chart elements.

Chart Buttons

Button	Options	Description
Chart Styles 	<ul style="list-style-type: none">• Style• Color	Set the style and color scheme for the chart.
Chart Filters 	<ul style="list-style-type: none">• Values<ul style="list-style-type: none">• Series• Categories• Names<ul style="list-style-type: none">• Series• Categories	Specify which data points and names are included in the chart.

The Caption Dialog Box

You might want to add a caption to your chart. This places a caption in your document above or below the chart. From the **Caption** dialog box, you can specify caption details such as the caption text, the type of label for the caption, and the caption location. The default label types do not include charts, so if you have multiple charts you would like to number and caption, you will want to add a new label type for charts.









Add an Excel Table to a Word Document

 Microsoft



Word 2021

Excel Data Paste Options

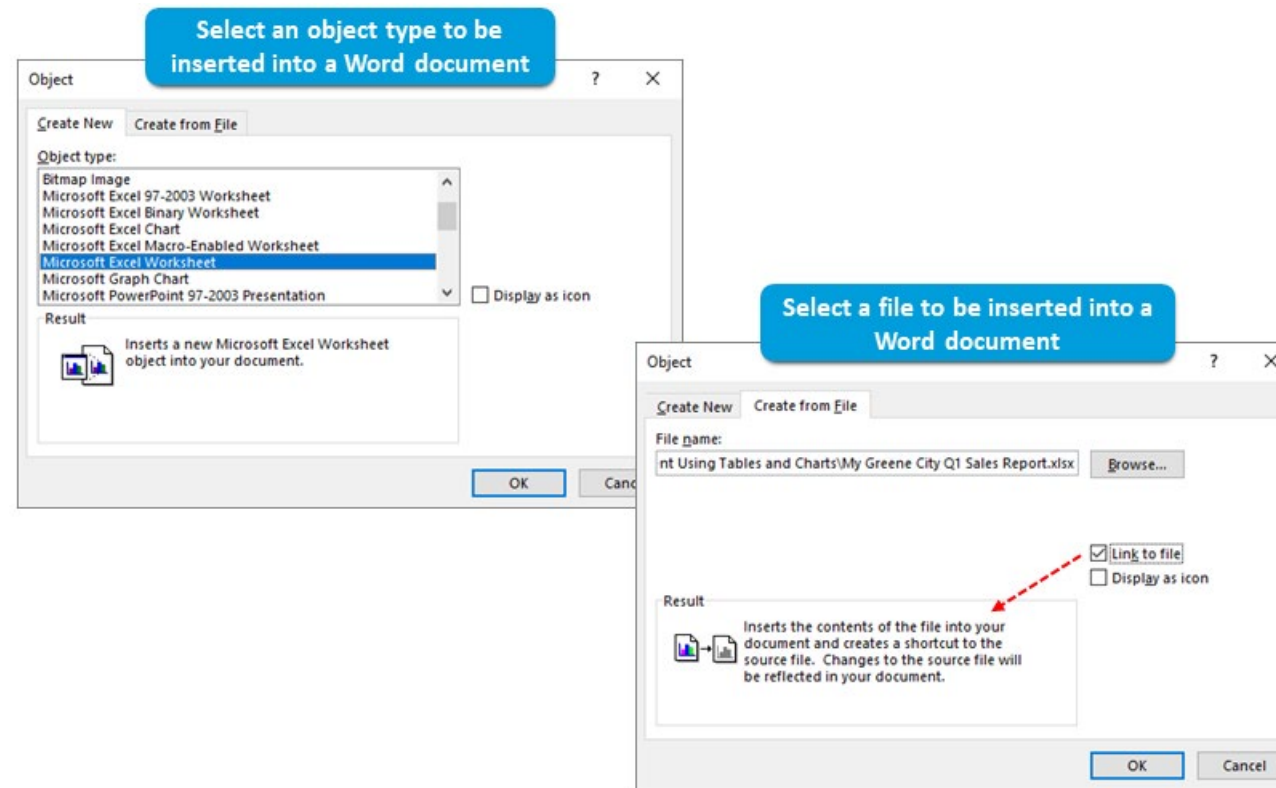
Paste Button	Description
Keep Source Formatting 	Paste the Excel table into Word as a Word table. If you later change the Excel table, the Word table will not be updated. This option keeps the formatting you applied in Excel on the table in Word.
Use Destination Styles 	Paste the Excel table into a Word table and remove the formatting you applied in Excel. This option enables you to apply any of the Word table styles to the copy of the Excel table in Word. Note that if you later change the Excel table, Word will not update the Word table with your changes.
Link & Keep Source Formatting 	Link a copy of the Excel table into your Word document and keep the Excel formatting. By linking the table, you enable Word to update the table whenever you make changes to the Excel table.
Link & Use Destination Styles 	Link a copy of the Excel table in your Word document and remove the Excel formatting. Linking the table enables Word to update the contents of the table whenever you modify the Excel table.
Picture 	Paste a snapshot of the table as a graphic instead of a Word table. Pasting the table as a graphic enables you to resize and wrap text around it just like you would a photo. Any subsequent changes you make to the original Excel table will not be reflected in this snapshot of the table in Word.
Keep Text Only 	Paste a copy of the contents of the Excel table without any table formatting in Word. Keep in mind that any changes you make to the Excel table will not be updated in the Word copy of it.

The Object Dialog Box

Another option you can use to insert an Excel table into a Word document is the **Object** dialog box. To do so, select the **Insert** tab and, in the **Text** group, select **Object**.

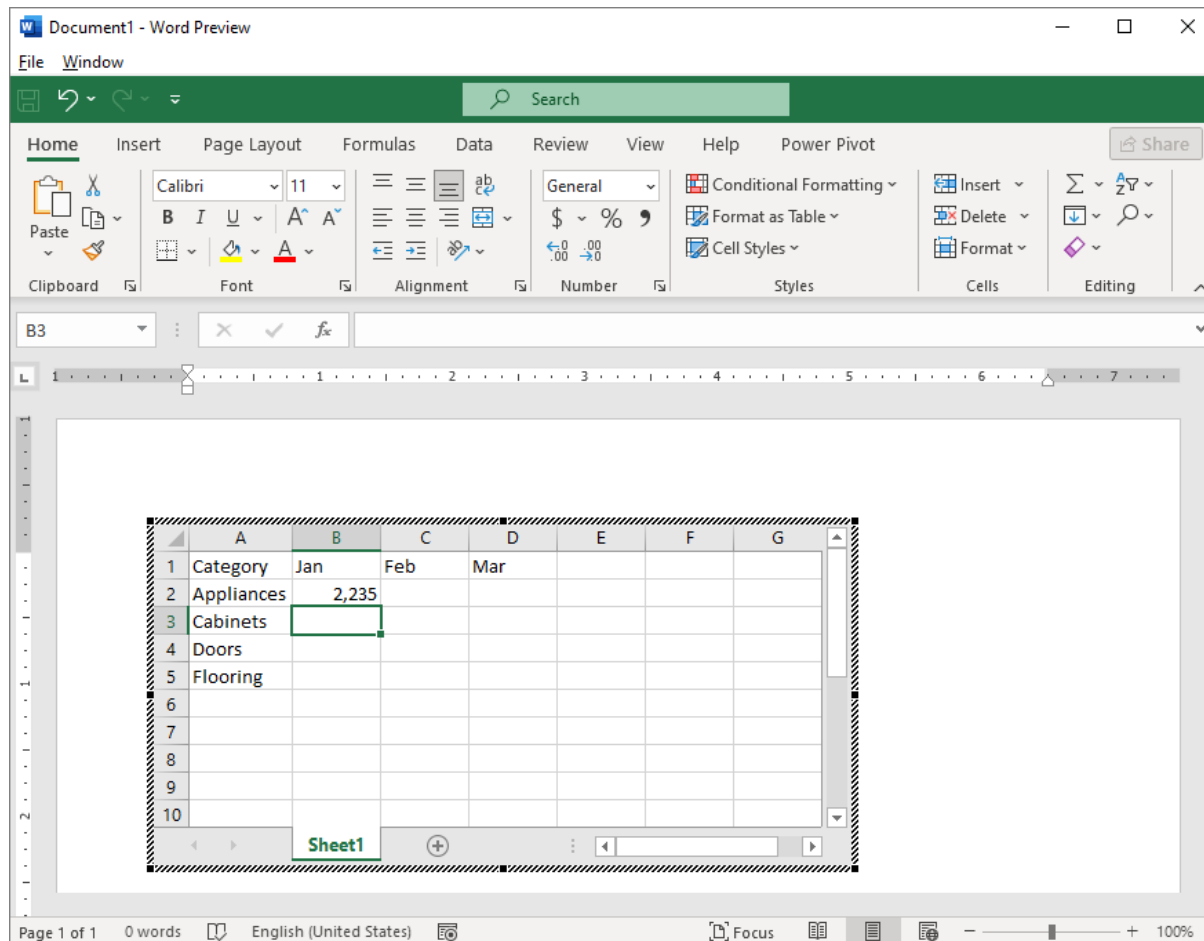
In the **Object** dialog box:

- Use the **Create New** tab to insert a new object, such as an Excel table within a Word document.
- Use the **Create from File** tab to link an existing file (again, such as an Excel workbook) within a Word document. When the **Link to file** check box is checked, Word updates the inserted object whenever the source file is modified.



Excel Interface in Word

After you insert an object into a Word document, selecting that object results in Word displaying the interface for the type of object. For example, if you insert an Excel worksheet into your Word document, it appears as shown. Within the Word document, you will see an Excel window containing the Excel ribbon, column and row headings, and other interface components.



Activity 07. Adding an Excel Table to a Word Document