

## Microsoft 365: Excel

Microsoft Excel is a programme that offers a wide range of options to create outstanding spreadsheets. Excel is a complicated application and can become difficult if you don't grasp the basics. So, in this guide we will go over the fundamentals of Excel and how to use specific tools effectively.

This document will focus on **How To...**

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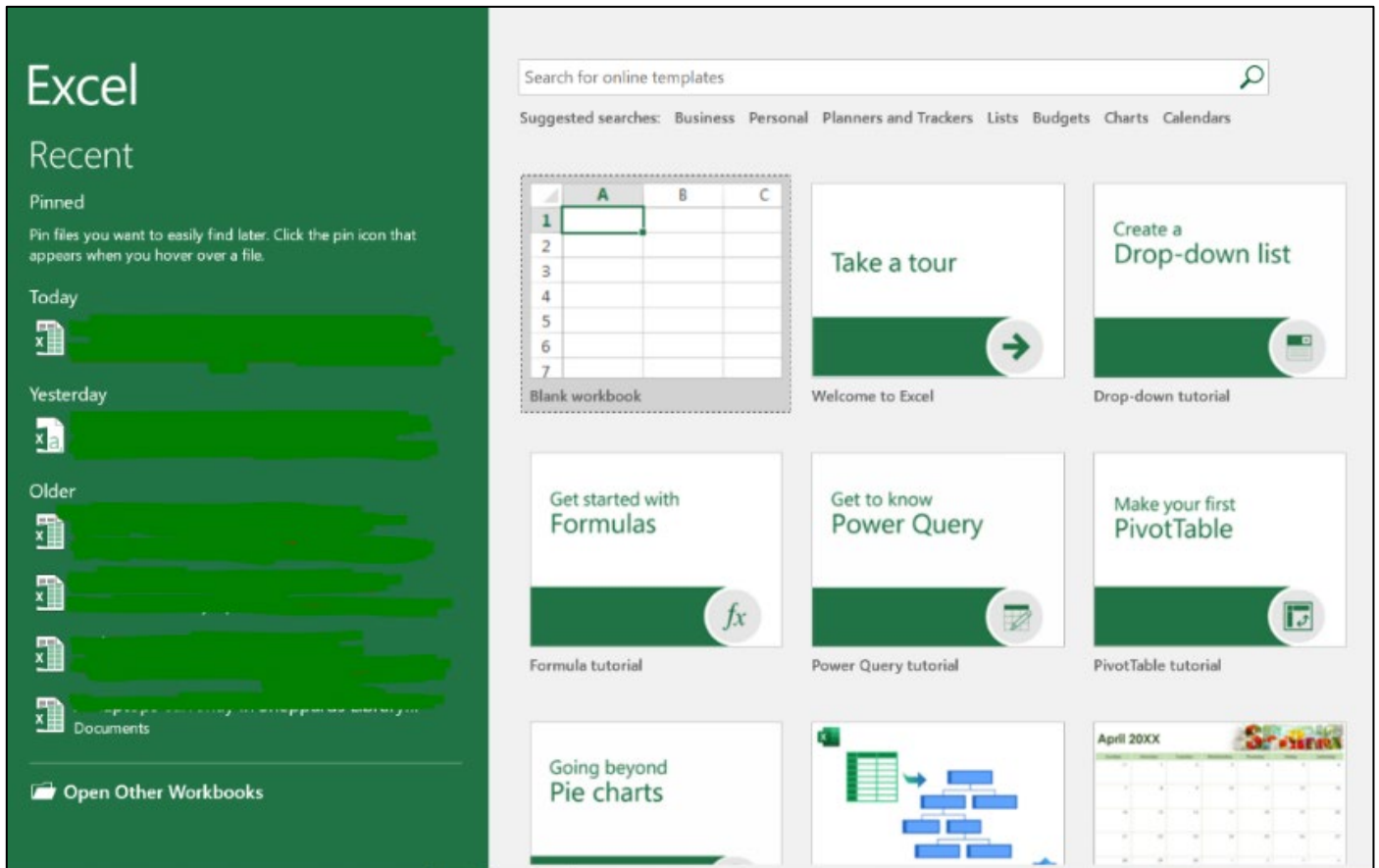
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## How To... Designing Excel spreadsheet (Templates & Themes)

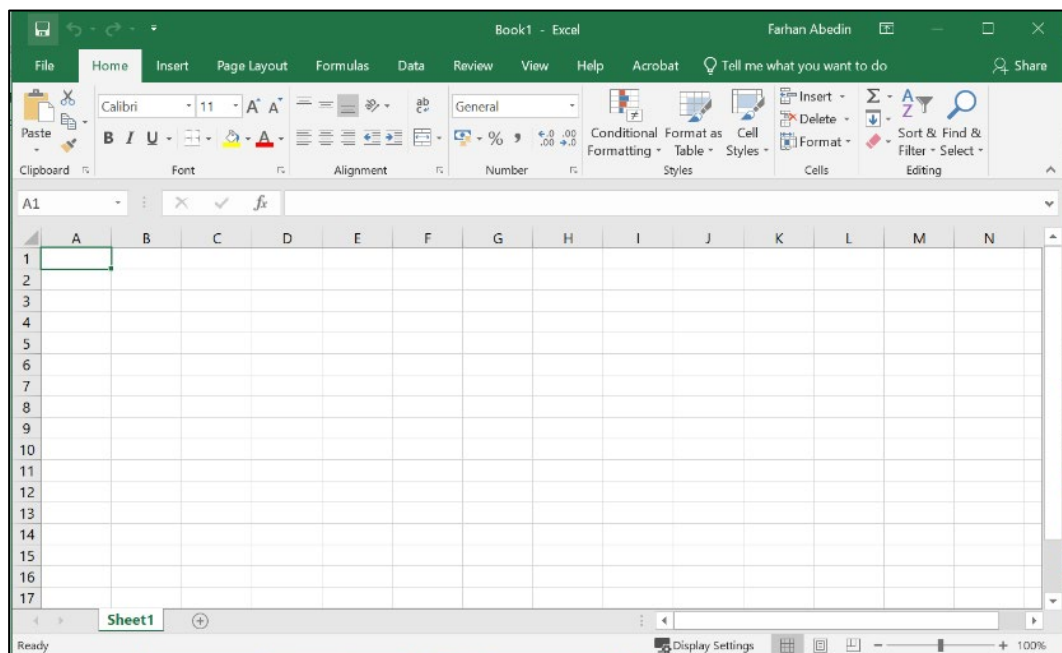
Excel offers a range of themes and design templates to style your spreadsheet. There are 2 approaches you can do when customising your spreadsheet.

### Approach 1: Pre-Designed template themes

1. Open up **Excel**, you will see a variety of worksheet designs.

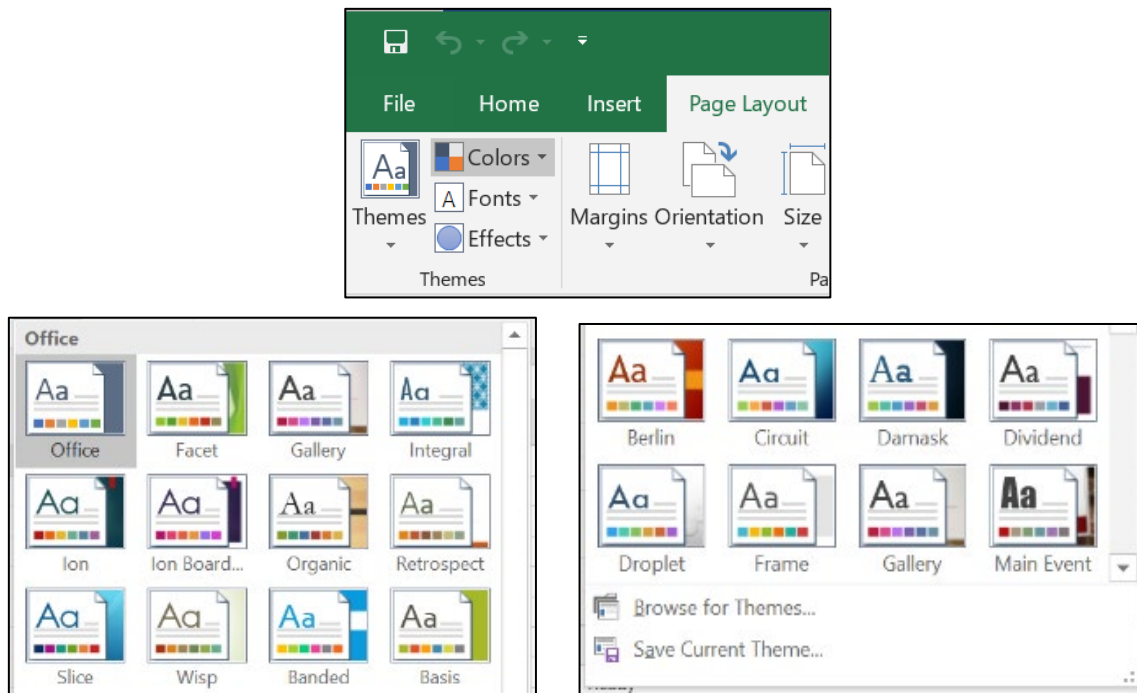


2. Select **Blank workbook**, Excel will open up the selected design.



## Approach 2: Customising Excel worksheet using Ribbon

1. **Select** the **Page Layout** tab and go to **Themes** list as shown. **Select** desired theme design.

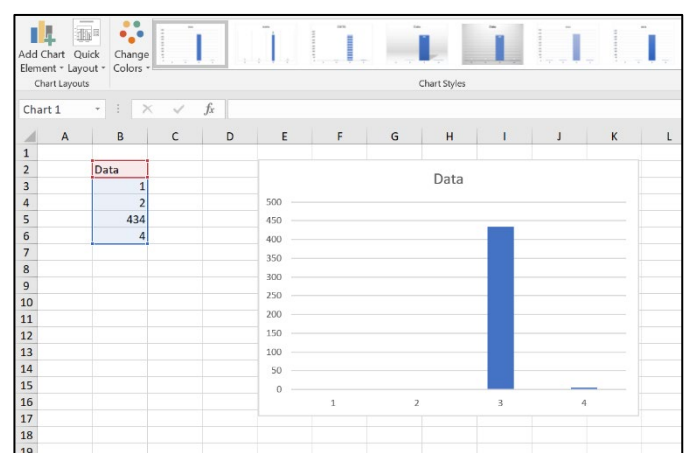
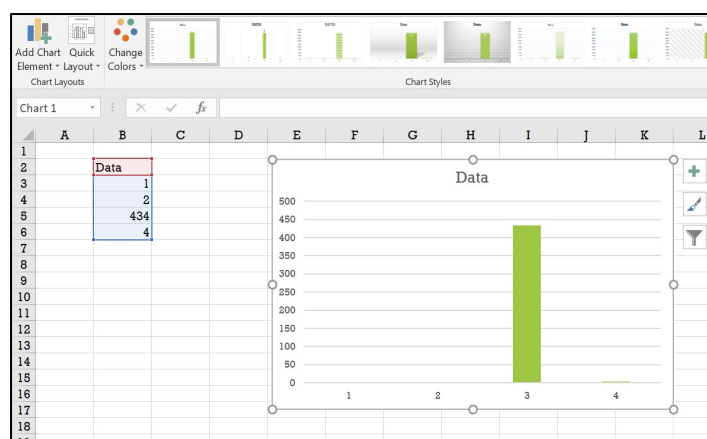


2. Changing the theme will affect a majority of options within the worksheet. This mainly affects the style of the worksheet.

The following things will change:

- Text style
- Chart representation
- Ribbon
- Chart theme templates

Default Excel Theme Style (Office)

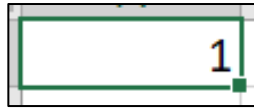


Excel Theme Style (Damask)

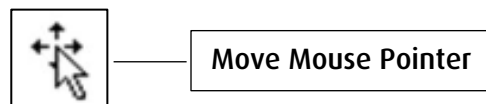
## How to... Click, Drag & Design Cells

Understanding the basics of Excel cells.

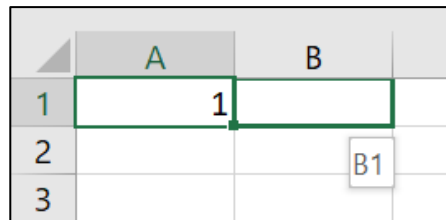
1. **Select** the cell (ensure the cell box is highlighted green).



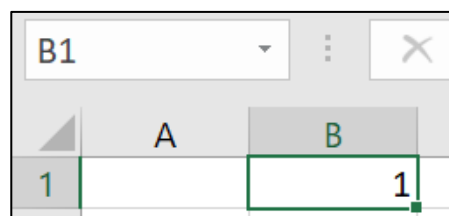
2. Hover your mouse over the selected box and ensure your mouse cursor is around the edge of the box, your mouse will momentarily change to the Move Mouse Pointer (image below)



3. **Click** and **hold** the left button on your mouse and start dragging the cell around the Excel sheet. Then release the left mouse button to place the cell. When dragging a cell to a new cell location, Excel will highlight the cell in green and display the location of it underneath.



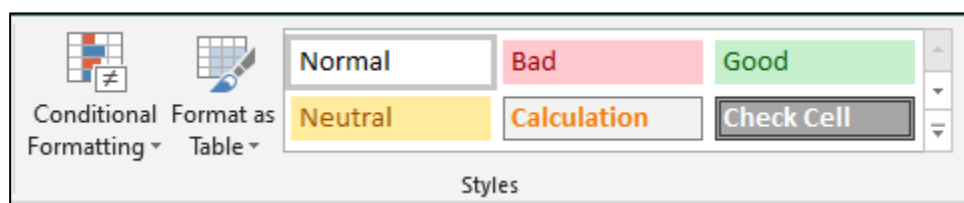
4. Cell has been successfully moved. The new location will also be displayed in the name box



## How To... Design Cells

Designing the cells is a good way to improve the appearance of your spreadsheet

1. To change the design of a cell, **click** on the cell, click on the home tab, go to **Styles** and select one of the 6 cell designs presented.



2. Selecting a design will change the cell appearance such as cell and text colour. This will not affect its functionality.

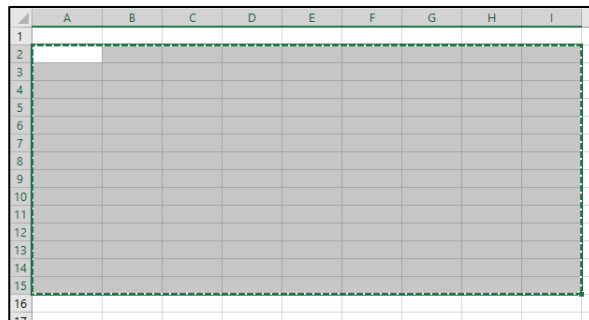
3. More designs can be presented, by clicking on the **drop-down arrow key** on the right.

## How To... Create Tables

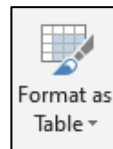
Excel can be used to create tables. We'll go over how to make a table so that you can complete this correctly the first time.

### Adding a blank table

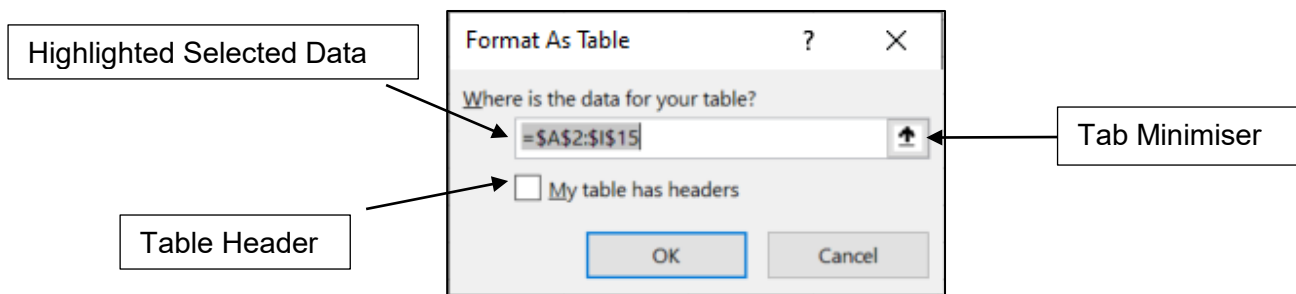
To add a blank table to your worksheet, using your mouse **click** and **hold** the **left button** and **drag your mouse** onto the worksheet to highlight the selected area to place your table.



Next go to the **Ribbon**, select **Home > Format as Table**.



A mini widget will appear displaying the recent highlighted area and will create a table appropriately.



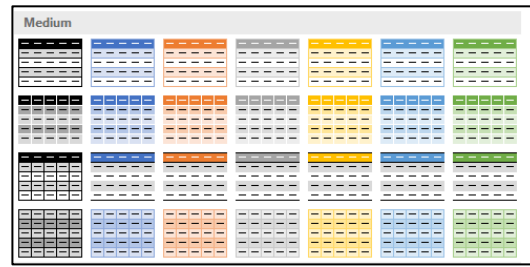
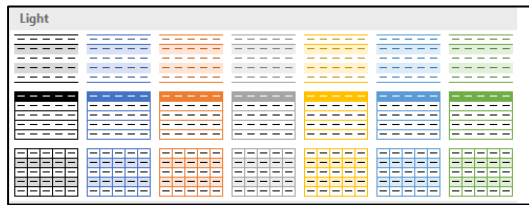
**Highlighted Selected Data** – This section displays the highlighted selected data by the user.

**Table Header** - Tick the box if your wish to add headers to your table.

**Tab Minimiser** – This option allows you to reduce the size of the window.

2	Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									

Excel offers a variety of colour and options which you can select to style your spreadsheet.

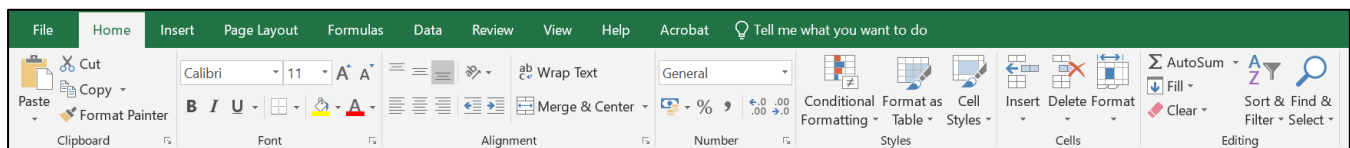


## Adding a table with pre-existing data

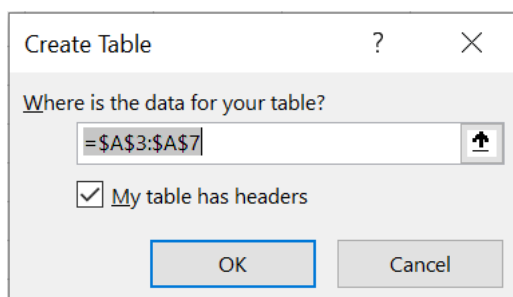
You can also do this with pre-existing data values within the Excel spreadsheet.

To do this:

1. **Highlight** your data.
2. Go to the **ribbon tab** and select **Insert > Table**
3. This will then open up a mini window titled **“Create Table”**
4. As demonstrated above, the mini window displays the data selected
5. Select **OK** to complete action, your table will be created



Ribbon Tab



Middlesex University	Stone X
234	124
1234	4643
1	34543
345	213

## How to... The SUM & IF Excel Formulas

### SUM Function

The SUM function in Excel is used to get the sum of the value in 1 or more cells to produce a result (mainly numerical result)

The equal sign needs to be typed first in the cell for Excel to register the function.

	A	B	C	D
1		2		
2		5		
3		19		
4		20		
5		25		
6	Total	=Sum(B1:B3		
7		SUM(number1, [number2], ...)		
8				

Once you have selected your cells, make sure to close the function on by adding a **closing bracket** and press **enter** on your keyboard.

This example demonstrated only on how to use number1 and calculating using only the bracket. Excel will allow you to use another number bracket to add up calculations.

	A	B	C	
1		2		
2		5		
3		19		
4		20		
5		25		
6	Total	=SUM(B1,B2,B3,B4,B5)		
7		SUM(number1, [number2],		

## IF Function

The IF function is a logical test formula within Excel which displays analytical results depending whether the result is true or false.

### True - IF Result Example

SUM    ✕    ✓    fx    =IF(A1>10, "True", "False")			
	A	B	C
1	20	=IF(A1>10, "True", "False")	
2			
3			
4			

The logic behind the IF formula is that if the value in cell A1 is 20, the IF statement will check the value and use the value 10 to determine if the value in cell A1 is greater than 10 or not. If true, then cell B1 will change to True

B2    ✕    ✓    fx			
	A	B	C
1	20	True	
2			
3			
4			
5			

### False - IF Result Example

SUM    ✕    ✓    fx    =IF(A1<10, "True", "False")			
	A	B	C
1	20	=IF(A1<10, "True", "False")	
2			
3			
4			

The logic behind this IF statement is that if the value in cell A1 is less than the value of 10 then display True if not then display False. Since 20 is greater than 10 then the result should be False.

B2    ✕    ✓    fx			
	A	B	C
1	20	False	
2			
3			
4			



## Representing data into Charts and Graphs

Excel provides excellent tools which allow us to present data not only in plain statistical numbers but using Charts and Graphs offers the option to represent data values in a more visual appealing way.

### Creating Pie Charts

To create pie charts in Excel, ideally a data set should be available for the pie chart to be represented.

**1. Select your data by highlighting them.**

**2. Go to the Insert tab**

**3. Go to the charts section and select the Pie Chart option.**

**4. Excel offers pie charts from 2D to 3D designs. For this example, we will select the basic 2D design.**

**5. 2D Pie Chart will be generated and will be displayed on your excel sheet. You have now successfully generated a pie chart.**

	A
1	Data
2	20
3	100
4	78
5	10
6	13
7	5
8	

## Creating Bar Charts

To create a bar chart in Excel, data needs to be present within the spreadsheet as this will be the formula to create a chart.

**1. Select** your data by highlighting them.

**2. Select the Insert** tab

**3. Go to the charts section and select the Bar Chart icon**

**4. Excel offers pie charts from 2D designs to 3D design. For this example, we will use the 2D design**

**5. 2D Bar Chart** will be generated and will be displayed on your excel sheet. You have now successfully generated a bar chart.

	A
1	Data
2	20
3	100
4	78
5	10
6	12
7	5
8	

Recommended Charts

2-D Column

3-D Column

2-D Bar

3-D Bar

Chart 1

Data

1 2 3 4 5 6

0 20 40 60 80 100 120

## Line Graph Charts

To create a line graph chart in Excel, data needs to be present within the spreadsheet.

**1. Select your data by highlighting-**

**2. Go to the Insert tab**

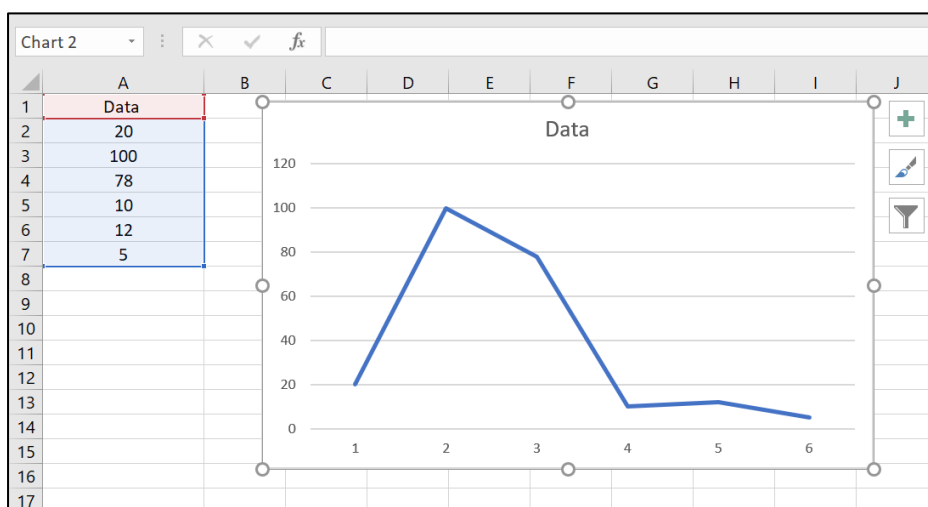
**3. Go to the charts section and select the Line Graph Chart design**

**4. Excel offers pie charts from 2D designs to 3D design. For this example, we will use the 2D design**

The data table shown is:

	A
1	Data
2	20
3	100
4	78
5	10
6	12
7	5
8	

The Insert tab is shown with the Charts section highlighted. The 2-D Line chart design options are displayed, including various line styles and markers.



## Histogram Chart

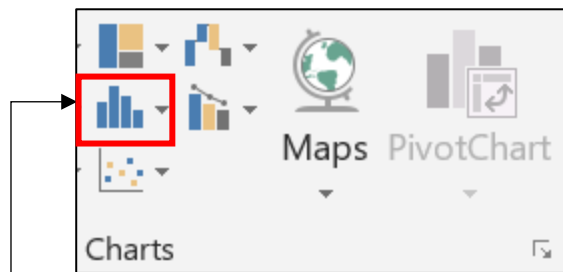
To create a line graph chart in Excel, Data needs to be present within the spreadsheet

	A
1	Data
2	20
3	100
4	78
5	10
6	12
7	5
8	

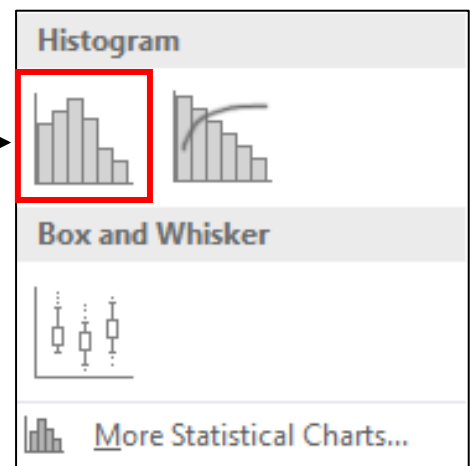
**1. Select** your data by highlighting them.

Insert

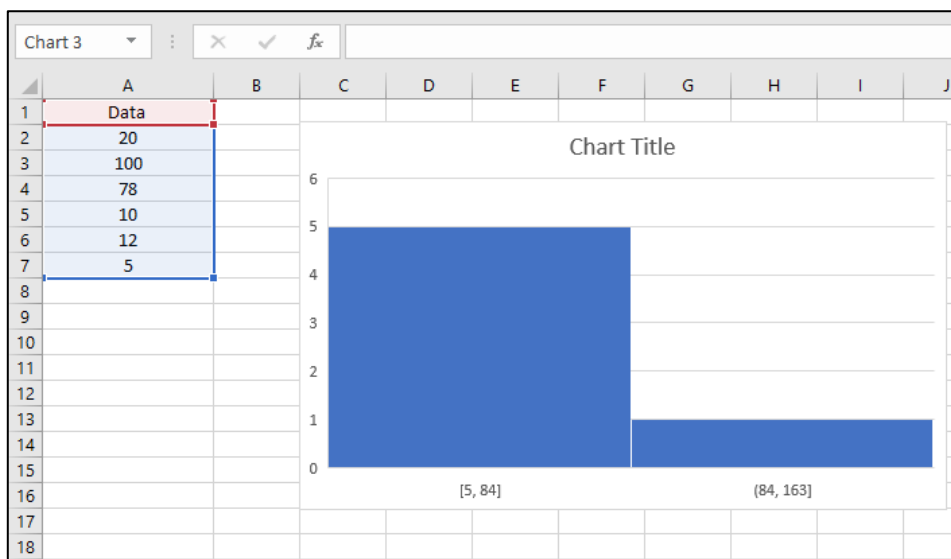
**2. Go to the Insert tab**



**3. Go to the charts section and select the Line Graph Chart design**



**4. Excel offers pie charts from 2D designs to 3D design. For this example, we will use the 2D design**



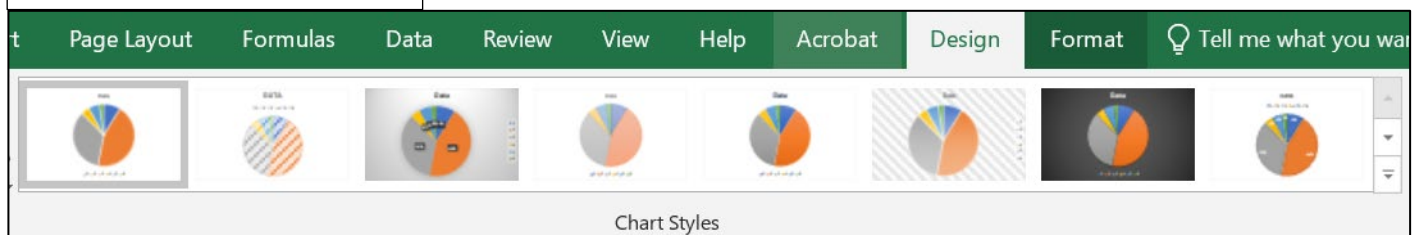
**5. 2D Bar Chart will be generated and will be displayed on your excel sheet. You have now successfully generated a bar chart.**

# Designing Charts

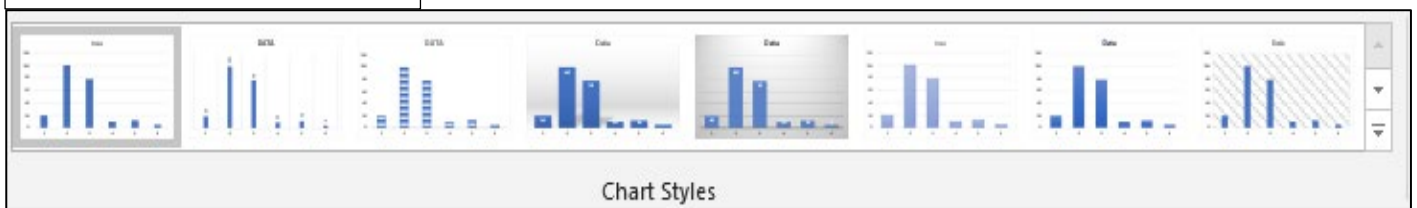
## Colour and Chart Design

Go to the design tab and navigate to Chart Styles. You will see a selection of designs and pie charts templates to choose from. Some examples are shown below.

### Pie Chart Designs



### Bar Chart Designs

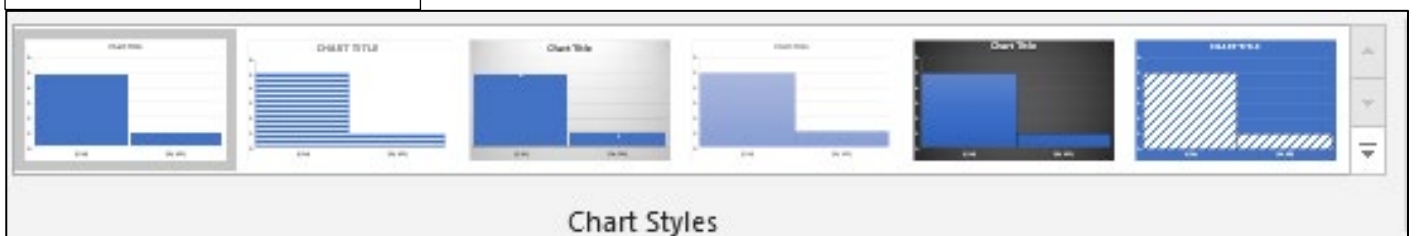


### Line Graph Designs

In addition to the pre-template designs, there are other ways to design your chart.



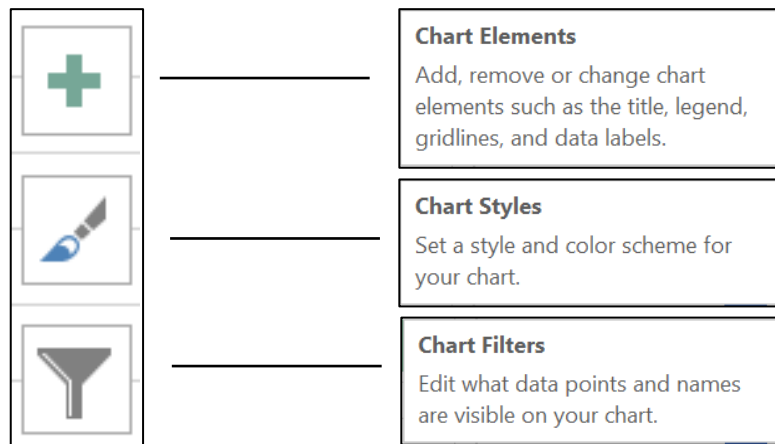
### Histogram Designs



## Filtering Data

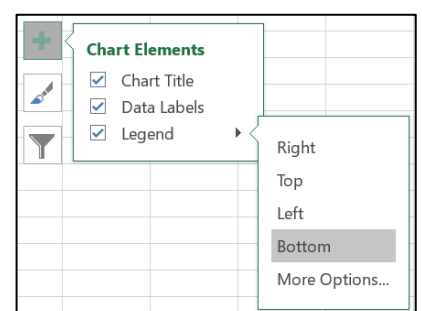
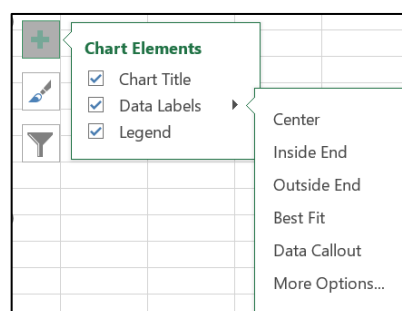
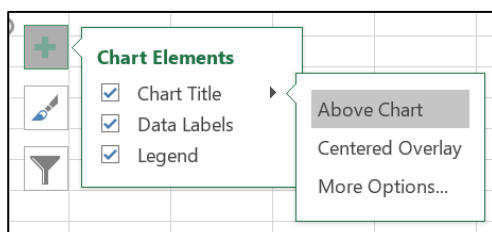
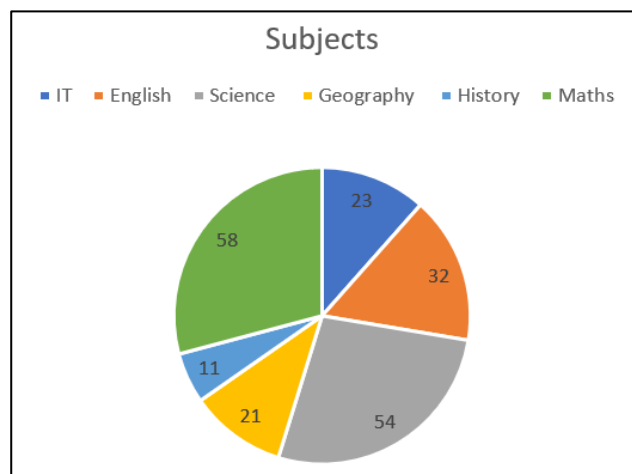
To represent data in your charts, the mini window illustrating the results will have 3 options on the right-hand side (except Histogram). This can be done by selecting the graph.

We will go through each option and what they offer to you.



**Chart Elements** provides the ability to add and position data from given table. The feature provides 3 options to allow customisability to representing your graph.

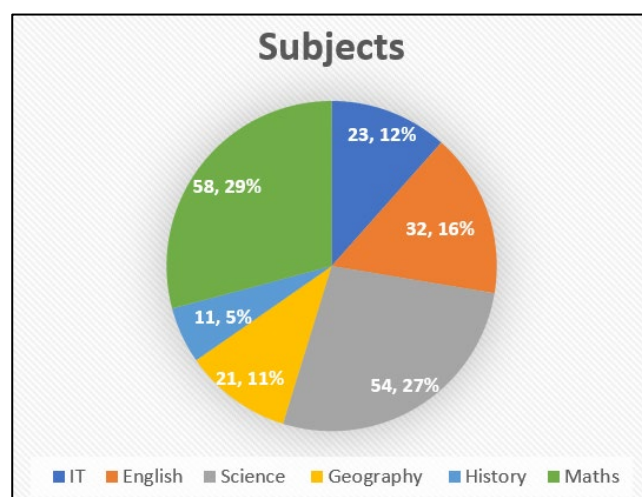
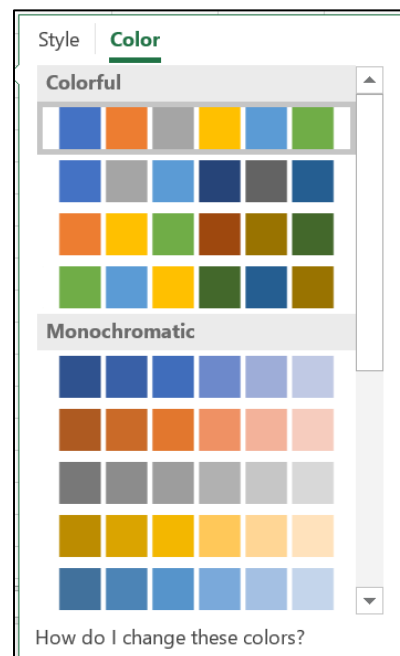
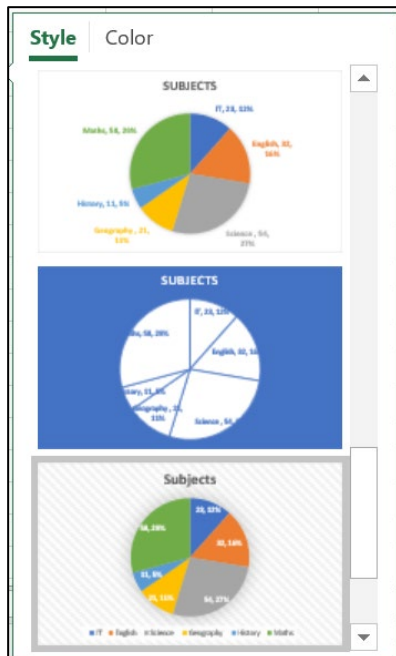
- **Chart Title** gives you options to position your title on the graph
- **Data Labels** provides the option to add or remove figures on your graph
- **Legend** allows you to customise your key labels



**Chart Styles** provides more add on customisability to your graphs.

- **Style** tab provides a list of pre-designed templates which you can choose.
- **Colour (Color)** tab gives you a palette of colours which you can choose from to customise the colour of the chart.

**TIP:** Hovering your mouse over the template design will show you how the design looks before implementing the action.



**Chart Filters** provide unique options to add or remove data to un-filter data (remove). **Select** the tick icon ☒ to untick ☐ and select **Apply** to implement action.

To filter data (add) **left click** any untick boxes ☐ to tick ☒ and click **Apply** to make data visible on graph.

