Using Microsoft Excel

Creating Charts

Once a table has set up, the information in the table can easily be turned in to one of several different chart types. These include:

- Column and bar graphs
- Line graphs
- Pie charts
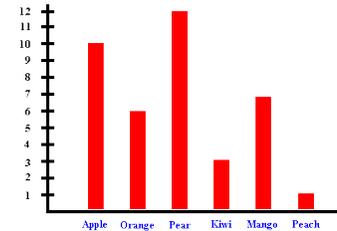
Creating a chart in Excel involves following the steps below:

1) Select the data to be included in the chart.
2) The selection should include table headings. Excel can use headings as labels on the chart.
3) The selection generally should not include totals.
4) Customise the completed chart.

The example below shows the kind of information that should be selected before creating a chart, along with a sample of the kind of chart that might be crated from the selected data.

Branch	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Year Total
Perth	8274	9203	7182	8982	33641
Kalgoorlie	781	859	928	981	3549
Bunbury	1029	1203	1102	991	4325
Geraldton	819	849	817	928	3413
Albany	671	571	718	691	2651
Total	11574	12685	10747	12573	47579

Include in selection

Don't include in selection
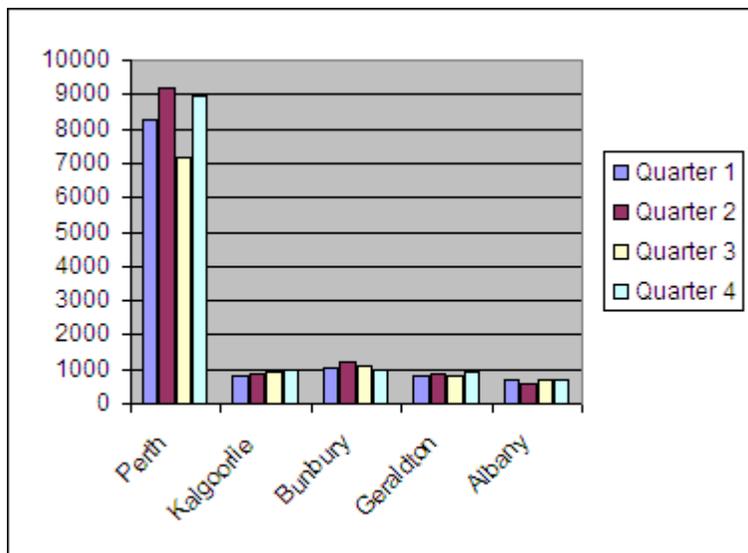
Exercise 1.   Creating a Column Graph

1) Open the *Grades* file that you have been working on previously. We will create a graph to show the results for the students each term.

2) Select the cells **A5:E15**. Note that this includes headings but no totals.

3) Select the **Insert** tab on the **Ribbon**.

4) Click the **Column** Graph icon.
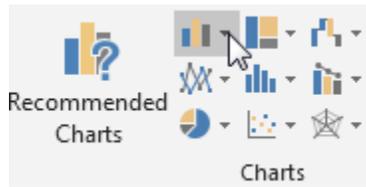
5) From the list of chart types choose the first **3-D Column** option.
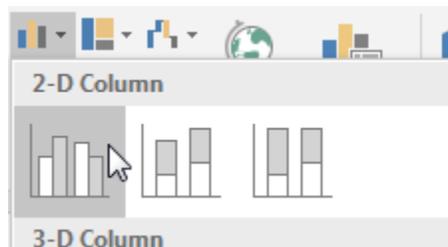
A column chart will appear on your sheet. When you move your mouse over the chart, your mouse will change shape depending on what part of the chart it is over.
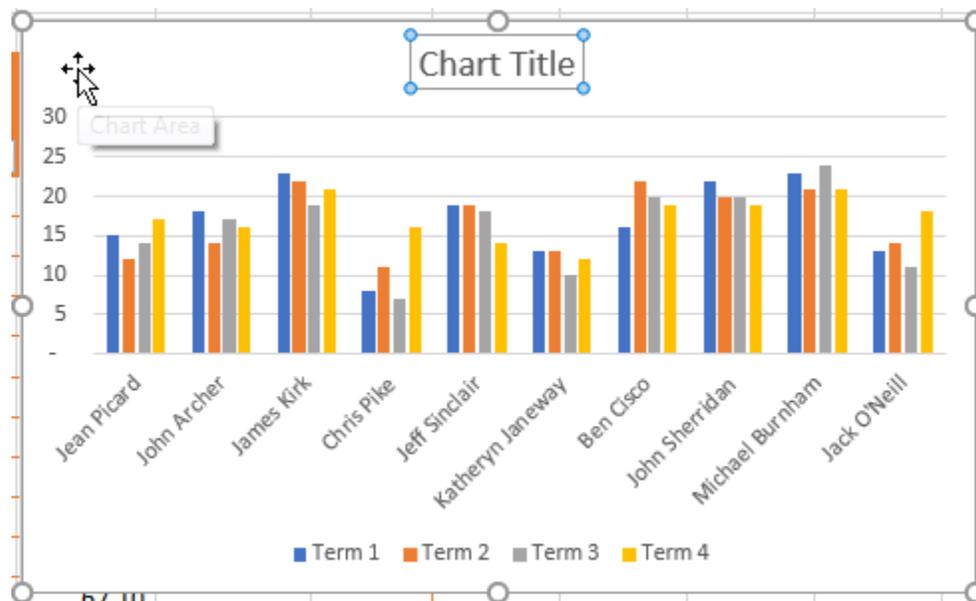
6) Move your mouse over the edge of the chart or a section of the chart where your mouse changes

to the move shape.

7) Drag your chart to the right of the cells in column **K** and **L**.

8) Move your mouse to the edge of the chart and drag to make it larger.

Exercise 2.   Changing Chart Data

1) Make sure the chart is selected.

Look at the table the chart information is taken from. You will notice borders around the cells the data is from and different coloured borders around the cells the chart labels are taken from (the table headings).

Student	Term 1	Term 2	Term 3	Term 4
Jean Picard	15	12	14	17
John Archer	18	14	17	16
James Kirk	23	22	19	21
Chris Pike	8	11	7	16
Jeff Sinclair	19	19	18	14
Katheryn Janeway	13	13	10	12
Ben Cisco	16	22	20	19
John Sherridan	22	20	20	19
Michael Burnham	23	21	24	21
Jack O'Neill	13	14	11	18

2) Drag the bottom corner of the blue border upward so that Jack O'Neill is no longer included in the selection. The chart will automatically update to remove that student.

3) Drag the border corner back down again so that the student is included once again.

While the chart is still selected, you will have additional **Chart Tools** tabs on the ribbon.

Design   Format

4) With the Design Tab selected, click the **Switch Row / Column** icon. The chart will change so that terms are on the X axis with a column for each student. Click **Switch Row / Column** again to change the chart back to its original layout.

Some changes to chart data can't be made easily by shifting the coloured borders. If that is the case, then there are other ways of doing it.

5) From the **Chart Tools** select the **Design** tab.

6) Click the **Select Data** icon.

Switch Row/ Column
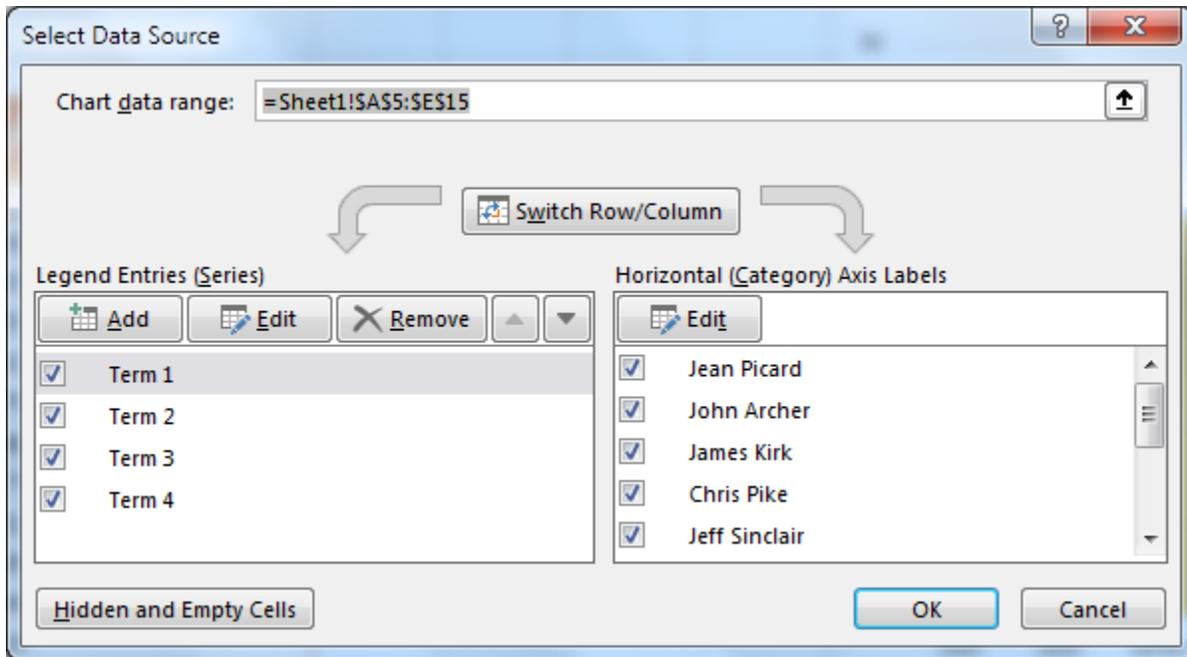
Select Data

7) Check the data in the dialog box and then click **Cancel** to close.

Tip   If you select the wrong data before creating a chart, you can use the **Select Data Source** options to change the selected data. However, it is often easier to simply delete the chart, select the correct cells and then create a new chart.

Exercise 3.   Modifying a Chart's Format

When a chart has been created, you can customise almost anything about the way the chart looks. While a chart is selected, the Chart Tools tabs will appear on the ribbon.
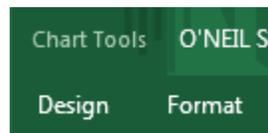
These tabs contain icons that can be used to modify the chart in several ways. Most parts of a chart can be selected and formatted individually as well.

1) Edit the *Chart Title* text so it says *Advanced Spreadsheets Class*.

If a chart doesn't have a title you can easily add one, along with other chart components.

2) Select the **Design** tab under **Chart Tools**.

3) Click the **Chart Title** icon. A list of options for adding additional elements to the chart, including chart titles, will appear.
   (You can also click the + icon in the top right corner of the chart for similar options).

4) You can use the **Home** tab to format the font of the title in the normal ways (bold, font size etc). You can also use the **Format** tab under **Chart Tools** to format the whole title box with fancy borders, background fills and other formatting options. Experiment with the formatting options to format your title similar to the example below.

| **Note** | If you want to format all the text in a title, click the border of the box. That will mean you won't need to select the text itself. |

Anything on your chart can be formatted if you select it first.

5) Click on the chart background and make sure the Design tab is still selected.

6) Move your mouse over some of the design styles to see how they look. You can click one to apply it if you find one you like the look of. You can also see a list of design style by clicking the brush ✏ icon next to the chart.

7) Click **Change Colors** on the **Design** tab to view a range of alternate colour schemes.

8) **Double-click** on a blank section in the middle of the chart. The **Format** options will appear.
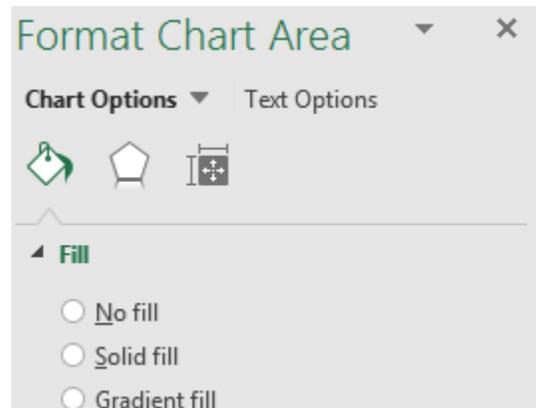
If you double-click on part of a chart, the Format dialog for that part of the chart will appear. This will contain many of the same formatting options found on the ribbon, but some people prefer finding the options when they are all grouped together like this.

9) From the **Fill** options choose **Picture or texture fill**. Texture options will appear below.

10) Click the [icon] option and then choose a texture you think will suit your chart background.

11) Click **Close** when done.

12) **Double click** the Vertical Avis as shown below.
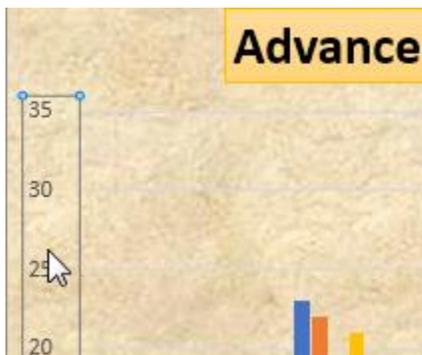
Tip	If you have difficulty selecting part of the chart using the mouse, you can select the the chart component you want to see options for by using a list at the top of the Format options.
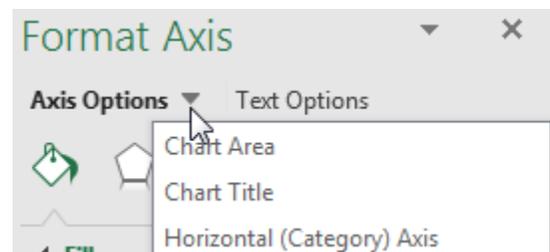
13) When the **Format Axis** options appear, click the **Axis Options** button to see that category.

14) Under **Axis Options**, change the **Maximum** value to *35* as shown above and click **OK**.

15) Try changing some of the other axis values and see the result.
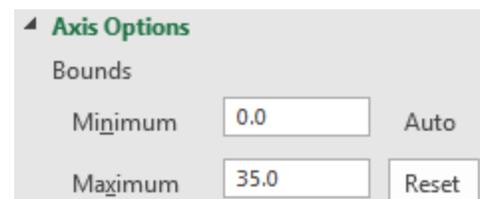
Exercise 4.   Changing Chart Type

1) Make sure the **Design** tab is selected under **Chart Tools**.

2) Click the **Change Chart Type** icon.

3) Select the last **3-D Column** type and then click **OK** to see how the chart will look with that layout.
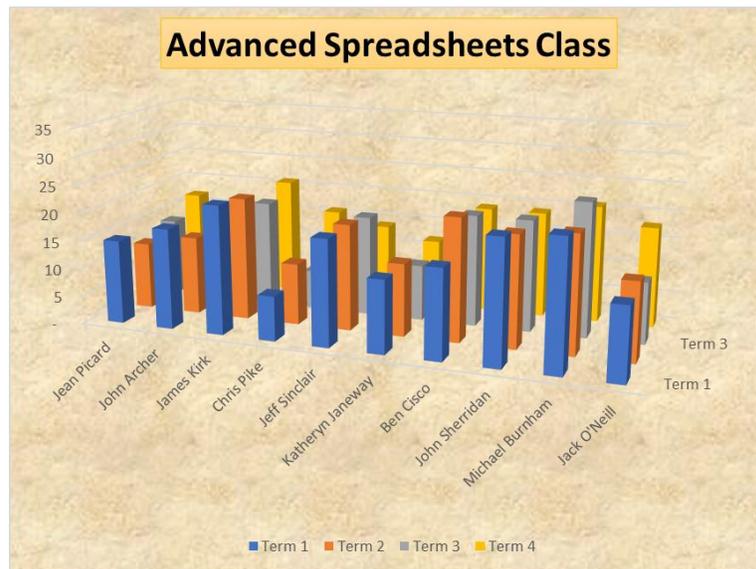
4) Using the same option, try changing the chart to a **Line** chart layout.
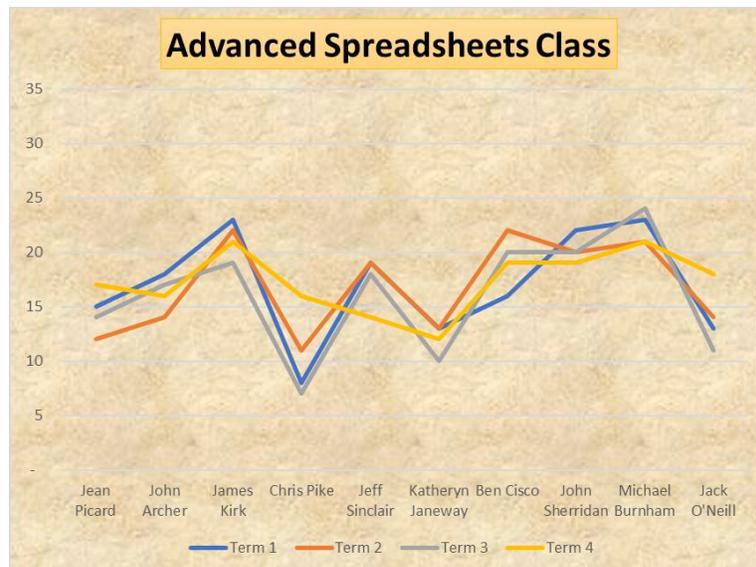
Exercise 5.   Creating a Pie Chart

One of the differences between a pie chart and a normal chart is that a pie chart will only show data for one series at a time. In the following exercise, we'll create a pie chart from the year's data.

We need to begin by selecting the names of the students (to be used as labels) and the data itself.

1) Select the cells with the student names including the student heading (A5:A15). Since we need to select more than one group of cells we'll need to use the [Ctrl] key.

2) Hold down [Ctrl] and select the cells with the year data (F5:F15)

A5:A15 and F5:F15 should now be selected.

5)   Click the Insert tab on the ribbon.

6)   Click the Pie chart icon in the Charts section.

7)   Choose the Pie in 3-D option.

8)   Drag near the edge of the char to move it below your table.

9)   Click on a pie piece. All the pieces will be selected.
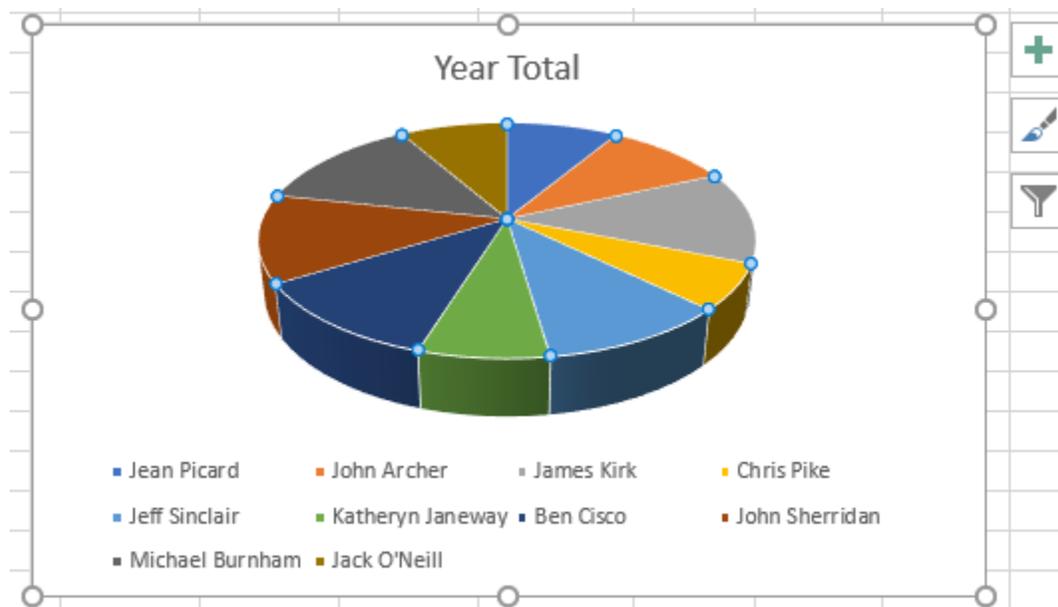
10) Click a second time on one of the pieces. That piece alone will now be selected.
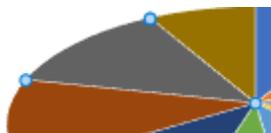
11) Use the Shape Fill options on the Format tab to change the fill colour for that selected piece. The legend on the chart will update to reflect the change in colour.

12) Drag the selected piece away from the centre of the chart. This allows you to emphasise a certain slice of the chart.
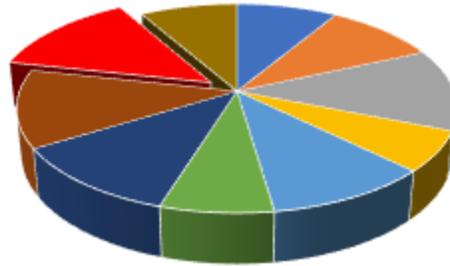
Tip	Before creating a pie chart, it can be useful to sort the data first which we will cover later. For instance we could have it sorted from highest mark to lowest mark which would result in the pie chart having largest slice moving through to smallest slice. Remember that if you change the data a chart is based on, such as sorting the table, the chart itself will update also.

13) Try some of the different chart layouts and colour themes.

Chart Styles

Tip	Instead of creating a chart that is on the same sheet as your table, you can create a chart that is on a sheet on its own. To do this, select the cells that you want your chart to be based on as shown before and then press **F11**. This will create a new sheet filled with a chart which you can then customise in the ways shown above. You can also move an existing chart to its own sheet by using the **Move Chart** button under the **Design** tab.