

# Skill Set 7

## Charts

By the end of this section you should be able to:

Understand and Use Different Chart Types

Choose an Appropriate Data Source

Create Comparative Charts

Add Titles and Data Labels

Add and Remove Legends

Change Intervals and Limits on Axis

Insert Text Boxes


Apply Numeric Formatting on Axes

Apply Fill Colour to the Data Series


## Exercise 52 - Chart Wizard

The most common way to create a chart is to use the **Chart Wizard**. It consists of four steps as follows:

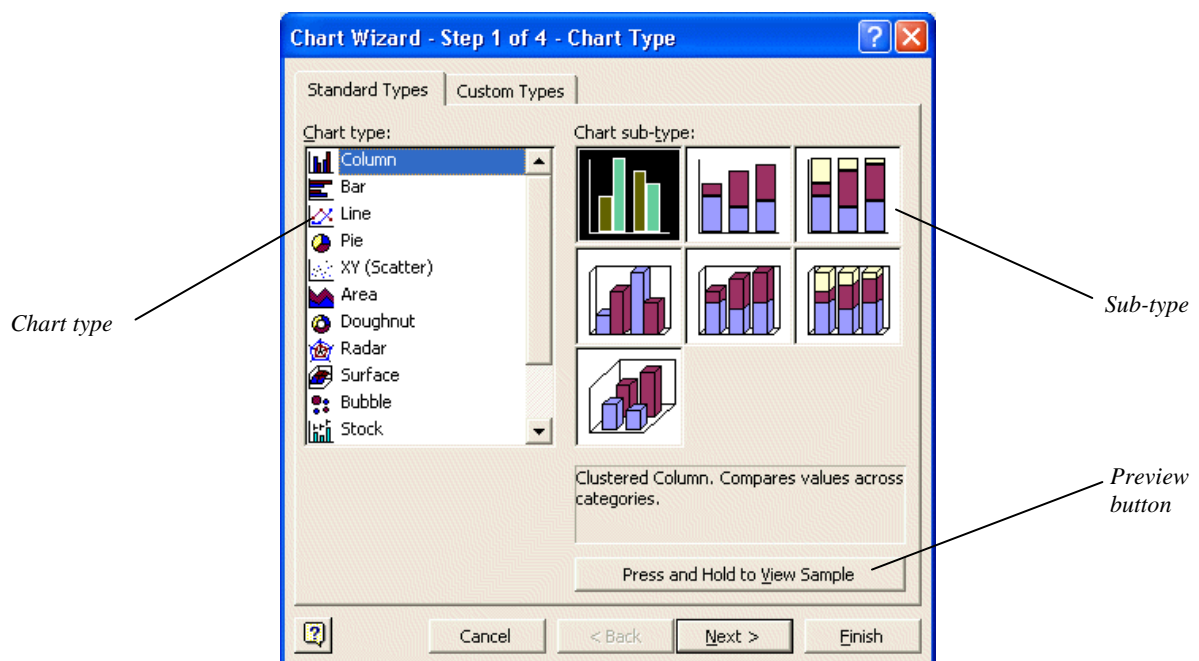
- Select the chart type and sub type.
- Select the data range on the worksheet to be charted. In practice, it is often better to select the data before starting the Wizard so that this step will appear already completed.
- Select the chart options: Titles, Legends, Labels, etc.
- Chart location: **As a new sheet** or **As object** in an existing sheet.

The **Chart Wizard** is started by either clicking the **Chart Wizard** button,  or by selecting **Insert | Chart**.

### Activity:

1. Open the workbook **teamdata**.
2. Highlight the cell range **A3:B11** and click the **Chart Wizard** button, . The **Chart Wizard** appears, allowing the type of chart to be selected, and previewed if necessary.

**Note:** The actual data needed appears in the cells **B4:B11**, the range **A3:B11** is chosen so the titles and axis labels are added automatically.



3. Leave the **Chart Wizard** open for the next exercise.

## Exercise 53 - Chart Types

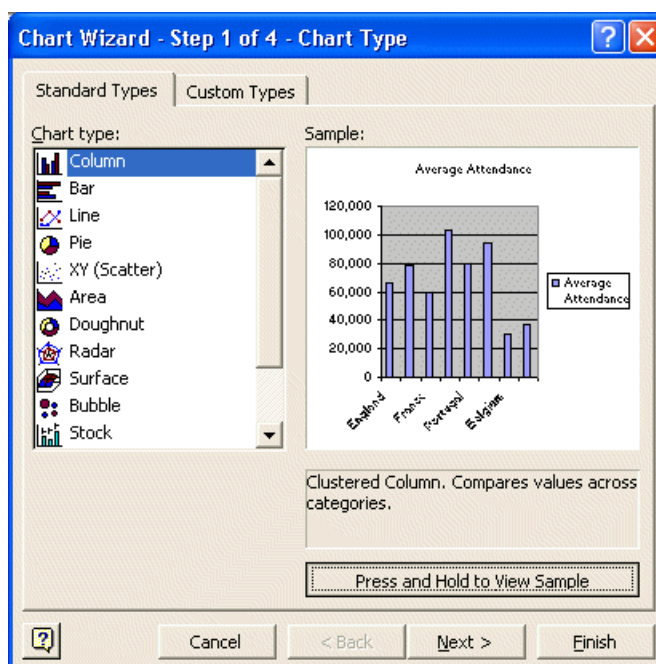
There are different charts available to display different types of information. The most popular and common chart types include:

<b>Column</b>	Shaded vertical columns, compares values across categories
<b>Bar</b>	Shaded horizontal bars, compares values across categories
<b>Line</b>	Points connected by a line, displays a trend over time or categories
<b>Line-Column</b>	A chart with one series shown as columns and one as a line.
<b>Pie</b>	Data as slices of circular pie, displays the contribution of each value to a total
<b>XY Scatter</b>	Unconnected points, usually used when both the X and Y axis are measured values with uneven intervals, e.g. scientific data.

There are also variations of these charts available, i.e. 3-D charts.

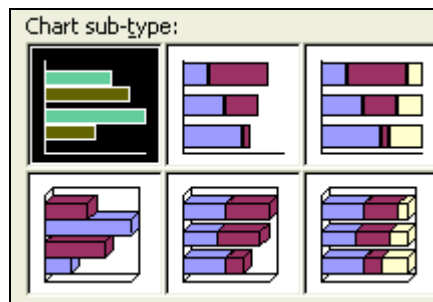
### Activity:

1. With the workbook **teamdata** open and **Chart Wizard** displayed from the previous exercise, note that **Column** is the default **Chart type**.
2. Press and hold down the button, Press and Hold to View Sample. This displays what the chart will look like, (this is only available if the data has been selected before starting the **Chart Wizard**, as in this case).

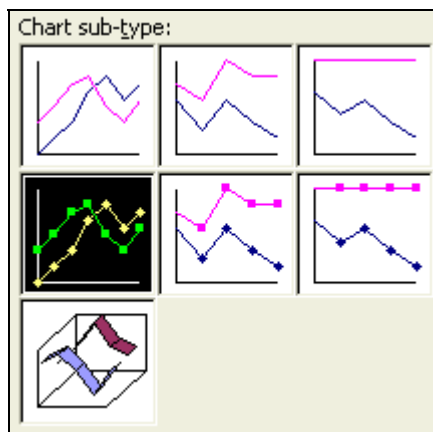


3. All chart types are supported with **Chart sub-types**, these are different forms of the same type of chart (some sub types may not be appropriate for this data).
4. To view the different **Column** types, select each **sub-type** in turn and hold down the **Press and Hold to View Sample** button. A description is displayed above the **Press and Hold to View Sample** button.
5. Repeat this to view each of the sub types for the **Bar**, then **Line** and finally **Pie** chart types.

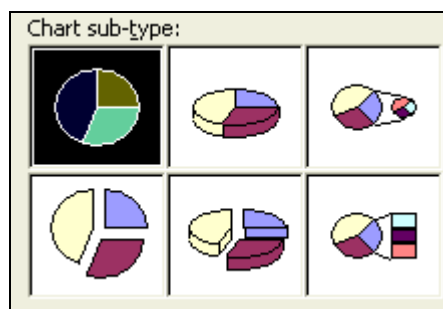
*Bar Chart  
sub-types*



*Line Chart  
sub-types*



*Pie Chart  
sub-types*



6. Click the **Cancel** button, to close the **Chart Wizard**. All the steps within the **Chart Wizard** are completed in the next exercise to create an actual chart.
7. Close the workbook without saving.

## Exercise 54 - Creating Charts

**Column charts** represent category data as vertically shaded columns and are the most commonly used charts.

**Bar charts** are similar to **Column charts** except that the data is displayed as horizontal bars. The two axes are changed round with the category axis vertical and the value axis horizontal.

**Activity:**

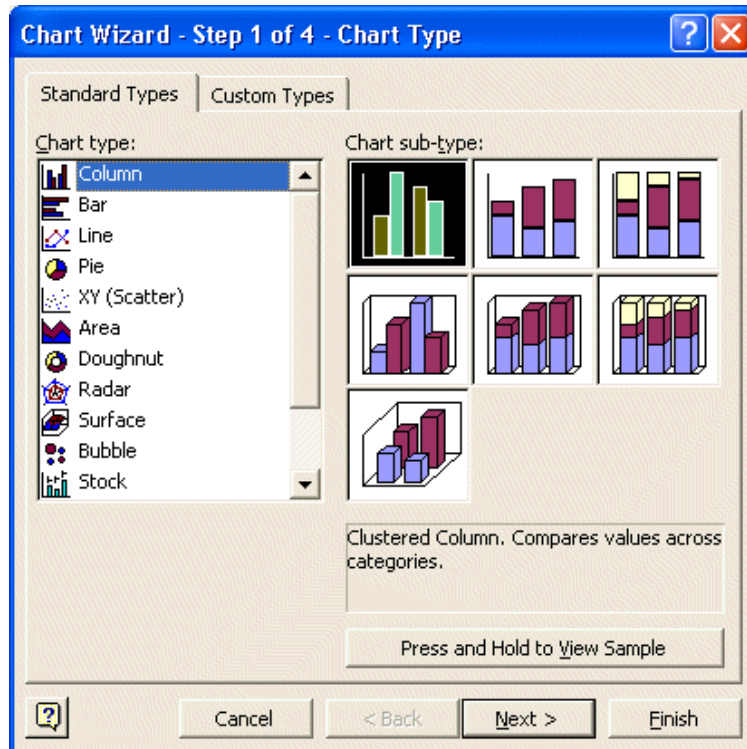
1. Open the workbook **cinedata**.
2. To create a chart is it easier to select the data before starting to create the chart. However this becomes a little more difficult if the data to chart is not in a single block. To chart the **Newcastle** audiences is easy as the range is **A3:B10**. To chart the **Birmingham** audiences is more difficult. To do this, click and drag **A3:A10** (the labels) and while holding down **<Ctrl>**, select the **Birmingham** figures, **C3:C10**.

	A	B	C	D	E	F
1	<b>Cinema Audiences</b>					
2						
3	Audiences	Newcastle	Birmingham	Glasgow	Total	
4	Monday	500	600	575	1675	
5	Tuesday	800	625	1750	3175	
6	Wednesday	750	750	800	2300	
7	Thursday	2000	675	850	3525	
8	Friday	3000	2750	3100	8850	
9	Saturday	3125	3300	3325	9750	
10	Sunday	525	2000	300	2825	
11	Totals	10700	10700	10700	32100	
12						

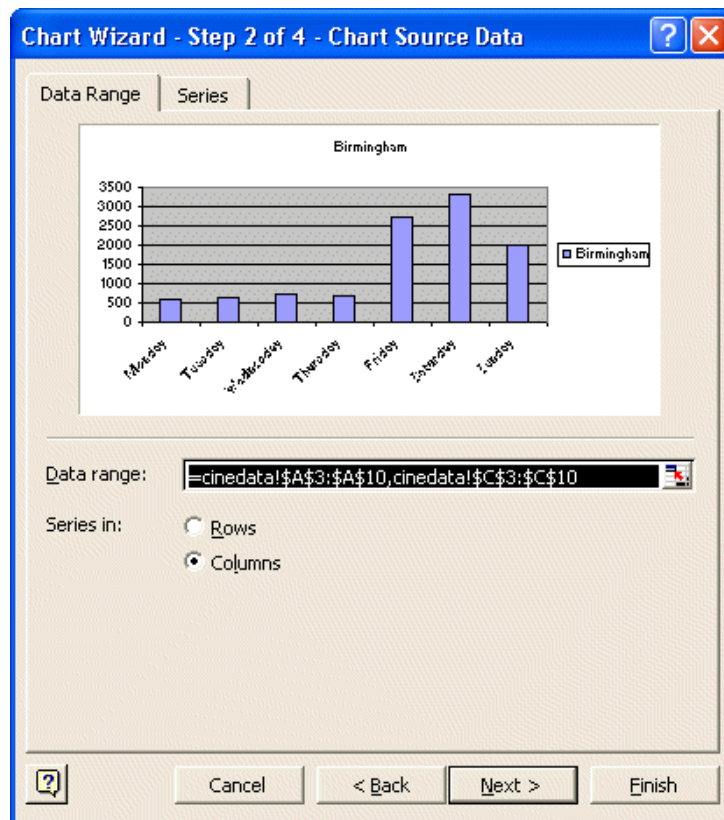
**Note:** Selecting the titles in row 3 and column A will later automatically add the Chart Title and Legend as **Newcastle** and the days as the X axis labels.

3. Click the **Chart Wizard** button, , on the **Standard Toolbar**, or select **Insert | Chart**. The **Chart Wizard** automatically starts.

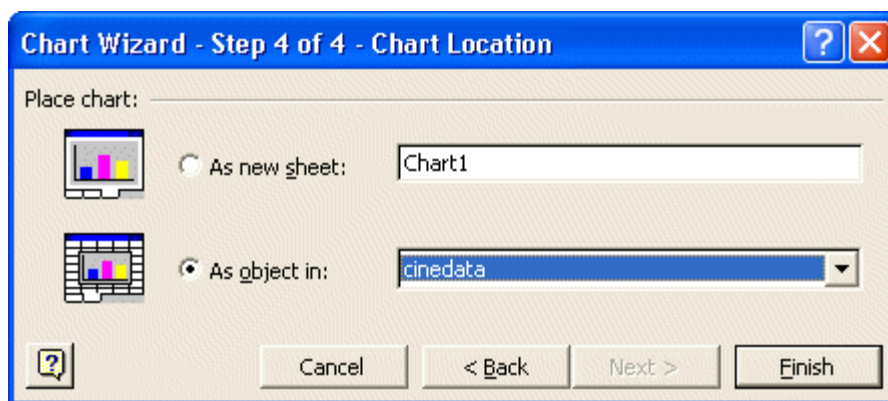




4. **Step 1** allows the user to select the type of chart to be produced. Click on the **Next** button, to select the default, a **Clustered Column**.



5. **Step 2** allows the user to select the **Data Range**. As the range of data was selected prior to starting the **Wizard**, this screen already contains the necessary range values. Click **Next** to accept the range and display the **Chart Options** screen.
6. Make sure the **Titles** tab is selected to see that the **Chart title** has automatically been entered, as it was selected with the data range.
7. Enter **Day** in the **Category (X) axis** box and **Number of People** in the **Value (Y) axis** box so that the axes will be correctly labelled.
8. Click **Next** to display the last dialog box that allows the user to select the location of the chart. The **As object in** option creates a chart on a sheet normally with the source data. The **As new sheet** option creates a chart on its own named sheet.



9. Select the **As new sheet** option with the default name **Chart1**.
10. Click the **Finish** button. This will display the chart on a new sheet.

**Note:** A chart can be displayed on a new sheet or on the same sheet as the data on which it is based. A chart placed on a sheet with the data is of lower quality than one placed on a separate sheet, but can be moved and/or resized.

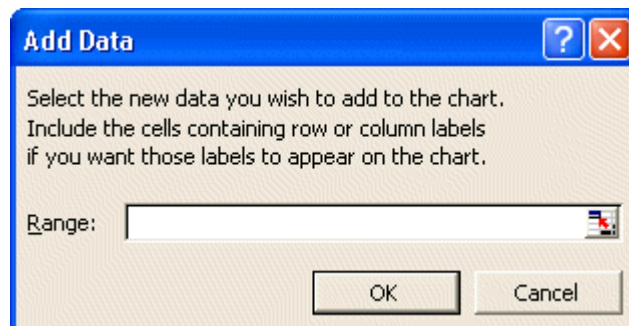
11. View the chart.
12. It may be that after creating a chart it may be necessary to change the chart type. To change the chart type, select **Chart | Chart Type** and choose **Bar Chart**. Click **OK**. The chart is changed to a Bar. There is a slight problem with the labels having the wrong orientation but the chart is correct.
13. Click the **Undo** button to revert back to the **Column Chart**.
14. Click on the **cinedata** sheet tab to display the source data and then click on cell **A1** to deselect the range.
15. Save the workbook as **cinedata2** and leave it open.

## Exercise 55 - Adding Data to Charts

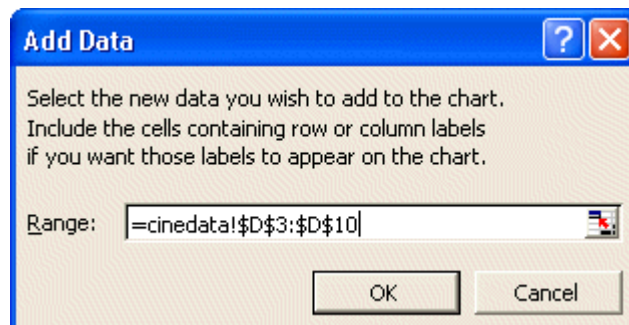
More information can be added to charts after they have been created. An extra set of data can be added as a new data series.

### Activity:

1. The workbook **cinedata2** should still be open, if not open it.
2. Click on the **Chart1** sheet to display it.
3. To add more data to the chart, select **Chart | Add Data**.



4. Display the source data, **cinedata** sheet and select the range for **Glasgow, D3:D10** (you may have to move the dialog box).



5. The range is added in the dialog box. Click **OK** in the **Add Data** dialog box. The extra series is added to the chart. The two series can now be compared, this is known as a **comparison** or **comparative chart**. This topic is covered in more depth later.
6. Save the workbook, using the same file name **cinedata2**.
7. Close the workbook.