How to Excel - Part 2

Finance Training

Table of Contents
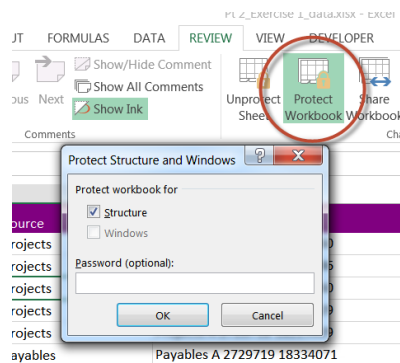
Exercise 1: Protecting cells and sheets

Task 1 – Protecting sheet

- In the review tab select the **Protect Sheet** option
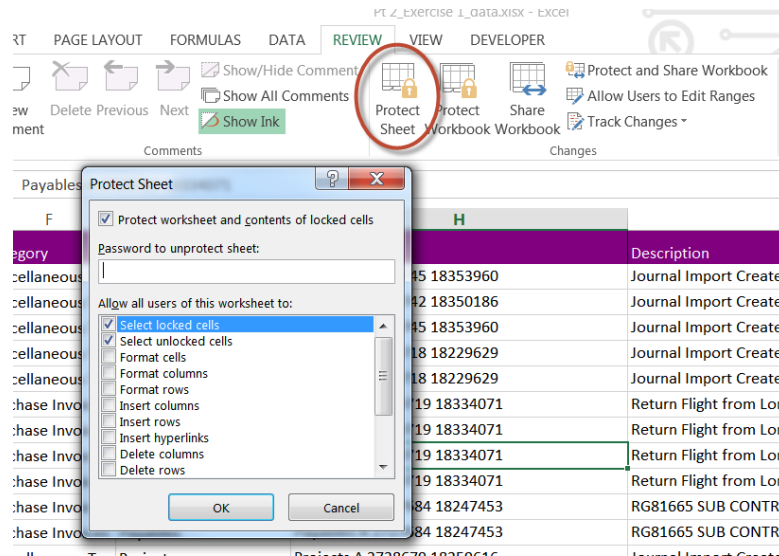
- Enter the password **training**
- When prompted, enter the password again
- Try and enter or delete data in the sheet, an error message should be displayed
- However it will be possible to add a new sheet to the workbook, which would not be protected

Task 2 – Protecting workbook

- In the review tab select the **Protect Workbook** option
- Enter the password **training**
- When prompted, enter the password again
- The workbook will now be protected
- Many of the functions on the other tabs will be greyed out and cannot be used

Task 3 – Unprotect workbook and sheet

- Unprotect the workbook and sheet by selecting the relevant options in the review tab
- The password will need to be entered again

   NB The workbook and sheet both need to be unprotected

Task 4 – Protecting cells

Sometimes it might be necessary to allow users to input data into some cells but leave the rest of the sheet locked.
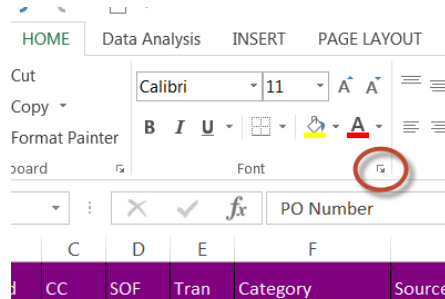
- Select the cells that need to remain unlocked (in this case all of column **J**) to allow entry of a PO number
- On the home tab select the little arrow in the bottom corner of the **Font** menu

- Select the **protection** tab and untick the **locked** box. This will mean that these cells will remain unlocked when the sheet is protected
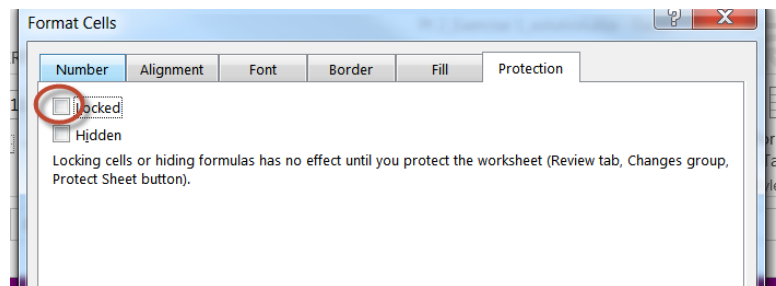
- **Protect the sheet** in the normal way
- All cells other than in column **J** should be locked and data can be entered, deleted or adjusted in column **J**

Protecting cells – another method

In the review tab, click the option to allow users to edit cells
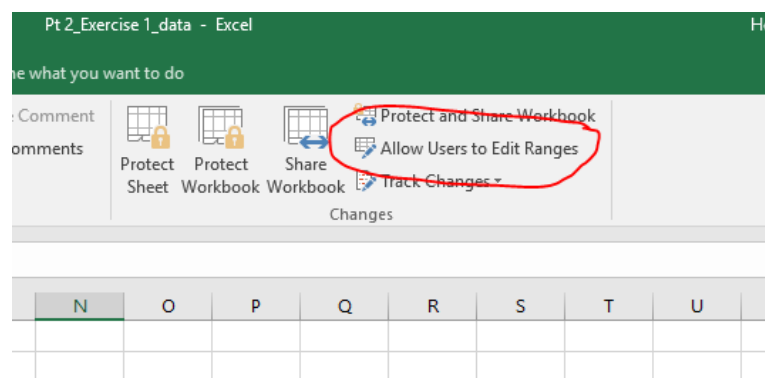
Select **New** and choose the range that you want to be accessible, you can add a password if needed

Once the range is chosen, click **Protect sheet**

NB: The **select locked cells** option doesn't always work with this method

Task 5 – Data validation (recap)
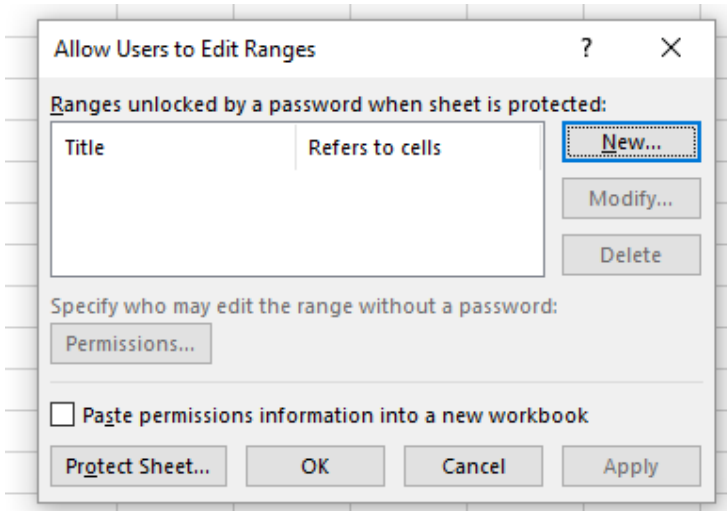
Along a similar line it might be useful to restrict the data that can be entered in column **J** to numbers.

NB The sheet will need to be unprotected before any changes can be made

- Select column **J** (don't include the title cell)
- Open the **data validation** menu and select **number** (enter the minimum as 1000000 and the maximum as 3000000)
- Test that the validation works by trying to enter text or a number outside the range
- Use the **circle invalid data** option to highlight any cells with incorrect data
- Delete any invalid data (NB you will find that all the invalid data relates to the same issue, you could run a find and replace – replacing with a blank)
- Protect the sheet again and test the functionality.

Exercise 2: Lookup function

The lookup function can be used to look for specific data in a large spreadsheet and find a value in the same row or column.

e.g. finding a price from the stock number

Task 1 – New worksheet

- Open a new worksheet and label it **PO Lookup**
- In cell **A2** enter the title **PO number**
- Format cell **B2** with a yellow background and black border
- In cell **A4** enter the title **Value**
- Format cell **B4** with a yellow background and black border
- In cell **A6** enter the title Description
- Format cell **B6** with a yellow background and black border
- Extend the width of column B so that the description will fit

## Task 2 – Lookup function

A lookup function has 3 elements:

- The data that is being looked up
- The cell range that is being looked in
- What value should be returned

- In cell B4 enter the following formula:

  =VLOOKUP(B2,Transactions!I2:K3475,3,FALSE)

  This means, look up the number that is entered in B2 in the cells I2:K3475 on the transactions tab, when it is found display the figure in the 3rd column of that range. The FALSE on the end just means that it should be an exact match.

- Put one of the PO numbers in cell **B2** and see if it works

- Use the same principle to insert a formula into cell **B6** which returns the description associated with the PO number

Task 3 – Cell locking

- Unlock all the cells on the PO Lookup sheet
- Select the whole worksheet
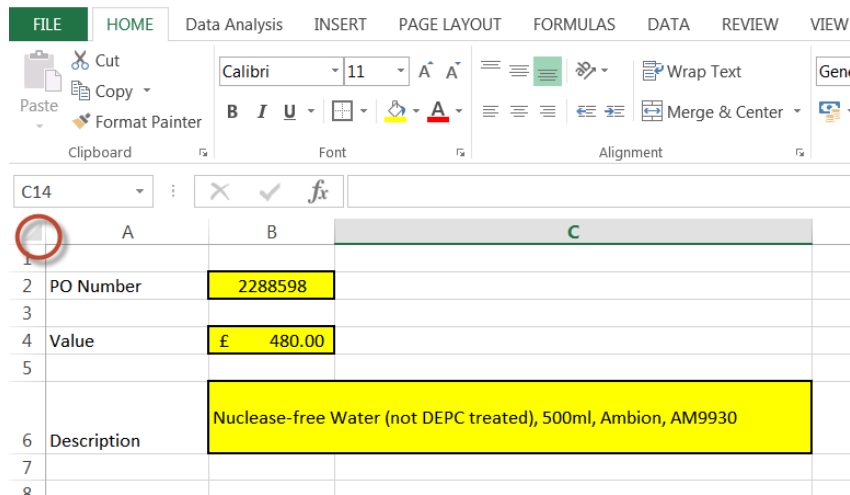
- In the font menu, select protection and make sure that the locked box is ticked. This will mean that all the cells will be locked when the sheet is protected.

- Select cell **B2** and repeat the process, this time make sure the locked box is unticked, this will mean that this cell only will remain unlocked when the sheet is protected

- Protect the sheet, unselect the **select locked cells** option and use the password **training**

- Test that data can only be entered in cell **B2** and that only this cell can be selected
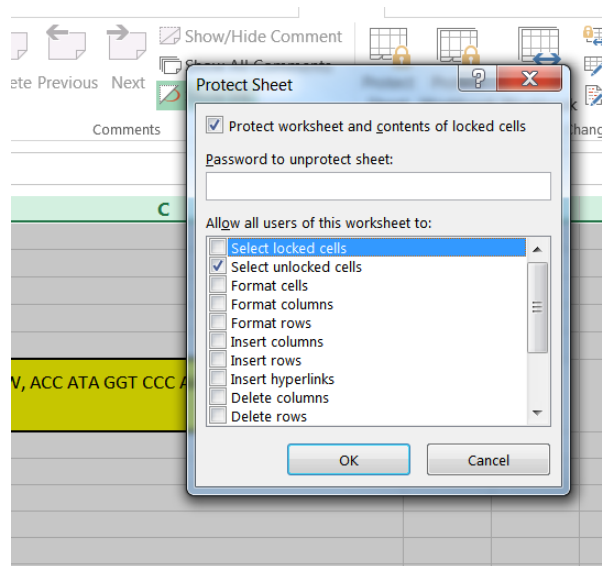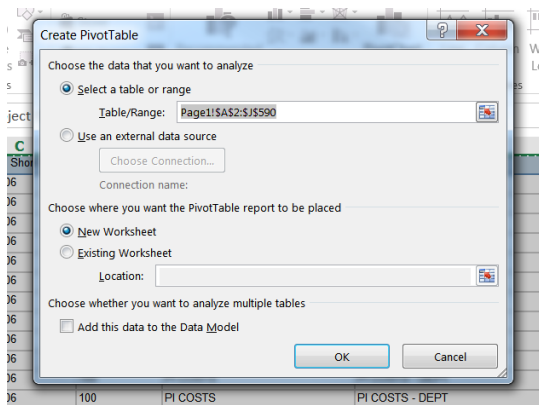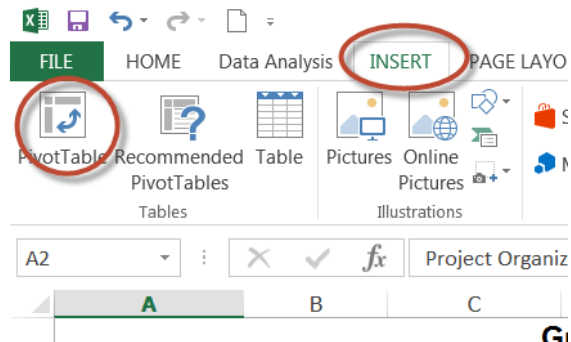
Exercise 3: Pivot tables

Pivot tables are used to analyse large amounts of data in a way that is flexible and user friendly.
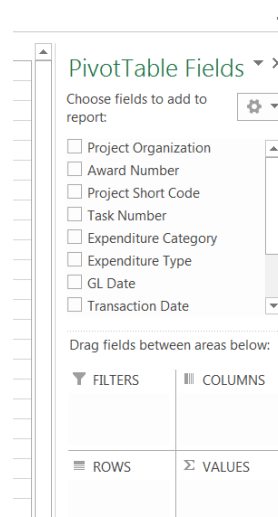
Task 1 – Selecting data for the pivot table

- Select all of the data in the table
- Select **Insert** and **Pivot Table**

• Leave the options as they are in the pop up box, the default is to create the Pivot table in a new worksheet, which usually works best.

- The pivot table field can then be dragged into the various boxes to create the table required

Task 2 – Creating a pivot table

Create a table which shows the expenditure by category

- Drag **Expenditure Category** to the **Rows** box
- Drag **Expenditure** to the **Values** box

NB These options may have slightly different headings in older versions of Excel but they perform the same functions

- Adding a filter will allow more detailed analysis
- Drag **Project Short Code** to the **Filter** box
- Now a single or selection of projects can be chosen and the data displayed will adjust accordingly
- Select one of the projects to see what happens to the data
- Format the data to show the numbers to 0dp and with the comma separator

Task 3 – Create a pivot table (2)

- Select all of the data in the table and insert the pivot table into a new worksheet
- Rename the worksheet **Task 3**
- Create a pivot table that shows the following:
  - Filtered by Expenditure Category
  - Expenditure by GL date
- Format the numbers to 2dp with the comma separator
- Test the pivot by selecting different expenditure categories and specific dates to see how the displayed data changes

Task 4 – Slicers

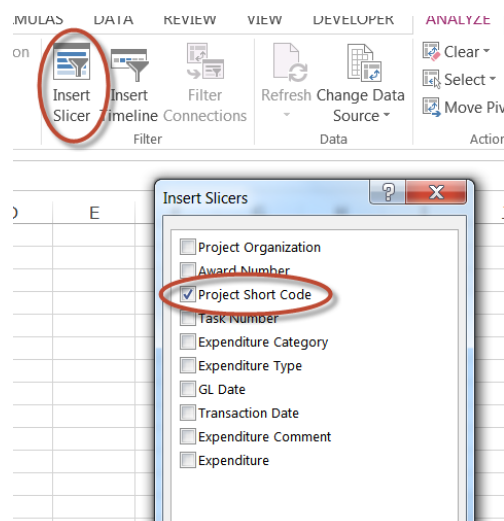Slicers are a new way to display filters

- In the Pivot table tool bar (hint: you must be in the pivot table for this to be visible) ensure that the analyse/options tab is selected
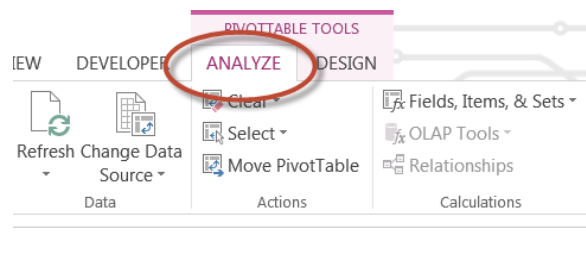
NB In some versions of Excel this table may be called **options**

- Select Insert Slicer and pick the filter needed (for this example select Project Short Code)

- The slicer can be positioned anywhere on the worksheet

Exercise 4: Charts and Graphs

Graphs and charts can be a useful way to present data in a format that is easy to understand and compare.

The data provided for this exercise has been sorted by Expenditure Category and subtotals applied.

Task 1 – Column chart

Use the worksheet named Task 1

- Collapse the data so that just the subtotals are visible
- Select the **Expenditure Category** and **Expenditure** column data (hint: holding the **Ctrl** key will enable non-adjacent data to be selected at the same time)

oject Short Code	Task Number	Expenditure Category	Expenditure Type	Expenditure Comment	Expenditure
		ESTATES COSTS Total			1,288.56
		INDIRECT COSTS Total			3,231.50
		INFRASTRUCTURE TECHNICIANS Total			176.36
		PI COSTS Total			5,470.04

- On the Insert tab select the column chart option
- Delete the word **total** from the end of each of all the expenditure categories
  (the column chart titles should change automatically)
- Double click on the **Chart Title** and change it to **Project expenditure for PDAG/204**
- Click on the bars in turn and change the fill colour so that they are different
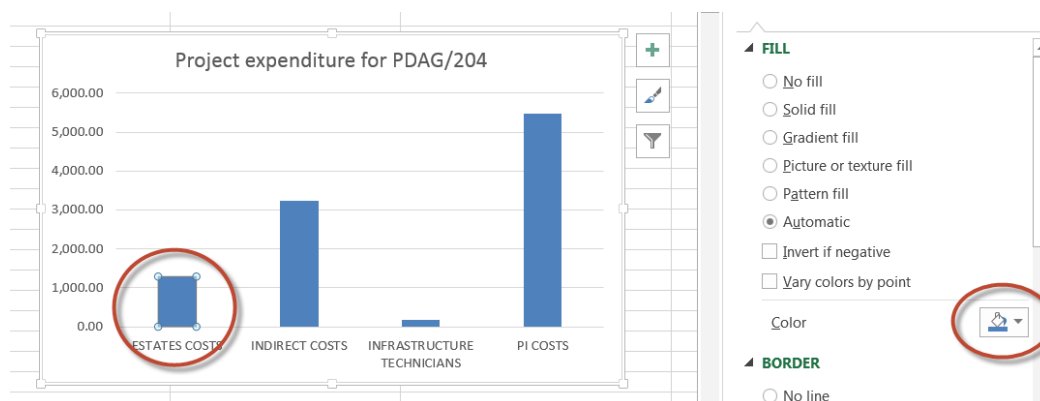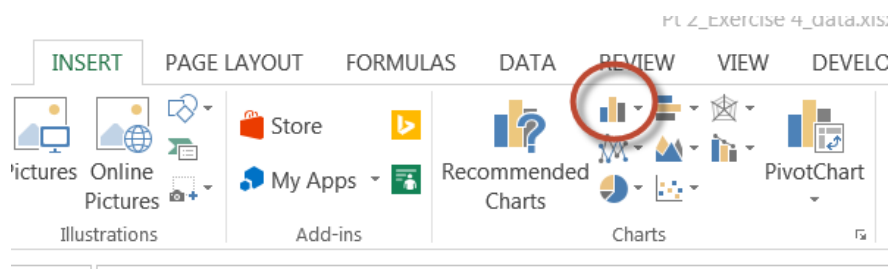
Task 2 – Trend line

Use the worksheet named Task 2

- Insert **subtotals** which sums the amount for each day
- Collapse the data so that the expenditure is totalled for each day

Having the word total on the end of each subtotal makes the charts look too busy. The find and replace function can be used to tidy things up.

- Select column **A**
- In the **home** tab, select **Find and Select** and then **Replace**
- Ensure that the **Replace** tab is select and enter **Total** in the find box, leave the second one blank
- Select **Replace All**
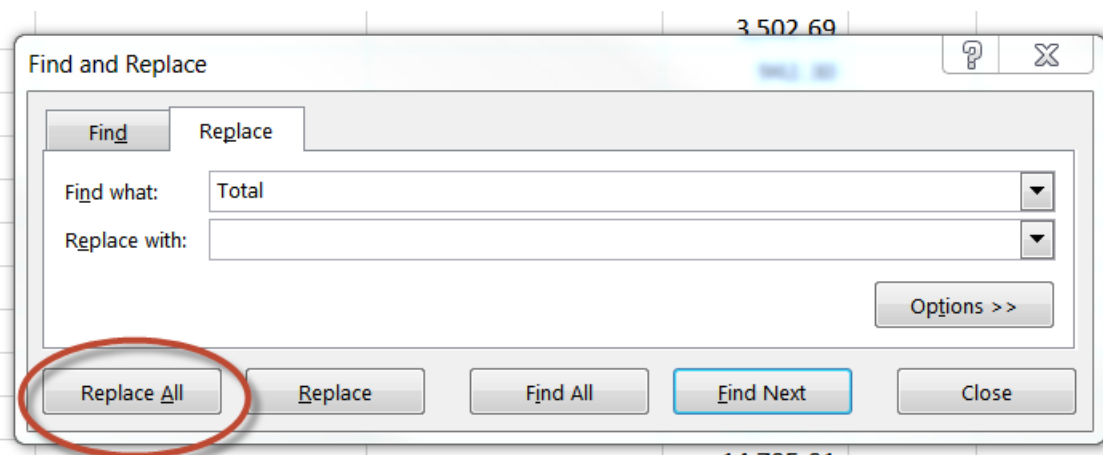
- Select the dates in **Jan 2017** and the corresponding **expenditure**
- Insert a **column chart** as before
- In the design tab, select **Move Chart** and then the **New Sheet** option
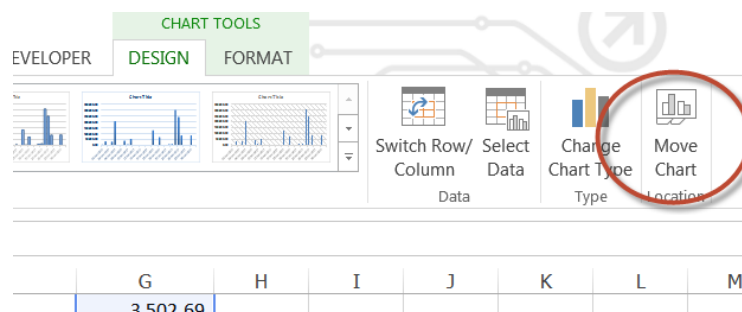
- Select the + in the top right hand corner of the chart to add an element
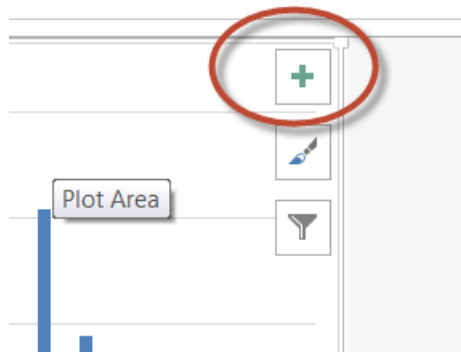
NB

Trendline is found in the layout tab of Chart Tools

- Select **Trendline** and click on the arrow to see the additional options

- Select **Moving Average** and then change the period to **7**
- Click on the trendline and change the colour to red
- Add a suitable title
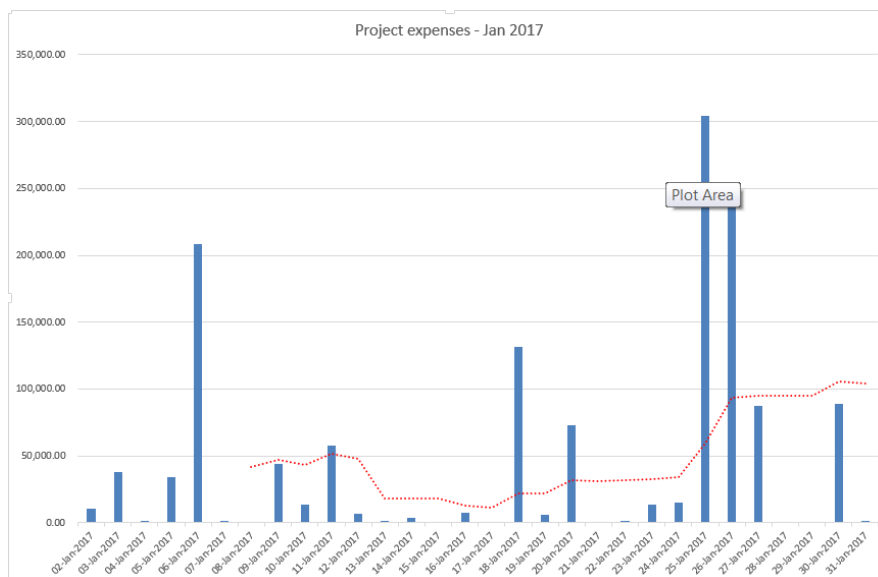
Task 3 – Pie chart

Use the worksheet named Task 3

- **Sort** the data by **SOF**
- Add **subtotals** to calculate the expenditure per **SOF**
- Use the **find and replace** function to remove the word **total** from each total row
- Use **conditional formatting** to identify any total amounts below £10,000
- **Delete** these rows
- Select the **SOF a**nd **Amount** data
- Insert a **pie chart** and move it to a new sheet

- Adjust the formatting
    - Change the colours of any segment where the percentage doesn't show
    - Make the % text bigger
    - Make the text of the legend bigger
    - Give it a suitable title
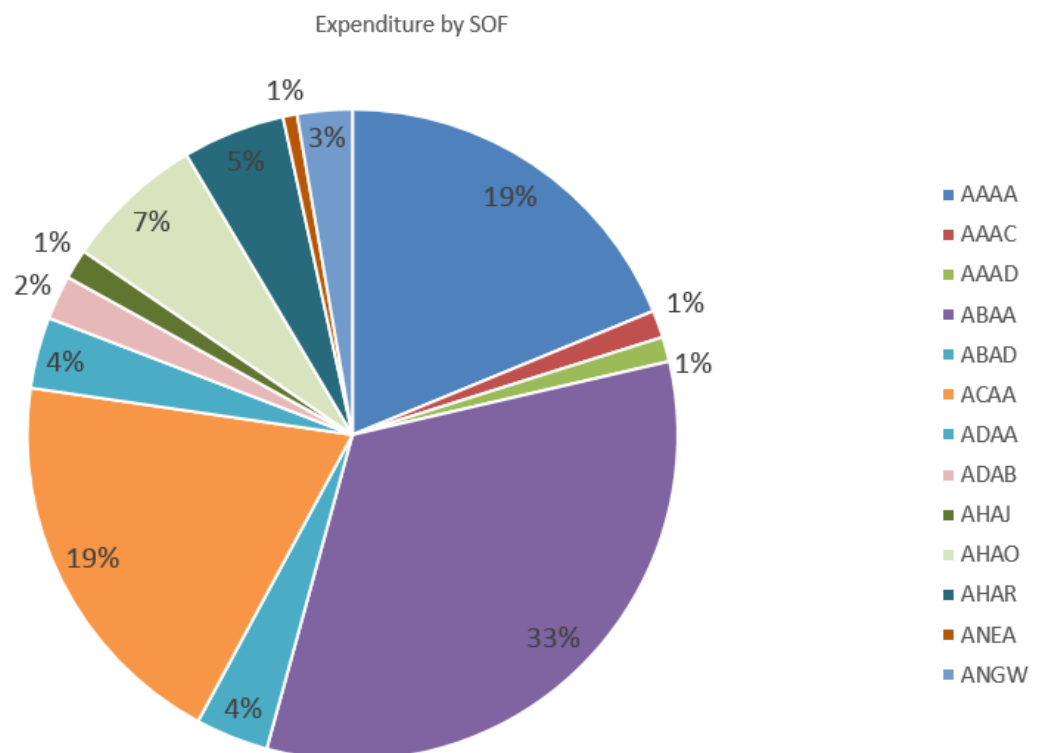
Expenditure by SOF

Task 4 – Pivot tables and charts

Use the worksheet named Task 3

- Expand all of the data in the Task 3 worksheet and remove the subtotals
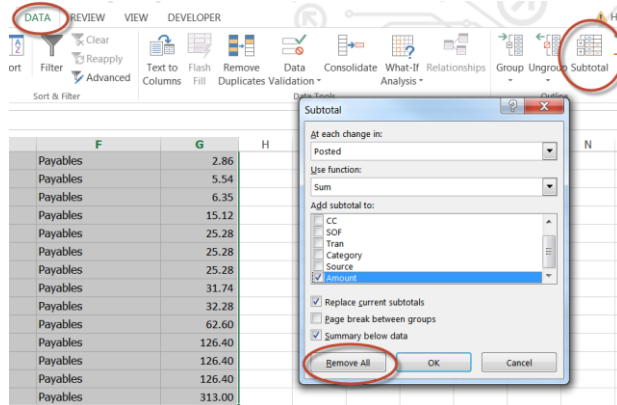
- Use all the data to insert a pivot chart onto a new worksheet
- The pivot chart should show:
  - The sum of expenditure by category
  - A filter for SOF
  - The numbers should be formatted to 0dp with the comma separator
- Make sure the curser is in the pivot chart and select **Pivot chart** in the **Analyze** tab
- Choose the chart required (go for bar chart initially)
- The chart produced is responsive in the same way as a pivot table
- Change some of the filters and see what happens
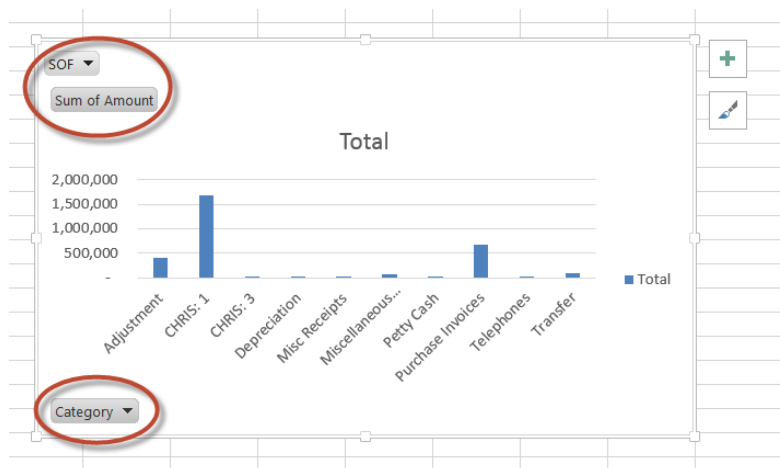
- In the **design** tab the **chart type** can also be changed
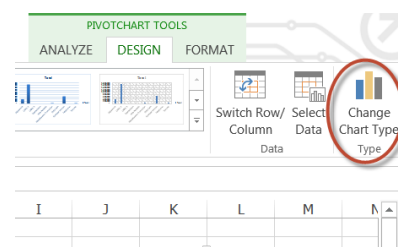
Exercise 5: Using data in other documents

When writing reports it can be useful to include charts, graphs and tables from Excel.

Task 1 – Creating a graph

- Sort the data by **Transaction code**
- Insert **subtotals** showing to **total amount** for each **transaction code**
- Get rid of the word total for every subtotal
- Create a **bar chart** for the **A** set of transaction codes, leave the bar chart on the same worksheet
- **Save** the workbook onto the desktop

Task 2 – Using a graph in a Word document

- Open a blank Word document
- Select the column chart and click **copy**
- In the Word document select the extra **Paste** function, choose **Paste Special**
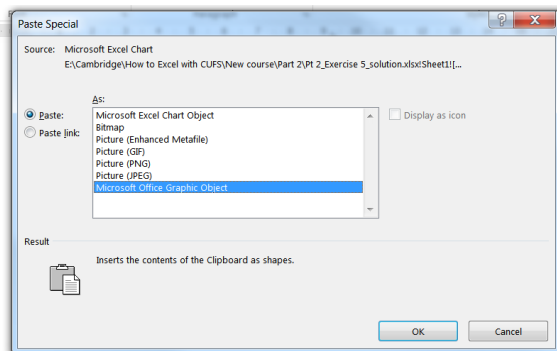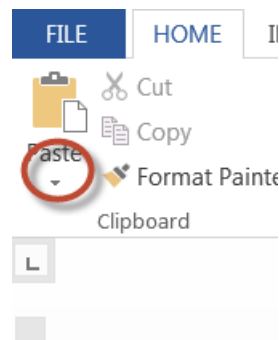
- For the input with the most functionality, select **Microsoft Office Graphic Object**

- The titles etc. can all be changed in the same way as in Excel. If the numbers are changed in Excel, the chart in Word will also adjust.
- Go back to Excel and change some of the figures so that the graph changes
- In Word, click on the graph and select the **design tab**
- Select **Refresh data** and the chart will update to reflect the new data (if it hasn't done so automatically)
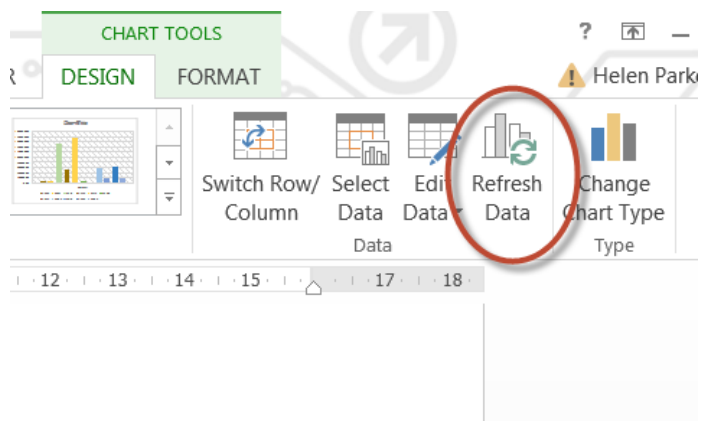
Exercise 6: Consolidation exercise

Task 1 – Lookup

- Create a new worksheet and name it Lookup
- Use a **VLOOKUP** function to display **Description 3** when the **PO number** is entered

> Hint: Try and just use the necessary columns in the lookup table rather than the entire range. A vlookup sometimes struggles to cope with large numbers of columns

- Lock all of the cells apart from the one where the PO number is to be entered

Task 2 – Column chart

- Copy the data from columns A and L into a new worksheet
- Rename this worksheet **Exp by month**
- Ensure that the data is sorted by period
- Subtotal the amounts by month
- Get rid of the word total throughout
- Use this data to create a **column chart of expenditure by month** for the 12 months to April 2017 (show this chart on the Exp by month worksheet)
- Add a trendline in red
- Give the chart an appropriate title
- Move this new worksheet to the end of the workbook

Task 3 – Pivot table

- Use the data in the Transactions worksheet to create a Pivot table in a new worksheet
- Move this worksheet to the end of the workbook and rename it **Pivot**
- Format the pivot chart to display the **amount of expenditure** per reference in the **Description 1** field
- Add a filter for the period

Task 4 – Pivot chart

- Add a pivot chart to the new **Pivot** worksheet
- Format this as a pie chart which shows the percentage for each segment
- Show this pie chart for the period Aug 2016
- Give the chart an appropriate title