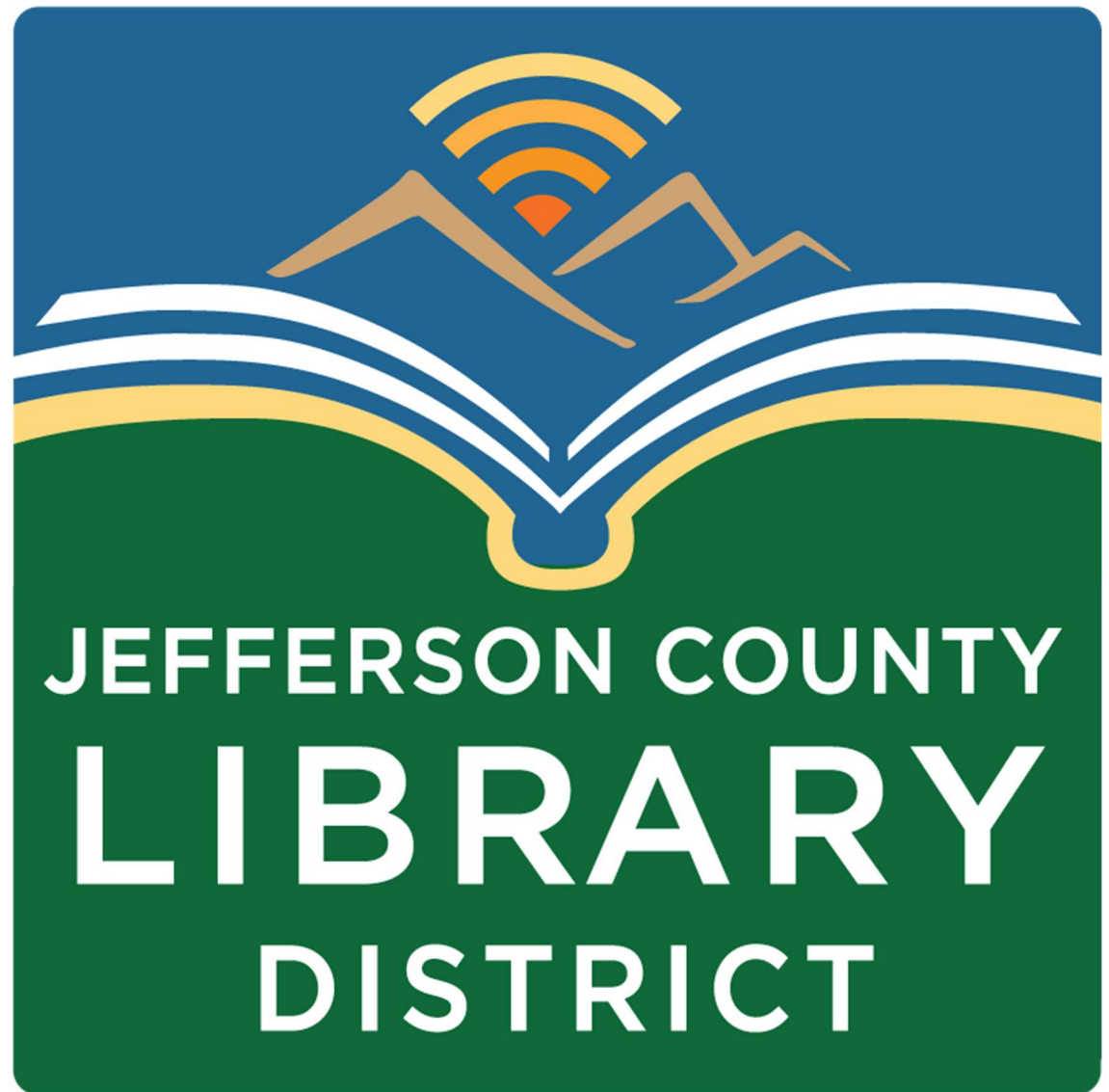


Introduction to Microsoft Excel: Analyzing and Reporting

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Learning Objectives

- Wrap text
- Merge and Center
- Freezing headings
- Change numerical type
- Write basic formulas
- Insert charts
- Sort data

Definitions

Wrap text – to make text fit in a cell within its existing space.

Merge and Center – to combine multiple cells and center the text. Often used to create a title within a spreadsheet.

Freezing – setting a row or column so that the headings remain in place when moving in a spreadsheet.

Formulas – used to perform basic calculations in Excel such as addition, subtraction, division, and multiplication.

Charts – a visual representation of data.

Sorting – arranging data based on a specific parameter.

Wrap text

When inserting text into a cell, sometimes it is too long. As we've learned you can adjust rows and columns to accommodate the text.

You can also use **Wrap Text**.

This means the text is “wrapped” within the size of the existing cell.

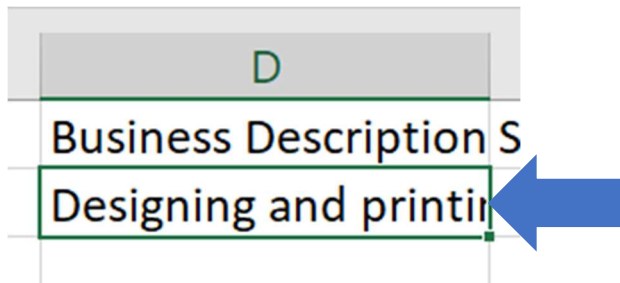
For example, in our Business Overview spreadsheet, in cell D2, the business description does not fit into the existing cell.

	D	
	Business Description Start	
	Designing and printir	

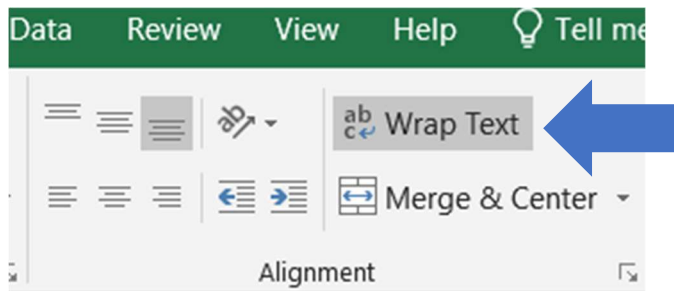
If we use Wrap Text, the text will fit in the existing cell without needing to adjust the width of the column.

To use Wrap Text:

1. Select the cell.



2. Click **Wrap Text**. It is found under **Home – Alignment**.



The row height has been automatically adjusted and the text has been wrapped so it is now visible in the cell.

D
Business Description S
Designing and printing fine 3D objects since 2009!

Merge and Center

You may want to add a title within your spreadsheet. **Merge and Center** is commonly used at the top of a spreadsheet to create a title by merging several cells and centering the text.

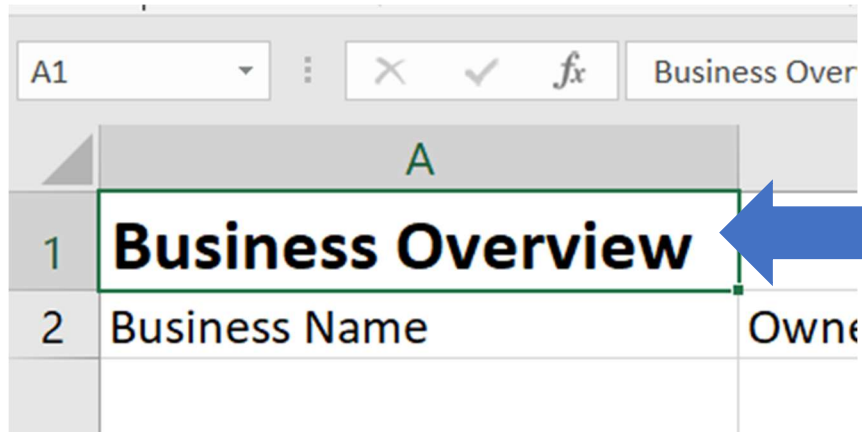
Here is an example of a title that has used Merge and Center.

Notice how the title appears to span several rows.

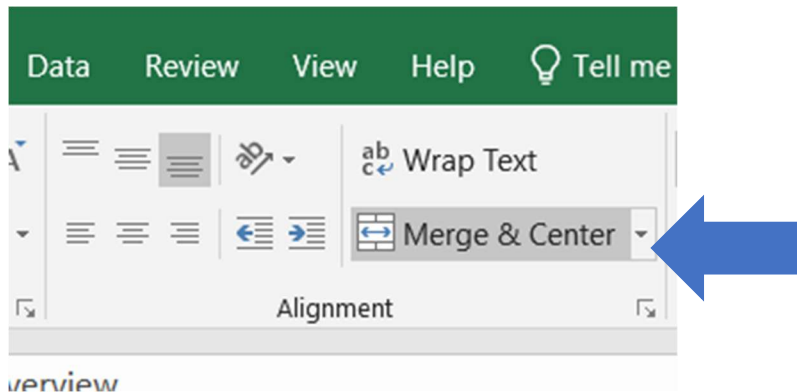
D	E	F	G
Business Overview			
Business Description	Start Date	Contact Name	Contact Email
Designing and printing fine 3D objects since 2009!	10/31/2009	Daniel Heaton	dheaton@jclibrary.info

To Merge and Center:

1. Enter the title of your spreadsheet in A1.



2. **Select** the range of cells you want to merge. The text will be centered in the middle of this range. For this example, using the Business Overview sheet, I select A1:J1 (A1 – J1).
3. Click **Merge and Center**. It is located under **Home – Alignment**.



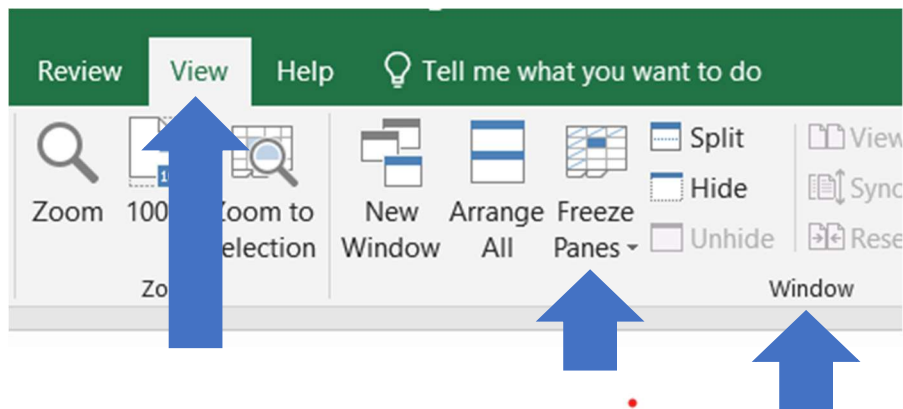
Your spreadsheet should now look like this:

Business Overview			
Business Description	Start Date	Contact Name	Contact Email
Designing and printing fine 3D objects since 2009!	10/31/2009	Daniel Heaton	dheaton@jclibrary.info

Freezing Headings

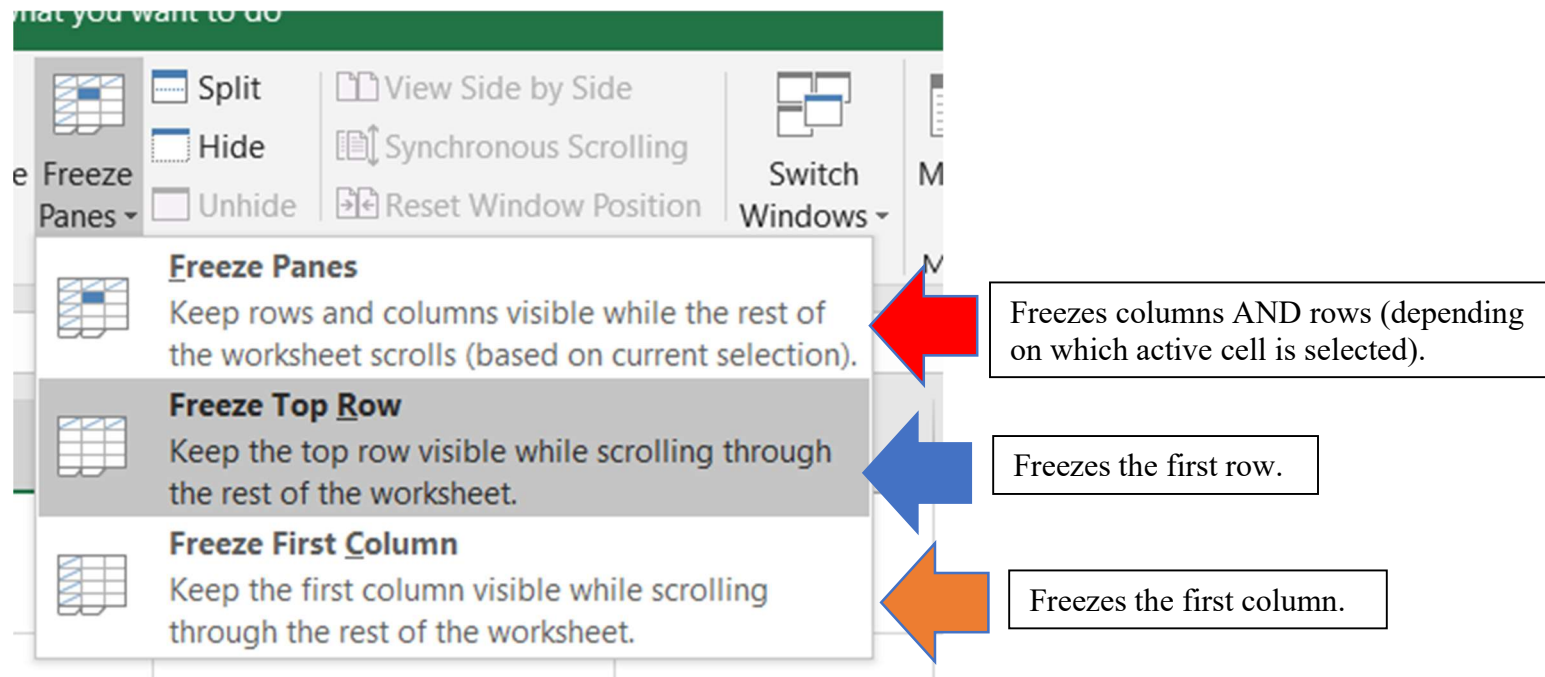
To freeze a heading means to be able to view the top most row or first column no matter where you are on your spreadsheet. This can be helpful so that you know which data you are looking at.

To freeze a heading, go to the **View** tab, under the **Window** section. The icon says “**Freeze Panes**”.



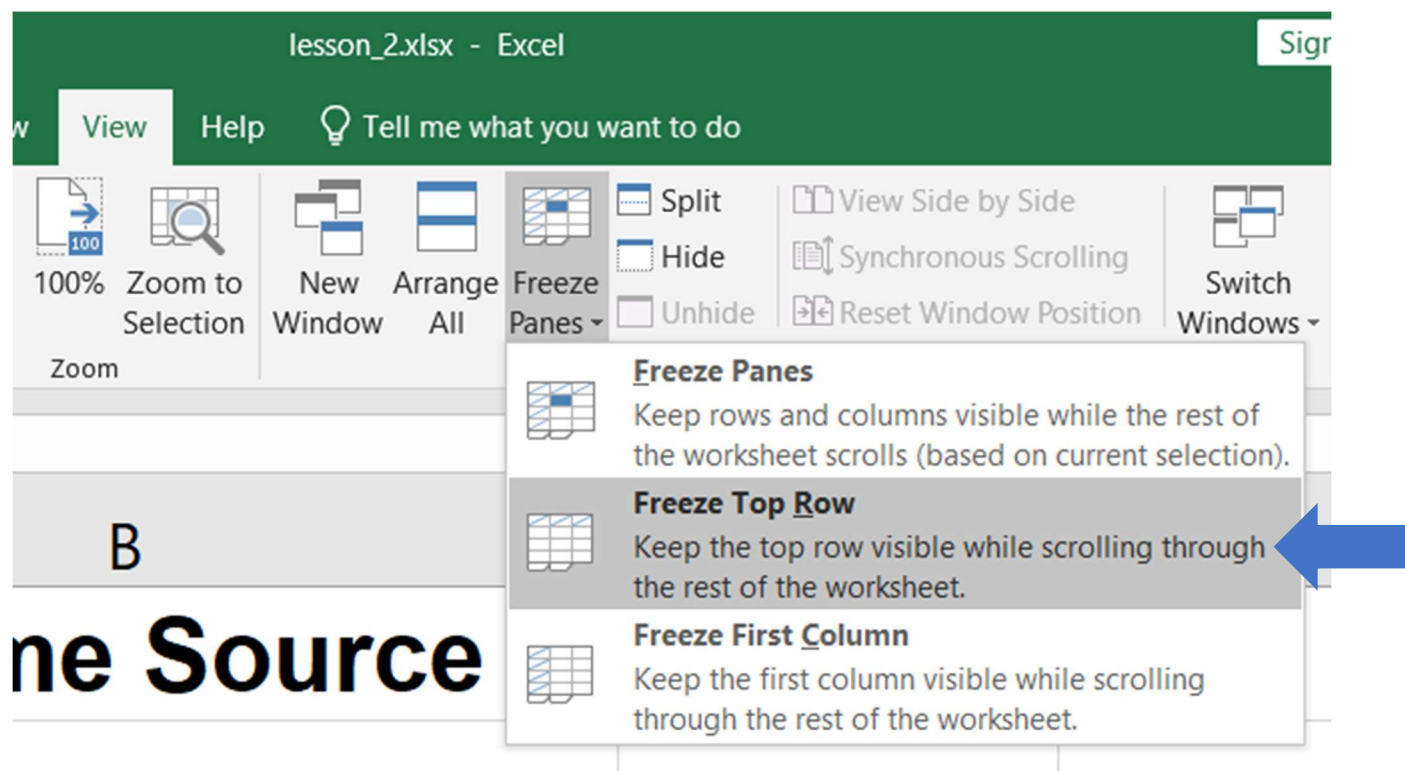
To freeze a row:

Click **Freeze Panes**.




For this example, we will freeze the first row of headings.

To freeze the first row of headings, go to **View – Freeze Panes – Freeze Top Row**.

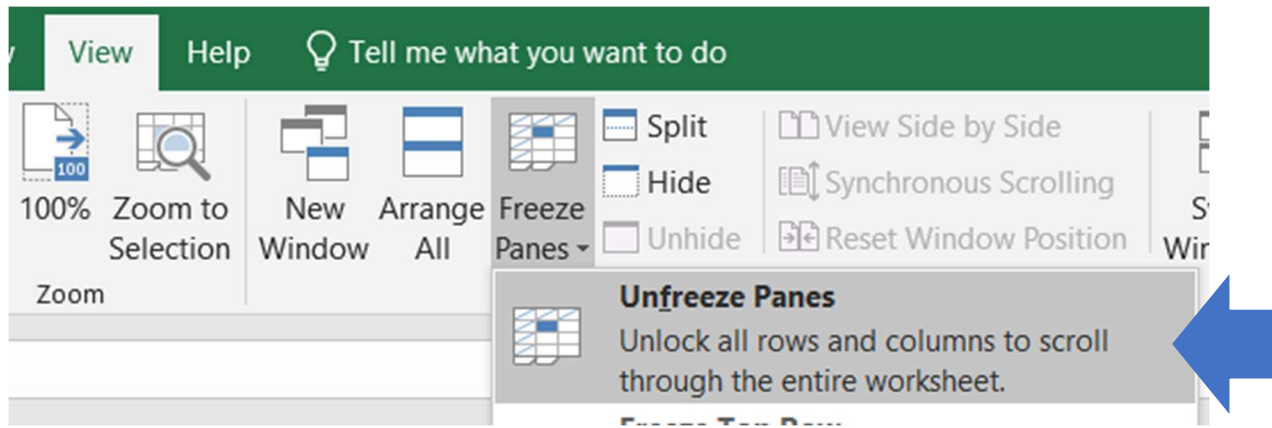


The first row is now frozen. If you look at the row numbers, you can see that even though I am at row 9, my first row is still visible.



	A	B	C
1	Month	Income Source	Amount
9			
10			

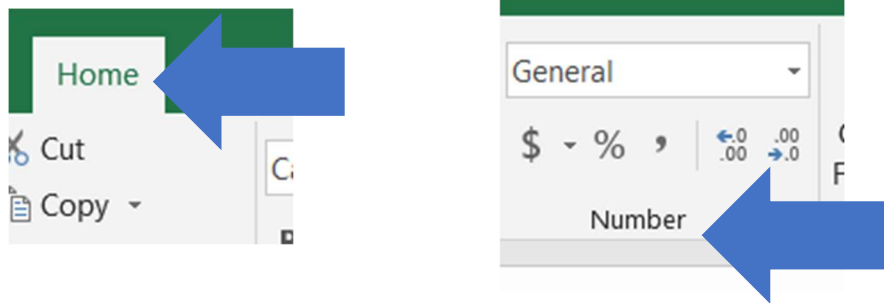
Tip: to “unfreeze” a row or column, go to **View – Freeze Panes – Unfreeze Panes**.



Number Formatting

You may want to specify the appearance of your data in a cell. For example, for dollar amounts, you may want to use a \$ sign. Or for dates, you may want it expressed in a specific manner.

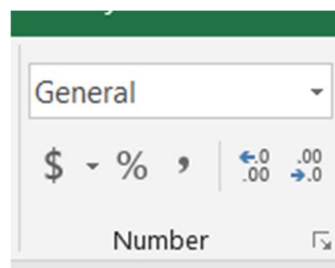
You can change how data is represented in cells from the **Home** tab in the **Number** section.



In this example, the Number status for this column is “General”

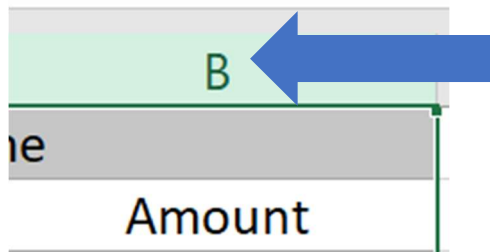
This means that data can be entered as letters or numbers. General does not have any specific formatting.

B	
me	
Amount	
	2200
	600
	1000
	250
	200
	4250

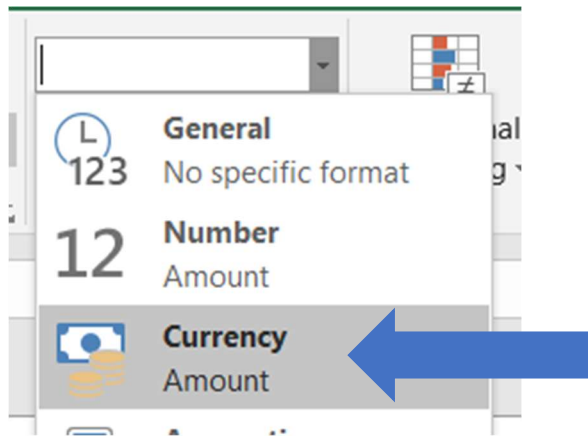


To change the column so that the amounts are formatted as a dollar format, I change General to Currency.

To change the Number, first select the column by clicking on the column letter. This selects all the cells in the column.



Next, choose **Currency** under **Home – Number**.



Your data should now look like this:

Amount
\$2,200.00
\$600.00
\$1,000.00
\$250.00
\$200.00
\$4,250.00

Numbers, Currency, Accounting

Numbers, currency, and accounting in the Number section represent dollar amounts in different ways. Below is how they display.

Numbers

Amount
2200.00
600.00
1000.00
250.00
200.00
4250.00

Currency

Amount
\$2,200.00
\$600.00
\$1,000.00
\$250.00
\$200.00
\$4,250.00

Accounting

Amount
\$ 2,200.00
\$ 600.00
\$ 1,000.00
\$ 250.00
\$ 200.00
\$ 4,250.00

Formulas

Formulas in Excel are written in a specific format. We saw an example of that with Autosum.

`=SUM(C9:C11)`

Below are examples of basic formulas in Excel.

Addition: `=C9+C11`

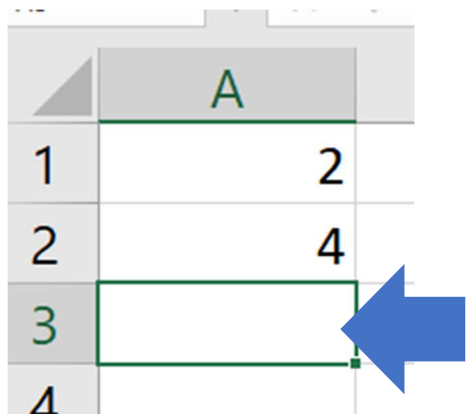
Subtraction: `=C9-C11`

Multiplication: `=C9*C11`

Division: `=C9/C11`

To enter a formula:

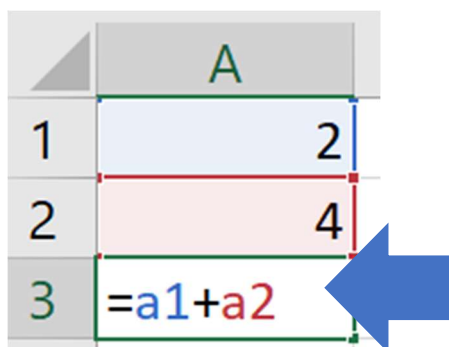
1. Click on the cell where you want the amount to appear.



An Excel spreadsheet with column A highlighted. The first four rows are numbered 1 to 4. Cell A3 is selected, indicated by a green border and a blue arrow pointing to it from the right.

	A
1	2
2	4
3	
4	

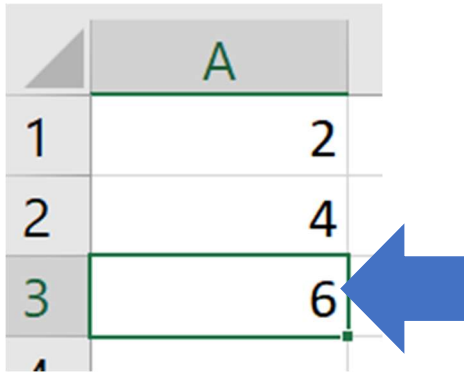
2. Enter the formula.



The same Excel spreadsheet as before, but now cell A3 contains the formula `=a1+a2`. The formula is displayed in blue and red text. A blue arrow points to the cell from the right.

	A
1	2
2	4
3	=a1+a2
4	

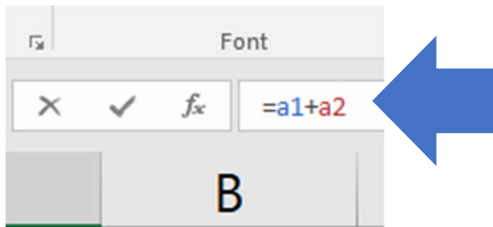
3. Press enter on the keyboard or click on a blank cell.



	A
1	2
2	4
3	6
4	

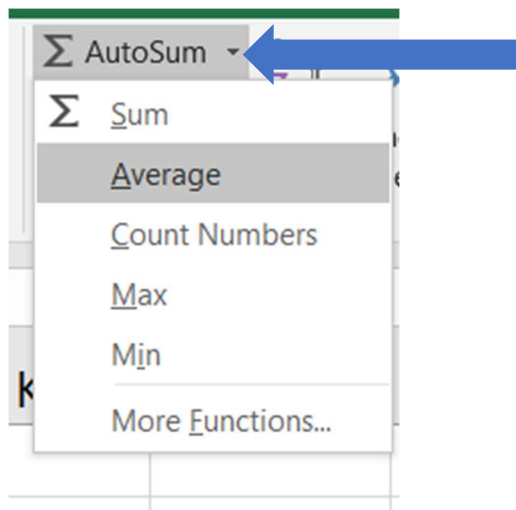
The total now appears in cell A3.

Tip: You can also type the formula in the formula bar after selecting the cell.



Other common formulas can be accessed by clicking on the arrow to the right of the **Autosum** function.

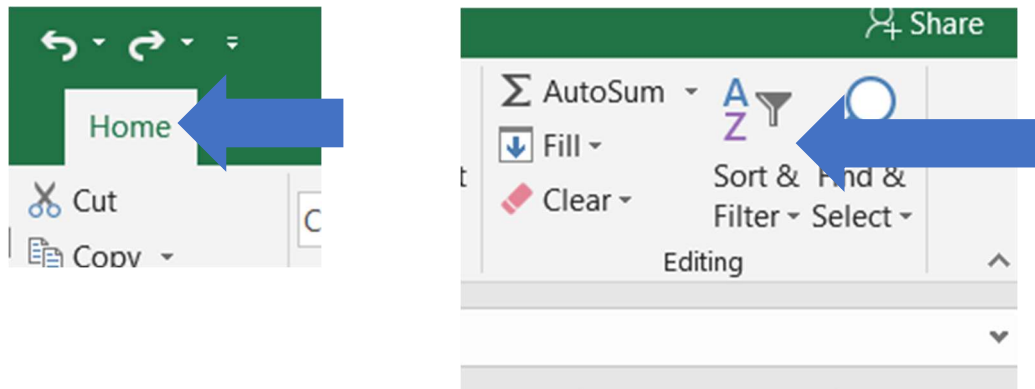
Autosum can be found under the Home tab, in the Editing section.



Sorting Data

You may want to sort data based on certain parameters such as alphabetically or by the value of a number.

Data can be sorted under the Home tab, in the Editing section.



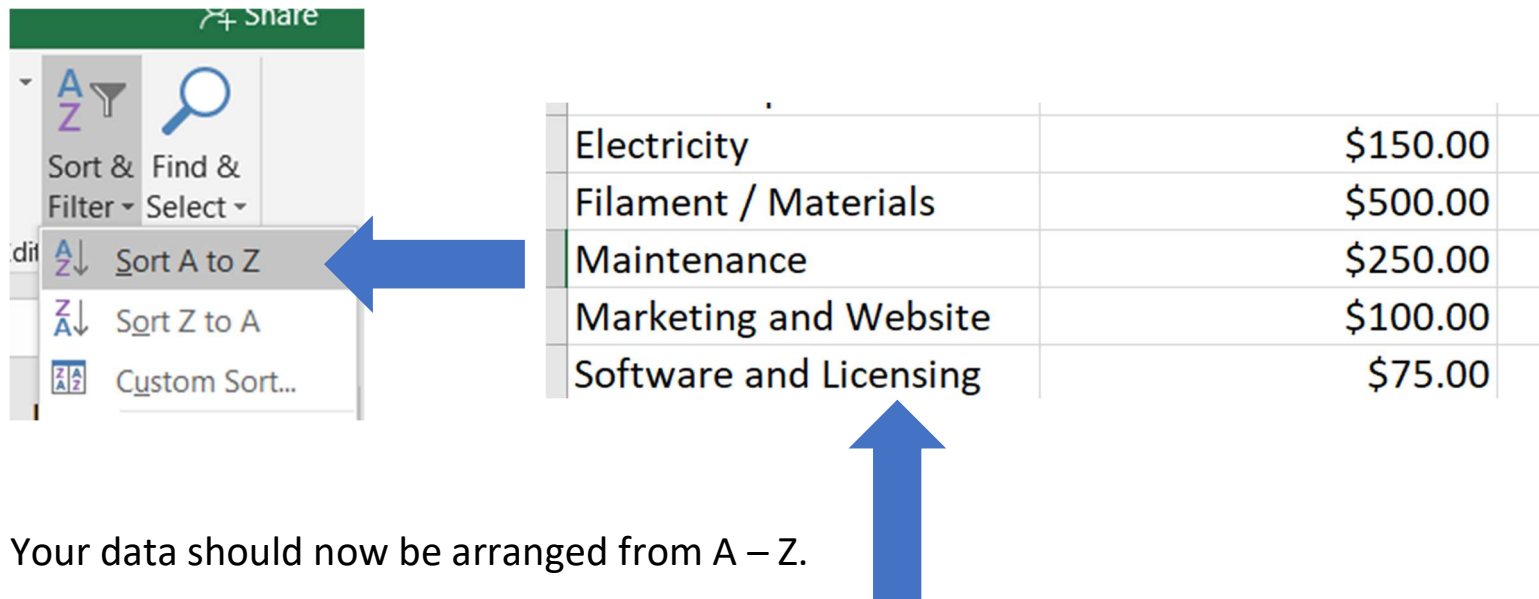
To sort data:

1. Select the entire range of data.

	A	B
1	Monthly Expenses	
2	Expenses	Amount
3	Software and Licensing	\$75.00
4	Marketing and Website	\$100.00
5	Electricity	\$150.00
6	Maintenance	\$250.00
7	Filament / Materials	\$500.00
8	Total	\$1,075.00
9		
10		

Note: if you do not select the entire range of data, Excel will ask if you want to expand the selection. The reason for this is that it assumes you want all the data to be sorted, not only a single column or row.

2. Click **Sort and Filter – A – Z**



The screenshot shows a software interface with a 'Sort & Filter' dropdown menu on the left. The menu is open, showing three options: 'Sort A to Z' (selected), 'Sort Z to A', and 'Custom Sort...'. A blue arrow points from the 'Sort A to Z' option to a table on the right. The table contains five rows of data, sorted alphabetically by the first column.


Electricity	\$150.00
Filament / Materials	\$500.00
Maintenance	\$250.00
Marketing and Website	\$100.00
Software and Licensing	\$75.00

Your data should now be arranged from A – Z.

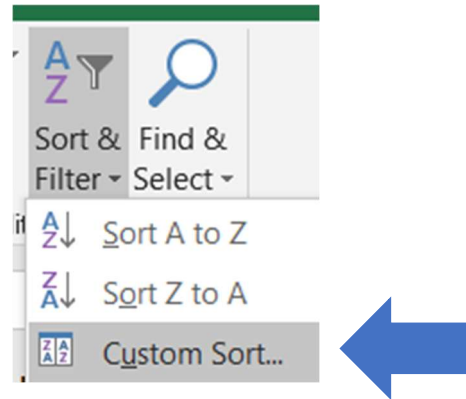
If you want to sort the data numerically, you may need to “Custom Sort”. This happens when the range of data also contains cells that have text in them.

To sort the same range of data numerically:

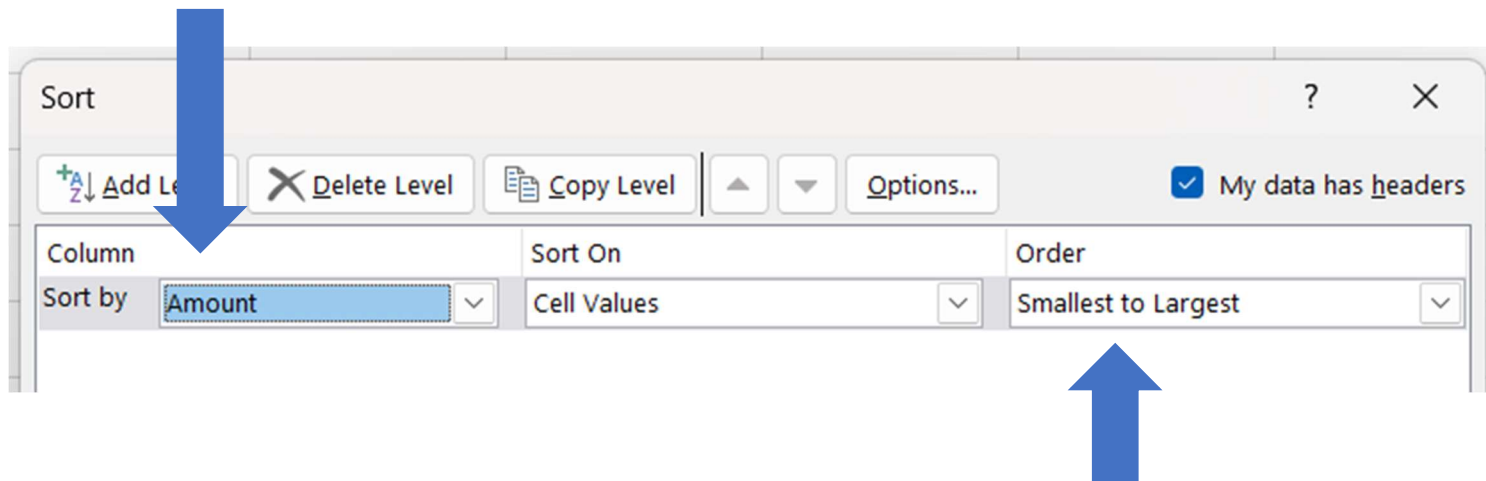
1. Select the range of cells.

Expenses	Amount
Electricity	\$150.00
Filament / Materials	\$500.00
Maintenance	\$250.00
Marketing and Website	\$100.00
Software and Licensing	\$75.00
Total	\$1,075.00 

2. Click on **Sort & Filter – Custom Sort**.



3. Choose the column to Sort by that has the numerical values.



4. Choose the order of the numerical values, Smallest to Largest, or Largest to Smallest.

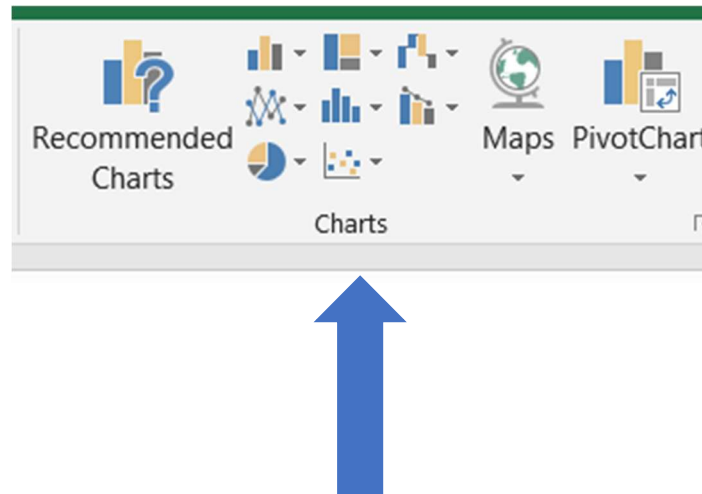
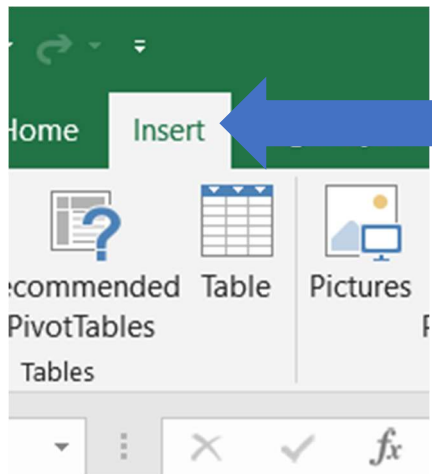
Your data should now be arranged by the value you chose, in my case, Smallest to Largest.

Software and Licensing	\$75.00
Marketing and Website	\$100.00
Electricity	\$150.00
Maintenance	\$250.00
Filament / Materials	\$500.00

Charts

Excel allows users to create visual charts based on their spreadsheet data.

Charts can be found under **Insert – Charts**

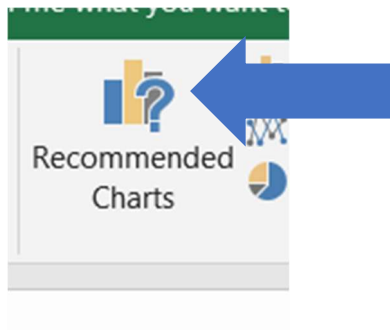


To insert a chart:

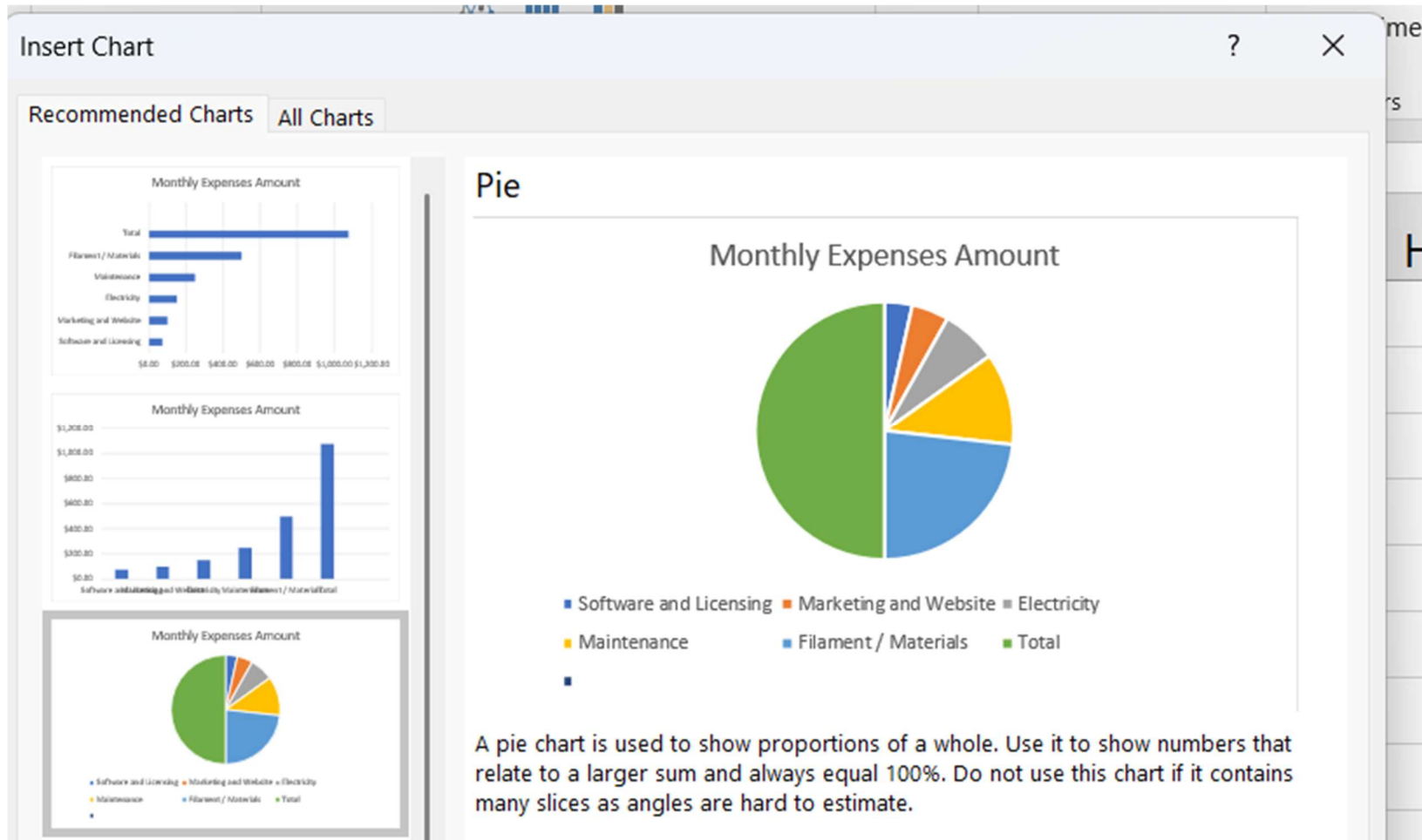
1. Select the data you want represented in a chart:

	A	B
1	Monthly Expenses	
2	Expenses	Amount
3	Software and Licensing	\$75.00
4	Marketing and Website	\$100.00
5	Electricity	\$150.00
6	Maintenance	\$250.00
7	Filament / Materials	\$500.00
8	Total	\$1,075.00
9		
10		
11		

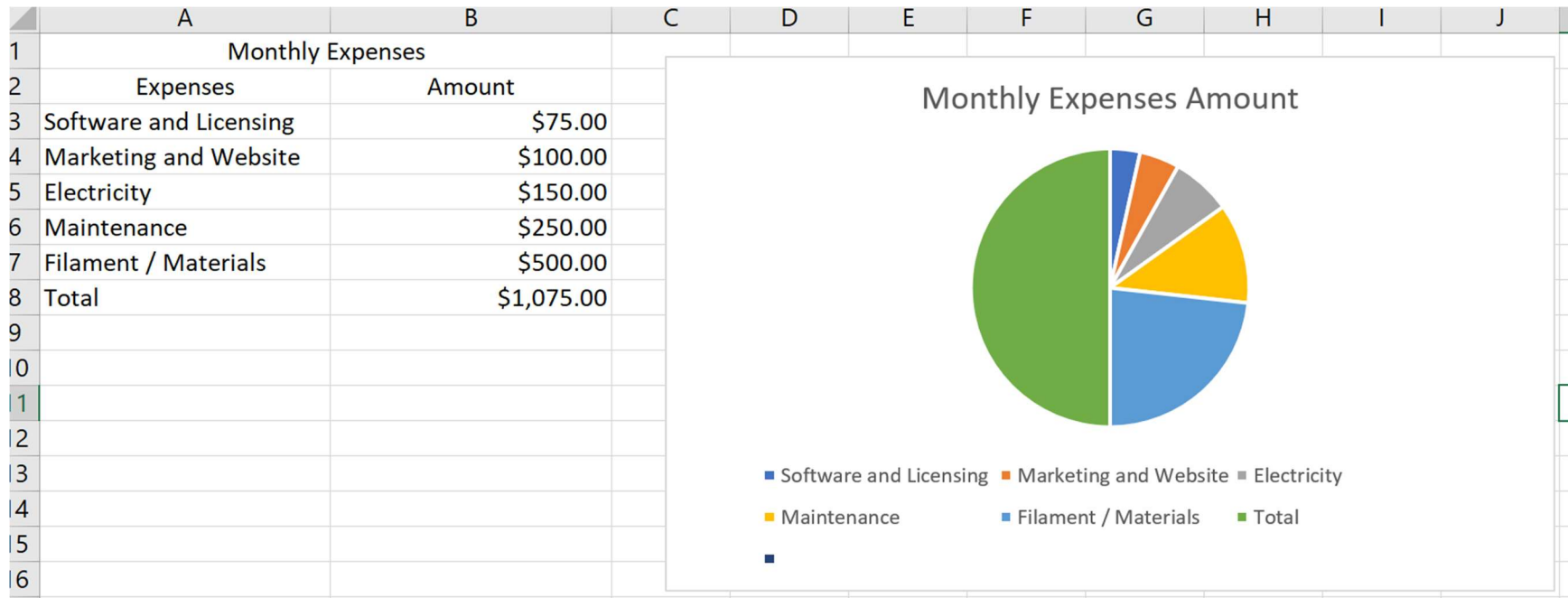
2. Click **Recommended Charts**.



A selection of charts will appear. The most common are **clustered, bar, and pie**.



This is what a chart will look like on your spreadsheet.



Tip: to delete a chart, click on it once, then press delete on your keyboard.

Lesson 2 Activity – Expenses

Expense Category	Amount -January	Amount - February
Filament / Materials	500	
Maintenance	300	
Power (electricity)	250	
Software and licensing	125	
Marketing and Website hosting	75	
Total Expenses	?	

New sheet:

1. Create a new sheet for your expense spreadsheet.
2. Add the data and headings above.
3. Rename your sheets to reflect their data.

Formatting:

1. Change the font for all cells to Verdana.
2. Make the font size for the headings “Expense Category” and “Amount” to 16.
3. Change the headings “Expense Category” and “Amount” to Bold.

Autofill

1. Use Autofill to copy the expenses from January to February.

Totals:

1. Find the total expense amount using Autosum.

Lesson 3 – Activity - Formulas

Category	January	February
Income		
Expenses		
Profit		

1. Create a new sheet with the following fields. Rename the sheet to Profits
2. Enter the total income and expense amounts for January and February.
3. In the Profit row, write the formula that will provide the Profits for those two months.
4. Change the Number format for January and February to Currency. (Bonus: change the Number format to Currency for the Income and Expense spreadsheets.)

Lesson 3 Activity – Freezing, Sorting, and Currency.

1. Freeze the first row for the Income and Expense spreadsheets.
2. Change the Number type for the amount columns on both sheets to Currency.
3. Sort the data alphabetically, A – Z.
4. Sort the data numerically, Smallest – Largest.
5. Insert a chart for either the Income or Expense spreadsheets.
6. Create a new sheet named Profit.

Next Class

Planning and Customization

Learn how to create template spreadsheets for future use, how to format a spreadsheet for printing, and how to create borders and change cell colors.

