

# Data Analysis in Excel 2007

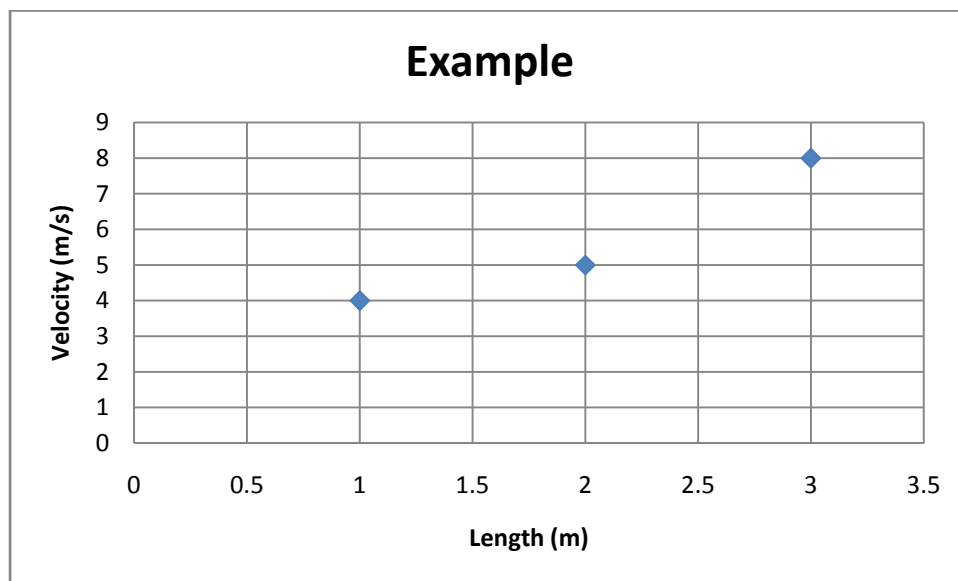
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## Making a plot

1. Add your data to two vertical columns, first x-values, then y-values

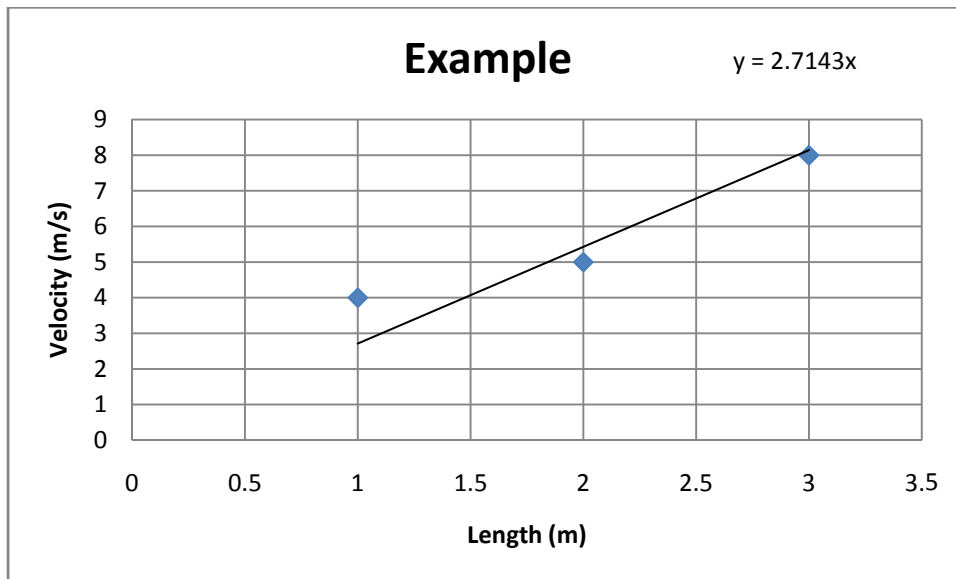
1	4
2	5
3	8

2. Select the data cells
3. Click on the **Insert** menu
4. Click on **Scatter**
5. Click on the first option
6. Under **Chart Layouts**, click on the first option
7. Click on **Chart Title and Axis Title** to change titles and axis labels (and add units)
8. Right-click on the x-axis, and select **Add Major Gridlines**
9. Delete the key for the data points (it says “**Series1**”), optional



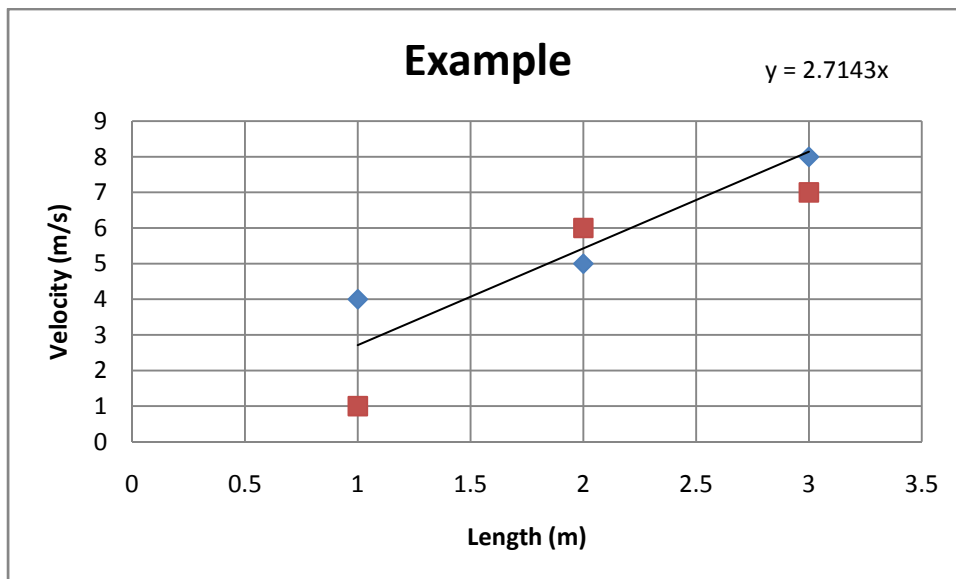
## Adding a Best Fit Line

1. Make a plot as above
2. Right-click on a data point, and select **Add Trendline**
3. Select **Set Intercept** in order to force the best fit line to pass through the origin (or other point)
4. Select **Display Equation on Chart**



## Adding another set of data to a plot

1. Make a plot, as above
2. Right-click inside the plot, and select **Select Data**
3. Above the table to the left, select **Add**
4. Click on the **Series X Values** field, then use your mouse to select cells for the x-axis
5. Click on the **Series Y Values** field, then use your mouse to select cells for the y-axis



## Using Excel to calculate formulas

1. Make a column of your x-axis values

1	
2	
3	
4	
5	

2. In the first cell in the next column, type “=” followed by a formula, clicking on the cell to the left whenever you need its value. Example for  $y = x^2$ : type “=”, click on the cell with the “1”, then type “^2”. If the cell with “1” is in location A1, the formula will look like “=A1^2”.

1	=A1^2
2	
3	
4	
5	

Press Enter

3. Click on the cell with the formula. Notice the black square at the bottom right of the cell. Click and drag it down till the cell next to the cell with “5”. Let go of the mouse.

1	1
2	4
3	9
4	16
5	25

4. Click on the cell with a “9”. Notice that it changed A1 in the formula to be A3 automatically.

5. In order to prevent Excel from automatically changing a particular value, use the “\$” symbol. Example for  $y = 5x^2$ : Click on cell C1 and enter the value 5. Click on cell B1 and now type “=5\*\$C\$1\*A1^2”. Use step 3 to add this formula to the other cells in the B column.

1	5	5
2	20	
3	45	
4	80	
5	125	

6. Now click on cell B3. Notice that the \$C\$1 remains unchanged.

7. Click on C1 and change its value to 7

8. Notice the automatic change in values in the columns

1	7	7
2	28	
3	63	
4	112	
5	175	

### Using Excel functions

Example for using the function **Average**

1. Continuing from above, click on an empty cell, B6 for example.

2. Type “=average(“

3. Use your mouse to select cells B1 through B5

4. Type “)” to close the function, and press Enter

1	7	7
2	28	
3	63	
4	112	
5	175	
	77	

### Useful Excel functions

**Count**

**Sum**

**Average**

**Max**

**Min**