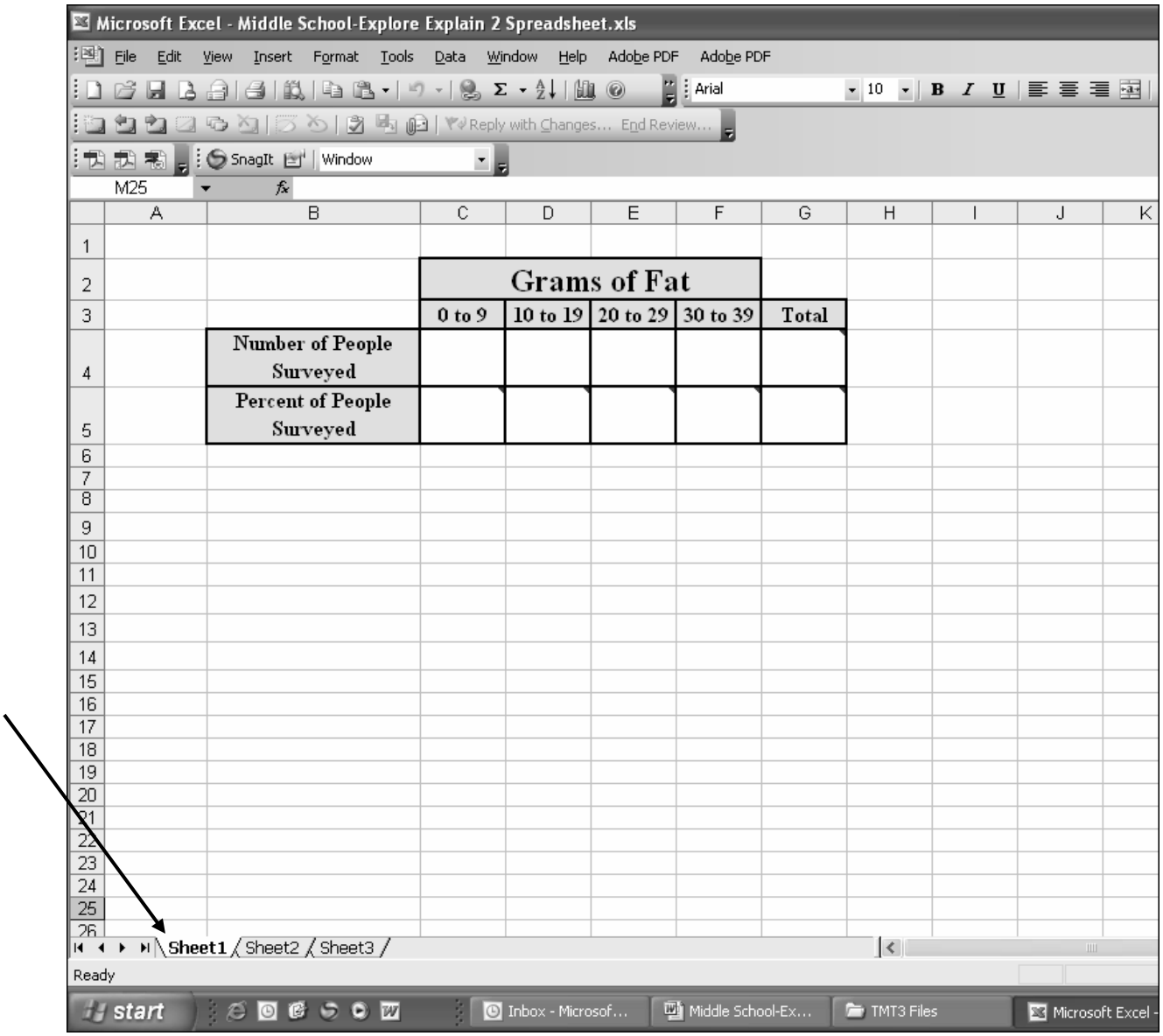
Technology Tutorial: Grams of Fat Activity 1

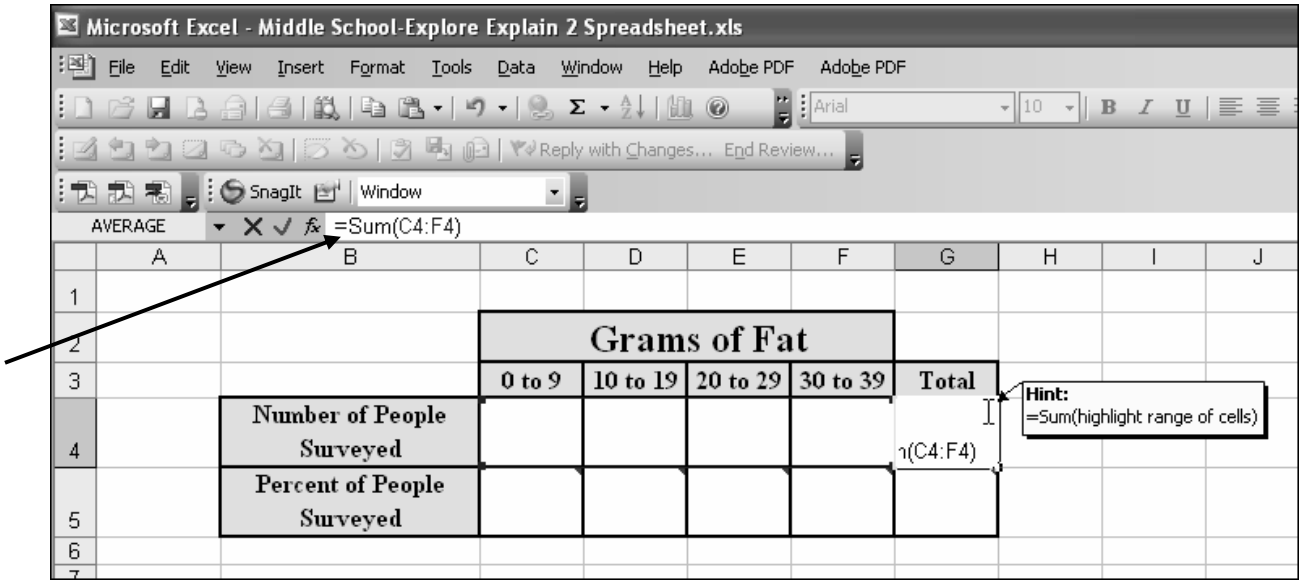
Formatting Chart Cells

1. Open the **Excel** document **Middle School-Explore Explain 2 Spreadsheet.xls**.

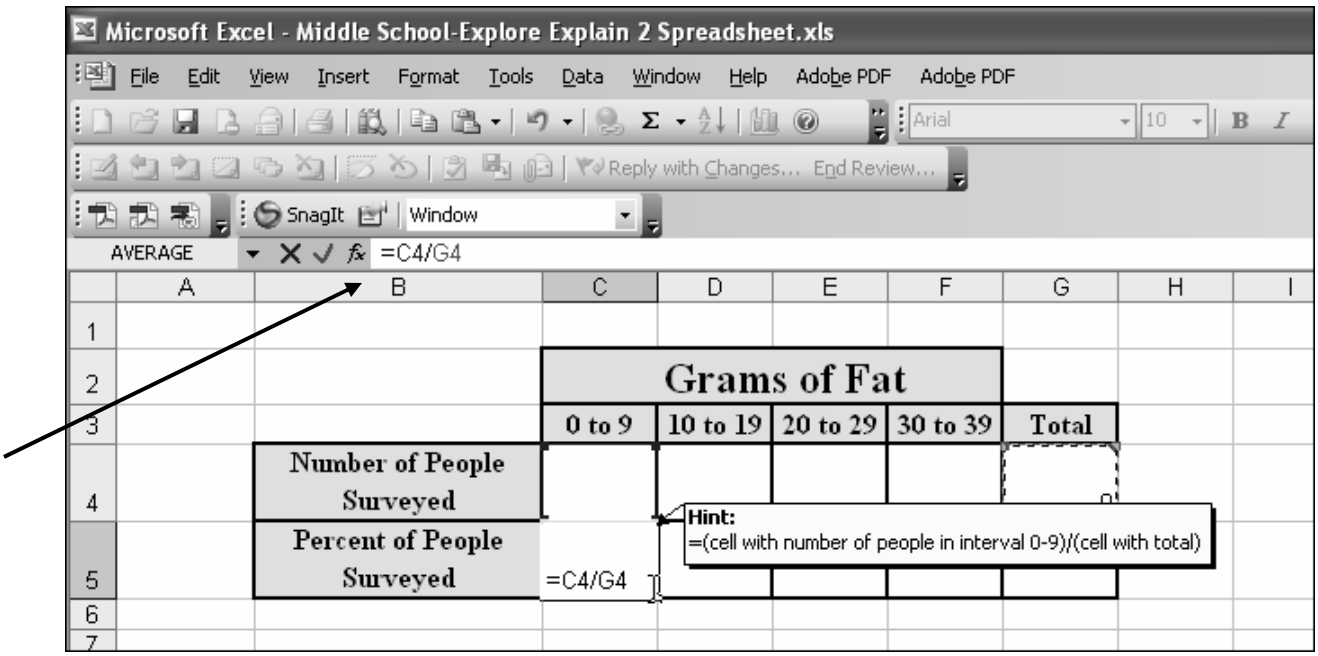
2. Select **Sheet 1** containing the template: **Grams of Fat**.



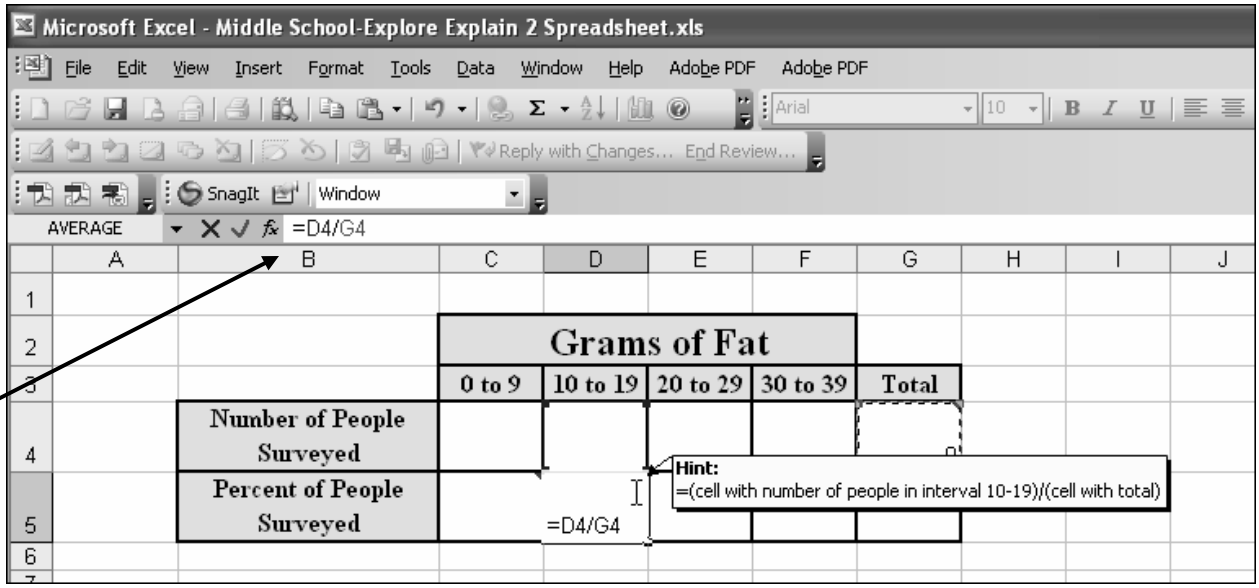
3. Scroll over the flag in cell **G4**. The HINT implies that the formula needed for this cell is **=Sum(highlight range of cells)**, which means to enter **=SUM(** and then highlight the cells necessary by clicking and dragging the mouse from cell **C4** to cell **F4**. Followed by a close parenthesis and **Enter**.



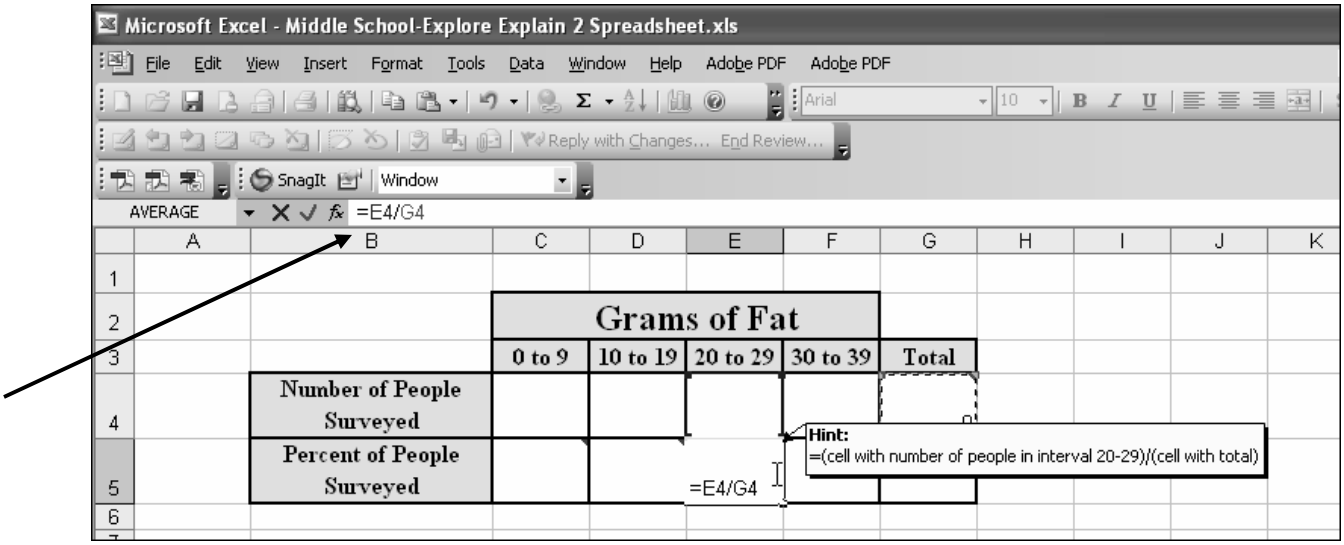
4. Scroll over the flag in cell **C5**. The HINT implies that the formula needed for this cell is **=(cell with number of people in interval 0 to 9)/(cell with total)**, which means to input **=**. Then click on cell **C4**, followed by the backslash, followed by cell **G4**, and **Enter**.



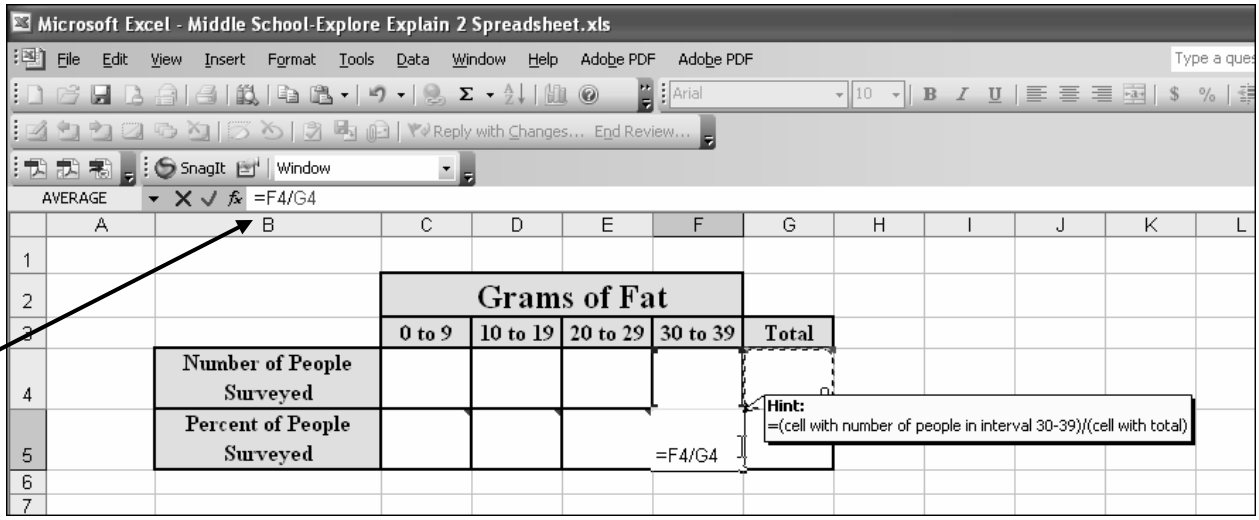
5. Scroll over the flag in cell **D5**. The HINT implies that the formula needed for this cell is **=(cell with number of people in interval 10 to 19)/(cell with total)**, which means to enter =. Then click on cell **D4**, followed by the backslash, followed by cell **G4**, and **Enter**.



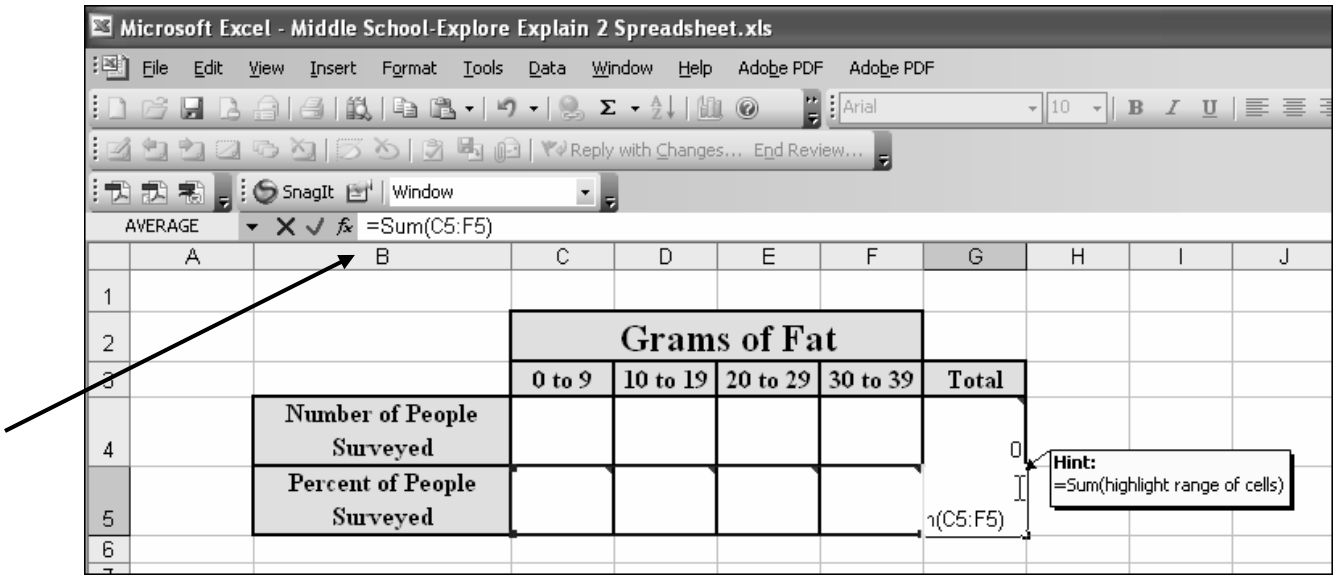
6. Scroll over the flag in cell **E5**. The HINT implies that the formula needed for this cell is **=(cell with number of people in interval 20 to 29)/(cell with total)**, which means to input =. Then click on cell **E4**, followed by the backslash, followed by cell **G4**, and **Enter**.



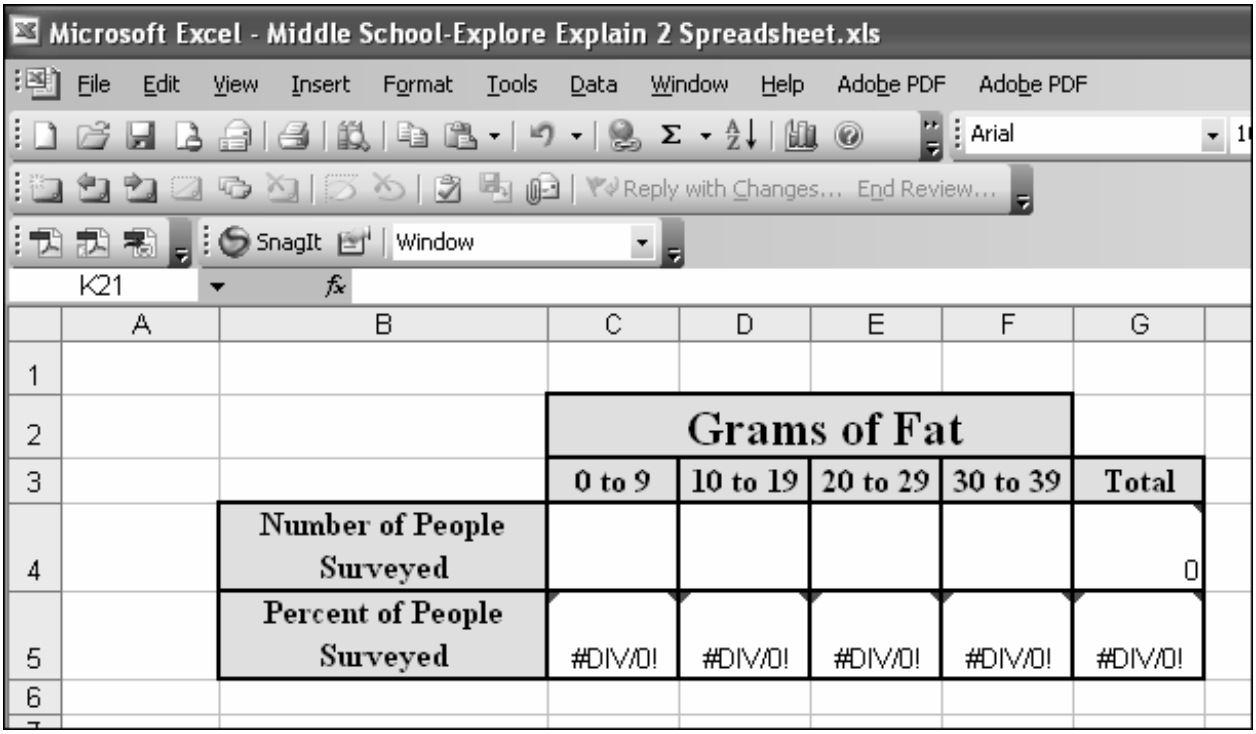
7. Scroll over the flag in cell **F5**. The HINT implies that the formula needed for this cell is **=(cell with number of people in interval 30 to 39)/(cell with total)**, which means to enter =. Then click on cell **F4**, followed by the backslash, followed by cell **G4**, and **Enter.**



8. Scroll over the flag in cell **G5.** The HINT implies that the formula needed for this cell is **=Sum(highlight range of cells)**, which means to enter **=SUM(** and then highlight the cells necessary by clicking and dragging the mouse from cell **C5** to cell **F5**. Followed by a close parenthesis and **Enter**.



9. Note: Until data is entered, cells will show an error message due to division by zero.

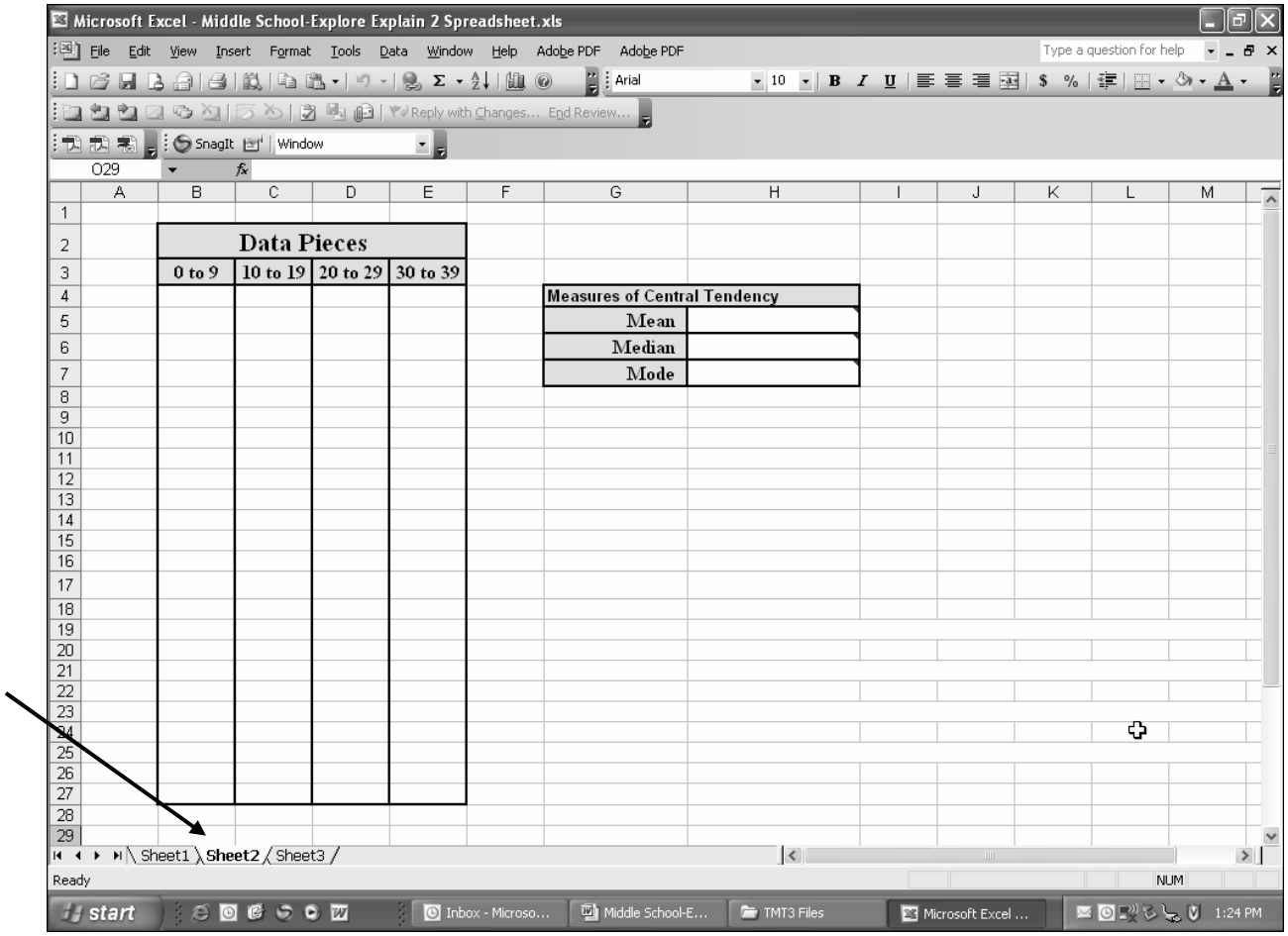


	A	B	C	D	E	F	G
1							
2			Grams of Fat				
3			0 to 9	10 to 19	20 to 29	30 to 39	Total
4		Number of People Surveyed					0
5		Percent of People Surveyed	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6							

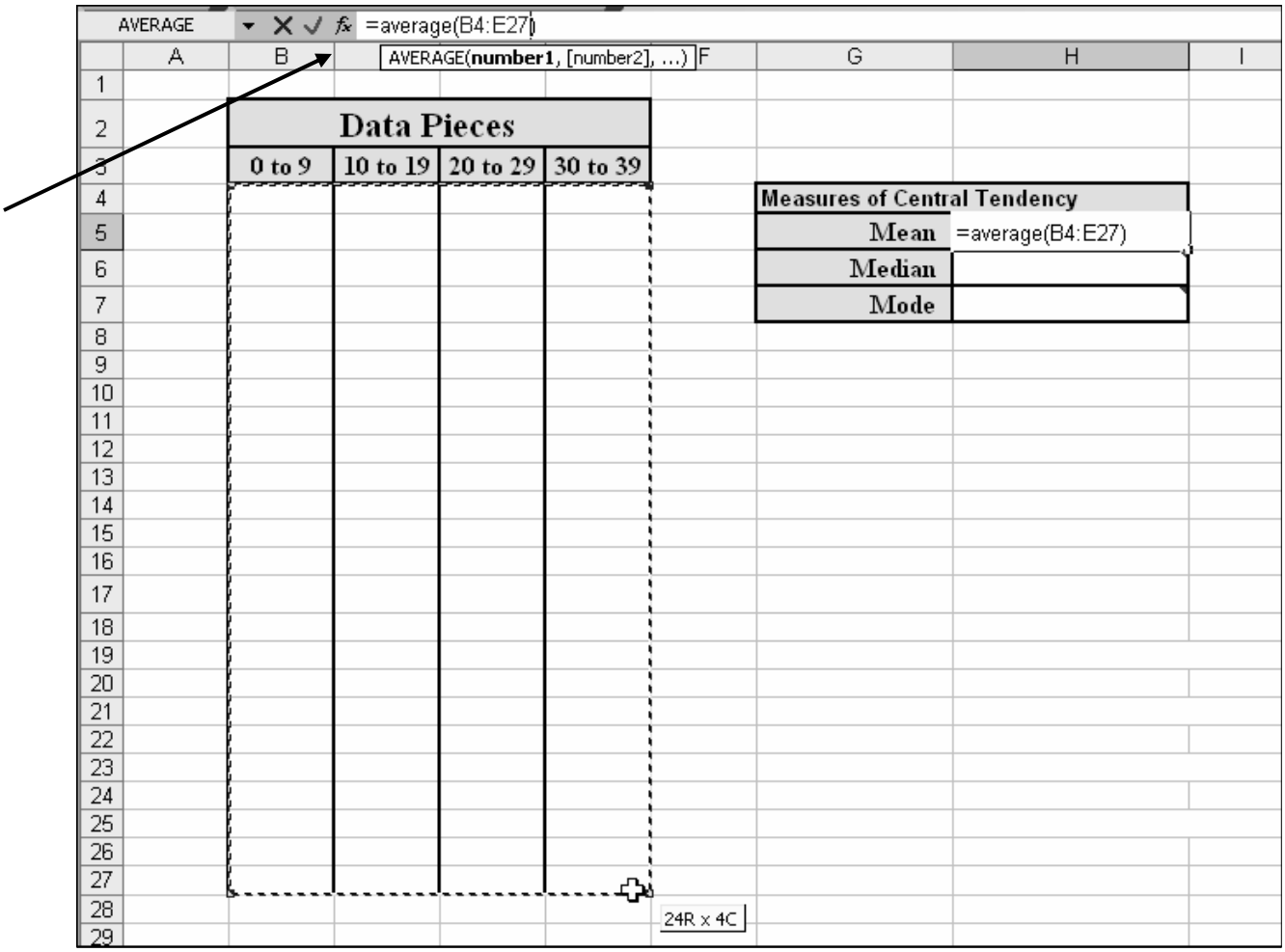
Formatting Mean, Median and Mode

1. Open the **Excel** document **Middle School-Explore Explain 2 Spreadsheet.xls**.

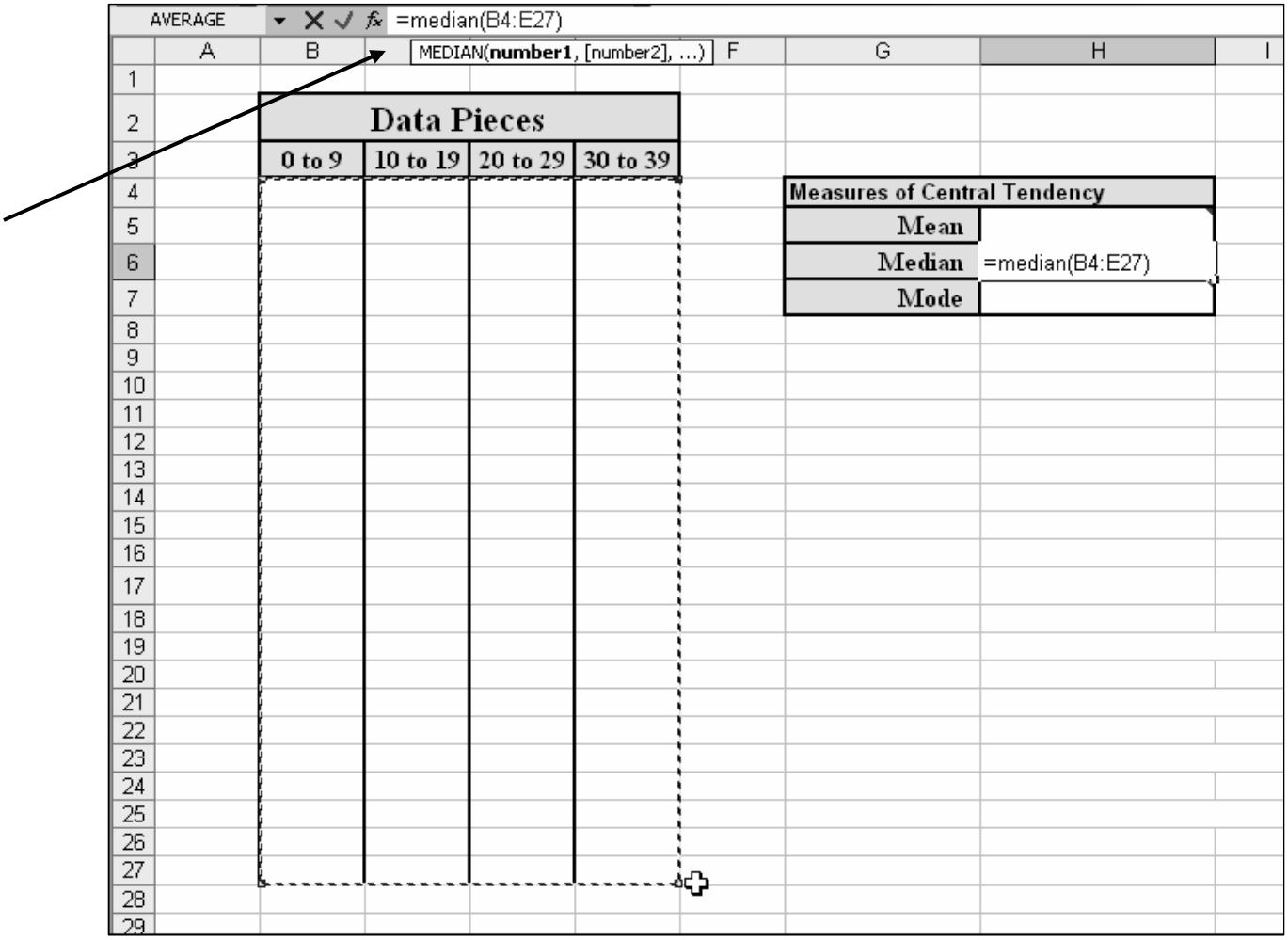
2. Select **Sheet 2** containing the templates: **Data Pieces** and **Measures of Central Tendency**.



3. Scroll over the flag in cell **H5.** The HINT implies that the formula needed for this cell is **=Average(highlight range of cells)**, which means to enter **=Average(** and then highlight the cells necessary by clicking and dragging the mouse from cell **B4** to cell **E27**. Followed by a close parenthesis and **Enter**.

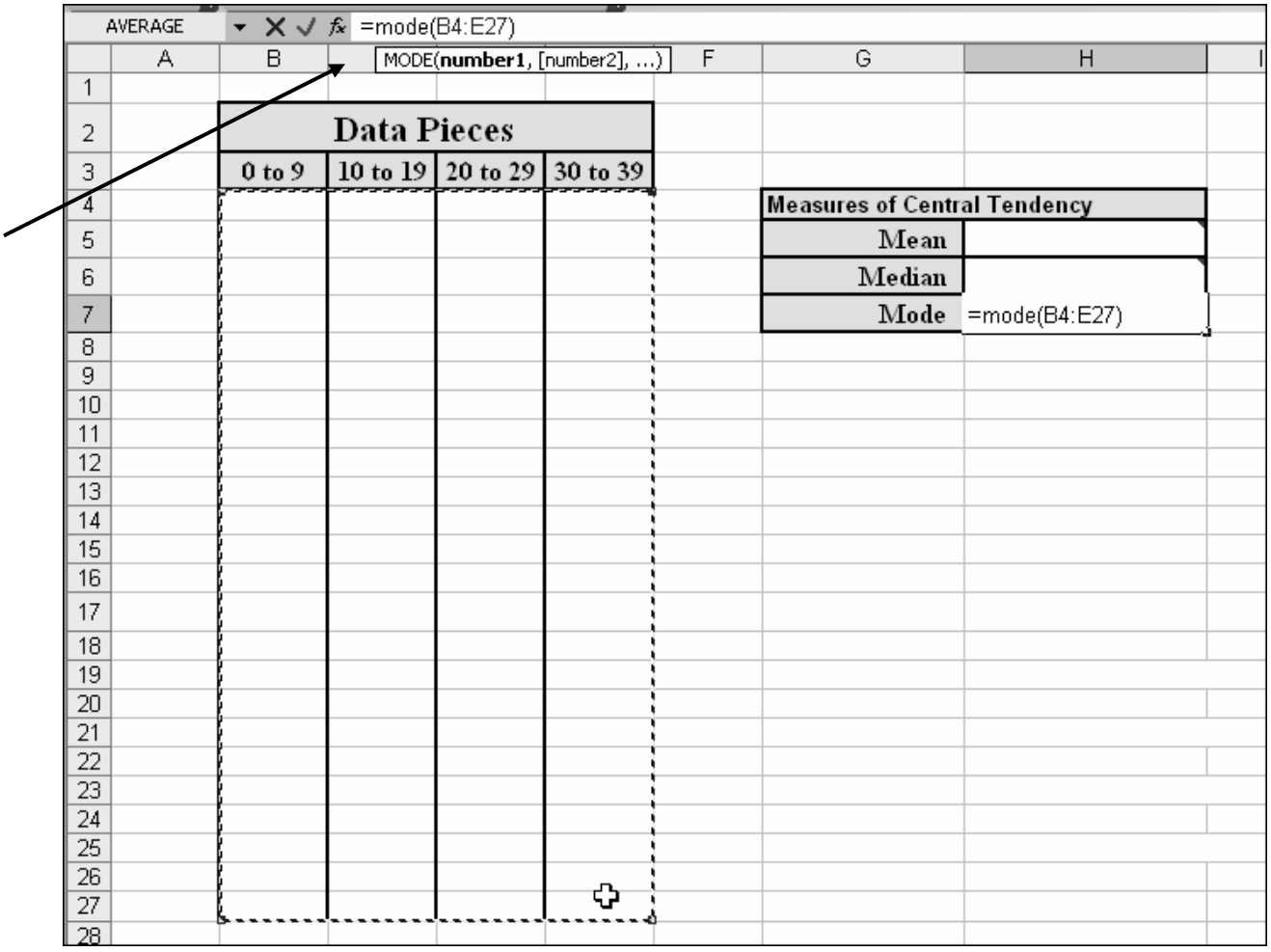


4. Scroll over the flag in cell **H6.** The HINT implies that the formula needed for this cell is **=Median(highlight range of cells)**, which means to enter **=Median(** and then highlight the cells necessary by clicking and dragging the mouse from cell **B4** to cell **E27**. Followed by a close parenthesis and **Enter**.



5. Scroll over the flag in cell **G5.** The HINT implies that the formula needed for this cell is **=Mode(highlight range of cells)**, which means to enter **=Mode(** and then highlight the cells necessary by clicking and dragging the mouse from cell **B4** to cell **E27**. Followed by a close parenthesis and **Enter**.

* Note: If the data set contains more than one mode, only the one with the lowest value will be recorded.



6. Note: Until data is entered, cells will show an error messages.

Data Pieces			
0 to 9	10 to 19	20 to 29	30 to 39

Measures of Central Tendency	
Mean	#DIV/0!
Median	#NUM!
Mode	#N/A

Technology Tutorial: Fat Grams Graph Activity 2

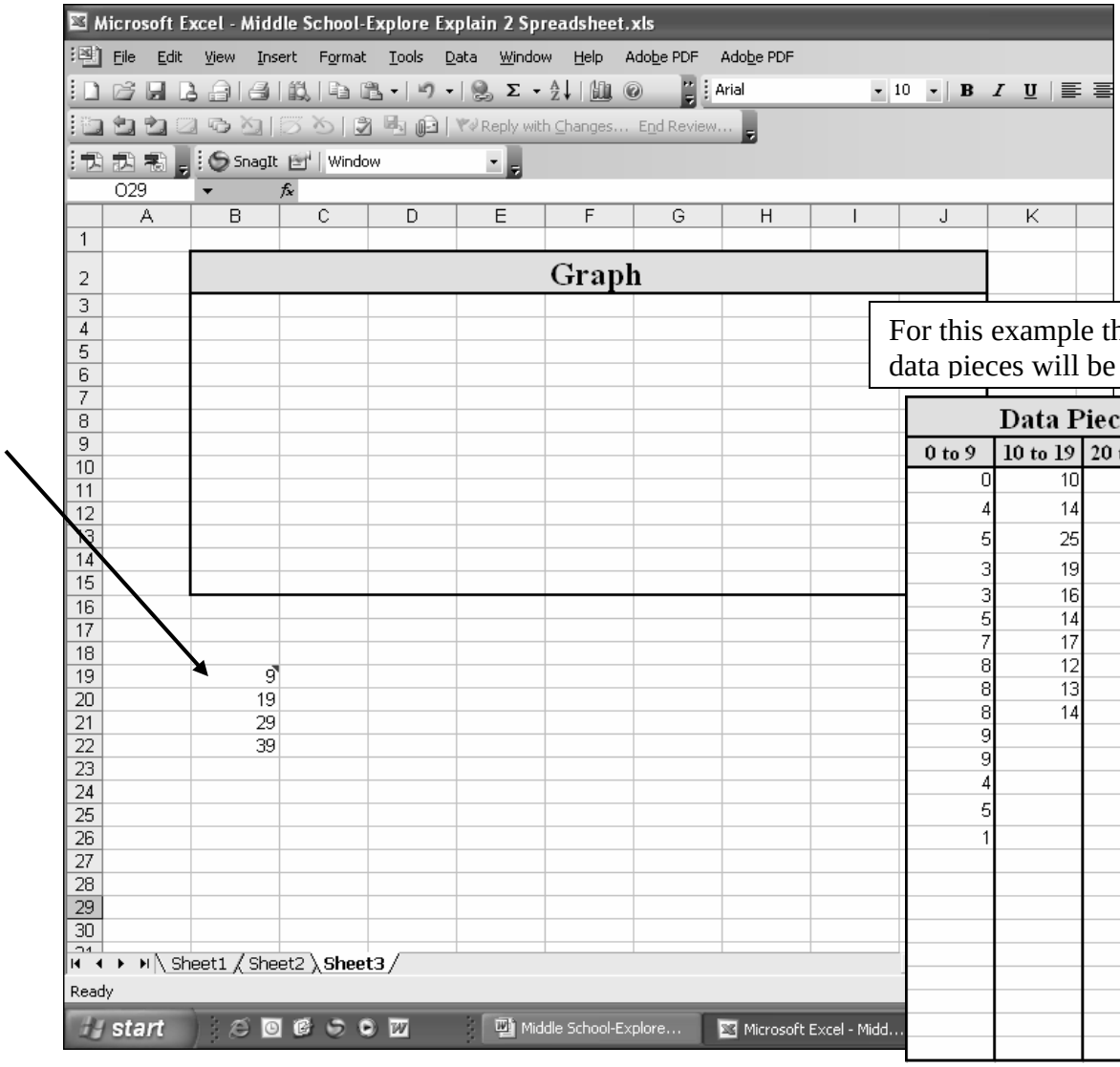
Creating the *Grams of Fat* Graph:

Participants are allowed to select the type of graphical representation of their choice; therefore two possible types of graphs are shown: **Histogram** and **Pie Graph**.

I. Histogram

1. Open the **Excel** document **Middle School-Explore Explain 2 Spreadsheet.xls**.

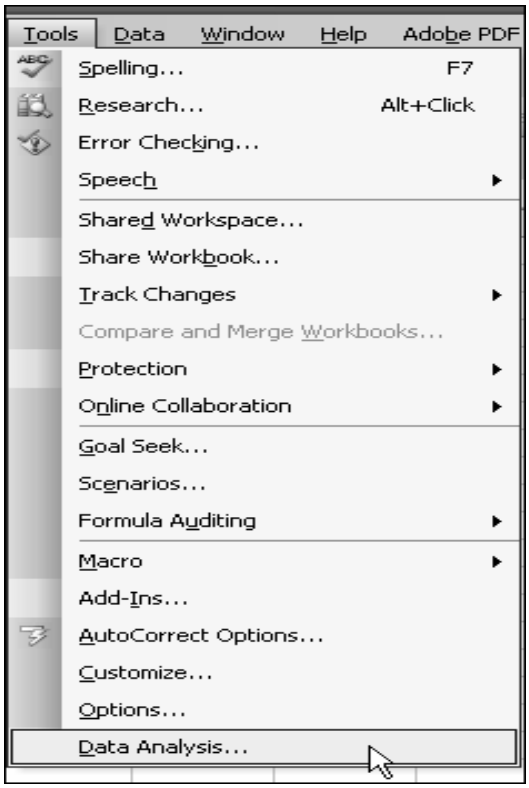
2. In order to use the Data Analysis Toolpak to create a histogram, you will need to create Bin Values. The Bin Value represents the highest value of each interval in the data set.
   For example, if the intervals sort the data from 0 to 9, 10 to 19, 20 to 29, and 30 to 39, there would be four Bin Values: 9, 19, 29, and 39 as seen on the lower left hand side of **Sheet 3**.



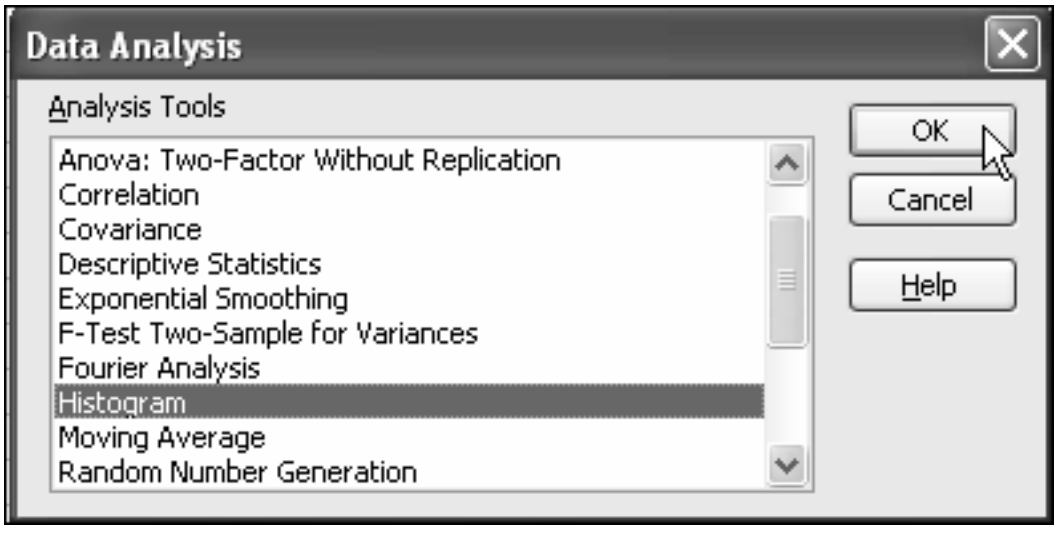
For this example the following data pieces will be use.

Data Pieces			
0 to 9	10 to 19	20 to 29	30 to 39
0	10	28	30
4	14	24	30
5	25	24	37
3	19	26	36
3	16	21	34
5	14	28	32
7	17	29	32
8	12	29	32
8	13	26	32
8	14	25	36
9			34
9			35
4			34
5			37
1			38

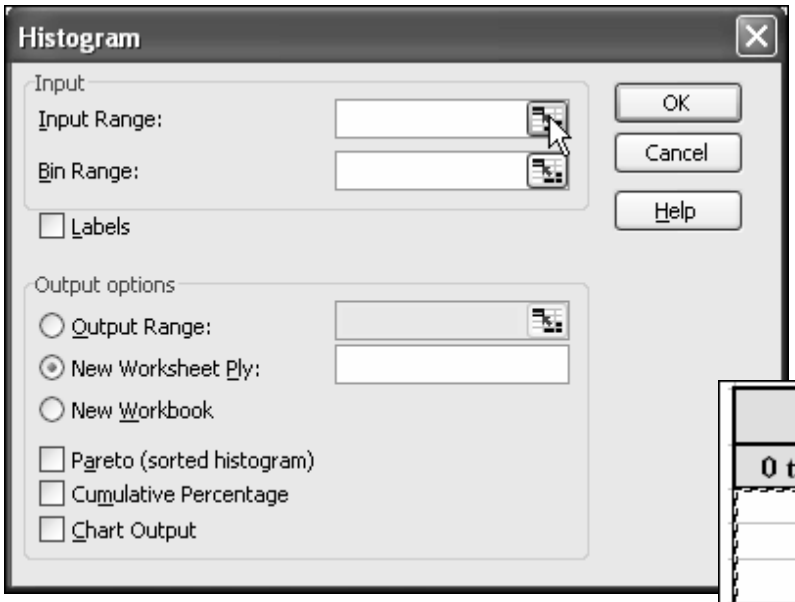
3. In the toolbar under the **Tools** menu select **Data Analysis**.



4. Select **Histogram** and click **OK**.

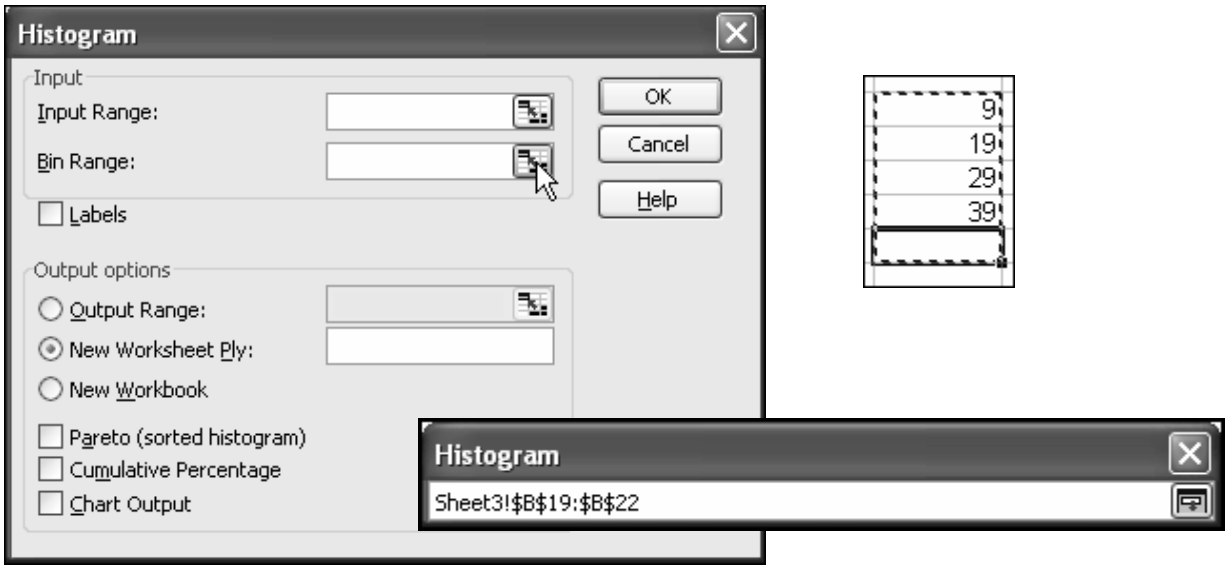


5. Click the **Input Range** icon  . Highlight the cells that contain your data, by clicking on cells **B4** and dragging down to **E18**. The numbers will be highlighted by "marching ant" tracks. Then click on the **Import** icon  .

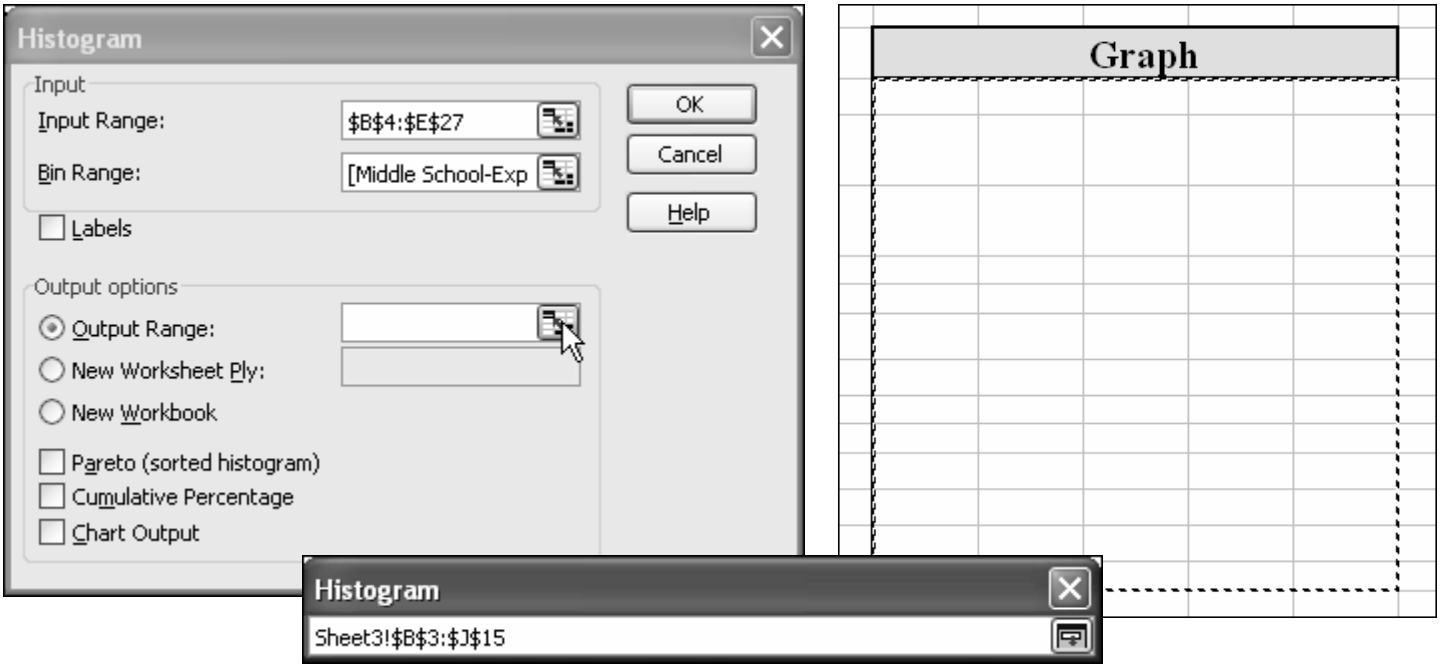


Data Pieces			
0 to 9	10 to 19	20 to 29	30 to 39
0	10	28	30
4	14	24	30
5	25	24	37
3	19	26	36
3	16	21	34
5	14	28	32
7	17	29	32
8	12	29	32
8	13	26	32
8	14	25	36
9			34
9			35
4			34
5			37
1			38

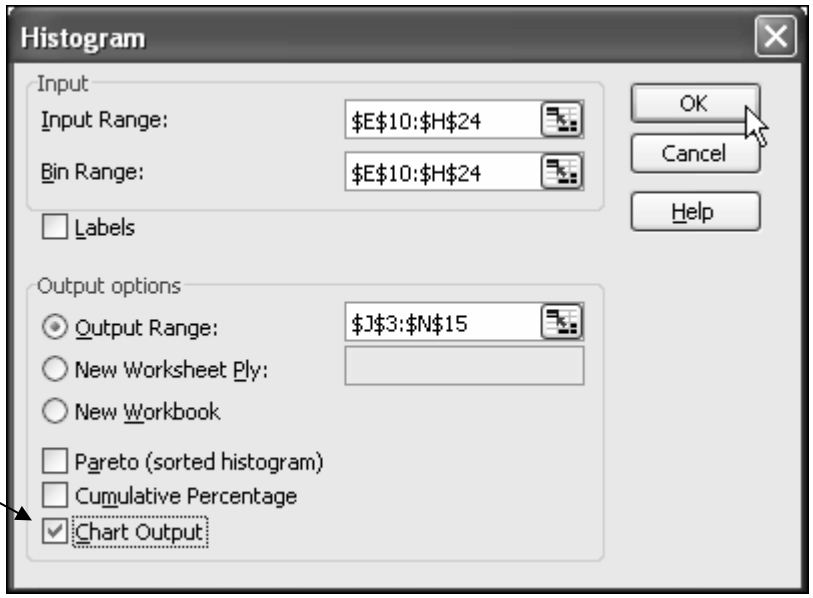
6. Click the **Bin Range** icon  . You may need to select **Sheet 3** before, highlighting the cells that contain your Bin values and then click on the **Import** icon  .

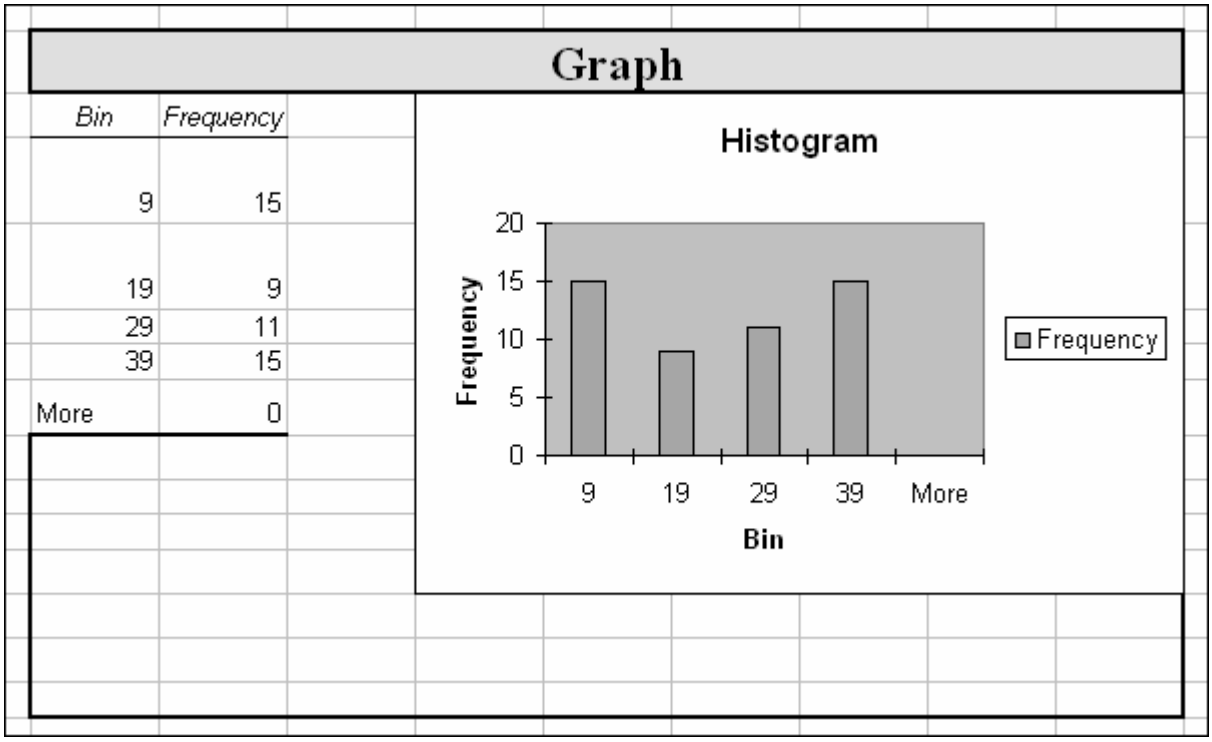


7. Under **Output Options** select **Output Range,** and click the **Output Range** icon  . The Output Range allows you to choose where the histogram will appear on the spreadsheet. You may need to select **Sheet 3** before selecting the empty cells below the Graph section of the spreadsheet, and then click on the **Import** icon  .

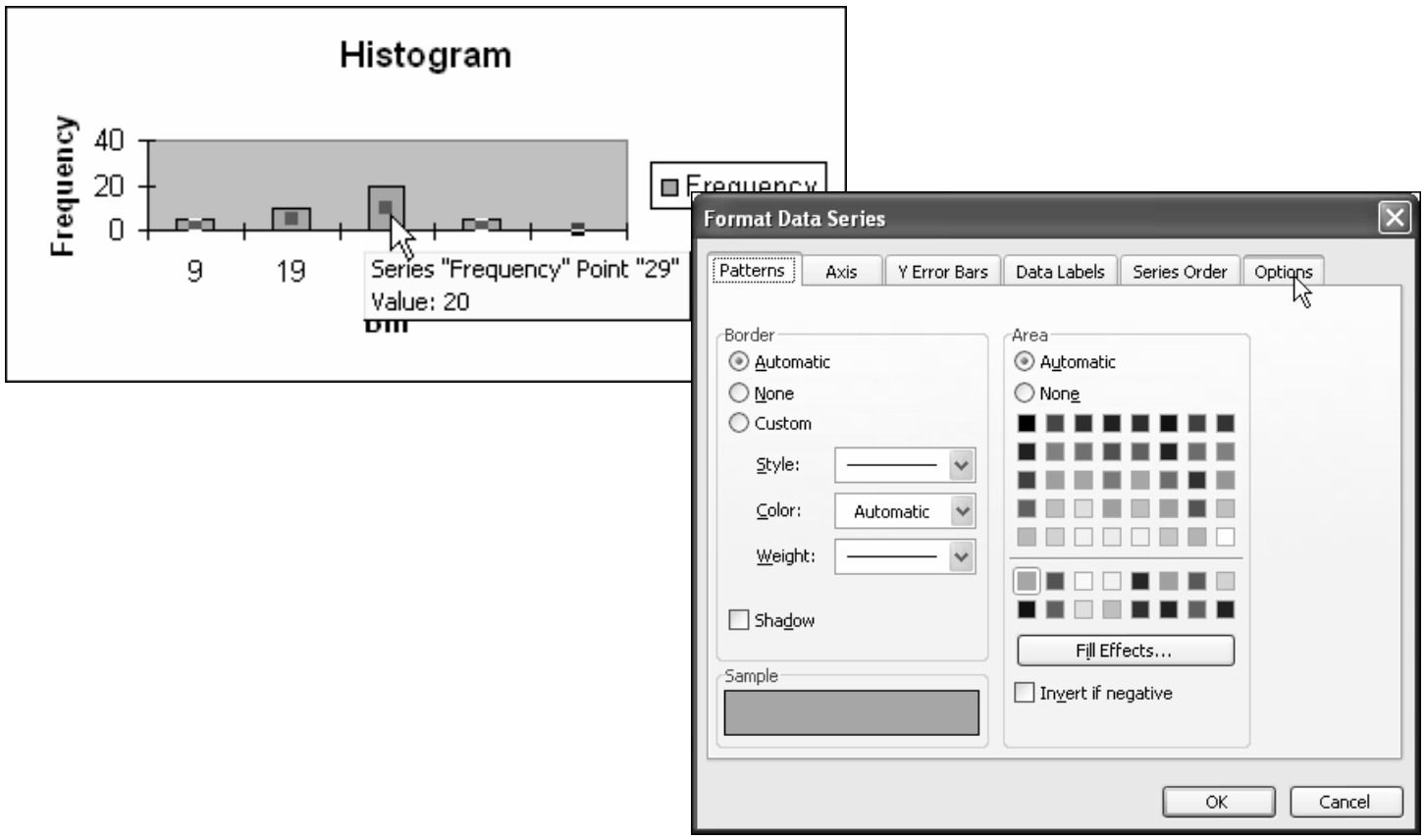


8. Then select **Chart Output** and click **OK.**

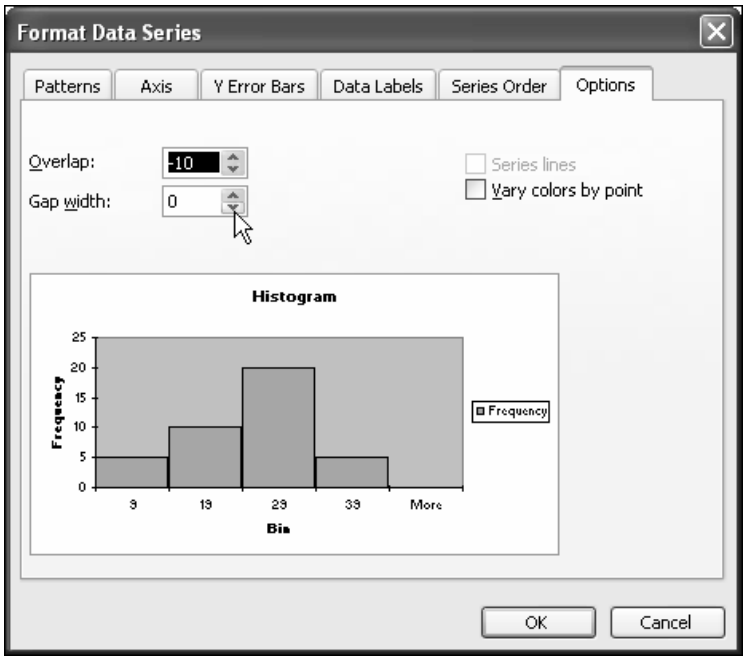




9. **Double Click** on the middle of a bar in the graph. Select **Options**



10. Choose **Option** and change **Gap Width** to 0. Click **OK**.



11. To adjust the size of the graph, click in the area between the graph and the border. Click and drag a corner handle until the graph is the correct size.

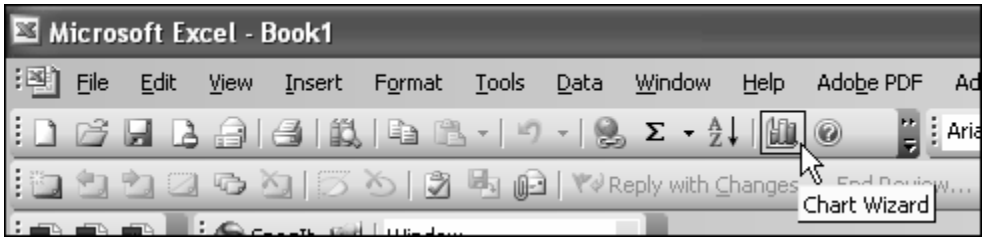
II. Pie Graph

1. Open the **Excel** document **Middle School-Explore Explain 2 Spreadsheet.xls**.

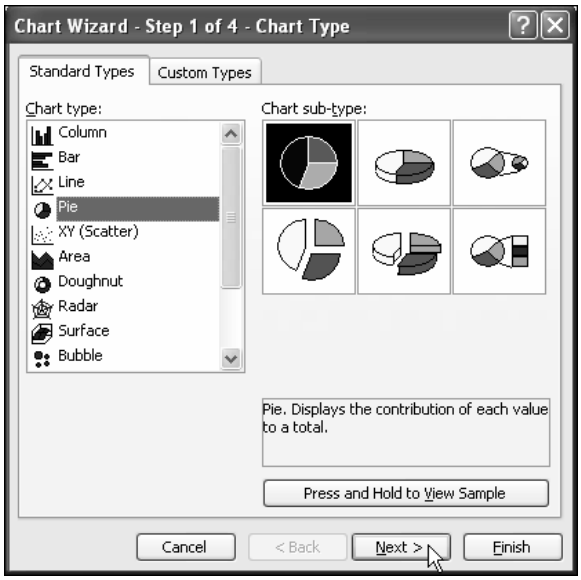
2. Select **Sheet 2**, and highlight data pieces by clicking on cell **B4** and dragging down to cell **E18**. The numbers will be highlighted by "marching ant" tracks.

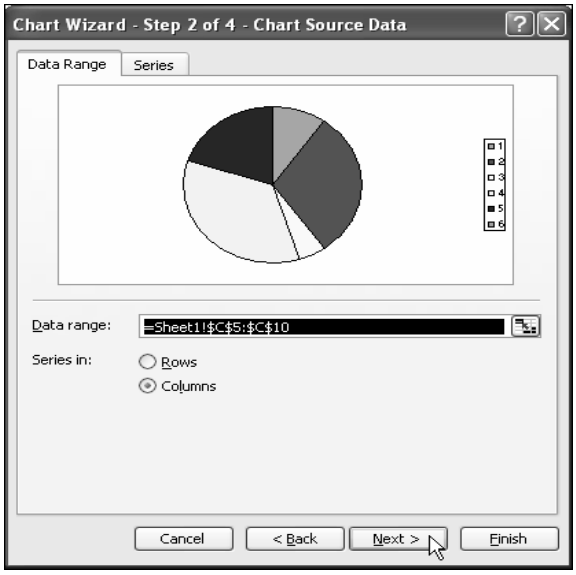
Data Pieces			
0 to 9	10 to 19	20 to 29	30 to 39
0	10	28	30
4	14	24	30
5	25	24	37
3	19	26	36
3	16	21	34
5	14	28	32
7	17	29	32
8	12	29	32
8	13	26	32
8	14	25	36
9			34
9			35
4			34
5			37
1			38

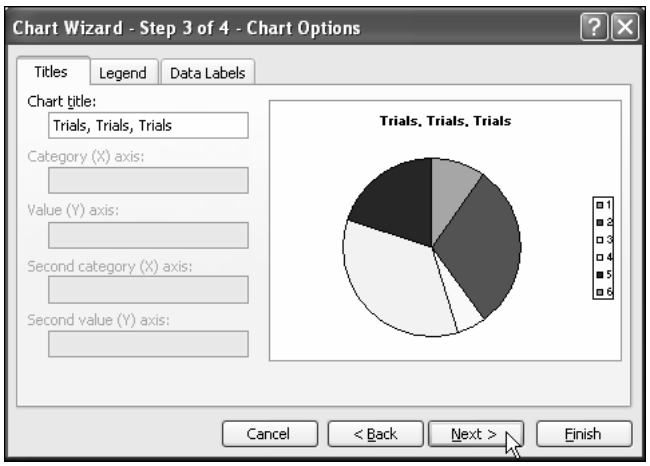
3. Select the Chart Wizard in the toolbar

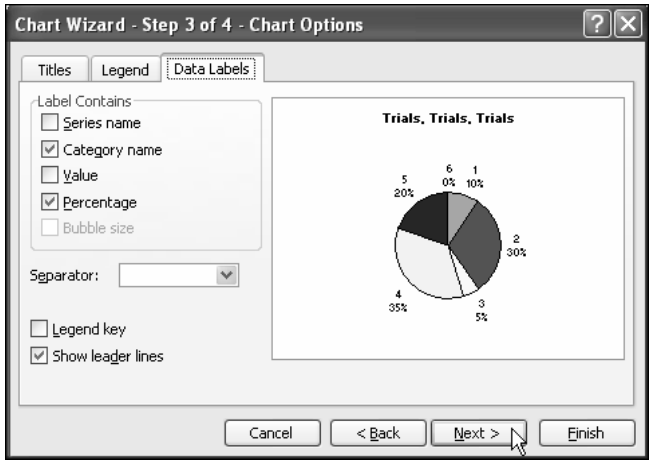


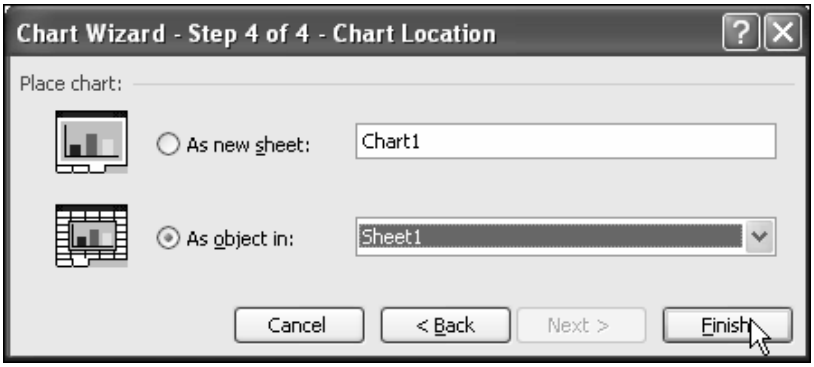
4. **Step 1**: Select the **Pie** chart type, and then click **Next**.
   Step 2: Since the data was highlighted first click **Next**.
   Step 3: Enter a **Chart tile** (Trials, Trials, Trials), then select the **Data Labels** tab and check **Category name**, **Percentage** and click **Next**.
   Step 4: Select **As object in**, and then **Finish.**











5. A graph will appear on the spreadsheet.

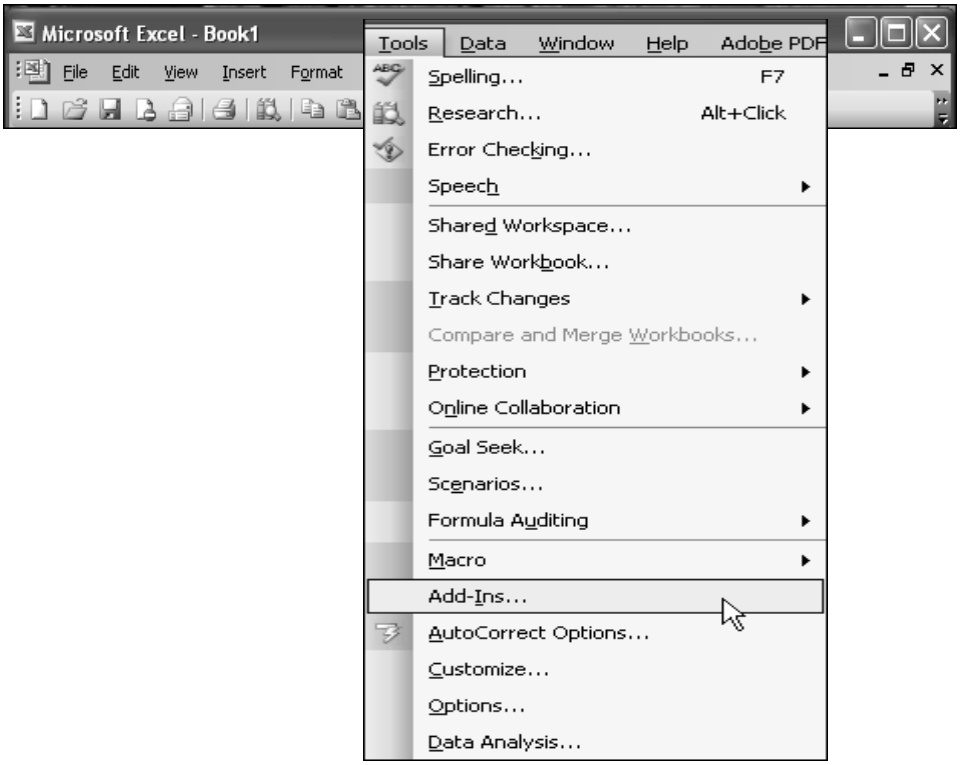
6. To adjust the size of the graph, click in the area between the graph and the border. Click and drag a corner handle until the graph is the correct size.

Technology Tutorial: Loading Data Analysis Toolpak

Advance Preparation: Loading the Toolpak

You must load the Data Analysis Toolpak before you can generate a histogram using Excel. If the Data Analysis Toolpak is not under the Tools menu, complete the following steps to load the Toolpak.

1. Click **Start**, **Programs**, **Microsoft Office**, **Microsoft Office Excel**.
2. Open an **Excel** document.
3. In the toolbar under the **Tools** menu, click **Add-Ins**.



4. In the Add-Ins box, check Analysis Toolpak. Click **OK**

5. The **Data Analysis** Toolpak can now be found in the **Tools** menu.