

Technology Tutorial: Grams of Fat Activity 1

Formatting Chart Cells

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

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

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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.

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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.

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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**.

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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.

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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.

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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.

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

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Formatting Mean, Median and Mode

- 1. Open the Excel Advancement Middle School-Explore Explain 2 Spreadsheet.xls.
- 2. Select **Sheet 2** containing the templates: **Data Pieces** and **Measures of Central Tendency**.

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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.

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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.

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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.

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

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28								



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

tmt³

	Data P	leces			
0 to 9	10 to 19	20 to 29	30 to 39		
				Measures of Centra	l 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



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**.

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7											-		
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9										0 to 9	10 to 19	20 to 29	30 to 3
10										0	10	28	
11										4	14	24	
3											25	24	
14											20	24	
15	$\mathbf{\mathbf{b}}$									3	19	26	
16										3	16	21	
17										5	14	28	
18											17	29	
19		9									12	29	
20		19								8	1.0	20	
21		29								9	14	23	
22		39								9			
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3. In the toolbar under the **Tools** menu select **Data Analysis**.



4. Select Histogram and click OK.

Data Analysis	×
<u>A</u> nalysis Tools	
Anova: Two-Factor Without Replication Correlation Covariance Descriptive Statistics Exponential Smoothing F-Test Two-Sample for Variances Fourier Analysis	Cancel
Histogram Moving Average Random Number Generation	

5. Click the **Input Range** icon **III**. Highlight the cells that contain your data, by clicking on cells **B4** and dragging down to **E18**. The numbers will be highlighted by

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"marching ant" tracks. Then click on the **Import** icon

tmt³

Histogram Input Input Input Range: Bin Range: Labels Output options Output Range: New Worksheet Ply:	OK Cancel Help				
🔿 New <u>W</u> orkbook			Data P	'ieces	
Pareto (sorted histogram)		0 to 9	10 to 19	20 to 29	30 to 39
Cumulative Percentage		0	10	28	30
		<u> </u>	14	24	30
		5	25	24	37
		j 3	19	26	36
		3	16	21	34
		5	14	28	32
		7	17	29	32
Histogram		× 8	12	29	32
\$B\$4:\$E\$27		8	13	26	32
			14	25	36;
		9 1 a			341
					34
		5			37
		1			38

6. Click the **Bin Range** icon **Select Sheet 3** before, highlighting the cells that contain your Bin values and then click on the **Import** icon **Select Sheet 3**.

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, Histogram		×	
Input Input Range: Bin Range: Labels Output options Output Range: New Worksheet Ply: New Workbook		OK Cancel <u>H</u> elp	9 19 29 39
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7. Under Output Options select Output Range, and click the Output Range

icon III. 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

Histogram		X			Grapl	1	
Input			*******	*******	******		 <u>.</u>
Input Range:	\$B\$4:\$E\$27						 -
<u>B</u> in Range:	[Middle School-Exp 💽	Cancel	 				<u> </u>
Labels		Help					
Output options							
Output Range:	R						-
O New Worksheet Ply:	4						<u>-</u>
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Pareto (sorted histogram	m)						-
Cumulative Percentage	,						-
Chart Output							-
	r Histogram			X]		
	Charlest 242415				ń		
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8. Then select Chart Output and click OK.

Histogram		\mathbf{X}
Input Input Range:	\$E\$10:\$H\$24	ОК
<u>B</u> in Range:	\$E\$10:\$H\$24	Cancel
Labels		
Output options Output Range:	\$J\$3:\$N\$15	
New Worksheet Ply: New Worksheet Ply: New Worksheet		
Pareto (sorted histogram) Cumulative Percentage Chart Output		





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

Histogram	
40 20 9 19 Series "Frequency" Point "29" Value: 20	Frequency Format Data Series Patterns Axis Y Error Bars Data Labels Border Area Automatic Nong Custom Automatic Style: Yerror Color: Automatic Weight: Yerror Shagow Fill Effects Invert if negative OK

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

Format Data Series	\mathbf{X}
Patterns Axis Y Error Bars Data Labels	Series Order Options
Overlap: Gap width:	Series lines
Histogram	
	@ Frequency
Bia	
	OK Cancel

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.

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II. Pie Graph

.3

- 1. Open the Excel Kernel 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				
			n n				

3. Select the Chart Wizard in the toolbar

🖾 Microsoft Excel - Book1 Tools :편) File Edit View Insert Format Window <u>D</u>ata <u>H</u>elp Adobe PDF Ar Σ - <u>A</u>↓ [] 0 Aria + 10 K End D 🖳 😥 🛛 🗤 Reply with Change Chart Wizard cei Luu 1.00



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.