ELA
AREA
PUBLIC
LIBRARY

# Excel Part 2

1) Create a Chart (review)

- Open **Budget.**xlsx from Documents folder. Then highlight the range from **C5** to **L8**.

Budget											
Categories C5		Jan	Feb		Mar	Apr	May	Jun	Jul		Category Total
Groceries		$ 200	$ 230		$ 180	$ 150	$ 200	$ 150	$ 120		$ 1,230
Mortgage		$ 1,000	$ 1,000		$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000		$ 7,000
Entertainment		$ 5,000	$ 150		$ 170	$ 200	$ 100	$ 280	$ 170		$ L8 6,070

- From the *Charts* group on the **Insert Tab** click the dialogue box launcher in the bottom right corner.
- Click the **All Charts** tab and then click **Line** on the left side of dialogue box.
- Click on the first line chart with **Markers** then click **OK.**
- If your chart inserts on top of your budget table, drag it out of the way by clicking and holding inside a blank portion of your chart.
- You can resize the legend, graph, and the axis. Simply click on the legend, hold down your left mouse button over one of the resize handles, and drag your mouse up or down to a desired size.
- Now click on text "Chart Title" and rename chart to "Budget." Click on the outline around the title. Hold mouse button down and notice you can drag the title elsewhere in the chart.
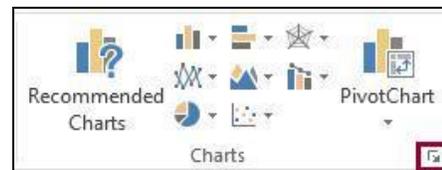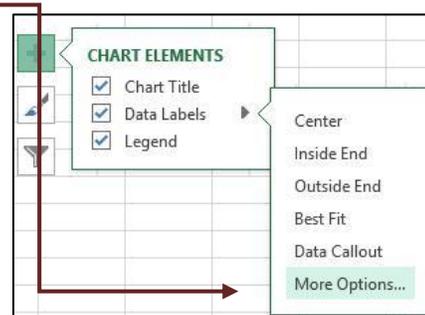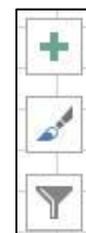
2) Creating Different Charts

Exercise: Create a chart of just the **totals** in each category. Then make design changes to the chart.
- Highlight cell range **C6-C8.** Hold down the **Control Key** on your keyboard and highlight the cell range **L6-L8**. Let go of the **Control Button**. Two separate cell ranges will be highlighted.
- Click on the **Insert Tab** and then click on the **Pie Button** in the **Charts** Group.

  Then select **3-D Pie**.
- You have three small icons next to your chart.
- Click the icon that looks like a plus sign. Check the box marked **Data Labels**. Then hover over **Legend**, click the arrow, then click **Left**.
- Click the "paintbrush" icon, click **Color**, then click the first option under **Monochromatic** (or you can choose any color option you like).
- Click on the "Plus Sign" icon, then select the arrow next to **Data Labels,** and then **More Options** to bring up a task pane.
- Check **Percentage** and note that this is now included in the chart. Then uncheck **Value**.
- Click on Chart Title and rename it to **Budget**.

CHART ELEMENTS
- ✓ Chart Title
- ✓ Data Labels ▶
- ✓ Legend

Center
Inside End
Outside End
Best Fit
Data Callout
More Options…

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3) Using Built in Excel Functions

Exercise: Locate the built-in Excel function that displays the current date and time.

- Click in cell **K2** and then click the **Formulas Tab**.
- Click the **Insert Function** command on upper left**.**
- From the box near the top **or select a category,** choose **Date & Time.**
- From the **Select a Function** window choose **Now** and then click **OK.**
- You get receive message stating: **Formula Result = Volatile** in a new menu box **titled Function Arguments.** This means that the function that will change reflecting each time the document is opened.
- Click **OK.** Expand column **K** wider and the ###### will change to today's date.
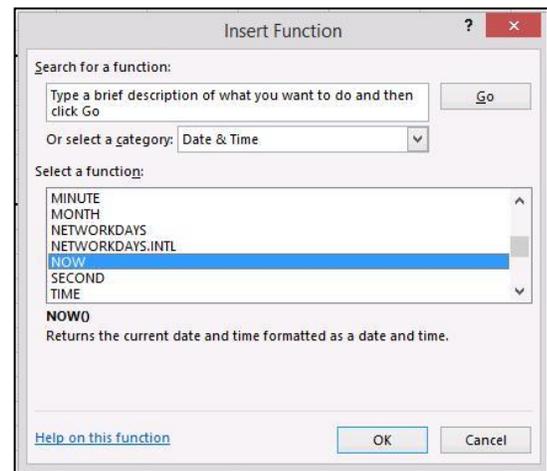
4) Advanced Formulas

*Exercise*: Create an advanced Excel formula from scratch.

- In cell **E11** type the following formula and then hit **Enter**:

=IF(SUM(E6:E8)<2000,"Under Budget","Over Budget")

- The above uses the **IF** function as well as the **SUM** function. The first part in the parentheses after the IF is a true or false expression. In this case, *if* the sum of cells E6 through E8 is *less than* 2000 then the expression is true. Otherwise, the expression is false. If the expression is true, then the phrase **Under Budget** will appear in cell E11. If false, **Over Budget** will appear. This formula is intended to let you know if you went over your budget of 2000 per month.
- Use the **Fill Handle** to supply the rest of the months.
- Temporarily type the number **10000** in cell **H8 and press Enter.** Not only will the totals and charts change but the **IF** statement changes as well (to Over Budget).
- Change cell **H8** back to 200 with the **undo button.**

5) Sorting

Exercise: Arrange the figures from the largest to the smallest sorted by column **L**.

- Highlight cell range **C6 – L8**, click on the **Data Tab** on the Ribbon. Click on the **Sort** command.
- The **Sort Menu** will appear. In the **Sort By** box, select column L.
- In the **Order** box, select **Largest to Smallest.**
- **Click OK.** All your totals in your budget will sort from the largest amount to the smallest based on the totals in Column L.
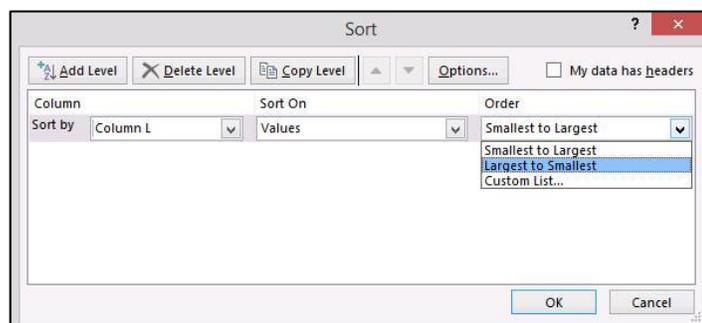
Excel Part 2

6) Merge and Center

- You can center text in a row by using the **Merge and Center** command in the **Home Tab**.
- Click on cell **C2** that contains the word "Budget."
- Highlight cells **C2 through J2.** Click on the **Merge and Center** button in the "Alignment Group" to merge the cells to center the text.

OR

7) Changing Colors of Cells

- Highlight the cell that contains the word "Budget."
- In the **Home Tab**, on the Ribbon, click the drop-down arrow next to the paint pail.
- Click on a color to change the color of the cell.
- You can also change the color of the text in the cell by clicking the drop-down arrow next to the letter "A" with a colored line underneath.

8) Text Wrapping, Sheet Options, and Scale to Fit

- Click inside cell **A1** (should read: Ela Area Public Library).
- In the **Home** tab click the **Wrap Text** command. You will see your text wrap inside the cell.
- You can also use the keyboard to wrap text manually by pressing **Alt-Enter**.

* You will see examples of Merge and Center and Test Wrapping in the Census Document later on.

9) Header & Footer

- Click the **Insert Tab** and then the **Header and Footer** command (Or search "Header and Footer in the Search box at the top).
- Your worksheet will separate into different pages. The Header and can be into three text boxes at the top or bottom of page (Right, Center, & Left).
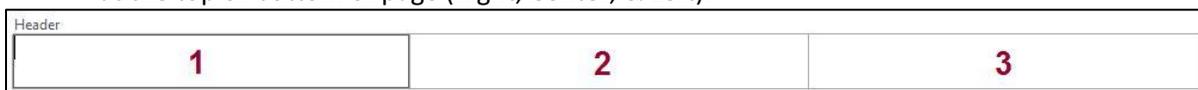
Header		
1	**2**	**3**

- In the center text box type **Ela Area Public Library** (use bold and increase the text size). Then Click on the **Home** tab and increase size of font.
- Above the header, you can access the footer by clicking **Click to add footer**.

Click to add footer

Header

- Click on the Right Text Box**.** Type **Page** then click the **Page Number** command in the **Header & Footer Elements** group.
- Click outside of the footer on your worksheet. **Page 1** should appear in the Footer.
- After using **Header &** Footer, your worksheet will have a different view. To go back to the previous view, click the **View** tab then the **Normal** command.

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10) Inserting and renaming sheets

- To add a sheet to your workbook, click the **Insert Worksheet** button
  (+) at the bottom left of your workbook, next to your existing sheet.
  First click Sheet2 and then click the **(+)**
- To rename a worksheet, **right-click** on the sheet tab at the bottom and
  click **Rename**.
- **Rename** Sheet 1; name it **Budget**.
- You can also rearrange the order of sheets by clicking a sheet and dragging so that it changes
 position with another sheet.

11) Advanced Formulas Revisited: Entering your own vs. Using the built-in function

Exercise 1: Create a formula in a cell to calculate a car payment from scratch.
- Click on Sheet 3 in your workbook and click on any empty cell.
- Now we have to find out the monthly payments to see if it is within budget.
    - Price of the car = $18,000
    - APR = 8%, paid once a month (12 times a year)
    - Length of the loan = 5 years or 60 months. (There are 60 months in 5 years).
- Type the following: **=PMT(8%/12,60,18000)**
- Press the **Enter Key**, and the result should be: 364.98 ($364.98/month).

Exercise 2: Create a formula in a cell to calculate a car payment with the built-in Excel functions.
- Click on the **Formulas Tab**. Then click on the **Insert Function** command on the left.
- The **Insert Function** dialogue box will appear.
- In the **Search for a Function** box: Type **Car Payment** and click **Go**.
- All formulas that deal with payments appear. You can read the descriptions to determine which
  suffix to use for you particular formula.
- Read over the description for PMT.
- Make sure **PMT** is highlighted and click **OK.**
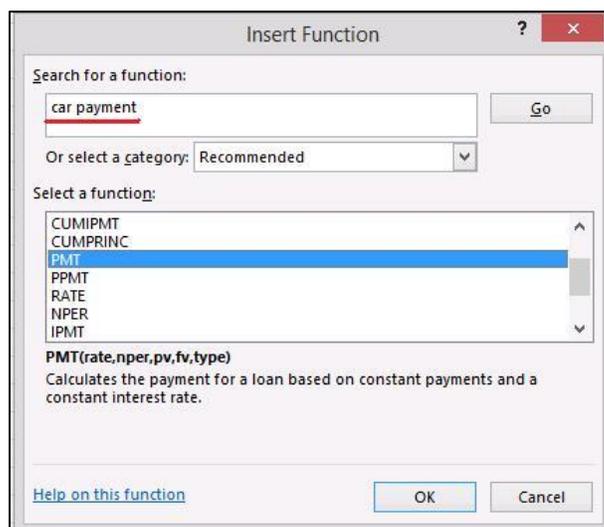
- The **Function Arguments** box will appear. Fill out the boxes as follows:
  - o Rate= Interest for period of time. For example, a loan paid monthly with a seven percent interest rate will be 7%/12 (7% interest paid monthly or 12 months in one year).
  - o For our particular rate: **Rate= 8%/12**
  - o Nper= the number of payments that will be made on the loan. **Nper=60**
  - o PV=the present value or cost or price! For our example: **Pv=18000**
  - o Click the **Ok** button to get the result (364.86).

Rate	8%/12		= 0.006666667
Nper	60		= 60
Pv	18000		= 18000
Fv			= number
Type			= number
			= -364.9750972

12) The Average and Round commands

Exercise: Find average high and low temperatures for 3 cities and then round the figures to the ones.

- Click **Sheet 2**. Then select cell **N3** (Chicago's average yearly high).
- From the **Formulas** tab, click the "AutoSum" command and then select *Average* from the list.
- Use the fill handle to use this formula for the other cities. The average yearly high and low will show for all the cities.
- Click cell **03**. Select the "Math & Trigonometry" command and choose *Round* from there.
- Enter **N3** under **Number** and 0 under **Num_digits**. This will round your figure to the nearest "Ones" place.
- Use the fill handle to add the formula to the other cities.

Function Arguments			
ROUND			
Number	N3		= 59.58333333
Num_digits	0		= 0
			= 60

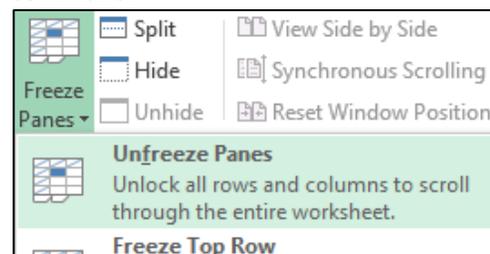## 13) Password Protecting Workbooks

Exercise: Create a password for your Excel worksheet.
- To password protect your document: Click the **File** tab. Click the **Protect Workbook** button and then select **Encrypt with Password**.
- Notice the other options including, **Mark as Final** and **Restrict Access**.
- Create a password in the **Encrypt Document** dialogue box and type it twice.
- To remove the password, begin with the same steps: Click the **File** tab, **Protect Workbook**, and then delete password from the **Encrypt Document** box.
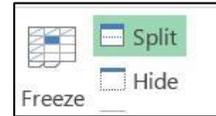
Protect Workbook ▾

14) Freezing and Unfreezing a Row

- Open the file **Census.xlsx** from the Documents folder. Note the features we did previously: "Merge and Center" and "Text Wrapping."
- On the left side of your screen, click on the number **11** to highlight the entire row 11.
- In the **View Tab** on the Ribbon, click the **Freeze Pane** command.
- Click anywhere below row 11 and scroll down. Freezing a row allows you to keep specific rows visible when you scroll down the worksheet.
- To **Unfreeze**, click the **Freeze Pane** command again and then choose **Unfreeze Panes.**

Split   View Side by Side
Hide   Synchronous Scrolling
Freeze Panes ▾   Unhide   Reset Window Position

Unfreeze Panes
Unlock all rows and columns to scroll through the entire worksheet.

Freeze Top Row

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15) Split Pane

- You can use the **Split Pane View** to split your view of the worksheet into two or four parts. Split panes can help you compare data in different sections of your worksheet that would not be legible if you zoomed out.
- Click *row 33*. From the **View** tab click the **Split** command. This will split the worksheet into two panes.
- Uncheck **Split** command. Click on *cell Q33* and click **Split** command again. The worksheet will have four panes.
- You will have two scroll bars on the right of the worksheet.
- Click on the bottom screen and scroll up and down.
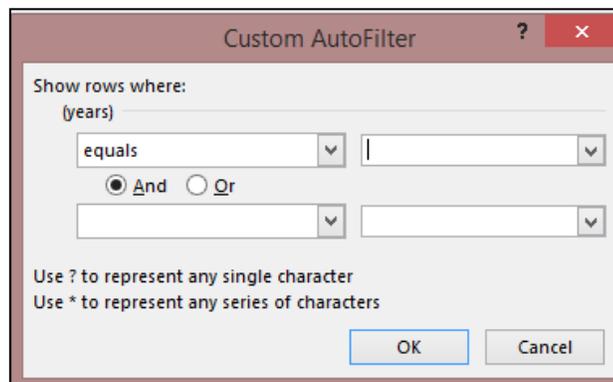
16) Filtering

Exercise: Use filtering to find locations in which the median age is 50 or higher.
- Click the number 10 to highlight all of row **10** in the census document.

		State–ZCTA	Code Tabu–lation Area (ZCTA)	Total Population	Male	Female	0 – 4 years	5 – 9 years	10 – 14 years
7			Code						
8		State–	Tabu–						
9		ZCTA	lation Area				0 – 4	5 – 9	10 – 14
10	Geocode		(ZCTA)	Total Population	Male	Female	years	years	years
11	17-60002	60002		19442	9741	9701	1266	1435	1511
12	17-60004	60004		52735	25516	27219	3350	3589	3849

- Click on the **Data** tab and then the **Filter** command.
- You will see drop-down arrows appear in all the cells of row 10.
- Find the drop-down arrow for the **Median Age** group.
- Click the drop-down arrow. Select **Number Filters** and then **Custom Filter.**
- The **Custom Auto Filter Menu** will appear.
- Under "Show rows where:" choose "Is greater than or equal to" and type 50 in the box to the right.
- Click the **Ok** button. Filtering allows you to view on specific data you need. For example, in our filter, we told Excel to filter out all people with the median age 49 and under. Therefore, only those with a median age of 50 and above appear.

Median Age (yea ▼)
37.4
38.8
39.1
37.8

Custom AutoFilter ? ✕

Show rows where:
(years)

equals | |

◉ And ◯ Or

| |

Use ? to represent any single character
Use * to represent any series of characters

OK Cancel

Recommended Additional Resources:

Other technology classes
Go to http://www.eapl.org/events to view and signup for other computer classes.

Class handouts
Go to http://eapl.org/events/computer-programs/class-handouts to download copies of class handouts and exercise files.

Librarian and computer aide assistance
We are glad to help you out at the second-floor reference desk as best we can while helping others.

Help appointments
Ela Library cardholders can schedule one-on-one appointments with librarians for further help. We can help with our Digital Media Labs or with general technology questions in our areas of expertise. Appointments last up to one hour. Paper appointment request forms are available at the 2nd floor reference desk. You can also request appointments online:
- Go here http://www.eapl.org/DMLhelp to sign up for a Digital Media Lab appointment.
- Go here http://www.eapl.org/computer-programs/one-one-technology-help-appointment-request to request a general tech help appointment.

Databases
The Library offers card holders access to many premium databases. These include two which can help you learn more about technology.
- Gale Courses offers a wide range of highly interactive, instructor led courses that you can take entirely online. As an Ela Area Public Library card holder in good standing, you are entitled to these courses at no cost. Courses run for six weeks and new session begin every month.
- Lynda.com offers technology training with over 20,000 training videos on over 300 topics with exercise files included. The Library pays for you card holders in good standing to access this resource, however you will be required to create a free account. *Please remember to log out when you are finished.*

Access both of these databases from the library Research page: http://www.eapl.org/resources

Books
A few books in the library collection related to this book are:
- **Microsoft Excel 2013: Step by Step** by Curtis D. Frye
  Call Number: 005.54 EXCEL
- **Microsoft Excel 2019: Step by Step** by Curtis D. Frye
  Call Number: 005.54 EXCEL

Free online tech training websites
http://www.gcflearnfree.org/ , https://techboomers.com/ , http://digitallearn.org/

Excel Part 2

Computer Class Evaluation

Class Title: **Excel 2**   Date: _**8/18/2021**_

In terms of your skill with computers, how do you consider yourself?

□ Absolute Beginner (no or little experience with computers, *NOT* yet comfortable using
   a mouse and keyboard)
□ Beginner
□ Intermediate
□ Advanced

In terms of your skill using *Microsoft Excel*, how do you consider yourself?

□ Absolute Beginner (no experience)
□ Beginner (some experience, but not comfortable using)
□ Intermediate (some experience, comfortable with the basics)
□ Intermediate/Advanced (experienced with basic and intermediate functions, but require
   training on advanced functions)

How much do you feel that you learned?

□ I learned a lot
□ I learned some
□ I didn't learn much
□ I learned nothing

How did you perceive the pace of the class?

□ Too Fast
□ Just Right
□ Too Slow

Were the handouts helpful?

□ Yes   □ No   If no, why not?

What did you like most about the class?

What did you like least about the class?

What other topics would you like to see in a future computer class?

How do you normally find out about library computer classes?

□ Footnotes (Library Newsletter)
□ Library Website
□ Other _____

If you are not an Ela Area Public Library card holder, where is your home library?

Any additional comments: