# **Excel: Lists**

Familiarity with basic Excel is required for this class. Learn to create field names, sort lists, and link worksheets. You'll learn lists that can also be used in our Word: Mail Merge class.

Excel's primary purpose is performing mathematical calculations, but it can do more. You can use Excel as a database (also called a data list or a data table) program to organize, sort, filter and analyze a collection of related information. For example, an address book is a database list of names and addresses. A database uses *field names* or *labels* at the top of each column to identify different kinds of information in the list. Each row in the database contains all the information about an item in the list (also called a *record*).



#### Design a List

- Type the names of the fields in the first row of the worksheet. This is the *header row*. Each field name must be unique. It doesn't matter what order you put the field names.
- Enter the first record below the field names. Remember, do not skip any rows. You cannot have any **empty rows** between the header row and the records that follow.

(1 is	ą R	ow header												
		A is a Col	umn header	$\supset$	C	State is a	State is a Field name							
	A B C D E F G H I J													
		Á	В	С	D	∏∕€	F	G	Н	I	3	К		
	¥.	A Eirstname	B Lastname	C Street	D <u>City</u>	∕€ <u>State</u>	F Zip	G Phone	H <u>Email</u>	I Birthday	J Startdate	K Years		
	1 2	A Eirstname Andy	B Lastname Black	C <u>Street</u> 345	-	<mark>∕€</mark> <u>State</u> KS	F <u>Zip</u> 66602			I Birthday Feb 1	J <u>Startdate</u> 3/6/2002			
	√ 1 2				<u>City</u>			Phone	Email					

Row 1 is called the header row which contains all the field names. Records start in row 2.

After starting the list, you may decide to add or delete some fields. To insert a column, click on the column header to the right of where you want to put a new column. Remember that column headers are the letters of the alphabet. **Right click** on the selected column header then **click on** *Insert*. To delete a column, **right click** on the column header then **click on** *Insert*.

Click on cell **12**. It is a date with no year. If you type *Feb 1*, Excel will automatically add the current year to the date. To type a partial date, type a single quote 'before the date to make it a text field and not a date field.

Click on cell **K2**. Notice that there is a number in the cell but look at the formula bar to see the true content. **K2** has a formula in the cell: **=YEAR(TODAY())-YEAR(J2)** (*There are no spaces or zeros in this formula*. Use left and right parentheses). This is a nested formula that is easiest to see in parts. If you type the function =TODAY() you would get today's date. Basically, the formula in K2 says to take the year of today and subtract from it the year of the start date which is the date in cell J2.

 Topeka & Shawnee County Public Library | 1515 SW 10th Avenue | 785 580-4400 | Computer Training Center | class@tscpl.org | 785 580-4606

 EXCEL: Lists\_\_\_\_\_\_\_
 P a g e | 1\_\_\_\_\_\_

#### Enter or Add Data

To add to a data list, click in the first empty cell below the header row. In the example above, that would be cell A3. To move to the cell to the right, press the Tab key or the right arrow key

	•
	_
	->

#### To Add Data using FORM

First, make sure you've selected any cell with data within your spreadsheet. Click the tiny down arrow at the end of the Quick Access Tool Bar. At the bottom of the menu select More Commands. This opens the Excel Options dialogue box.



 Topeka & Shawnee County Public Library | 1515 SW 10th Avenue | 785 580-4400 | Computer Training Center | class@tscpl.org | 785 580-4606

 EXCEL: Lists\_\_\_\_\_\_\_
 P a g e | 2\_\_\_\_\_\_

Auto Complete will complete your typing if you've typed the same word in that column previously. For example, in cell **D3** in the City column, if you type a *t*, Excel will finish typing *Topeka* because it appears in the cell above (**D2**). However, if you want Tecumseh instead, keep typing. The next time you type a city that starts with T, Excel will not know which city you want until you type the second letter. If you type *to*, it will complete Topeka. If the second letter is an *e*, it will complete Tecumseh.

#### **Delete Data**

To delete typing in a single cell, click on the cell and press the **Delete** key on the keyboard. To delete an entire row, click on the row header of the row you want to delete. **Right click** on the row header, then **click on Delete**. Remember, do not leave empty rows in a list. To delete an entire column, click on the column header of the column you want to delete. **Right click** on the column header, then **click on Delete**.

### **Find Data**

There are 3 major ways to find data in a list.

- Auto Filter—use to find a group of similar data. Find it on the Home & Data tabs.
- Sort—sort the data alphabetically or numerically. Home & Data tabs.
- Find—use to find specific words in a list. Home tab.



From the Data ribbon, click on Filter. Notice little down arrows by each field name in row 1.

1       Firstmar       City       Start       Start			A	B	С	D	E	F	G	н	1	J	К	L	M	-
3       Chris       Jones       456 Maple Berryton       KS       66409-1234123-6789       ciones (2) Mar 15       9/15/1999       4         1       Intrast Latina & Street City       Cick on the down arrow by City in cell D1.         1       Un-check the Select all box. Click in the check box by one of the cities in the list. Click OK. See a list of the records that have that city.         9       Ray       Street Failer (1)       Notice the little filter icon by City which indicates that a filter has been applied to that field.         10       To get all the cities back, click on the filter icon. Check Select all. OK.	1	First					_									-
Click on the down arrow by City in cell D1. Un-check the <b>Select all</b> box. Click in the check box by one of the cities in the list. Click OK. See a list of the records that have that city. Notice the little filter icon by City which indicates that a filter has been applied to that field. To get all the cities back, click on the filter icon. Check <b>Select all</b> . OK.		Andy	(	Black												
Click on the down arrow by City in cell D1. Un-check the <b>Select all</b> box. Click in the check box by one of the cities in the list. Click OK. See a list of the records that have that city. Notice the little filter icon by City which indicates that a filter has been applied to that field. To get all the cities back, click on the filter icon. Check <b>Select all</b> . OK.	3	Chri	\$	Jones	456 Mapl	EBerryton	KS	66409-123	34123-6789	cionesé	Mar 15	9/15/1999	4			
	1 2 3 4 5 6 10 0 A K U P R S 10 11 12 13 14 15 16 17 18 19 19 19 19 19 19 19 19 19 19 19 19 19		Sort A to 2 Sgrt 2 to A Sort by Col Clear Filter Filter by Col Text Eiters - 2 Den - 2 Den - 2 Den - 2 Den	er From "City" for et AQ (fon ence ka	0 hr (*)	Un-ch in the Notice applie To get	eck tł list. ( the l d to t t all tł	ne <b>Sele</b> Click OK ittle filte hat fiele he cities	<b>ct all</b> bo . See a l er icon b d. s back, c	ox. Clic list of by City lick or	ck in the the reco which in which in	check b rds that ndicates er icon. (	have t that a Check	that ci filter <b>Selec</b>	ity. has be	en

 Topeka & Shawnee County Public Library | 1515 SW 10th Avenue | 785 580-4400 | Computer Training Center | class@tscpl.org | 785 580-4606

 EXCEL: Lists\_\_\_\_\_\_\_
 P a g e | 3\_\_\_\_\_\_

From the Data ribbon, click on **Sort**. The **Sort** dialog box appears.

	Ge	Sort								? 🗙	ata Tools
	<b>₽)</b> • (≌ • A2	P Add I	Level 🗙	elete Level	Copy l	evel 🔹	Option	IS	🗹 My dat	a has <u>h</u> eaders	
	A	Column			Sort On			Order			K
1	Firstname	Sort by	Lastname	*	Values		~	A to Z		~	ars
2	Andy		Firstname								8
3	Chris		Lastname								11
4	Clem		Street								17
5	Jean		City State								22
6	Kim		Zip								10
7	Lou		Phone								32
8	Pat		Email Birthday								15
9	Ray		Startdate								8
10	Sam		Years						ĸ	Cancel	7
11	Taylor										27
12	Terry	Anderson	321 Pine	Topeka	KS	66611	000-6789	tanderson(No	v 11	2/1/1996	14
13	Tod	Smith	567 Cedar	Topeka	KS	66604	123-7890	tsmith@xyAp	r 1	10/7/1998	12

Click on the down arrow in the **Sort by** box. Click on Lastname.

Click on the **Add Level** box to see a secondary sort. Click on the down arrow in the **Then by** box and click on Firstname. Then click OK. You can have up to 64 levels of sort. Just click on the **Add Level** box to add another level. To delete a level, click on **Delete Level**.

Now, the list will be sorted by last name and within that by first name. In our example, Andy Black will appear before Jean Black.

The Order may be listed as: **A to Z** or *Smallest to Largest* **Z to A** or *Largest to Smallest* 

To sort numbers so that the largest number is at the top of the list, choose **Z to A** or *Largest to Smallest*.

From the Home ribbon, click on **Find**.

Find and Replace	? 🔀
Fin <u>d</u> Replace	
Find what: Lee	<b>~</b>
	Options >>
	Find All Eind Next Close

In the **Find what**: box, type the word that you want to find in the spreadsheet. Click on **Find Next** to see the results.

Every Excel **Workbook** has 1 **worksheet** named Sheet1. Add worksheets by clicking on the + to the right of Sheet 1.

Topeka & Shawnee County Public Library | 1515 SW 10th Avenue | 785 580-4400 | Computer Training Center | class@tscpl.org | 785 580-4606

 EXCEL: Lists\_\_\_\_\_\_\_
 P a g e | 4\_\_\_\_\_\_

A       B       C       D       E       F       G       H       I       J       K       L       M       N       O         1       Firstname Lastname Street       City       State       Zip       Phone       Email       Birthday       Statdate       Years       Image: Statdate       Years       Years       Image: Statdate       Years       Years       Years       Years       Years       Yea		A2	•	()	<i>f</i> ∗ Andy	/											
2       Andy       Black       345 O & Topeka       KS       66602       123-5678       ablack@xy Feb 1       3/6/2002       8         3       Chris       Jones       456 Maple Berryton       KS       66649       123-25678       cjones@xy Sep 26       5/1/1993       11         5       Jean       Black       345 O & Topeka       KS       66602       000-5678       jblack@xy Aug 30       4/4/1988       22       11         6       Kim       Lee       207 Plum Lawrence       KS       66600       000-8901       jblack@xy Aug 30       4/4/1988       22       11       11         7       Lou       Wilson       789 Spruc Topeka       KS       66605       000-8901       jplax/i@xy Aug 30       4/1/1978       32       11         8       Pat       Taylor       678 Pear Topeka       KS       66605       000-8901       jplax/i@xy Aug 71       11/1/1995       15       11       11       123       11       123       12       11       12 <td< td=""><td>-</td><td>А</td><td>В</td><td>С</td><td>D</td><td>E</td><td>F</td><td>G</td><td>Н</td><td></td><td>J</td><td>K</td><td>L</td><td>М</td><td>Ν</td><td>0</td><td></td></td<>	-	А	В	С	D	E	F	G	Н		J	K	L	М	Ν	0	
3       Chris       Jones       456 Maple Berryton       KS       66409       123-6789       cones@x Mar 15       9/15/1999       11         4       Clem       Carson       101 Hazel       Wakarusa KS       66546       123-2345       cclub@xxy Cary Sep 26       5/1/1993       17							<u>Zip</u>										
4       Clem       Carson       101 Hazel Wakarusa KS       66546       123-2345       cclub@xyz       Spe 26       5/1/1993       17         5       Jean       Black       345 Oak       Topeka       KS       66602       000-5678       iblack@xyz       0217       3/1/2000       10         7       Lou       Wilson       789 Spruci Topeka       KS       66604       123-3912       iwlison@x       Jun 6       4/1/1978       32         8       Pat       Taylor       678 Pear Topeka       KS       66600       000-8901       praylor@x May 17       11/1/1975       15         9       Ray       Gonzales       407 PeachBeryton       KS       66607       000-123       spaade@x Jul 4       2/1/2003       7         10       Sam       Spade       890 Wahu Topeka       KS       66604       123-4567       tbrown@x Nay 17       11/1/1995       15																	
5       Jean       Black       345 Oak       Topeka       KS       66602       000-5678       black@xy, Aug 30       4/4/1988       22         6       Kim       Lee       207 Plum       Lawrence       KS       66604       123-3456       kle@xy, Oct 17       3/1/2000       10         7       Lou       Wilson       789 Spruci Topeka       KS       66606       123-9012       wilson@x, Un 6       4/1/1978       32         9       Ray       Gonzales       407 Peach Berryton       KS       66605       000-890       rgonzales/Q May 17       11/1/1995       15         9       Ray       Gonzales       407 Peach Berryton       KS       66607       000-0123       sspade@x, Jul 4       2/1/2003       7         11       Taylor       Brown       321 Pine       Topeka       KS       66611       000-6789       tanderson/ Nov 11       2/1/1996       14         13       Tod       Smith       567 Cedar       Topeka       KS       66604       123-7890       tsmith@x       Apr 1       10/7/1998       12         14			Jones														
6       Kim       Lee       207 Plum       Lawrence       KS       66044       123-3456       klee@xyz       Oct 17       3/1/2000       10         7       Lou       Wilson       789 Spruci Topeka       KS       66606       123-9012       mixed@xyz       Out 17       3/1/2000       10         8       Pat       Taylor       678 Pear Topeka       KS       66605       000-8901       ptaylor@x       May 17       11/1/1995       15         9       Ray       Gonzales       407 Peach Berryton       KS       66607       000-7890       tgonzales       2/1/2003       7         10       Sam       Spade       890 Walnu Topeka       KS       66614       123-4567       tbrown@x       Oct 4       677/1983       27         12       Terry       Anderson Topeka       KS       66604       123-7690       tsmith@x       Apr 1       10/7/1998       12         14       Insert       Delete       Insert			Carson														
7       Lou       Wilson       789 Spruci Topeka       KS       66606       123-9012       wilson@x Jun 6       4/1/1978       32         8       Pat       Taylor       678 Pear Topeka       KS       66605       000-8901       rgunzales@ May 17       11/1/1995       15         9       Ray       Gonzales       407 Peach Berryton       KS       66607       000-7890       rgunzales@ Dec 30       7/11/2002       8         10       Sam       Spade       80 Walnu Topeka       KS       66607       000-7890       rgunzales@ Dec 30       7/11/2002       8         11       Taylor       Brown       123 Elm       Wakarusa KS       66546       123-4567       tbrown@x Oct 4       6/7/1983       27         12       Terry       Anderson       321 Pine       Topeka       KS       66604       123-7890       tsmith@x Apr 1       10/7/1983       27         13       Tod       Smith       567 Cedar       Topeka       KS       66604       123-7890       tsmith@x Apr 1       10/7/1998       12         14	-																
8       Pat       Taylor       678 Pear       Topeka       KS       66605       000-8901       ptaylor@x       May 17       11/1/1995       15		Kim	Lee	207 Plum			66044										
9       Ray       Gonzales       407 Peach Berryton       KS       66409       000-7890       rgonzales(Dec 30)       7/1/2002       8       1         10       Sam       Spade       890 Walnu Topeka       KS       66607       000-0123       sspade@u.lul 4       2/1/2003       7       1       1         11       Taylor       Brown       123 Elm       Wakarusa KS       66546       123-4567       400-6789       467/1983       27       1	-																
10       Sam       Spade       890 Walnu Topeka       KS       66607       000-0123       sspade@x       Jul 4       2/1/2003       7         11       Taylor       Brown       123 Elm       Wakarusa KS       66546       123-4567       tbrown@x       Oct 4       6/7/1983       27         12       Terry       Anderson       321 Pine       Topeka       KS       66611       000-6789       tanderson(Nov 11       2/1/1996       14         13       Tod       Smith       567 Cedar       Topeka       KS       66604       123-7890       tsmith@x       Apr 1       10/7/1998       12         14       Image: State			Taylor	678 Pear			66605	000-8901	ptaylor@x	May 17	11/1/1995						
11       Taylor       Brown       123       Elm       Wakarusa KS       66546       123-4567       tbrown@x       Oct 4       6/7/1983       27         12       Terry       Anderson       321       Pine       Topeka       KS       66611       000-6789       tanderson(Nov 11       2/1/1996       14         13       Tod       Smith       567       Cedar       Topeka       KS       66604       123-7890       tsmith@x       Apr 1       10/7/1983       12         14       Image: Smith       567       Cedar       Topeka       KS       66604       123-7890       tsmith@x       Apr 1       10/7/1983       12         14       Image: Smith       567       Cedar       Topeka       KS       66604       123-7890       tsmith@x       Apr 1       10/7/1983       12       Image: Smith@x       Image: Smith@x       Apr 1       10/7/1983       12       Image: Smith@x       Image: Smith@x       Image: Smith@x       Apr 1       10/7/1983       12       Image: Smith@x       Image: Smith@x       Apr 1       10/7/1983       12       Image: Smith@x       Image: Smith@x       Apr 1       10/7/1983       12       Image: Smith@x       Image: Smith@x       Image: Smith@x       Image: Smith@x			Gonzales			KS	66409	000-7890	rgonzales(	Dec 30	7/1/2002						
12       Terry       Anderson       321 Pine       Topeka       KS       66611       000-6789       tanderson(Nov 11       2/1/1996       14       14         13       Tod       Smith       567 Cedar       Topeka       KS       66604       123-7890       tsmith@xx       Apr 1       10/7/1998       12       14         14       Image: Second Secon			Spade	890 Walnu	Topeka	KS	66607	000-0123			2/1/2003						
13       Tod       Smith       567 Cedar Topeka       KS       66604       123-7890       tsmith@xx       Apr 1       10/7/1998       12         14       Image: Structure of the structure o	11	Taylor	Brown			KS	66546	123-4567	tbrown@x	Oct 4	6/7/1983	27					
14     1 </td <td></td> <td></td> <td>Anderson</td> <td>321 Pine</td> <td>Topeka</td> <td>KS</td> <td>66611</td> <td>000-6789</td> <td>tanderson(</td> <td>Nov 11</td> <td>2/1/1996</td> <td>14</td> <td></td> <td></td> <td></td> <td></td> <td></td>			Anderson	321 Pine	Topeka	KS	66611	000-6789	tanderson(	Nov 11	2/1/1996	14					
15		Tod	Smith	567 Cedar	Topeka	KS	66604	123-7890	tsmith@xy	Apr 1	10/7/1998	12					
15	14																
18       Letter       Image: Constraint of the state of the	15																
18       Letter       Image: Constraint of the state of the	16		Insert		]												
18	17																
20     Move or Copy	18	_	_														
21     22     yiew Code     1     1     1     1     1       23     20     Protect Sheet     1     1     1     1     1       3     beet1     6     1     1     1     1     1       4     beet1     6     1     1     1     1     1       20     Unhide     5elect All Sheets     1     1     1     1       20     Select All Sheets     1     1     1     1     1	19		<u>R</u> ename														
21     22     yiew Code     1     1     1     1     1       23     20     Protect Sheet     1     1     1     1     1       3     beet1     6     1     1     1     1     1       4     beet1     6     1     1     1     1     1       20     Unhide     5elect All Sheets     1     1     1     1       20     Select All Sheets     1     1     1     1     1	20		Move or	Copy													
22     23     24     Protect Sheet     Image: Constraint of the state of the s	21	3	_														
1     Sheet1     Image: Constraint of the system of	22		• =														
Sheet1     Image: Contract of the state of t	23	ŭ	Protect :	Sheet													
READY     Image: Constraint of the state of	24									-	i.						
Zo         Unhide           27         28           Select All Sheets           H ↔ H         Mair > Sheet2 / Sheet3 / ?>/	DEAD		+			_			: [	۰I		<b>H B -</b>					
27	20												_	- 100%			
H ( ) H Mail Sheet2 / Sheet3 / 2	27		<u>U</u> nhide.														
H + + H Mail Sheet2 / Sheet3 / ?>	28		Select A	II Sheets													
	H 4	H Ma			797							a					
Ready 🔚 🔲 100% (=)	Rea			-										100	% 🕞 —		(

Right click on a worksheet tab. Click on **Rename** to give the sheet a different name. Press the Enter key when finished typing. Right click again on the tab and choose **Tab Color** to add color. Another way to rename a worksheet is to double-click on the worksheet tab. Type the new name and press Enter.

## Link data to another worksheet or workbook

Use the same data in more than one worksheet without retyping. If you make changes or additions to the original or source worksheet, those changes will appear automatically in the linked worksheets.

**To link data from the same workbook**, first click in the cell where you want the data to appear. Type an equal sign =. Type the source worksheet name followed by an exclamation point **!**. The ! tells Excel that you typed a worksheet name. Then type the cell reference where the data already exists. Example: **=Mail!A2** 

**To link data from a different workbook**, first click in the cell where you want the data to appear. Type an equal sign =.Type the source workbook or file name surrounded by **square** brackets. Type the source worksheet name followed by an exclamation point **!**. The ! tells Excel that you typed a worksheet name. Then type the cell reference where the data already exists. Example: **=[ExcelLists.xlsx]Mail!A2** 

#### Another way to link data (this is much easier):

- In the source file, select the data you want to link.
- From the Home tab, click **Copy**.
- Open the destination worksheet or file and click where you want to insert the data.
- From the Home tab, click on the **down arrow** under **Paste**. Click **Paste Link**.

#### Hide & Unhide columns or rows

Select the columns or rows you want to hide by clicking on the column header or the row header. Right click to see a menu. Click on **Hide**. To unhide columns or rows, select the columns to the left and right or the rows above and below. Right click to see a menu. Click on **Unhide**. If you want to unhide many columns or rows at the same time, select the entire worksheet. A quick way to select the entire worksheet is to click on the shaded box to the left of the **A** in the column headers.

#### Freezing the Panes

X		Boo	ok1 - Excel	? 🗹 – 🗗 🗙
FILE HOME INSERT PAGE LAYOUT FORMU	AS DATA REVIEW	VIEW DEVELO	OPER POWERPIVOT	Becky Hinton 👻 🔍
Normal Page Break Page Cu Preview Layout V	Zoom 100% Zoom to	New Arrange Window All	Freeze     Duhide     Dress View Side by Side     Synchronous Scrolling     Switch     Macros       Panes v     Duhide     De Reset Window Position     Switch     View Side     View Side	
Workbook Views 5	Zoom		Freeze Panes Macros	^
E S C B also	)		Keep rows and columns visible while the rest of the worksheet scrolls (based on current selection).	
A1 $\times \checkmark f_{x}$			Freeze Top Row Keep the top row visible while scrolling through	~
A B C D E	F G H	I	the rest of the worksheet.	r s 🔺
2			Freeze First Column Keep the first column visible while scrolling through the rest of the worksheet.	

Click to the right of the column or below the row you want to freeze. Click on the **View** tab and click on **Freeze Panes**. Click on **Freeze Panes** in the menu that appears.

You can freeze columns or rows to keep the labels in view as you scroll through larger worksheets. The area you freeze will not scroll. To Unfreeze, click on the **View** tab and click **Freeze Panes**. Click **Unfreeze Panes**.

### **COUNT Functions**

Examples=COUNT(R6:R25)COUNTANumber of non-blank cells in a range=COUNT(R6:R25)COUNTBLANK Number of blank cells in a range=COUNTA(R6:R25)COUNTBLANK (A2:A50)COUNTIFNumber of cells in a range that meet a certain criteria=COUNTIF(B2:B13, "Black")=COUNTIF(B2:B13, "Black")

#### **SUM Function**

Use SUM to **add** a range of cells that have numbers. Example: =SUM(R6:R25)

#### **Absolute Cell Reference**

By default, Excel treats the cells you include in formulas as relative locations rather than set locations. When you copy formulas, the cell references adjust with the rows or columns. To make a cell reference stick so that it will not adjust, use the **\$** to indicate an **absolute** cell reference. Example **\$A\$2** If that cell reference is copied to another cell, it will not change.