

#### INTERACTIVE DATA VIZ SPRING 16



#### No. 1 > MICROSOFT EXCEL FUNCTIONS

In Excel, you can use functions to perform a number of valuable tasks that can help clean your data and make calculations based on your data. For a full list of Excel functions — there are a lot of them! — go to

https://support.office.com/en-us/article/Excel-functions-by-category-5f91f4e9-7b42-46d2-9bd1-63f26a86c0eb

# 1. ...concatenate cells?

Concatenating takes data from separate cells and puts them together in a new cell. This is helpful for a number of reasons, but in our case, we may want to create a cell for a year that we can quickly copy and paste into Illustrator. (For an Illustrator chart, you need to represent the year 1900 as "1900".) here's how to create this:

- 1. Start with a column of text that has years.
- 2. In a blank, adjacent column, type a double quote (")
- 3. Double-click the blue square at the bottom right of this new cell.
- 4. Move to an empty cell in the same row.
- **5.** Type ...

# = CONCATENATE()

**6.** Place your cursor inside the parentheses, and click on the cells you want to unite (or type their names).

7. Double-click the blue square at the bottom right of this new cell.

1900 "	1900 "	=CONCATENATE(C4,B4,C4)	1900 "	<b>I</b> 1900"
1900	1900	CONCATENATE(text1, [text2], [text3], [text4],)	1900	"1901"
		COLOCITICAL Process froncess f		
1902	1902 "		1902 "	"1902"
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1907	1907 "		1907 "	"1907"



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### 2. ...separate data into new cells?

The reverse of concatenating is delimiting — we use this to separate connectd data in a cell. One example of this would be to isolate the a specific date from a combined cell into three — one for the month, one for the day and one for the year. (This is not a function exactly.) Here's how:

1. Start with a column of data – in this case, dates.

**2.** Make sure there are empty columns to fill in with new text. To create new columns, select the number of columns you want to add, and pull down Insert > Columns.

3. Select the column of data.

4. Pull down Data > Text to Columns ...

5. A dialog box appears, based on the data in your selected columns.

**6.** Click Next, then define the delimiter. In the case of our dates, that will be a slash. Deselect any other checked boxes in this section and click Next.

7. (Recommended) Dates have tricky formatting, so when converting dates in this way, change the data type for all three new columns to Text before clicking "Finish."

**8**. With the new text in place in formerly blank columns, convert the data to numbers by pulling down under the Excalamtion point icon (which is warning you that the cells have numbers stored as text).

	Convert Text to Columns Wizard - Step 2 of 3	Convert Text to Columns Wizard	- Step 3 of 3			
1/1/00	This screen lets you set the delimiters your data contains. You can see how your text is		n data format	<u>•</u> 1	1	2000
1/2/00	affected in the preview below. Delimiters Treat consecutive delimiters as one	set the Data Format. Ge 'General' converts numeric values to numbers, • Te	eneral	Number Stored as Te	ext 2	2000
1/3/00	Tab Semicolon Comma Text qualifier: "	date values to dates, and all remaining values	ate: MDY ᅌ	Convert to Number Help on this error	3	2000
1/4/00	Space 🛛 Other:	Advanced Do	o not import column (Skip)	Ignore Error	4	2000
1/5/00		Destinati	ion: SF\$4	Ĕdit in Formula Bar	5	2000
1/6/00	Data preview	Data preview		Error Checking Optic	0	2000
1/7/00		Text Text		1	7	2000
1/8/00	1 1 2000 1 2 2000 1 3 2000	1 1 2000		1	8	2000
1/9/00	1 4 2000 1 5 2000 1 6 2000	1 3 2000 1 4 2000 1 5 2000 1 6 2000		1	9	2000
1/10/00				1	10	2000
	Cancel < Back Next > Finish	Cancel < Br	ack Next > Finish			
	Cancel < Back Next > Finish	Cancel < Ba	ack Next > Finish			

**OR** ... if you only want isolate the year, try the YEAR function. Type **=YEAR()** into an empty cell and click the cell you want to pull the year from. (Double-click the small blue square to apply this to a column.)



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### 3. ...determine how many times a value appears?

This function provides a quick method for counting the number of times a value appear in a column (or in several columns) in a dataset.

1. Go to an empty column (preferably outside your data).

**2.** Copy and paste a value from one of your columns — the one you want to count.

3. In an adjacent and empty cell, type ...

=COUNTIF()

**4.** There are two parameters to pass into the parentheses; the first is the range — in other words, in which column or columns are you looking for the value? We are looking for the value to appear in column C, so we type C:C, which will look through the entire column. The second parameter is the criteria — the value you are looking for. You can type this as a string, in a set of quotes, but it is easier to click the adjacent cell.

**5.** The number of times the value appears in your dataset is now diplayed in the cell.

3       1977       2       Althia & Donna       Uptown Top Ranking       49       49         4       1977       3       The Motors       You Beat The Hell Out of Me       48       4       1977       3       The Motors       You Beat The Hell Out of Me       48       4       1977       4       The Rezillos       1 Can't Stand My Baby       47       5       1977       5       1976 no coper Clarks       Suspended Sentence       46       6       1977       5       1ohn Cooper Clarks       Suspended Sentence       46       6       1977       5       John Cooper Clarks       Suspended Sentence       46       6       1977       6       Desperate Bicycles       Smokescreen       45       1977       6       Desperate Bicycles       Smokescreen       45       4       1977       6       Desperate Bicycles       Smokescreen       44       4       1977       6       Desperate Bicycles       Smokescreen       45         8       1977       7       Marlene Webber       Right Track       44       44       6       1977       6       Desperate Bicycles       Smokescreen       44	H I		G		F	E	D	С	В	Α			Н	G	F	E	D	B C	B	A	_
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11         1977         10         Frankie Miller         Be Good To Yourself         41						41	Be Good To Yourself	nkie Miller	10 F	1977	11					41	Be Good To Yourself	0 Frankie Miller	7 10	197	11

## 4. ...add numbers from certain cells?

A variation of the function above is to add values in a column of cells that have a certain value. This is a similar function, with an added parameter.

1. Follow setps 1 to 3 above, except that in the third step, type ...

=SUMIF()

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**2.** You would pass the same two values as above, but add a third — in this case, to allow the "score" totals for this value. In our example, that

would mean we would look for the score amounts in column E.