

Spreadsheets — cooler (and more useful) than you might think!

Megan Tobin, PhD, CCC-SLP

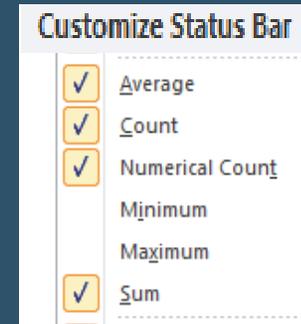
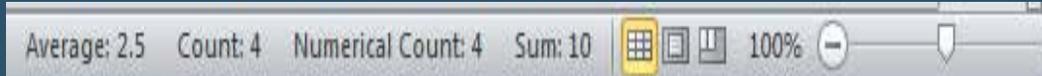
&

Nicole Juersivich, PhD

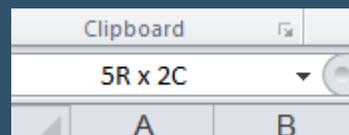


Setup Tips

- **Customize Status Bar - statistics on selected data**



- **Name Box –matrix dimensions of selected data**



- **Transposing Data**

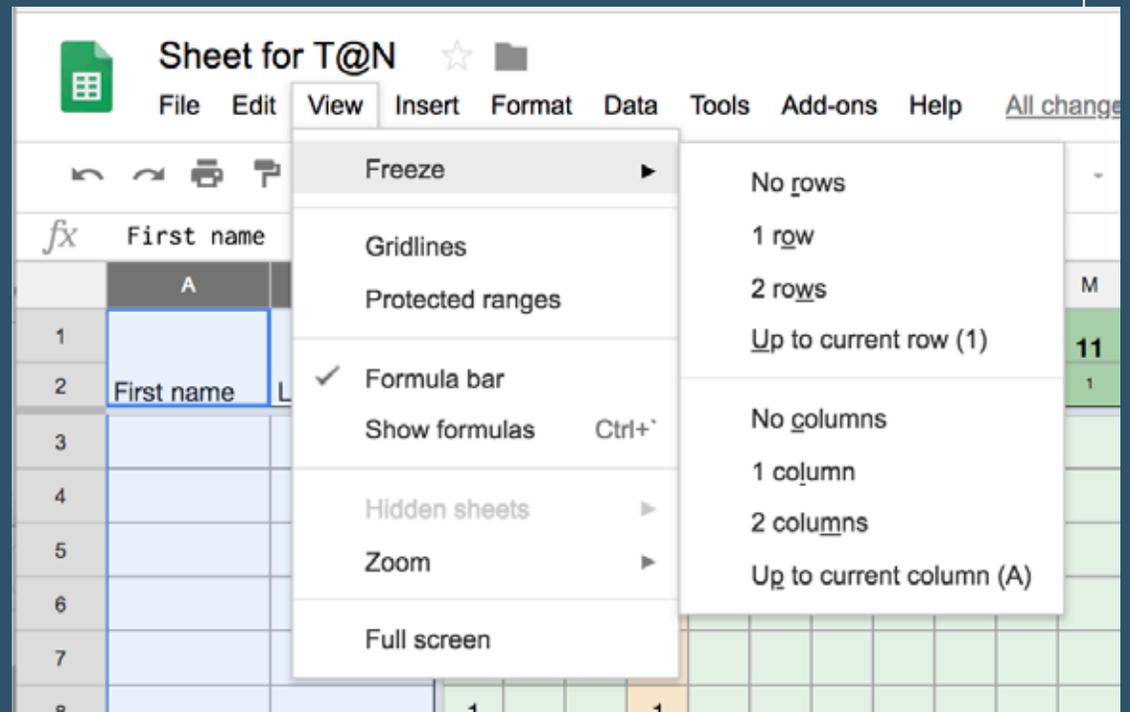


- **Copying & Ordering worksheets**

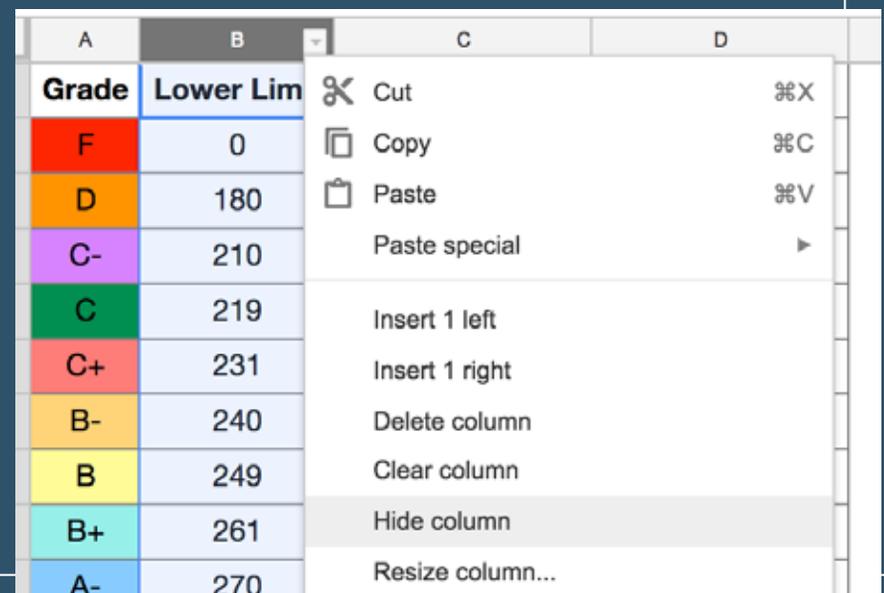


Freeze! And hide!

Freezing rows or columns is a handy way to focus in on one part of your data at a time without losing row or column names.



You can also hide rows or columns (right click on the row or column).



Counting How Many

The COUNTA function tells you how many cells are NOT empty.

```
=COUNTA(03:023)
```

NOTE: Once you write this formula once, you can fill it across the other columns by dragging from the lower right corner of the cell.

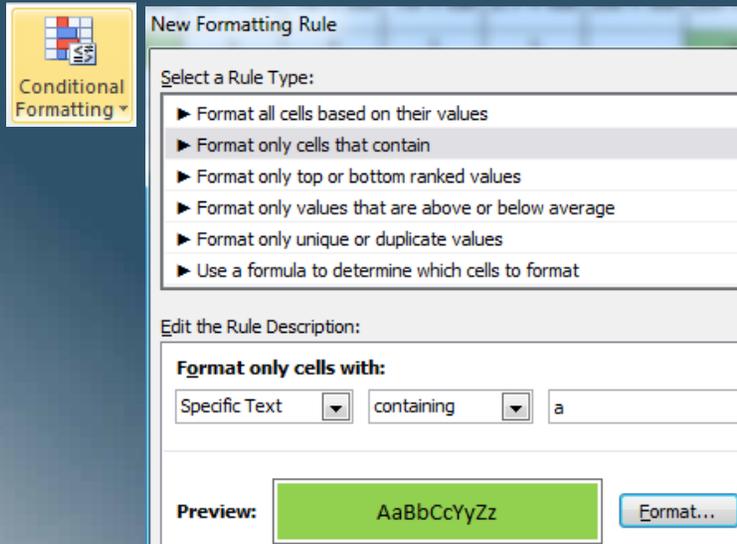


```
=AVERAGE(03:023)
```

=COUNTA(03:023)					
A	B	N	O	P	Q
		12	13	14	15
First name	Last name	1	4	4.5	2.5
		1	1		
			2	0.5	0.5
		1	0.5	1	
				1.5	
			0.5		
			0.5		0.5
		1	0.5	0.5	
				1	
		1	0.5	1	
			1	0.5	
				0.5	0.5
			2	1.5	
		1	1		
			0.5	0.5	
			1	1.5	
			2.5	1.5	
		1	3	3.5	0.5
					0.5
		6	14	13	5
			1.2	1.2	0.5

Attendance & Participation

Conditional formatting is a feature that allows you to apply a **format** to a cell or a range of cells based on certain criteria. (Home tab)



	A	B	C	D	J	K	L	M
1	Present % Grade	# absences	Last Name	First Name	2-Feb	5-Feb	7-Feb	9-Feb
2	0.9545	3	Fox	Evelyn		A	1	a
3	0.7778	7	Juersivich	Nicole	0	1	1	1
4	0.9091	3	Miller	Jon		1	1	1
5	1	2	Tobin	Megan		1	1	1

COUNTIF function is used for counting cells within a specified range that meet a certain criterion, or condition. `COUNTIF(range, criteria)`

1 = Presented when asked

0 = Passed when asked

Absences = the number A's

$$=COUNTIF(E2:AG2, "A")$$

Present % Grade =
$$\frac{\# \text{ times presented}}{\# \text{ times asked} - 2}$$

$$=(COUNTIF(E2:AG2, "1"))/((COUNTIF(E2:AG2, "0")+COUNTIF(E2:AG2, "1"))-2)$$



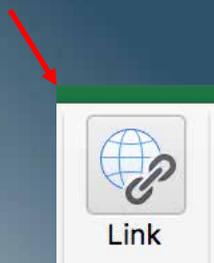
Linking Data Across Tabs

Once you have created data in one tab, you can easily transfer that data to other tabs.

= 'Test 1' !AE3

A	B	D
First name	Last name	Exam 1
		38.9

In Excel you can also paste a link to data in another tab.



Sheet for T@N

File Edit View Insert Format Data Tools Add-ons Help All changes saved in

Undo ⌘Z
Redo ⌘Y
Cut ⌘X
Copy ⌘C
Paste ⌘V
Paste special ▶
Find and replace... ⌘+Shift+H
Delete values
Delete row 2

Paste values only ⌘+Shift+V
Paste format only ⌘+Option+V
Paste all except borders
Paste column widths only

F	G	H	I	J
Exam 3	Exam 4	HW total	Final	Cour tota
35.5	35	30.0	59.4	238.
				72.
				64.
				42.
				83.
				58.

Dropping Lowest Scores

SMALL Function - returns numeric values based on their position in a list ranked by value; retrieves "nth smallest" value

SMALL(array, k)

- array** - An array of numeric values from which you want to find the kth smallest value.
- k** - The index (i.e. the function returns the kth smallest value from the supplied array).

`=(SUM(M3:T3)-SMALL(M3:T3,1)-SMALL(M3:T3,2)-SMALL(M3:T3,3))`

Conditional formatting: Bottom ranked values

		Quiz Percentages							
Last name	First name	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Fox	Evelyn	0.72	0.64	0.72	0.83	0.48	0.57	0.75	0.52
Juersivich	Nicole	0.78	0.91	0.72	0.83	0.55	0.43	0.81	0.67
Miller	Jon	0.56	0.91	0.83	0.83	0.75	0.50	1.06	0.78
Tobin	Megan	0.89	0.86	0.83	0.83	0.98	1.00	1.06	0.00

New Formatting Rule

Select a Rule Type:

- Format all cells based on their values
- Format only cells that contain
- Format only top or bottom ranked values
- Format only values that are above or below average
- Format only unique or duplicate values
- Use a formula to determine which cells to format

Edit the Rule Description:

Format values that rank in the:

Bottom 38 % of the selected range

Preview: AaBbCcYyZz

OK Cancel



Determining Letter Grades and Final Exam Grades

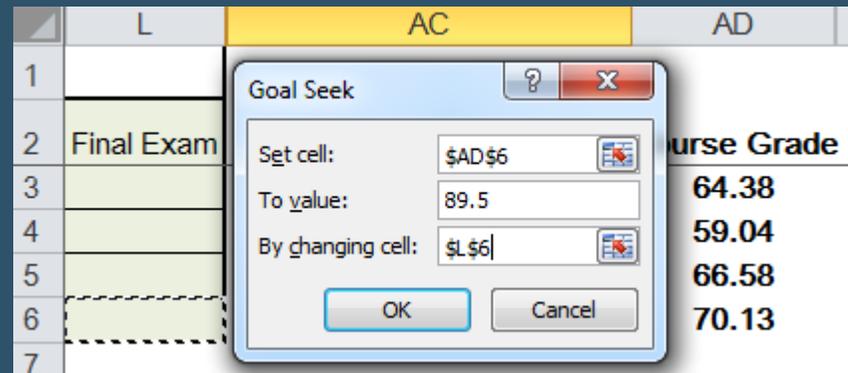
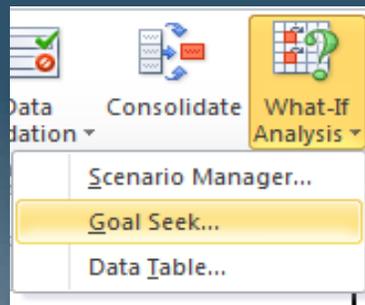
LookUp Function - returns a value from a range or from an array

```
=LOOKUP(AC3, $AF$3:$AF$14,$AG$3:$AG$14)
```

Looks up 64.38 in column AF, matches the nearest smaller value (62.50) and returns the value from column AG that is in the same row (D).

	AC	AD	AE	AF	AG
Course Grade		Letter		Percentage	Letter
64.38		D		0.00	F
59.04		F		59.50	D-
66.58		D+		62.50	D
70.13		C-		66.50	D+
				69.50	C-
				72.50	C
				76.50	C+
				79.50	B-
				82.50	B
				86.50	B+
				89.50	A-
				92.50	A

Goal Seek - determines input value(s) needed to achieve a specific goal. (Data tab)



Highlighting Letter Grades

You can also use conditional formatting to highlight different letter grades.

	AE	AF	AG
M			total MC
	score	%	
1	38.9	86.44	3
6	41.4	92.00	3
1	36.9	82.00	4
6	42.4	94.22	1
6	42.4	94.22	0
1	41.9	93.11	1
6	35.4	78.67	3
6	35.4	78.67	1
6	35.4	78.67	3
1	41.9	93.11	1
1	36.9	82.00	3
1	41.9	93.11	0
1	32.9	73.11	4
1	35.9	79.78	6
6	43.4	96.44	0

Conditional format rules

- 123 Value is equal to 100
AF1:AF1000
- 123 Value is greater than or equal to 90
AF1:AF1000
- 123 Value is greater than or equal to 80
AF1:AF1000
- 123 Value is greater than or equal to 70
AF1:AF1000
- 123 Value is greater than or equal to 60
AF1:AF1000
- 123 Value is less than 60
AF1:AF1000

[Add new rule](#)

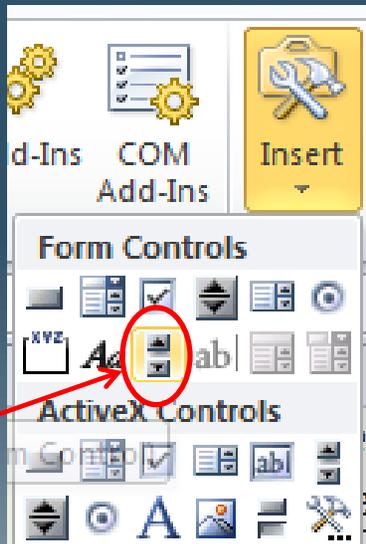
NOTE: Ranking of rules may be important!



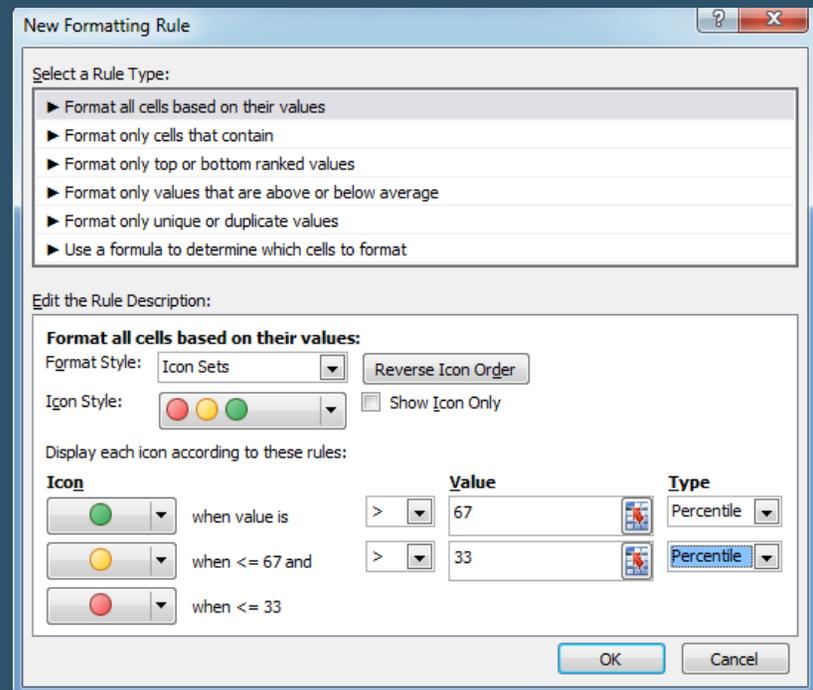
Weighting Grades

Scroll Bar- Scrolls through a range of values when you click the scroll arrows or when you drag the scroll box; use for setting or adjusting a large range of values (Developer tab)

		Aggregate Scores			
Last name	First name	Quizzes	Midterm	Present	Total Weighted
Juersivich	Nicole	0.808	0.9158	0.65	52.59219021
		15	30	20	65

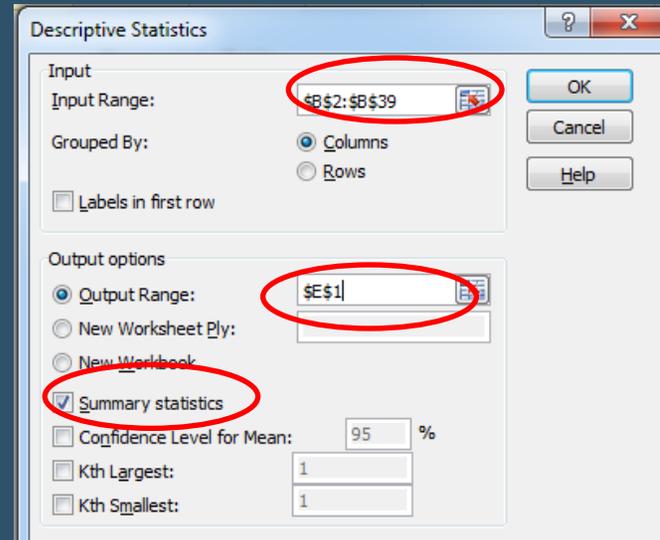
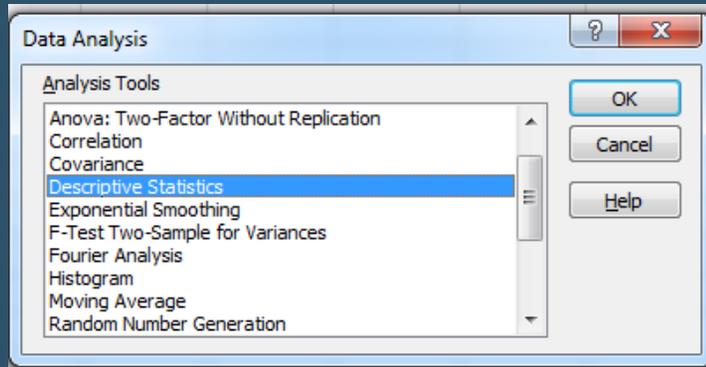


Conditional formatting : Icon Percentiles



Summarizing Data

Descriptive Statistics (Data tab)



	B
1	Test Scores
2	75
3	52.5
4	78.75
5	91.575
6	100
7	95.71428571
8	97.5
9	71.25

	E	F
	<i>Column1</i>	
Mean		79.23787594
Standard Error		2.556735866
Median		81.875
Mode		95
Standard Deviation		15.76077837
Sample Variance		248.402135
Kurtosis		-0.517890138
Skewness		-0.682953469
Range		57.5
Minimum		42.5
Maximum		100
Sum		3011.039286
Count		38

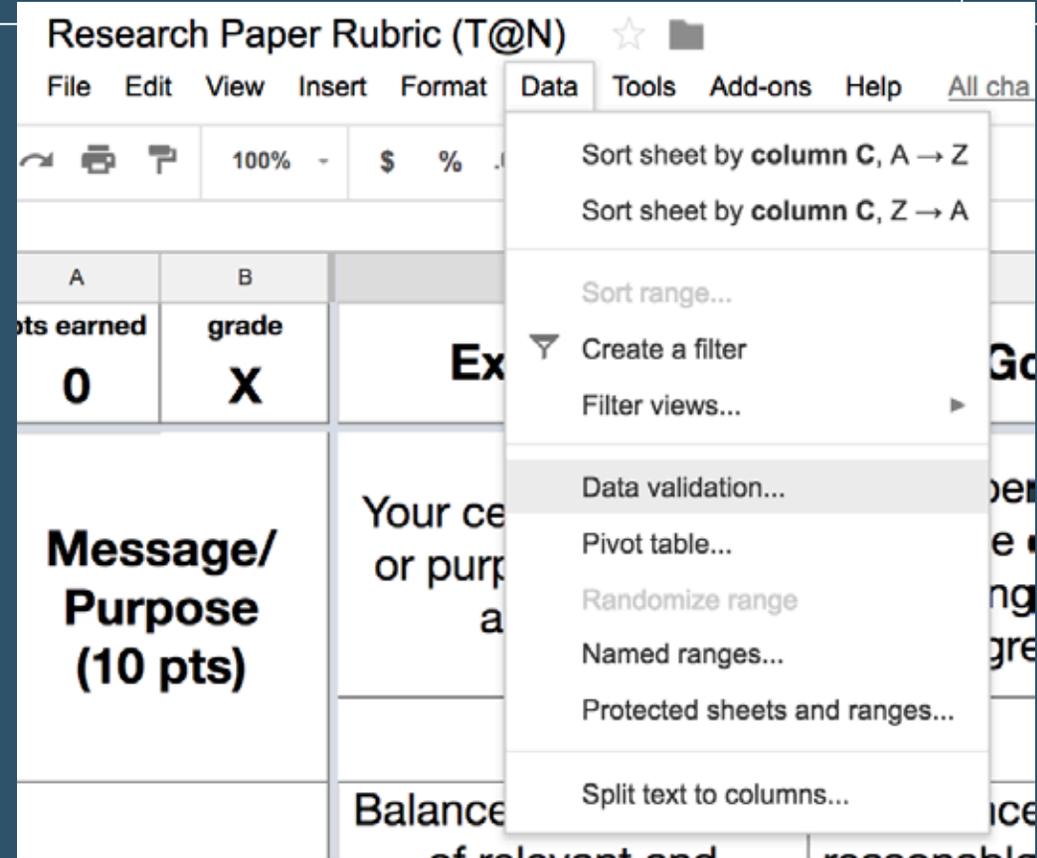
Frequency Chart

Frequency Table	
Grade	Number of
A	13
B	8
C	8
D	3
F	6

f_x =COUNTIF(\$B\$2:\$B\$39, ">= 89.5")



Creating Rubrics With Dropdown Menus



Data validation

Cell range: Paper!C6 

Criteria: **List of items**  15,14.5 

Show dropdown list in cell

On invalid data: Show warning Reject input

Appearance: Show validation help text:

Save

Remove validation

Cancel



Summing Points in Rubrics

=SUM(C4:F4,C6:F6,C8:F8,C10:F10,C12:F12,C14:F14,C16:F16,C18:F18,C20:F20,C22:F22)

pts earned	grade	Exemplary	Good	Satisfactory	Unsatisfactory
86	A-				
Message/ Purpose (10 pts)	Your central message or purpose is readily apparent.	Your paper has a clear message or purpose, but writing sometimes digresses.	The central message or purpose is stated, but is not consistently clear throughout your paper.	Your message or purpose is generally unclear.	
		10			
Content/ Evidence (15 pts)	Balanced presentation of relevant and accurate evidence that clearly supports your central message or purpose. Amount and depth of information is optimal.	Evidence provides reasonable support for your central message or purpose. There is a good amount of information that is generally explored in appropriate depth.	Evidence provides some support for your central message or purpose. The amount and depth of information is generally acceptable.	Evidence does not clearly provide support for your central message or purpose. There is too much or too little information; depth of discussion is not appropriate.	
			13		
Analysis (15 pts)	Information is thoughtfully synthesized and ideas are connected in such a way that the reader gains important new insights. Conclusion is insightful and clearly stated.	Information is synthesized and ideas are connected in such a way that the reader gains several insights. Conclusion is clearly stated.	Synthesis and connection of ideas is fairly basic/general, but reader gains some insights. Conclusion summarizes key points.	There is little evidence that ideas were synthesized and connected to help the reader gain new insights. Reader is confused or may be misinformed. Conclusion is missing or unclear.	
			13.5		



Protecting Sheets

Click on the tab menu. Then, in the menu that pops up on the right:

