

# **Scientific Data Analysis: Spreadsheets**

Jarek Szlichta

<http://data.science.uoit.ca/>

# Introduction

- Humans are great at processing images, but we are NOT good at processing datasets.
- **Data Tables** called **Spreadsheets** were invented to organize arrays of information.
- Spreadsheets help us sort and label in an organized way.
  - We can reference it and perform calculations later.

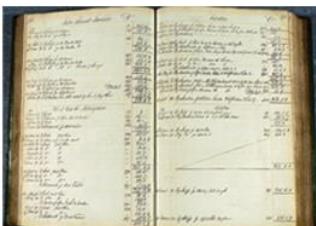
# Papyrus Spreadsheets

- The practice actually dates back thousand of years (Egyptian Old Kingdom)



# From Paper to Online Sheets

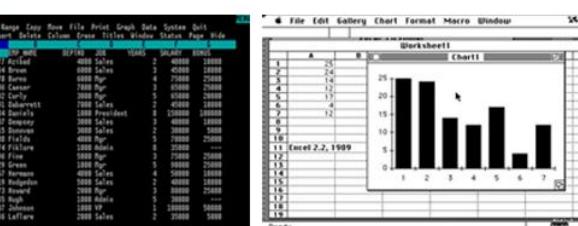
- VisiCalc was the first digital spreadsheet
- As our tools evolved, programs like Excel made digital spreadsheets one of the most popular uses of computers



1793

1979			
	ITEM	NO.	TOTAL
	CHUCK RAVE	42	12.00
	STICK TONES	230	42.00
	EYE SNUFF	2	4.00
			58.00
	SUBTOTAL		13155.50
	9.75% TAX		1202.65
	<b>TOTAL</b>		<b>14438.16</b>

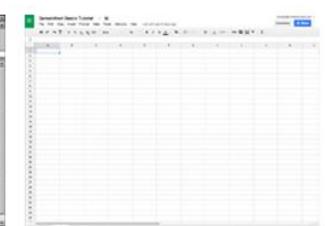
	ITEM	NO.	TOTAL
	CHUCK RAVE	42	12.00
	STICK TONES	230	42.00
	EYE SNUFF	2	4.00
			58.00
	SUBTOTAL		13155.50
	9.75% TAX		1202.65
	<b>TOTAL</b>		<b>14438.16</b>



1983



1988



2015

# Problems

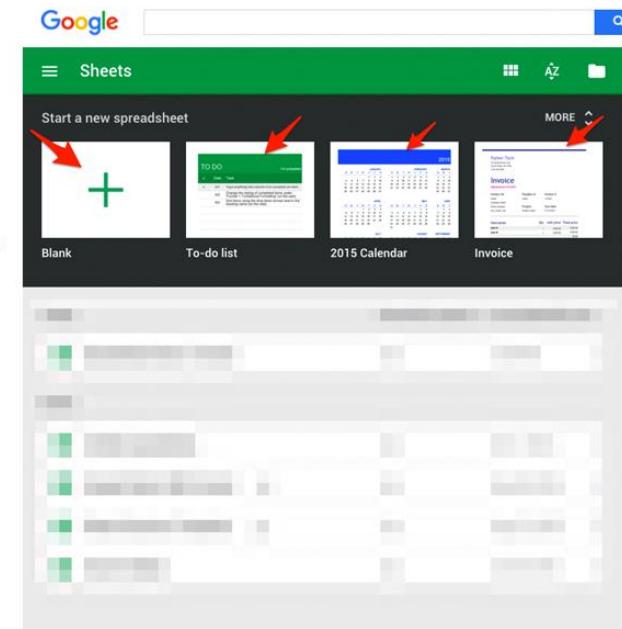
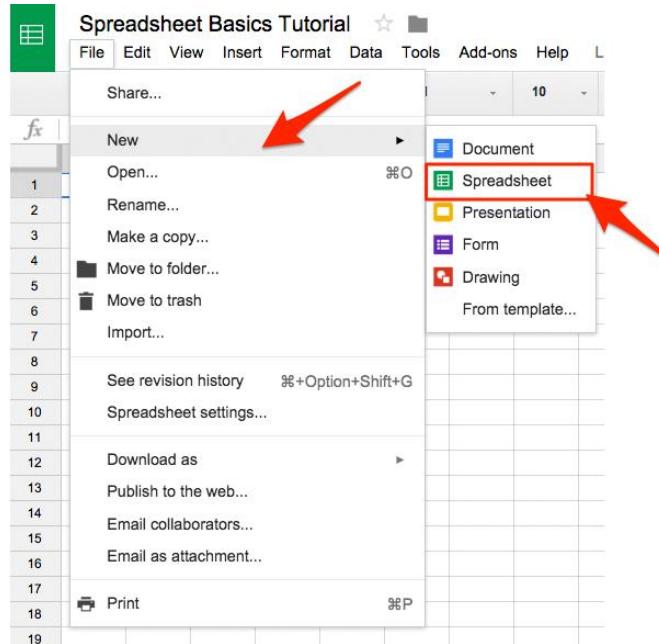
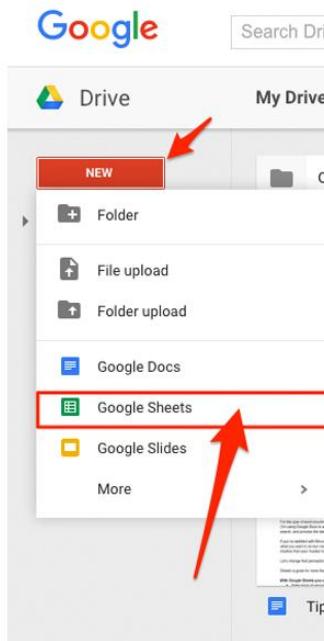
- Spreadsheets were tied to a single machine
  - Difficult to share data
- If your sheet was accidentally erased or lost due to computer failure, it was gone.
- Google brought spreadsheets online
  - You can create spreadsheets together with other online
  - Crunch numbers from any internet-connected device

# App on Steroids

- It is web-based
  - can be used anywhere
- It works from any device
  - even with mobile apps for iOS and Android
- It is free
  - bundled with Google Drive, Docs and Slides to share files, documents and presentations online
- If you know how to use Excel you will feel at home in Google Sheets
- You can download add-ons,
  - Also create your own, and write custom code

# Create a Spreadsheet and Fill it with Data

- Click “NEW” on Google Drive dashboard and select Google Sheets
- File > New Spreadsheet
- Click “Blank”
  - or select a template on the Google Sheets homepage



1

2

3

# Familiar Text Editing Icons

The screenshot shows the Google Sheets interface. At the top, there's a navigation bar with 'Spreadsheet Basics Tutorial' and other standard menu items like File, Edit, View, Insert, Format, Data, Tools, Add-ons, and Help. It also indicates that changes have been saved in Drive. On the right side of the top bar, there are 'Comments' and 'Share' buttons. Below the navigation bar is the toolbar, which includes icons for print, refresh, zoom, currency, percentage, number format, font style (Arial), font size (10), bold, italic, underline, strikethrough, font color (black), alignment, orientation, and various data manipulation tools like copy, paste, filter, and sum. The main area is a blank spreadsheet grid with columns labeled A through Y and rows labeled 1 through 27. In the center of the grid, the text 'Default Google Sheets Interface' is displayed in a large, red, sans-serif font. The bottom of the screen shows the sheet tabs, with 'Sheet1' selected, and some small control icons.

Default Google Sheets Interface

# Adding Data to Your Spreadsheet

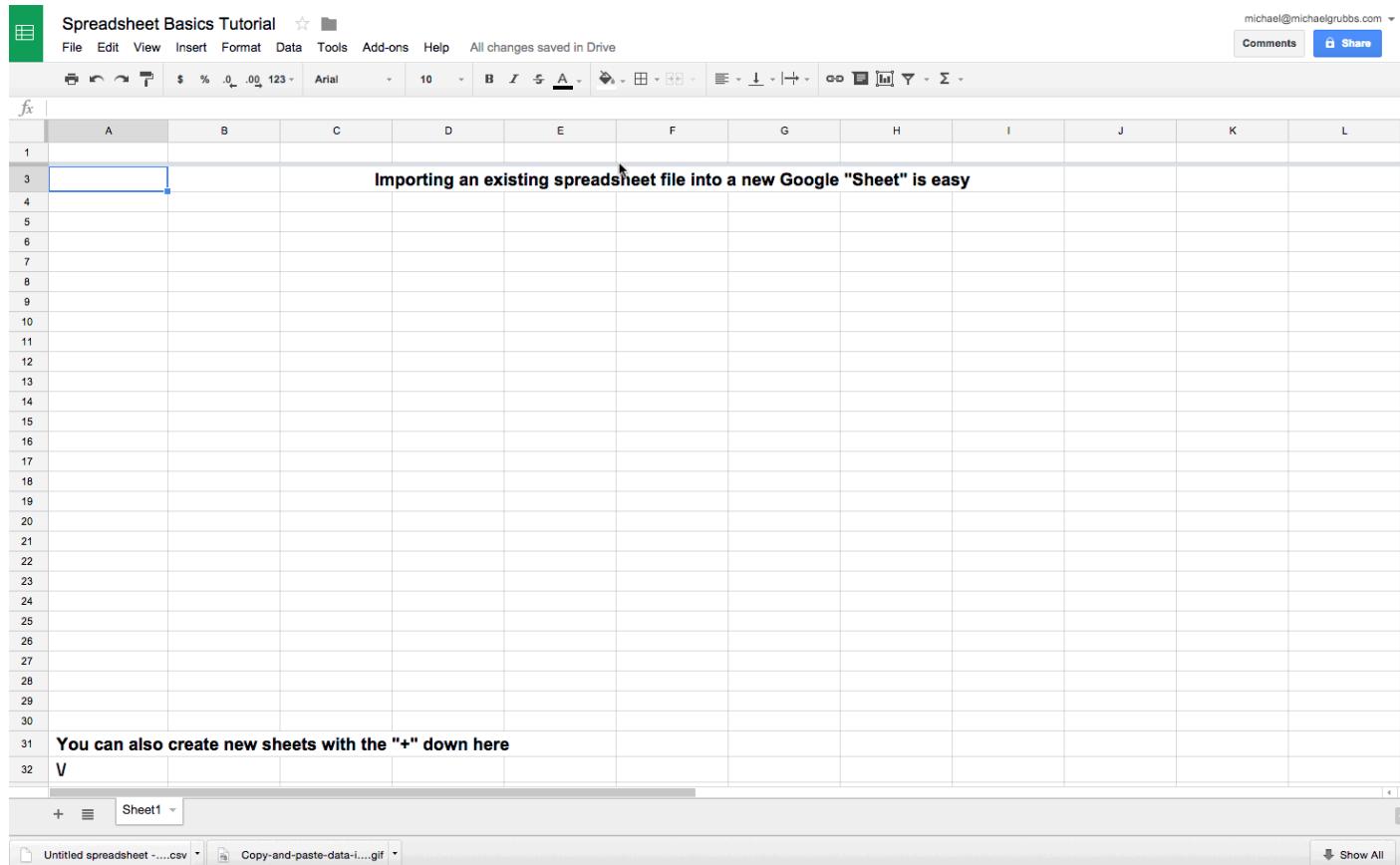
## ■ Copy and Paste

The image shows two side-by-side screenshots. On the left is a screenshot of a Google Sheets spreadsheet titled "Spreadsheet Basics Tutorial". The spreadsheet has a single row of data at the top labeled "Copy & Paste of data that looks like a table usually works". Row 4 contains the text "Copy & Paste". On the right is a screenshot of the IMDb website showing the "Top Rated Movies" chart. The chart lists the top 250 movies based on user votes, with columns for Rank & Title, IMDb Rating, and Your Rating. The data from the spreadsheet is being pasted into the IMDb chart.

Rank & Title	IMDb Rating	Your Rating
1. The Shawshank Redemption (1994)	9.2	★
2. The Godfather (1972)	9.2	★
3. The Godfather: Part II (1974)	9.0	★
4. The Dark Knight (2008)	8.9	★
5. 12 Angry Men (1957)	8.9	★
6. Schindler's List (1993)	8.9	★
7. Pulp Fiction (1994)	8.9	★
8. The Good, the Bad and the Ugly (1966)	8.9	★
9. The Lord of the Rings: The Return of the King (2003)	8.9	★

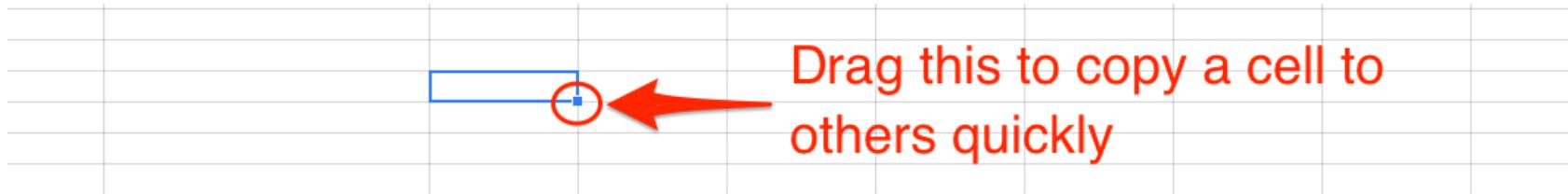
# Import File

- Most common files to import are CSV or XLS
  - FILE > IMPORT > UPLOAD menu



# Dragging to copy a cell value

- Dragging to copy is very useful and handy



# Clicking and Dragging

Spreadsheet Basics Tutorial

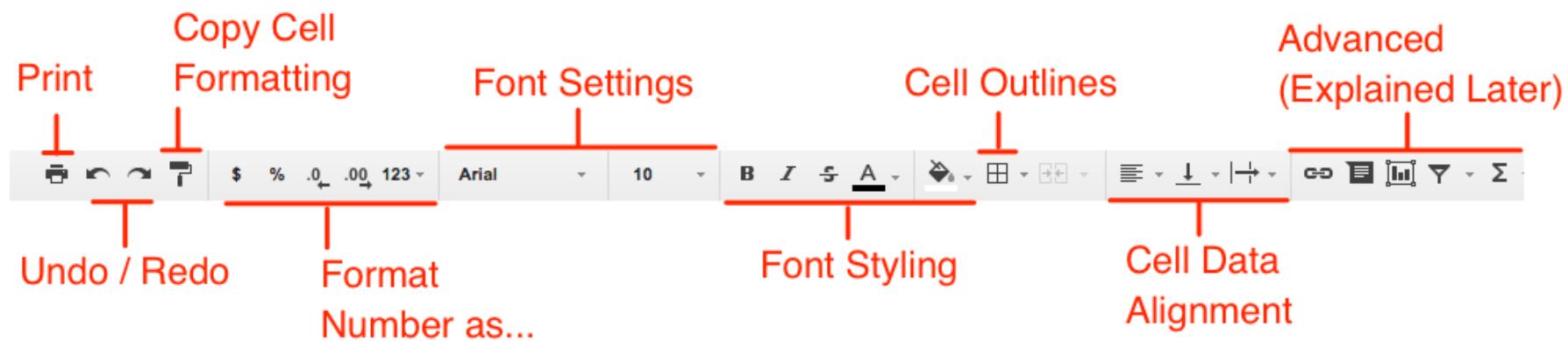
File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive

fx

	A	B	C	D	E	F	G	H	I
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
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21									
22									
23									
24									
25									

# Format Data for Easy Viewing

- Whenever you are tracking expenses, keeping customers in a CRM, you will want to manipulate and format your data



# Potential Breakfast Options

Spreadsheet Basics Tutorial

File Edit View Insert Format Data Tools Help All changes saved in Drive

fx

	A	B	C	D	E	F	G
1	Ingredient List	Scrambled Eggs	French Toast	Cereal	Muffin	Doughnut	
2	Eggs		4	2		1	1
3	Bread			2			
4	Milk				2		
5	Cereal (or Flour)				2	3	3
6	Butter		1	1		2	2
7	Salt		1				
8	Sugar			2		3	4
9	Total "Parts" Needed		6	7			
10	Number of Ingredients		3	4	2	4	4
11	Avg Price / Serving		0.8	0.99	0.75	1	1.25
12	Tutorial Link	<a href="https://www.youtube.com/watch?v=itdza8kY0zY">https://www.youtube.com/watch?v=itdza8kY0zY</a>					
13							
14	You can easily create something like this... But let's clean it up and make it awesome!						
15							
16							
17							
18							
19							
20							

# “Freeze” the First Row

- That means if we scroll down the spreadsheet, the first row will still be visible.

The screenshot shows a Google Sheets interface with the title "Spreadsheet Basics Tutorial". The "View" menu is open, and the "Freeze" submenu is displayed. The "1 row" option in this submenu is highlighted with a red box and a red arrow pointing to it from the left. Another red arrow points to the "Freeze" button in the "View" menu. A third red arrow points to the dark grey horizontal bar between the first and second rows. Handwritten-style text on the right says "Select to 'Freeze' the first row". At the bottom, another handwritten-style text says "Or grab this dark grey bar and drag it between row 1 and 2".

	A	B	C	D	E	F	G
1	Ingredient List	Cereal	Muffin	Doughnut			
2	Eggs	2	3	1	2	3	1
3	Bread			2	3	2	3
4	Milk				2	3	4
5	Cereal (or Flakes)					2	3
6	Butter					2	2
7	Salt					3	4
8	Sugar						
9	Total "Parts" Needed	6	7				
10	Number of Ingredients	3	4	2	4		4
11	Avg Price / Serving	0.8	0.99	0.75	1		1.25
12	Tutorial Link	<a href="https://www.youtube.com/watch?v=itdza8kY0zY">https://www.youtube.com/watch?v=itdza8kY0zY</a>					
13							
14							
15							
16							
17							

# Text Formatting

Spreadsheet Basics Tutorial

	A	B	C	D	E	F	G
1	Ingredient List	Scrambled Eggs	French Toast	Cereal	Muffin	Doughnut	
2	Eggs	4	2		1	1	
3	Bread		2				
4	Milk			2			
5	Cereal (or Flour)			2	3	3	
6	Butter	1	1		2	2	
7	Salt	1					
8	Sugar		2		3	4	
9	Total "Parts" Needed	6	7				
10	Number of Ingredients	3	4	2	4	4	
11	Avg Price / Serving	0.8	0.99	0.75	1	1.25	
12	Tutorial Link	<a href="https://www.youtube.com/watch?v=itdza8kY0zY">https://www.youtube.com/watch?v=itdza8kY0zY</a>					
13							
14							

# Currency Formatting

Spreadsheet Basics Tutorial

File Edit View Insert Format Data Tools Help All changes saved in Drive

Avg Price / Serving

	A	B	C	D	E	F	G
1	Ingredient List	Scrambled Eggs	French Toast	Cereal	Muffin	Doughnut	
2	Eggs	4	2		1	1	
3	Bread		2				
4	Milk			2			
5	Cereal (or Flour)			2	3	3	
6	Butter	1	1		2	2	
7	Salt	1					
8	Sugar		2		3	4	
9	Total "Parts" Needed	6	7				
10	Number of Ingredients	3	4	2	4	4	
11	Avg Price / Serving	0.8	0.99	0.75	1	1.25	
12	Tutorial Link	<a href="https://www.youtube.com/watch?v=itdza8kY0zY">https://www.youtube.com/watch?v=itdza8kY0zY</a>					
13							

Before

9	Total "Parts" Needed	6	7				
10	Number of Ingredients	3	4	2	4	4	
11	Avg Price / Serving	\$0.80	\$0.99	\$0.75	\$1.00	\$1.25	
12	Tutorial Link	<a href="https://www.youtube.com/watch?v=itdza8kY0zY">https://www.youtube.com/watch?v=itdza8kY0zY</a>					
13							
14							
15							
16							
17							

After Currency Formatting

# Formulas

- You can click a formula to add,
  - or you can start typing any formula with a “=” sign followed by the formulas' name

The screenshot shows a spreadsheet application window titled "Spreadsheet Basics Tutorial". The menu bar includes File, Edit, View, Insert, Format, Data, Tools, Add-ons, Help, and a status bar indicating "Last edit was yesterday at 6:39 PM". The toolbar features various icons for printing, saving, and formatting. A red arrow points from the text "You can click a formula to add," to the formula dropdown menu. The formula dropdown menu is displayed on the right side of the screen, enclosed in a red box. It contains the following options: SUM, AVERAGE, COUNT, MAX, MIN, and More functions... The spreadsheet itself has a header row labeled "Ingredient List" and data rows for Eggs, Bread, Milk, and Cereal (or Flour) across columns B through F.

	A	B	C	D	E	F
1	Ingredient List	Scrambled Eggs	French Toast	Cereal	Muffin	Doughnut
2	Eggs	4	2		1	
3	Bread		2			
4	Milk			2		
5	Cereal (or Flour)			2	3	

# Using the SUM Formula

Spreadsheet Basics Tutorial

File Edit View Insert Format Data Tools Help All changes saved in Drive

fx

	A	B	C	D	E	F	G
1	Ingredient List	Scrambled Eggs	French Toast	Cereal	Muffin	Doughnut	Lowest Price per Ingredient
2	Eggs		4	2		1	0.33
3	Bread			2			0.1
4	Milk				2		0.5
5	Cereal (or Flour)				2	3	0.2
6	Butter	1		1		2	0.25
7	Salt	1				2	0.05
8	Sugar			2		3	0.1
9	Total "Parts" Needed						
10	Number of Ingredients						
11	Avg Price / Serving						
12							
13							
14							

# Using the Count Formula

Spreadsheet Basics Tutorial

File Edit View Insert Format Data Tools Help All changes saved in Drive

fx

	A	B	C	D	E	F	G	
1	Ingredient List	Scrambled Eggs	French Toast	Cereal	Muffin	Doughnut	Price per Unit	
2	Eggs		4	2		1	1	0.33
3	Bread			2				0.1
4	Milk				2			0.5
5	Cereal (or Flour)				2	3	3	0.2
6	Butter		1	1		2	2	0.25
7	Salt		1					0.05
8	Sugar			2		3	4	0.1
9	Total "Parts" Needed		6	7	4	9	10	
10	Number of Ingredients							
11	Avg Price / Serving							
12	Tutorial Link	<a href="https://www.youtube.com/watch?v=itdza8kY0zY">https://www.youtube.com/watch?v=itdza8kY0zY</a>						
13								
14								
15								

# Using the Count Formula - Tricks

Spreadsheet Basics Tutorial

michael@michaelgrubbs.com

Comments Share

=COUNT(D2:D8)

	A	B	C	D	E	F	G	
1	Ingredient List	Scrambled Eggs	French Toast	Cereal	Muffin	Doughnut	Price per Unit	
2	Eggs		4	2		1	1	0.33
3	Bread			2				0.1
4	Milk				2			0.5
5	Cereal (or Flour)				2	3	3	0.2
6	Butter	1		1		2	2	0.25
7	Salt	1						0.05
8	Sugar			2		3	4	0.1
9	Total "Parts" Needed		6	7	4	9	10	
10	Number of Ingredients		3	4	2	4	4	
11	Avg Price / Serving							
12	Tutorial Link	<a href="https://www.youtube.com/watch?v=itdza8kY0zY">https://www.youtube.com/watch?v=itdza8kY0zY</a>						
13								
14								
15								
16								
17								
18								

+ Sheet1 Sheet2 Making Breakfast

# Using the Average Formula

Spreadsheet Basics Tutorial

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

fx

	A	B	C	D	E	F	G	H	I	J
1	Ingredient List	Scrambled Eggs	French Toast	Cereal	Muffin	Doughnut	Lowest Price per Ingredient	Highest Price per Ingredient		
2	Eggs		4	2		1	1	0.33	0.5	
3	Bread			2				0.1	0.2	
4	Milk			2				0.5	0.75	
5	Cereal (or Flour)			2	3	3	0.2	0.5		
6	Butter	1	1		2	2	0.25	0.5		
7	Salt	1					0.05	0.15		
8	Sugar		2		3	4	0.1	0.2		
9	Total "Parts" Needed		6	7	4	9	10			
10	Number of Ingredients		3	4	2	4	4			
11	Avg Price / Serving									
12	Tutorial Link	<a href="https://www.youtube.com/watch?v=itdza8kY0zY">https://www.youtube.com/watch?v=itdza8kY0zY</a>								
13										
14										
15										

# Using Simple Arithmetic Formulas

- We need to calculate the total cost of the breakfast by multiplying the average price of each ingredient by its unit count in the recipe.

If you click a cell, it will show the underlying formula here

	A	B	C	D	E	F	G
1	Ingredient List	Scrambled Eggs	French Toast	Cereal	Muffin	Doughnut	Lowest Price per Ingredient
2	Eggs	4	2		1	1	0.33
3	Bread		2				0.1
4	Milk			2			0.5
5	Cereal (or Flour)			2	3	3	0.2
6	Butter	1	1		2	2	0.25
7	Salt	1					0.05
8	Sugar		2		3	4	0.1
9	Total "Parts" Needed	6	7	4	9	10	
10	Number of Ingredients	3	4	2	4	4	
11	Avg Price / Serving						
12	Tutorial Link	<a href="https://www.youtube.com/watch?v=itdza8kY0zY">https://www.youtube.com/watch?v=itdza8kY0zY</a>					
13							

# Share, Protect, and Move Data

## FILE > SHARE

The screenshot shows a Google Sheets document titled "Spreadsheet Basics Tutorial". The spreadsheet contains data about ingredients for breakfast items like Scrambled Eggs, French Toast, and Cereal, along with calculations for price per serving and average price.

	A	B	C	D	E	F	G	H	
1	Ingredient List	Scrambled Eggs	French Toast	Cereal	Muffin	Doughnut	Lowest Price per Ingredient	Highest Price per Ingredient	Aver
2	Eggs	4	2		1	1	0.33	0.5	
3	Bread		2				0.1	0.2	
4	Milk			2			0.5	0.75	
5	Cereal (or Flour)			2	3	3	0.2	0.5	
6	Butter	1	4		2	2	0.25	0.5	
7	Salt	1					0.05	0.15	
8	Sugar		2		3	4	0.1	0.2	
9	Total "Parts" Needed	6	10	4	9	10			
10	Number of Ingredients	3	4	2	4	4			
11	Avg Price / Serving	\$2.14	\$2.93	\$1.95	\$2.67	\$2.82			
12	Tutorial Link	<a href="https://www.youtube.com/watch?v=itdza8kY0zY">https://www.youtube.com/watch?v=itdza8kY0zY</a>							
13									
14									
15									
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21									
22									

# Additional Options

- When you open “advanced” sharing panel, you will see a number of options.

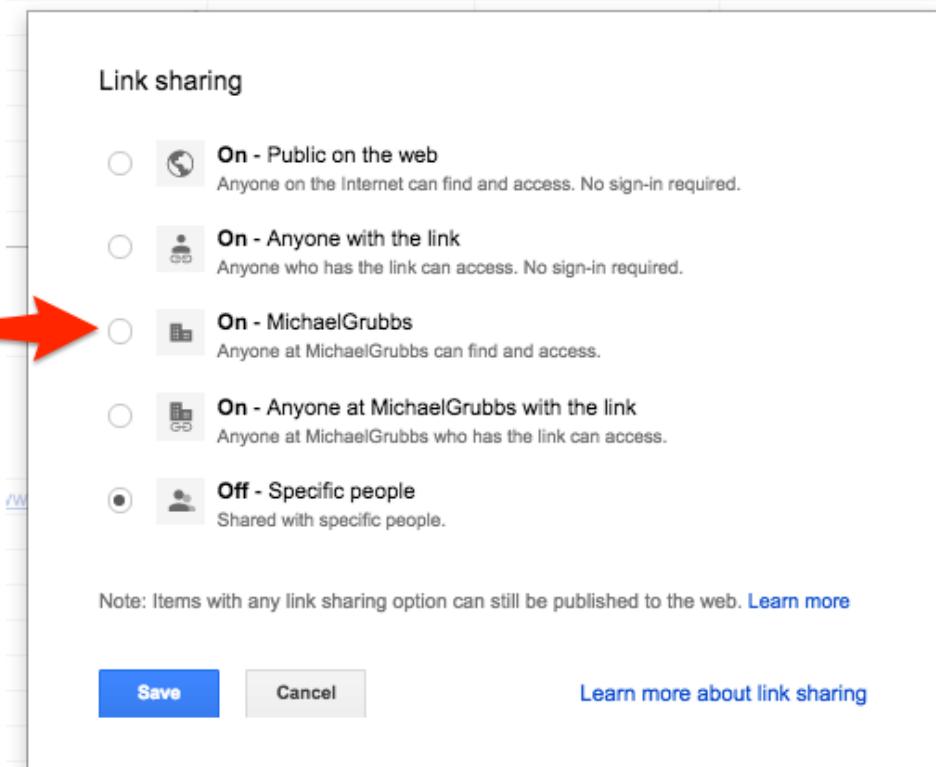
The screenshot shows a Google Sheets spreadsheet titled "Spreadsheet Basics Tutorial". The main sheet contains a table for a breakfast recipe, and a second sheet titled "Making Breakfast" contains some data analysis. A sharing settings dialog box is open over the spreadsheet.

**Annotations:**

- Who has access to the spreadsheet:** Points to the "Who has access" section of the dialog, which shows "Private - Only you can access".
- Link copied to clipboard by default:** Points to the shared link in the "Link to share" field: <https://docs.google.com/a/michaelgrubbs.com/spreadsheets/d/17KyVrFelas3xas4jeDk>.
- Change the spreadsheet permissions from private to public or "only your organization":** Points to the "Change..." button in the "Who has access" section.
- Make it so no-one can modify these sharing settings:** Points to the "Owner settings" section, which includes checkboxes for "Prevent editors from changing access and adding new people" and "Disable options to download, print, and copy for commenters and viewers".
- If you're sharing your spreadsheet publicly and don't want people copying it:** Points to the "Done" button at the bottom of the dialog.
- Change what they can do to your spreadsheet:** Points to the right edge of the dialog, where it overlaps with the "Making Breakfast" sheet.

# Link Sharing

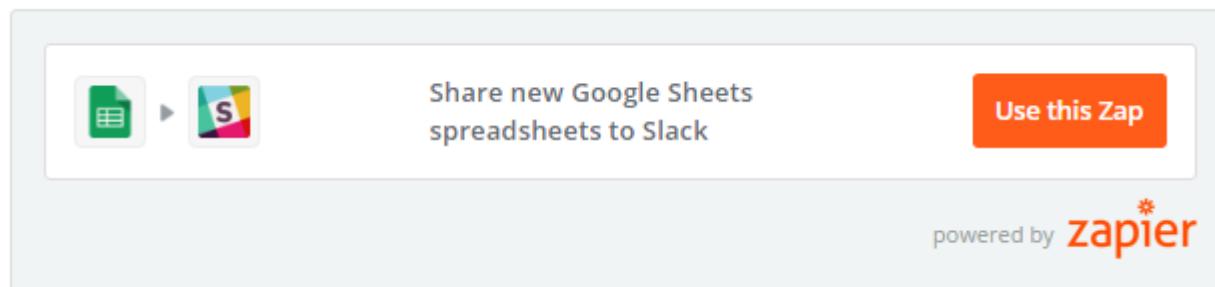
Anyone in your company  
who can access the folder  
where it's stored can  
access



# Sharing Spreadsheets with Devices and Apps

## Helpful add-ons

- The Google Docs mobile apps
- Google Drive sync to your desktop
- A Third-Party tool like Zapier



# Post in Slack Channel

- This is great for updating your team when you create or update documents

The screenshot illustrates a workflow setup between Google Drive and Slack using Zapier.

**Google Drive:** On the left, the Google Drive interface shows a "Posts" folder containing a "Spreadsheet Basics ..." document. A red box highlights this document, and a large red arrow points from it towards the Slack window.

**Slack:** On the right, the Slack interface shows the "#testfeed" channel. The channel has 4 channels and 1 direct message. It displays a message from "Sheets Bot" (@ 9:18 PM) stating that Michael has created a new Spreadsheet named "Spreadsheet Basics Tutorial".

**Annotations:**

- A red box encloses the "Spreadsheet Basics ..." document in Google Drive, with the text: "Zapier monitors my Google Drive for new Spreadsheets".
- A red box encloses the "Spreadsheet Basics ..." document in Google Drive, with the text: "If a new spreadsheet is found, it posts the custom message to Slack!".
- A large red arrow points from the highlighted document in Google Drive to the "#testfeed" channel in Slack.

# Adding Slack Messages to Spreadsheet

The image shows a composite screenshot illustrating the integration of Slack and Google Sheets through Zapier.

**Zapier Integration:** At the top, a screenshot of the Zapier interface displays a "Zap" titled "Add Slack messages to a Google Sheets spreadsheet". It features icons for Slack and Google Sheets, and an orange "Use this Zap" button. Below this, the text "powered by **zapier**" is visible.

**Google Sheets:** To the left, a screenshot of a Google Sheets document titled "Spreadsheet Basics Tutorial". The first two rows contain headers: "Person", "Breakfast", and "Timestamp". The "Breakfast" column has a dropdown menu open, showing options like Arial, 10, B, I, S, A, and More.

**Slack Channel:** On the right, a screenshot of a Slack interface for the channel "#zapier". The sidebar shows Michael Grubbs' profile and activity in four channels: #general, #random, #testfeed, and #zapier (which is highlighted). It also lists one direct message from slackbot. A message from Michael Grubbs at 7:43 PM is shown: "michael joined #zapier".

# Downloading Your Data

The screenshot shows a Google Sheets interface titled "Spreadsheet Basics Tutorial". The "File" menu is open, displaying various options like "Share...", "New", "Open...", "Rename...", "Make a copy...", "Move to folder...", "Move to trash", "Import...", "See revision history", "Spreadsheet settings...", "Download as", "Publish to the web...", "Email collaborators...", "Email as attachment...", and "Print". A red arrow points to the "Download as" option, which is highlighted. A red box surrounds the submenu that appears when "Download as" is selected, listing "Microsoft Excel (.xlsx)", "OpenDocument format (.ods)", "PDF document (.pdf)", "Comma-separated values (.csv, current sheet)", "Tab-separated values (.tsv, current sheet)", and "Web page (.zip)". The main spreadsheet area shows a single row with the header "Timestamp" and four data cells containing the value "1449197844".

# Use Your Spreadsheet in Offline Mode

The screenshot shows the Google Sheets interface. At the top, there's a navigation bar with the Google logo, a search bar, and user profile information for Michael. Below the navigation bar is a green header with the title "Sheets". The main content area has a dark background. At the top left, there's a "Start a new spreadsheet" section with a "Blank" option (represented by a plus sign icon) and several pre-made template cards: "To-do list", "2015 Calendar", "Invoice", "Time Sheet", and "Expense report". To the right of these cards is a "MORE" button. Below this, there are three sections showing recent spreadsheets: "Today", "Previous 30 days", and "Earlier". Each section lists a spreadsheet with its name, owner (me), and last opened date. The "Today" section shows two entries: "Spreadsheet Basics Tutorial 2" and "Spreadsheet Basics Tutorial". The "Previous 30 days" section shows one entry: "Google Sheets CRM Tutorial". The "Earlier" section shows three entries: "Untitled spreadsheet", "Sheets Business Templates", and "Tips for Sheets".

Section	Spreadsheets	Owner	Last Opened
Today	Spreadsheet Basics Tutorial 2 Spreadsheet Basics Tutorial	me	10:29 PM
Previous 30 days	Google Sheets CRM Tutorial	me	Nov 17, 2015
Earlier	Untitled spreadsheet Sheets Business Templates Tips for Sheets	me	Oct 1, 2015 Aug 13, 2015 Jul 29, 2015

# Google Forms

# Versatile Tool

- Forms are among the internet's most versatile tools
- Whether you need
  - a contact form or a checkout page,
  - a survey or a student directory,
  - ...
- a form is all you need to easily gather that information
- With Google Forms, it only takes a few minutes to make one for free.

# Tour of Google Forms

- Standalone app from early 2016

The screenshot shows the Google Forms interface. At the top, there's a search bar and navigation icons. Below the header, a purple bar contains the word "Forms". The main area is divided into sections: "Start a new form" and "Recent forms".

**Start a new form:** This section features a large white button with a purple plus sign, labeled "Blank". It also displays five pre-made form templates: "Event registration", "Event Feedback", "Order Request", and "Job application", each with a preview image. A "MORE" button is available for more templates.

**Recent forms:** This section lists four recent forms: "Stuff and other stuff" (opened at 3:53 PM), "Event Registration" (opened at 3:52 PM), "Quiz" (opened at 2:57 PM), and "Untitled Form" (opened at 2:41 PM). Each item has a preview image and a three-dot menu icon.

**Owned by anyone:** A dropdown menu labeled "Owned by anyone" is shown, indicating that the user can view forms created by others.

# Event Registration

← Event Registration

SEND

QUESTIONS RESPONSES

## Event registration

Event Timing: January 4th-6th, 2016  
Event Address: 123 Your Street Your City, ST 12345  
Contact us at (123) 456-7890 or no\_reply@example.com

Name

Short answer

Short answer text

Email \*

Required

?

# Building Your First Google Form

The screenshot shows a Google Sheets interface with a green header bar. The title 'Testsheet' is visible, along with standard file icons. The menu bar includes File, Edit, View, Insert, Format, Data, Tools (which is currently selected), Form, Add-ons, and Help. A red arrow points from the bottom left towards the 'Create a form' option in the Tools dropdown menu. The main workspace contains a table with columns labeled A, B, and C. Row 1 has cells A1, B1, and C1, with B1 containing the text 'Name'. Row 3 is titled 'Task Lists' and lists four apps: ASANA, DAPUI, INSIGH, and TOODLED. The rest of the table rows are partially visible.

	A	B	C
1		Name	
2			
3	Task Lists		
4		App: ASANA	
5		App: DAPUI	
6		App: INSIGH	
7		App: TOODLED	

# Multiple Choices

The image shows a digital form or poll interface. At the top right, there is a vertical toolbar with icons for adding (+), text (T), images (camera), video (play), and other options (bars). The main area contains a question "What's your favorite notes app?" followed by four options: "Evernote", "OneNote", "Apple Notes", and "Add option or ADD 'OTHER'". The "Multiple choice" button is selected. Below the options are controls for cloning, deleting, marking as required, and more.

What's your favorite notes app?

Multiple choice

Evernote

OneNote

Apple Notes

Add option or ADD "OTHER"

Required

# Linear Scale

How much do you like Zapier

Linear scale

1 2 3 4 5

1 to 5

1 😣

5 ❤️

Required

+

T

Image

Video

=

# Date

When would you like to visit the White House?

Month, day, year  

Time  

  Required  



# Google Forms Field Options

The screenshot shows the Google Forms interface. At the top, there are tabs for 'QUESTIONS' and 'RESPONSES'. Below the tabs, a 'Form description' section contains placeholder text 'Untitled Question'. Underneath this, there are two questions: 'Untitled Question' and 'Question'. The first question has two options: 'Option 1' and 'Add option or ADD "OTHER"'. The second question also has 'Option 1'. To the right of the form, a vertical toolbar provides icons for adding a new section, text, images, video, and tables. A large, semi-transparent modal window is open, listing various field types. The 'Multiple choice' option is selected, indicated by a grey background and a radio button icon. Other listed options include 'Short answer', 'Paragraph', 'Checkboxes', 'Dropdown', 'Linear scale', 'Multiple choice grid', 'Date', and 'Time'.

- Short answer
- Paragraph
- Multiple choice
- Checkboxes
- Dropdown
- Linear scale
- Multiple choice grid
- Date
- Time

# Build Quiz

The screenshot shows a 'Settings' dialog box overlaid on a 'Untitled form' interface. The dialog has tabs for GENERAL, PRESENTATION, and QUIZZES, with QUIZZES selected. A toggle switch at the top left is set to 'Make this a quiz', with the sub-instruction 'Assign point values to questions and allow auto-grading.' Below this, under 'Quiz options', the 'Release Grade:' section shows 'Immediately after each submission' selected. Under 'Respondent can see:', three checkboxes are checked: 'Missed questions', 'Correct answers', and 'Point values'. At the bottom right of the dialog are 'CANCEL' and 'SAVE' buttons.

← Untitled form

Settings

GENERAL PRESENTATION QUIZZES

Make this a quiz  
Assign point values to questions and allow auto-grading.

**Quiz options**

**Release Grade:**

Immediately after each submission

Later, after manual review  
Sending grades to respondents requires email addresses. To collect emails, restrict to Zapier users in the "General" tab.

**Respondent can see:**

Missed questions ?

Correct answers ?

Point values ?

CANCEL SAVE

# Build Quiz - Answers

Choose correct answers:

What's the square root of 4 2

1

2 ✓

3

4

8

16

ADD ANSWER FEEDBACK

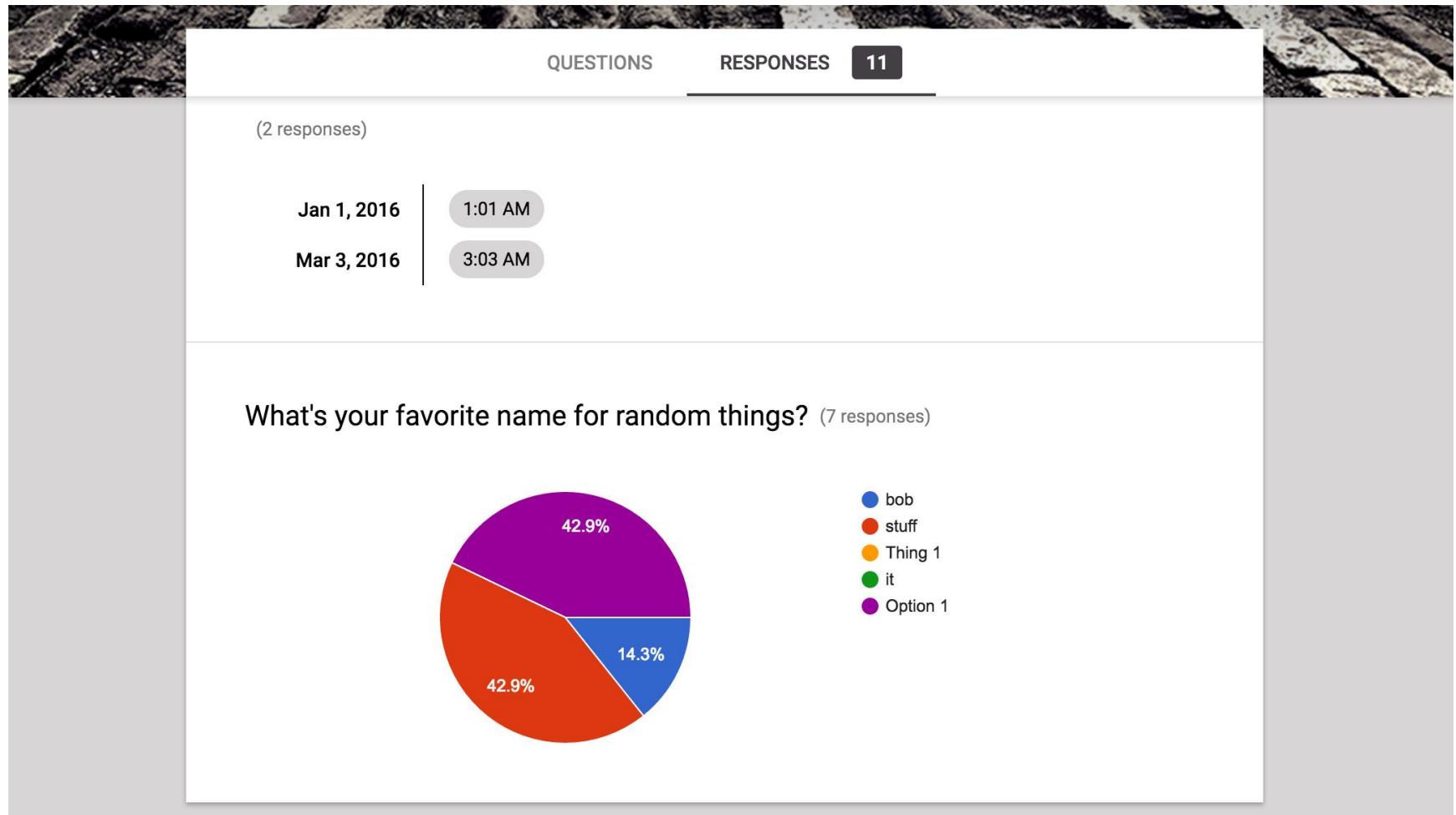
---

EDIT QUESTION



A vertical toolbar with the following icons from top to bottom:  
+ (Add Question)  
T (Text)  
M (Image)  
V (Video)  
E (Equation)  
= (List)

# Form Responses



# Get Notified When Your Form is Filled Out

The screenshot shows three Zapier integration cards for Google Forms:

- Send email via Gmail for new Google Forms submissions**: Icons for Google Forms and Gmail, followed by a "Use this Zap" button.
- Share Google Forms responses in a Slack channel**: Icons for Google Forms and Slack, followed by a "Use this Zap" button.
- Send Twilio SMS messages with new Google Forms responses**: Icons for Google Forms and Twilio, followed by a "Use this Zap" button.

At the bottom, there is a link to "See more Google Forms integrations powered by **zapier**".

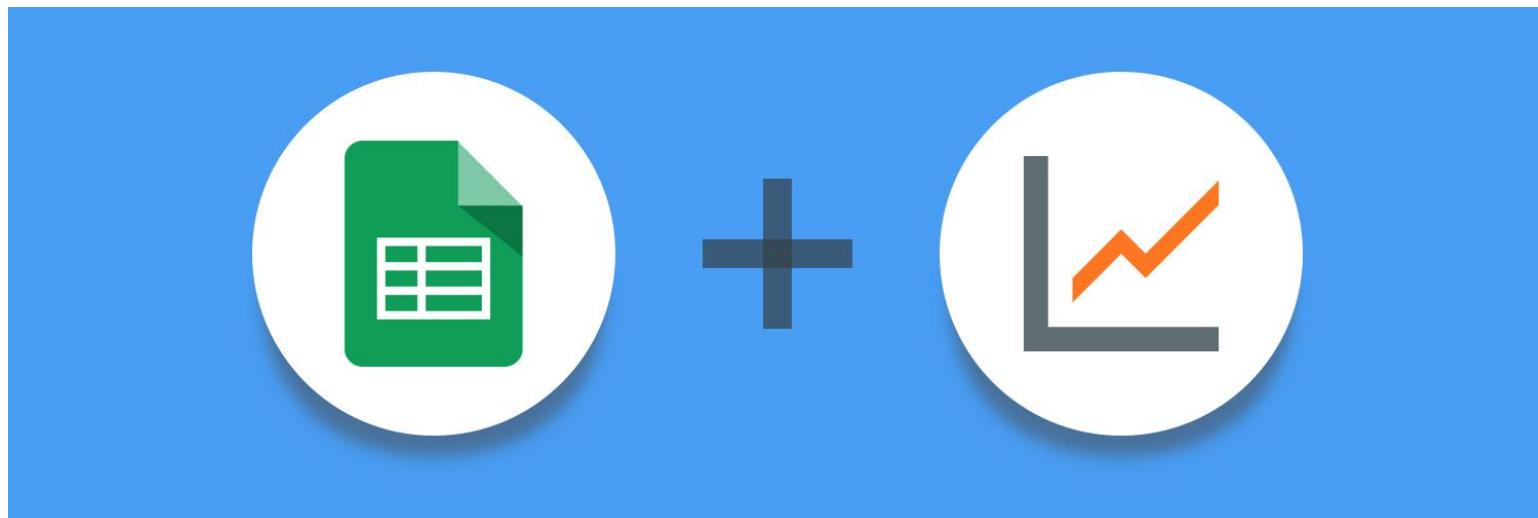
# **How to Create a Custom Business Analytics Dashboard**

# Motivation

- Data means little on its own.
- Open a spreadsheet packed with numbers, and it is difficult to tell what is improving and where you should focus your efforts
- Would not it be better if you could make a dashboard that automatically turns your numbers into clear, actionable insights?

# Dashboard

- With a spreadsheet and some data integration, you can build the custom dashboard.



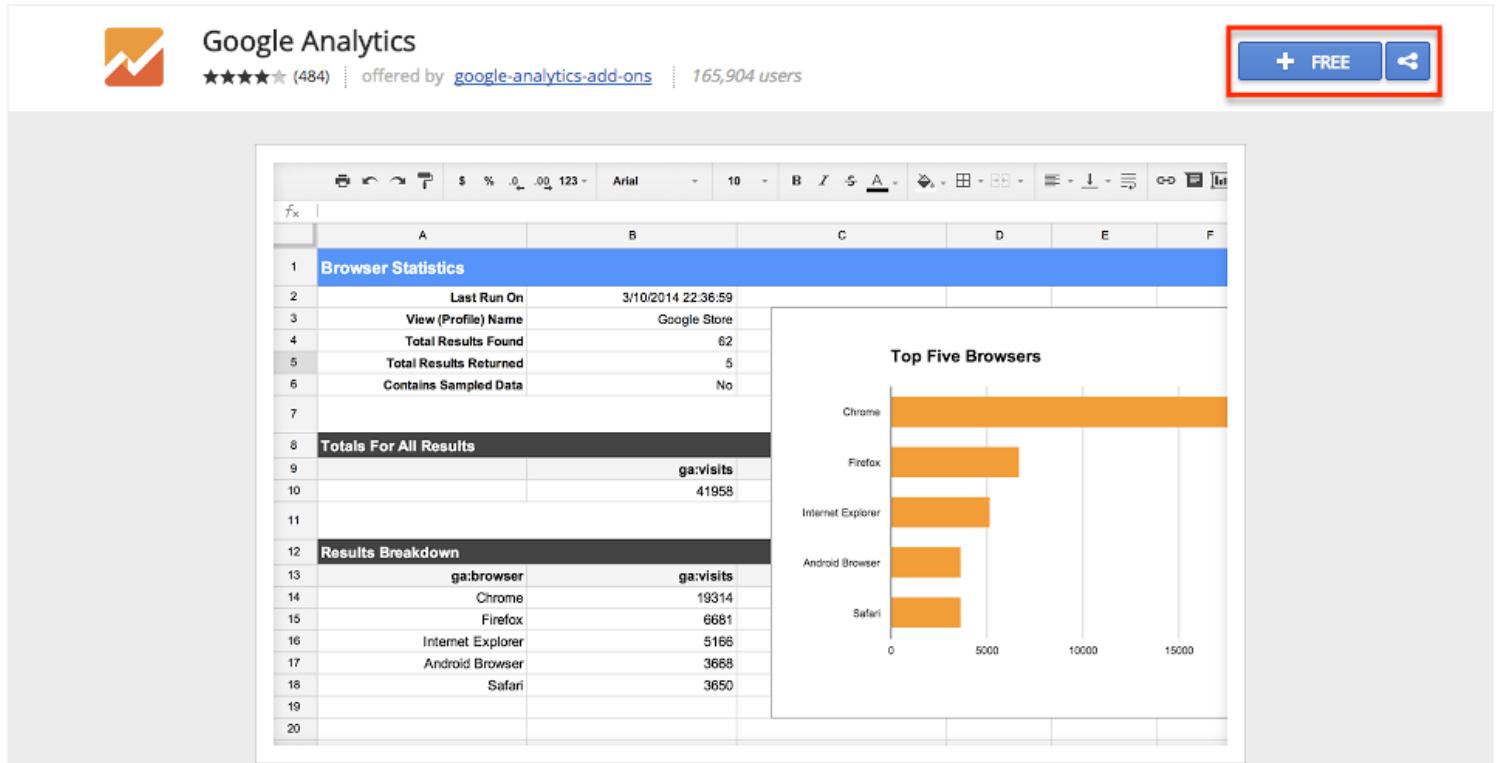
# Build a Reporting Dashboard

- Install the Google Analytics plugin

Google Sheets

Add-ons

Check out [the store](#) for many more

The screenshot shows the Google Sheets Add-ons Marketplace. A search result for 'Google Analytics' is displayed. The listing includes a 4.5-star rating from 484 reviews, offered by 'google-analytics-add-ons', and used by 165,904 users. A prominent blue button labeled '+ FREE' with a right-pointing arrow is highlighted with a red box. The main area shows a sample dashboard. It features a table titled 'Browser Statistics' with rows for Last Run On (3/10/2014 22:36:59), View (Profile) Name (Google Store), Total Results Found (62), Total Results Returned (5), and Contains Sampled Data (No). Below this is a table titled 'Totals For All Results' with a single row showing ga:visits (41958). A third section, 'Results Breakdown', lists browser names and their ga:visits counts: Chrome (19314), Firefox (6681), Internet Explorer (5166), Android Browser (3668), and Safari (3650). To the right of the table is a bar chart titled 'Top Five Browsers' comparing the same five browsers. The x-axis represents the number of visits, ranging from 0 to 15,000.

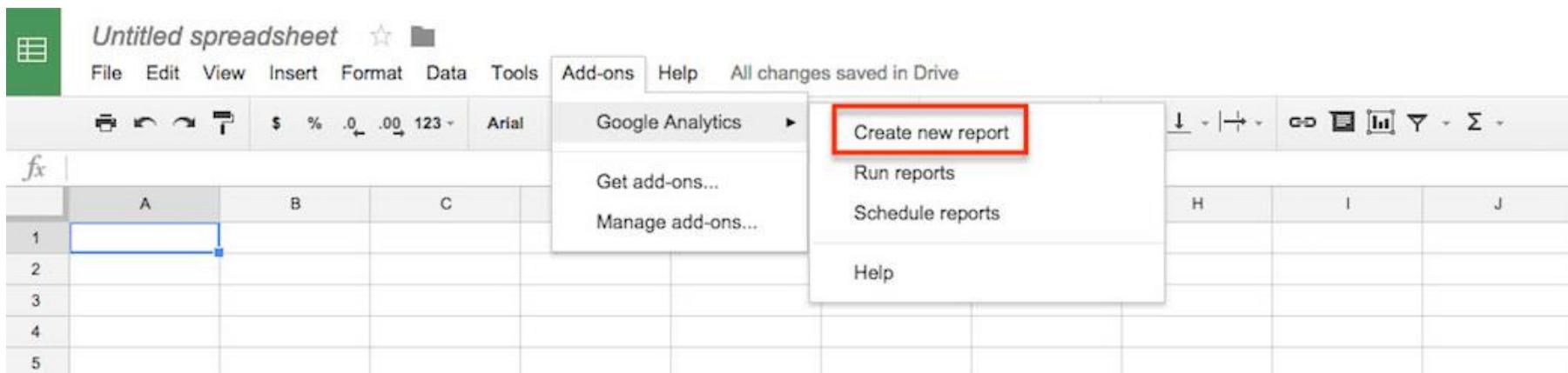
	ga:browser	ga:visits
14	Chrome	19314
15	Firefox	6681
16	Internet Explorer	5166
17	Android Browser	3668
18	Safari	3650

Top Five Browsers

Browser	Visits
Chrome	19314
Firefox	6681
Internet Explorer	5166
Android Browser	3668
Safari	3650

# Create New Report

- Click Add-ons
- Select Google Analytics Plugin
- Create new report



# Selecting Site

- You should select the site, which you need to create a traffic report about

The screenshot shows a Google Sheets document titled "Blogging-Dashboard". The sheet has columns A through J and rows 1 through 21. Cell A1 is selected. The top menu bar includes File, Edit, View, Insert, Format, Data, Tools, Add-ons, Help, and a note that "All changes saved in Drive". To the right of the menu is an email address: jesse.bouman@gmail.com. Below the menu are standard spreadsheet toolbar icons for print, refresh, etc. On the far right, there are "Comments" and "Share" buttons.

On the right side of the screen, a "Create a new report" window is open. It consists of three numbered sections:

- 1) Name Your Report**  
A text input field labeled "Name" is present.
- 2) Select Account Information**  
This section contains dropdown menus for "Account" (set to "BoumanBlog"), "Property" (set to "http://www.boumanblog.com"), and "View (Profile)" (set to "www.boumanblog.com"). This entire section is highlighted with a red border.
- 3) Choose Metrics and Dimensions**  
Two input fields are shown: "Metrics" (with placeholder "Search metrics...") and "Dimensions" (with placeholder "Search dimensions..."). Below each field is a "Reference" link: "Metrics Reference" and "Dimensions Reference".

# Choosing metrics

- Choose metrics and click Create Report

The screenshot shows a Google Sheets spreadsheet titled "Blogging-Dashboard". The sidebar on the right is titled "Create a new report". It lists several categories: "Related Products" (Related Product Quantity), "Ecommerce" (Revenue per User), and "User" (Number of Sessions per User). Under "User", there is a section for "Refunds" with three items: "Users", "Sessions", and "Bounce Rate", all with red "X" icons. Below that is a section for "Ecommerce" with three items: "Avg. Session Duration" and "Organic Searches", also with red "X" icons. At the bottom of the sidebar are buttons for "Create Report" and "Cancel". A red callout box with a red arrow points from the text "Click to get a list of metrics to choose from for your report." to the sidebar. Another red callout box with a red arrow points from the text "Run report when you have desired metrics." to the "Create Report" button.

Click to get a list of metrics to choose from for your report.

Run report when you have desired metrics.

# Report Configuration

- The extension will then add a new “Report Configuration” sheet to your spreadsheet, and it'll automatically populate with your site analytics data.
- This is where we'll get the data for your dashboard.

Blogging-Dashboard

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

Comments Share

Configuration Options

	A	B	C	D	E	F	G
1	Configuration Options	Your Google Analytics Reports					
2	Report Name						
3	Type	core					
4	View (Profile) ID / ids	ga:11758069					
5	Start Date						
6	End Date						
7	Last N Days	7					
8	Metrics	ga:users ga:sessions ga:bounceRate ga:avgSessionDuration ga:organicSearches					
9	Dimensions						
10	Sort						
11	Filters						
12	Segment						
13	Sampling Level						
14	Start Index						
15	Max Results						
16	Spreadsheet URL						

Report Configuration

Sheet1

# Default Number of Days

- By default, the spreadsheet will show data from the past seven days
  - but you can change that by changing the number in column B7 beside *Last N Days*,
  - or removing it and adding start and end dates.
- Typically data from the past 30 days—and comparing to the previous 30 day periods—gives the best feel for month-over-month growth.

# Comparing with Previous Period

The screenshot shows a Google Sheets document titled "Blogging-Dashboard". The interface includes a header bar with "File", "Edit", "View", "Insert", "Format", "Data", "Tools", "Add-ons", "Help", and "Comments" (with the email "jesse.bouman@gmail.com" next to it), and a "Share" button.

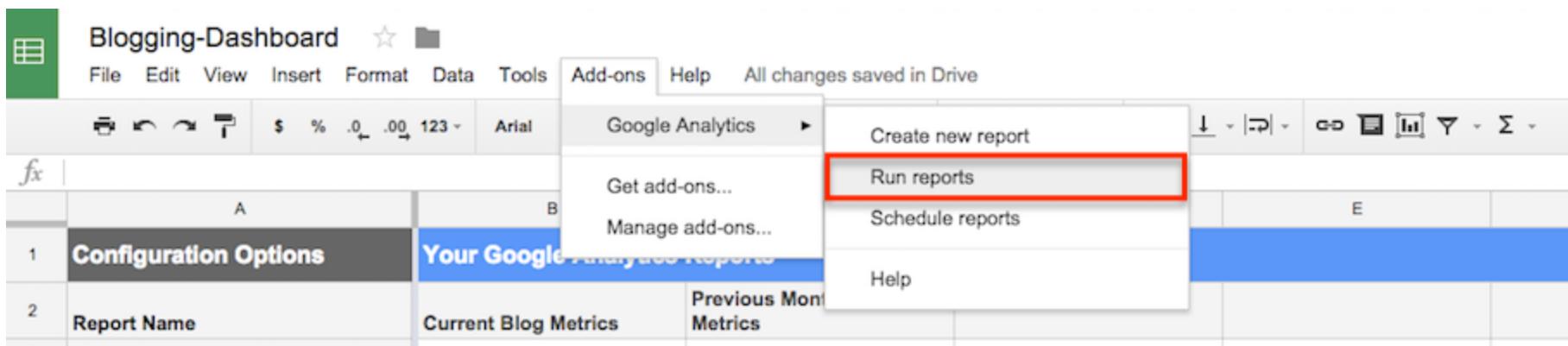
The main content area has a table with two columns:

	A	B	C	D	E	F	G
1	<b>Configuration Options</b>	<b>Your Google Analytics Reports</b>					
2	Report Name	Current Blog Metrics	Previous Month Blog Metrics				
3	Type	core	core				
4	View (Profile) ID / ids	ga:11758069	ga:11758069				
5	Start Date	2/1/2016	1/1/2016				
6	End Date	2/29/2016	=...				
7	Last N Days	7	7				
8	Metrics	ga:users ga:sessions ga:bounceRate ga:avgSessionDuration ga:organicSearches	ga:users ga:sessions ga:bounceRate ga:avgSessionDuration ga:organicSearches				
9	Dimensions						
10	Sort						
11	Filters						
12	Segment						
13	Sampling Level						
14	Start Index						
15	Max Results						

Two red boxes highlight specific rows: row 8 (Metrics) and row 15 (Max Results). A red arrow points from the bottom of the row 8 box down to a red callout box containing the text: "Copy the first report and paste it into a second column for your second report." Another red arrow points up from the bottom of the row 15 box towards the row 8 box.

# Run Reports

- Now that you have the dates for your three reports, it's time to run the report.
  - In the top menu in Google Sheets, select *Add-ons* -> *Google Analytics* -> *Run Report*.



# Three new Sheets

- The Google Analytics extension will automatically add three new sheets

Blogging-Dashboard

File Edit View Insert Format Data Tools Help All changes saved in Drive

Comments Share

Current Month Blog Metrics

1 Current Month Blog Metrics

2 Last Run On 2/24/2016 21:00:57

3 View (Profile) Name [www.boumanblog.com](http://www.boumanblog.com)

4 Total Results Found 1

5 Total Results Returned 1

6 Contains Sampled Data No

7

8

9

10 Totals For All Results

ga:users	ga:sessions	ga:bounceRate	ga:avgSessionDuration	ga:organicSearches
204	216	0.912037037	31.16203704	152

14 Results Breakdown

ga:users	ga:sessions	ga:bounceRate	ga:avgSessionDuration	ga:organicSearches
204	216	0.912037037	31.16203704	152

After running the report, three new Sheets will be created with the traffic data from your chosen dates.

+ Report Configuration Current Month Blog Metrics Prior Month Blog Metrics Next Prior Month Blog Metrics Dates Sheet1

# Dashboard

- Rename Sheet1 to Dashboard and populate it with data

The screenshot shows a Google Sheets interface with a title bar "Blogging-Dashboard" and a user "jesse.bouman@gmail.com". The spreadsheet contains a table of blog metrics across three time frames: Current Month, Prior Month, and Next Prior Month. A red arrow points from a text box at the bottom to a cell in row 10, column B, which contains the formula "=...".

	A	B	C	D	E	F	G	H	I	J	K	L
2												
3	Blogging Metrics											
4												
5	Time Frame	Current Month	Prior Month	Next Prior Month								
6	Users	204	376	295								
7	Time Frame	Current Month	Prior Month	Next Prior Month								
8	Sessions	216	390									
9	Time Frame	Current Month	Prior Month	Next Prior Month								
10	Organic Searches	152	=...									
11	Time Frame	Current Month	Prior Month	Next Prior Month								
12	Bounce Rate	0.912037037										
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												

In your dashboard, add an equal sign and then find the corresponding metric in your metrics spreadsheet.

# With Colors

- So the values stand out

The screenshot shows a Google Sheets dashboard titled "Blogging-Dashboard". The dashboard has a header row with columns A through L. Rows 2 and 3 are blank. Row 4 contains the title "Blogging Metrics". Rows 5 through 12 contain data for various metrics, each with three columns: "Current Month" (green), "Prior Month" (red), and "Next Prior Month" (cyan). Row 13 is blank. Rows 14 through 22 are also blank.

	A	B	C	D	E	F	G	H	I	J	K	L
2												
3	Blogging Metrics											
4												
5	Time Frame	Current Month	Prior Month	Next Prior Month								
6	Users	204	376	295								
7	Time Frame	Current Month	Prior Month	Next Prior Month								
8	Sessions	216	390	315								
9	Time Frame	Current Month	Prior Month	Next Prior Month								
10	Organic Searches	152	189	169								
11	Time Frame	Current Month	Prior Month	Next Prior Month								
12	Bounce Rate	0.912037037	0.9153846154	0.8984126984								
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
...												

# Charts

- That's still a bit hard to read, so we'll turn these metrics into charts that will let you see what growth
- Just highlight the cells that you want to represent visually
  - perhaps the 3 months of data for *Users*, first
  - then click *Insert* -> *Charts* in the top menu

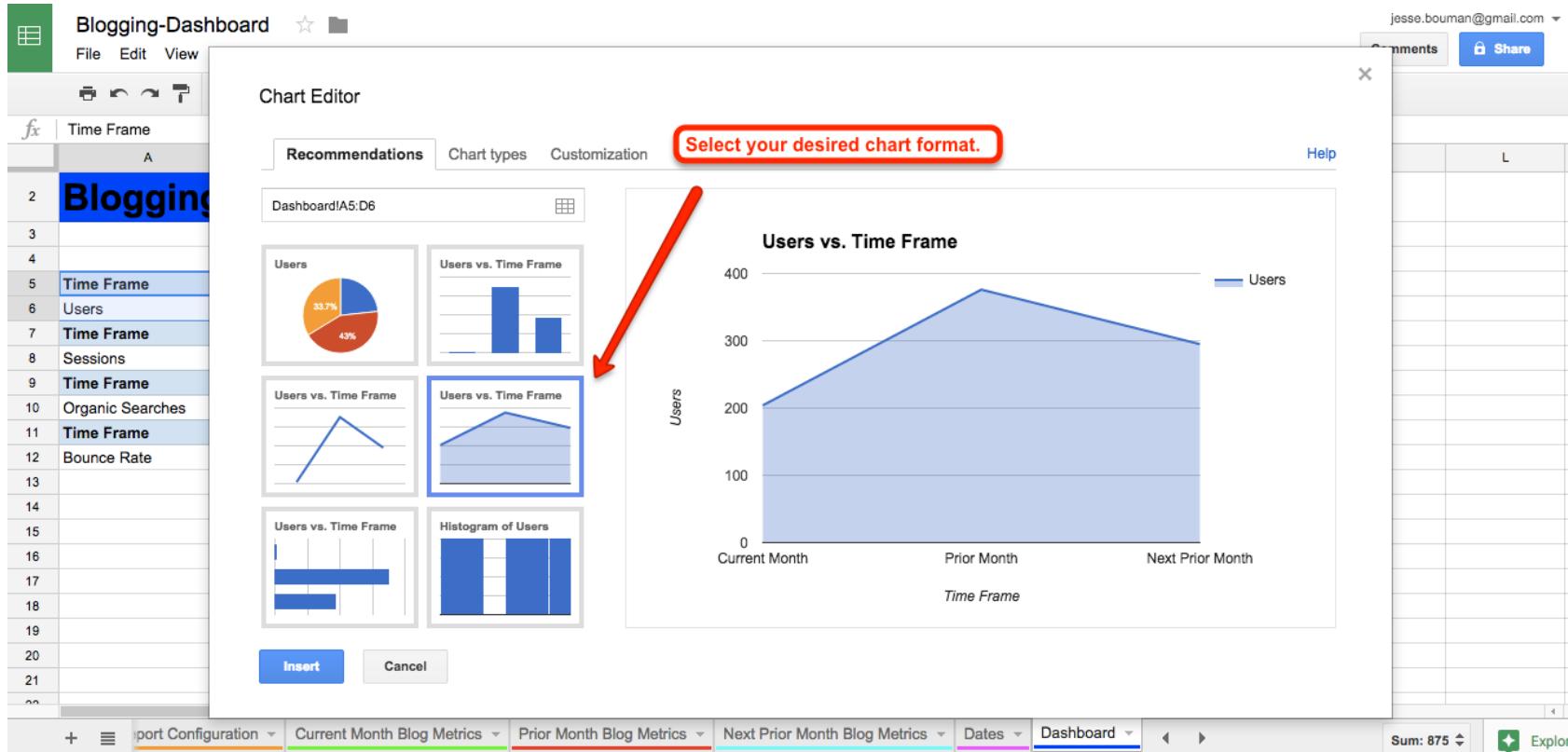
# Creating Chart

The screenshot shows a Google Sheets interface with the following details:

- Title:** Blogging-Dashboard
- Toolbar:** File, Edit, View, Insert, Format, Data, Tools, Add-ons, Help. A message "All changes saved in Drive" is displayed.
- User:** jesse.bouman@gmail.com
- Share:** Comments, Share
- Sheet:** The main sheet contains data for "Time Frame" (Rows 5-6) and "Next Prior Month" (Rows 7-11). The data includes columns for "Users", "Sessions", "Organic Searches", and "Bounce Rate".
- Insert Menu (Open):**
  - Row above
  - Row below
  - 2 Rows above
  - 2 Rows below
  - Column left
  - Column right
  - 4 Columns left
  - 4 Columns right
  - New sheet
  - Comment (⌘+Option+M)
  - Note (Shift+F2)
  - Function (Σ)
  - Chart... (highlighted)
  - Image...
  - Link...
  - Form...
  - Drawing...
- Bottom Navigation:** Import Configuration, Current Month Blog Metrics, Prior Month Blog Metrics, Next Prior Month Blog Metrics, Dates, Dashboard. The Next Prior Month Blog Metrics tab is active.
- Bottom Right:** Sum: 875, Explore

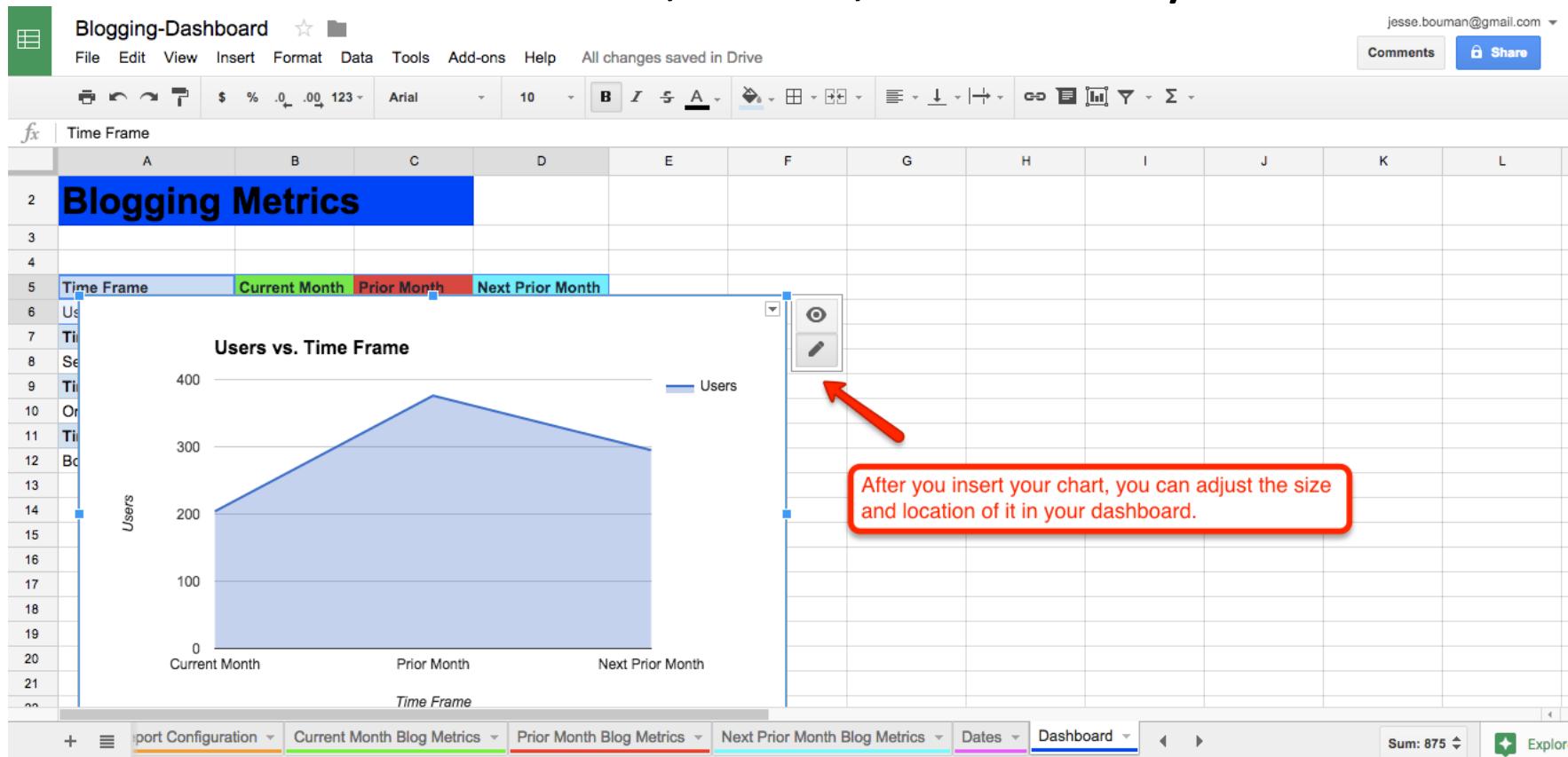
# Chart Options

- Google Sheets will show you the chart options



# Adjusting Size and Location

- And if you selected the wrong data, click the pencil icon to edit the data, labels, or chart style



# Other Metrics

- Repeating the process for other metrics

Blogging-Dashboard star file

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

Comments Share

**Blogging Metrics**

Time Frame	Current Month	Prior Month	Next Prior Month
Users	204	376	295
Sessions	216	390	315
Organic Searches	152	189	169
Bounce Rate	91.20%	91.54%	89.84%

Arrange the charts as you see fit. Then remove the gridlines and your dashboard is complete.

**Users vs. Time Frame**

Users

Time Frame

Time Frame	Users
Current Month	204
Prior Month	376
Next Prior Month	295

**Sessions vs. Time Frame**

Sessions

Time Frame

Time Frame	Sessions
Current Month	216
Prior Month	390
Next Prior Month	315

**Organic Searches vs. Time Frame**

Organic Searches

Time Frame

Time Frame	Organic Searches
Current Month	152
Prior Month	189
Next Prior Month	169

**Bounce Rate vs. Time Frame**

Bounce Rate

Time Frame

Time Frame	Bounce Rate
Current Month	91.20%
Prior Month	91.54%
Next Prior Month	89.84%

Report Configuration Current Month Blog Metrics Prior Month Blog Metrics Next Prior Month Blog Metrics Dates Dashboard

# Conditional Formatting

## Format -> Conditional Formatting

The screenshot shows a Google Sheets dashboard titled "Blogging-Dashboard". The dashboard contains two charts and several data tables. A conditional formatting rule is being applied to cell A15.

**Data Tables:**

	A	B	C	D	E	F	G	H	I	J
4										
5	Time Frame	Current Month	Prior Month	Next Prior Month						
6	Users	204	376	295						
7	Time Frame	Current Month	Prior Month	Next Prior Month						
8	Sessions	216	390	315						
9	Time Frame	Current Month	Prior Month	Next Prior Month						
10	Organic Searches	152	189	169						
11	Time Frame	Current Month	Prior Month	Next Prior Month						
12	Bounce Rate	91.20%	91.54%	89.84%						
13										
14	Traffic Change Current Month > Prior Month									
15										
16										
17	Traffic Change Prior Month > Next Prior Month									
18										
19										
20										
21										
22										
23										
24										

**Charts:**

- Users vs. Time Frame:** A line chart showing user count over three time frames. The chart area is filled with light blue.
- Organic Searches vs. Time Frame:** A line chart showing organic search counts over three time frames. The chart area is filled with light purple.

**Conditional Format Rules (A15):**

- Single color:** Applied to range A15.
- Format cells if...**: Cell is not empty.
- Formatting style:** Default.

**Buttons:** Done, Cancel, Add another rule.

# Traffic Change

■  $=\text{SUM}(C5-D6)$

Blogging-Dashboard jesse.bouman@gmail.com

File Edit View Insert Format Data Tools Help All changes saved in Drive Comments Share

`=Sum(C6-D6)`

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2	<b>Blogging Metrics</b>											
3												
4												
5	Time Frame	Current Month	Prior Month	Next Prior Month								
6	Users	204	376	295								
7	Time Frame	Current Month	Prior Month	Next Prior Month								
8	Sessions	216	390	315								
9	Time Frame	Current Month	Prior Month	Next Prior Month								
10	Organic Searches	152	189	169								
11	Time Frame	Current Month	Prior Month	Next Prior Month								
12	Bounce Rate	91.20%	91.54%	89.84%								
13												
14	Traffic Change Current Month > Prior Month											
15		-172										
16												
17	Traffic Change Prior Month > Next Prior Month											
18												
19	<code>=Sum(C6-D6)</code>											

**Users vs. Time Frame**

Time Frame	Users
Current Month	204
Prior Month	376
Next Prior Month	295

**Sessions vs. Time Frame**

Time Frame	Sessions
Current Month	216
Prior Month	390
Next Prior Month	315

**Organic Searches vs. Time Frame**

Time Frame	Organic Searches
Current Month	152
Prior Month	189
Next Prior Month	169

**Bounce Rate vs. Time**

Time Frame	Bounce Rate
Current Month	91.20%
Prior Month	91.54%
Next Prior Month	89.84%

Report Configuration: Current Month Blog Metrics, Prior Month Blog Metrics, Next Prior Month Blog Metrics, Dates, Dashboard

# Prior Month and Next Prior Month

- Populating cell A18

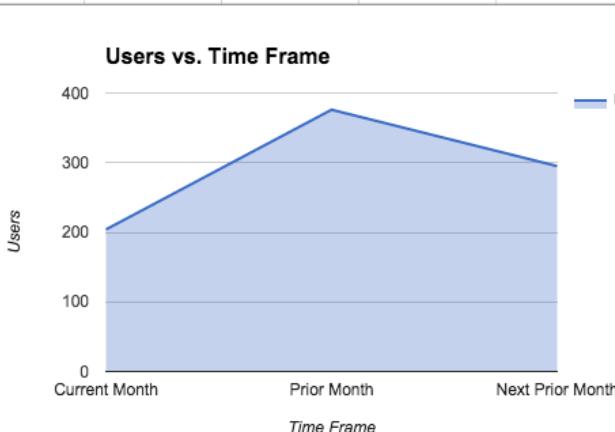
Blogging-Dashboard star grid jesse.bouman@gmail.com Comments Share

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

fx

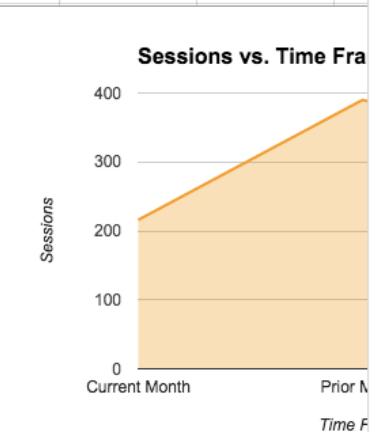
	A	B	C	D	E	F	G	H	I	J	K	L
1												
2	Blogging Metrics											
3												
4												
5	Time Frame	Current Month	Prior Month	Next Prior Month								
6	Users	204	376	295								
7	Time Frame	Current Month	Prior Month	Next Prior Month								
8	Sessions	216	390	315								
9	Time Frame	Current Month	Prior Month	Next Prior Month								
10	Organic Searches	152	189	169								
11	Time Frame	Current Month	Prior Month	Next Prior Month								
12	Bounce Rate	91.20%	91.54%	89.84%								
13	Traffic Change Current Month > Prior Month											
14	-172											
15												
16	Traffic Change Prior Month > Next Prior Month											
17	81											
18												
19												
20												

**Users vs. Time Frame**



Time Frame	Users
Current Month	204
Prior Month	376
Next Prior Month	295

**Sessions vs. Time Frame**



Time Frame	Sessions
Current Month	216
Prior Month	390
Next Prior Month	315

**Organic Searches vs. Time Frame**



Time Frame	Organic Searches
Current Month	152
Prior Month	189
Next Prior Month	169

**Bounce Rate vs. Time Frame**



Time Frame	Bounce Rate
Current Month	91.20%
Prior Month	91.54%
Next Prior Month	89.84%

Report Configuration Current Month Blog Metrics Prior Month Blog Metrics Next Prior Month Blog Metrics Dates Dashboard

# Adding Additional Metrics

- Go back to Report Configuration tab
- *Add-ons -> Google Analytics -> Create Report again*

Blogging-Dashboard

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

Comments Share

Create a new report

New Users Source

2) Select Account Information

Account: BoumanBlog

Property: http://www.boumanblog.com

View (Profile): www.boumanblog.com

3) Choose Metrics and Dimensions

Metrics: New Users

Dimensions: Search dimensions...

For this report, we're going to add Dimensions to our Metrics.

	A	B	C	D	E
1	Configuration Options	Your Google Analytics Reports			
2	Report Name	Current Month Blog Metrics	Prior Month Blog Metrics	Next Prior Month Blog Metrics	
3	Type	core	core	core	
4	View (Profile) ID / ids	ga:11758069	ga:11758069	ga:11758069	
5	Start Date	2/1/2016	1/1/2016	12/1/2015	
6	End Date	2/22/2016	1/31/2016	12/30/2015	
7	Last N Days				
8	Metrics	ga:users ga:sessions ga:bounceRate ga:organicSearches	ga:users ga:sessions ga:bounceRate ga:organicSearches	ga:users ga:sessions ga:bounceRate ga:organicSearches	
9	Dimensions				
10	Sort				
11	Filters				
12	Segment				
13	Sampling Level				
14	Start Index				
15	Max Results				
16	Spreadsheet URL				

Report Configuration Current Month Blog Metrics Prior Month Blog Metrics Next Prior Month Blog Metrics Dates Dashboard

# Dimensions

- Dimensions gives us an extra layer of information for our metrics
- In the “Metrics” field, add *New Users*. Then below that in Dimensions, add the *Source* field

The screenshot shows a Google Sheets document titled "Blogging-Dashboard" and a "Create a new report" dialog box.

**Google Sheets Document:**

- Configuration Options:** A table with columns for Report Name, Type, View (Profile) ID / ids, Start Date, End Date, and Last N Days.
- Metrics:** A row showing metrics for Current Month Blog Metrics, Prior Month Blog Metrics, and Next Prior Month Blog Metrics. The metrics listed are ga:users, ga:sessions, ga:bounceRate, and ga:organicSearches.
- Dimensions:** A row where the user is prompted to "Add your desired dimensions for your metrics." A red arrow points from this text to the "Dimensions" section of the dialog box.

**Create a new report Dialog:**

- 2) Select Account Information:** Set Account to BoumanBlog and Property to http://www.boumanblog.com.
- 3) Choose Metrics and Dimensions:**
  - Metrics:** New Users
  - Dimensions:** Source (highlighted with a red box and a red arrow pointing from the "Dimensions" section in the Sheets document).

**Bottom Navigation:** Report Configuration, Current Month Blog Metrics, Prior Month Blog Metrics, Next Prior Month Blog Metrics, Dates, Dashboard.

# New Users Source

- Click Create Report, set the dates for three month period as before.
- Go back to Add-Ons and run the report again.

New Users Source											
Last Run On											3/17/2016 11:03:55
View (Profile) Name											<a href="http://www.boumanblog.com">www.boumanblog.com</a>
Total Results Found											35
Total Results Returned											35
Contains Sampled Data											No
Totals For All Results											
ga:newUsers											
867											
Results Breakdown											
ga:source											
(direct)											
138											
aol											
2											
ask											
1											
bing											
32											
bouman.is											
1											
Report Configuration											
New Users Source											

# Moving Data from A to C

- Click Create Report, set the dates for three month period as before.
- Go back to Add-Ons and run the report again.

The screenshot shows a Google Sheets dashboard titled "Blogging-Dashboard". The dashboard contains two main sections: "Totals For All Results" and "Results Breakdown".

**Totals For All Results:**

ga:newUsers	867
-------------	-----

**Results Breakdown:**

	ga:newUsers	ga:source
15	138	(direct)
16	2	aol
17	1	ask
18	32	bing
19	1	bouman.is
20	2	build-a-better-bu
21	1	build-audience.fi
22	0	disq.us
23	2	duckduckgo.com
24	1	facebook.com
25	440	google
26	1	google.co.kr
27	1	google.com
28		

A red box highlights the first column (A) of the "Results Breakdown" table, and a red arrow points from the text "Move the data from column A to column C." to the second column (C).

# Sorting Data

- *Data -> Sort Range, column B, Z -> A*

The screenshot shows a Google Sheets document titled "Blogging-Dashboard". The "Data" menu is open, displaying sorting options for the selected range. The option "Sort range by column B, Z → A" is highlighted with a red box.

**Sheet Structure:**

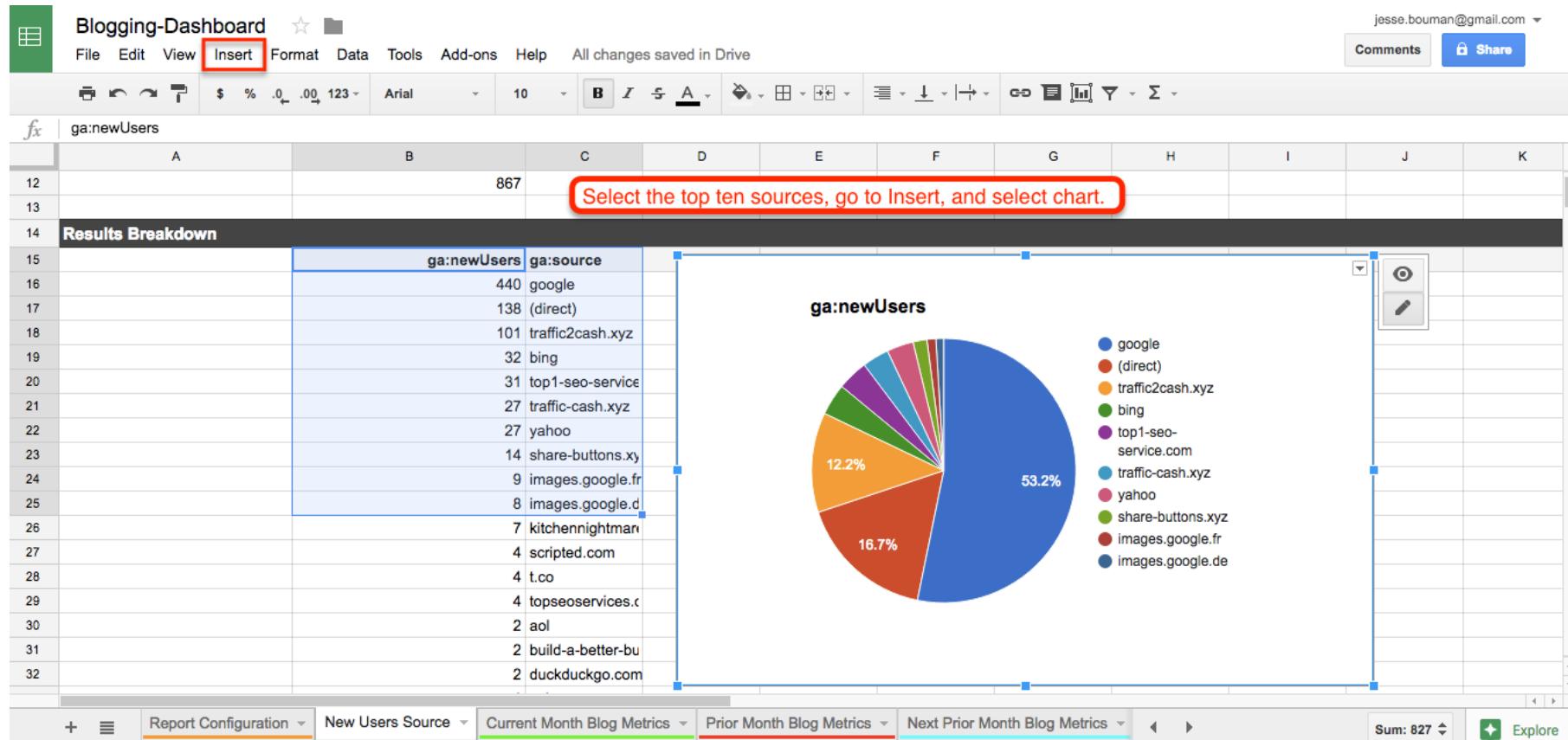
- Row 8: Empty
- Row 9: Empty
- Row 10: **Totals For All Results**
- Row 11: Empty
- Row 12: Empty
- Row 13: Empty
- Row 14: **Results Breakdown**
- Row 15: Contains data: 1 build-audience.fi, 0 disq.us, 2 duckduckgo.com, 1 facebook.com, 440 google, 1 google.co.kr, 1 google.com
- Row 16: Empty
- Row 17: Empty
- Row 18: Empty
- Row 19: Empty
- Row 20: Contains data: 1 build-audience.fi, 0 disq.us, 2 duckduckgo.com, 1 facebook.com, 440 google, 1 google.co.kr, 1 google.com
- Row 21: Contains data: 1 build-audience.fi, 0 disq.us, 2 duckduckgo.com, 1 facebook.com, 440 google, 1 google.co.kr, 1 google.com
- Row 22: Contains data: 1 build-audience.fi, 0 disq.us, 2 duckduckgo.com, 1 facebook.com, 440 google, 1 google.co.kr, 1 google.com
- Row 23: Contains data: 1 build-audience.fi, 0 disq.us, 2 duckduckgo.com, 1 facebook.com, 440 google, 1 google.co.kr, 1 google.com
- Row 24: Contains data: 1 build-audience.fi, 0 disq.us, 2 duckduckgo.com, 1 facebook.com, 440 google, 1 google.co.kr, 1 google.com
- Row 25: Contains data: 1 build-audience.fi, 0 disq.us, 2 duckduckgo.com, 1 facebook.com, 440 google, 1 google.co.kr, 1 google.com
- Row 26: Contains data: 1 build-audience.fi, 0 disq.us, 2 duckduckgo.com, 1 facebook.com, 440 google, 1 google.co.kr, 1 google.com
- Row 27: Contains data: 1 build-audience.fi, 0 disq.us, 2 duckduckgo.com, 1 facebook.com, 440 google, 1 google.co.kr, 1 google.com
- Row 28: Contains data: 1 build-audience.fi, 0 disq.us, 2 duckduckgo.com, 1 facebook.com, 440 google, 1 google.co.kr, 1 google.com

**Toolbar and Status Bar:**

- File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive
- Comments Share
- Sum: 867
- Explore

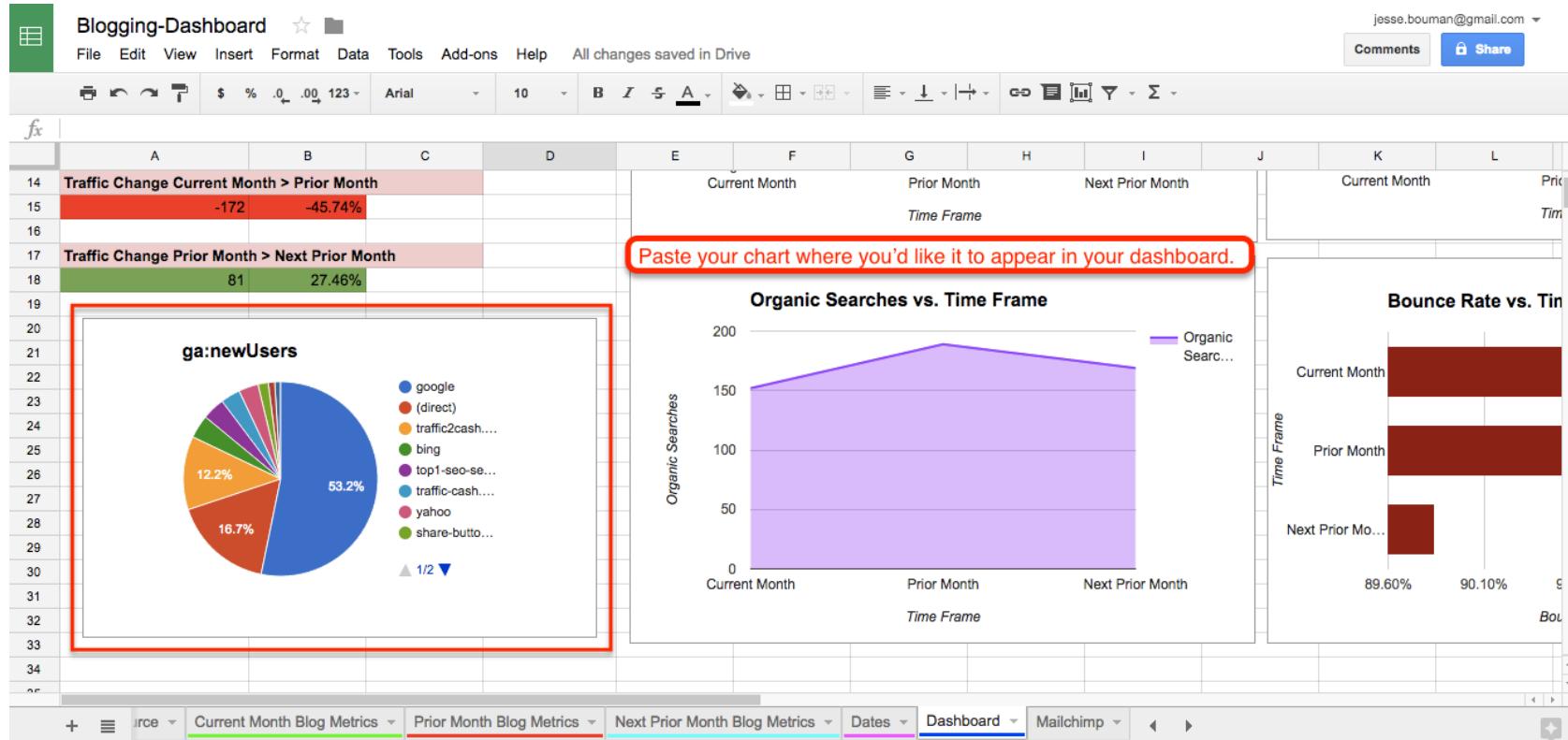
# Top Ten Sources

## ■ Pie Chart



# Something's off Here

- the chart isn't in our main reporting dashboard. To rectify this, just select the pie chart and copy it—just press Ctrl + C or CMD + C.



# Look Less Like a Spreadsheet

- uncheck the gridlines option under the *View* menu

In View, uncheck Gridlines.  
The gridlines between individual cells will disappear.

	Current Month	Prior Month	Next Prior Month
Users	376	295	315
Sessions	390	315	315
Organic Searches	152	189	169
Bounce Rate	91.20%	91.54%	89.84%
Traffic Change Current Month > Prior Month	-172	-45.74%	
Traffic Change Prior Month > Next Prior Month	81	27.46%	

Users vs. Time Frame

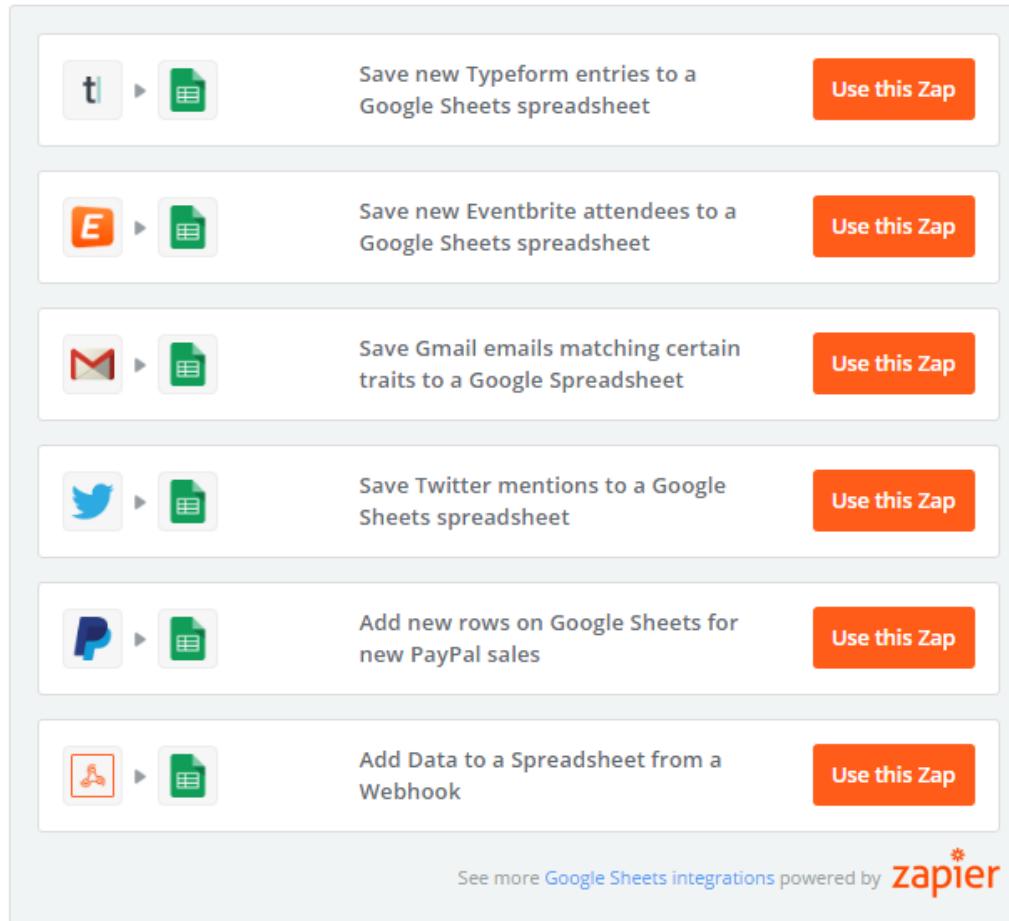
Sessions vs. Time F

Organic Searches vs. Time Frame

Bounce Rate vs. Tim

# Beyond Google Analytics

- How to Pull Data from Any App into Your Dashboard



The screenshot shows a collection of six Zapier integration cards, each featuring a small icon of the source app followed by a right-pointing arrow and a Google Sheets icon. To the right of the icon, the card displays a brief description of the action and a prominent orange "Use this Zap" button.

- Save new Typeform entries to a Google Sheets spreadsheet
- Save new Eventbrite attendees to a Google Sheets spreadsheet
- Save Gmail emails matching certain traits to a Google Spreadsheet
- Save Twitter mentions to a Google Sheets spreadsheet
- Add new rows on Google Sheets for new PayPal sales
- Add Data to a Spreadsheet from a Webhook

See more [Google Sheets integrations](#) powered by **zapier**

# Reading List

## ■ Recommended

- Tutorial (Guide to Online Spreadsheets)
  - <https://zapier.com/learn/google-sheets/google-sheets-tutorial/>
  - Chapter 1,2 and 6 (Rest of the chapters Optional)

## ■ Optional

- Comprehensive Tutorial (Compact)
  - <https://www.shorttutorials.com/google-docs-spreadsheet/index.html>
- Advanced Features
  - <https://www.geckoboard.com/blog/part-1-6-google-sheets-functions-you-probably-dont-know-but-should/>