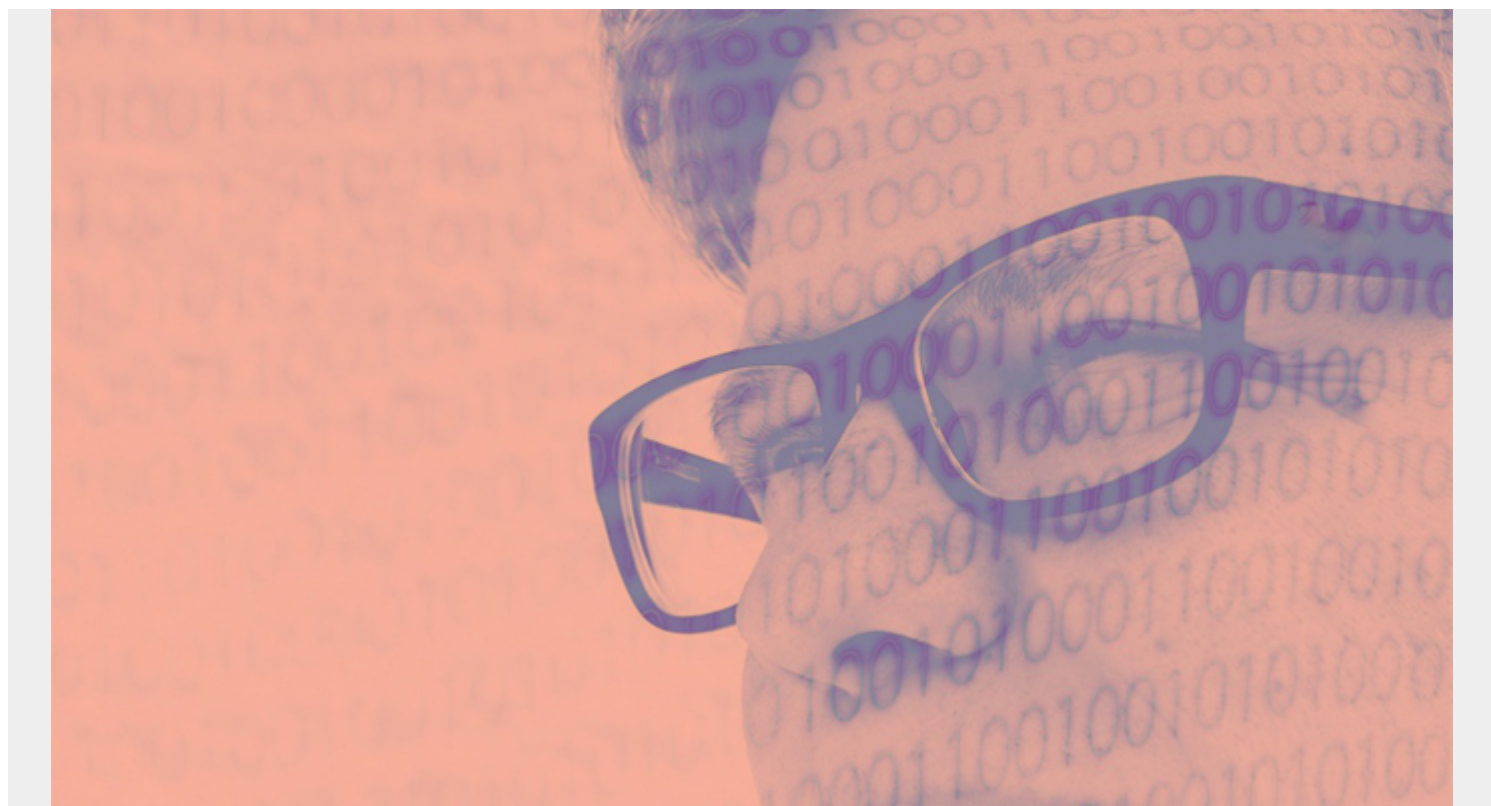# CREATING A TABLEAU TEXT TABLE WITH MEASURES AND DIMENSIONS

Part of our ongoing Tableau series, this article explains how to create a text table.

You can think of a **text table** in Tableau as the same as a pivot table in Excel. It's a table, not a chart, with one or more values in the rows and one or more values in the columns. The easiest way to picture a text table is to think of sales or expenses by date. In this example, we will use expenses.

(This article is part of our [Tableau Online Guide](). Use the right-hand menu to navigate.)

Putting data in Tableau

If you're new to Tableau, see our starter article [Tableau: Getting Started with Real Examples](). For the data, I'm using my credit card statements. You can easily download your credit card into [one of the supported data sources](), like PostgreSQL.

Defining measures and dimensions

First, we need to understand two concepts: **measures** and **dimensions**. There are long definitions in various tutorials that try to explain what dimensions and measures are. But here's a really easy one:

- A **measure** is a number, which is anything you can do math on. A measure includes expenses, sales, etc.

- A **dimension** is anything that is not a number, such as dates, or text fields like category.

In Tableau, fields are grouped by dimension and measures on the left-hand side of the worksheet editor, like this:
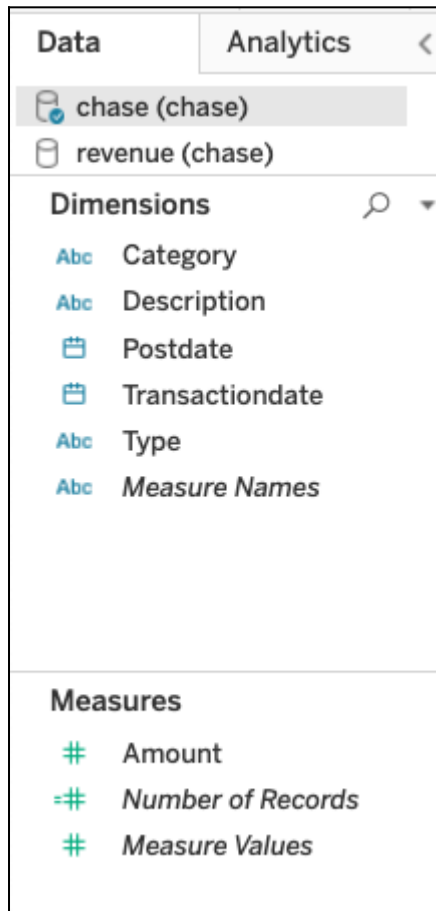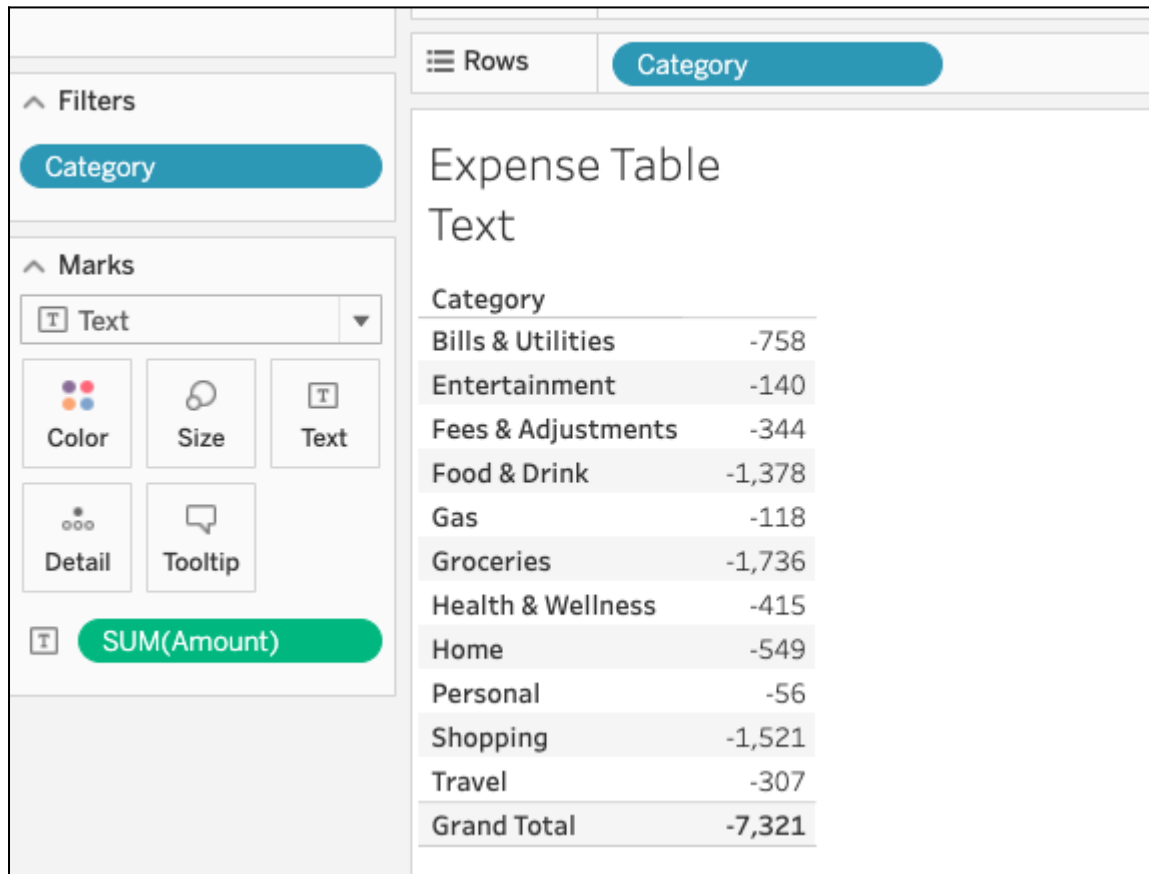

Examples of text tables

By default, Tableau is designed to work with sums, which they call **aggregation**. So, a text table will by default display aggregated data.

Here are some examples of what your text table can show:

Expenses by category

This table has one dimension, category, and one measure, expenses.

Rows | Category

Expense Table
Text

Category	
Bills & Utilities	-758
Entertainment	-140
Fees & Adjustments	-344
Food & Drink	-1,378
Gas	-118
Groceries	-1,736
Health & Wellness	-415
Home	-549
Personal	-56
Shopping	-1,521
Travel	-307
Grand Total	**-7,321**

Filters

Category

Marks

T Text ▼

Color · Size · Text

Detail · Tooltip

T SUM(Amount)

Expenses by date and category

In this table, we add a second dimension: date. If this was a chart you would say that a dimension is an axis, like the XY-axis in a scatter chart.

| | iii Columns | ⊞ MONTH(Postdate) |
| | ≡ Rows | Category |

Expense Table Text

| Category | Postdate | | |
	January	February	March
Bills & Utilities	-505	-197	-55
Entertainment	-120	-13	-7
Fees & Adjustments	-80	-138	-126
Food & Drink	-323	-750	-305
Gas	-13	-49	-56
Groceries	-398	-413	-926
Health & Wellness	-270	-114	-31
Home	-536	-12	
Personal	-56		
Shopping		-1,072	-449
Travel	-75	-2,408	2,176
Grand Total	-2,377	-5,166	221

Expenses by date, category, and description

Here, we'll add a third dimension: payee. You could use any other description, too.

(Note: If this was a chart it would be a three-dimensional chart. Because those are hard to visualize, it's easier to use a text table. Of course, there are ways to see more than one dimension on a chart by, for example, adding more than one line to a line chart and making use of both the left and right-hand axes of a chart.)

Columns ⊞ MONTH(Postdate)

Rows Category | Description

Expense Table Text

		Postdate		
Category	Description	January	February	March
Bills & Utilities	apply.gov.ee	-133		
	CYTA EBILL	-57	-55	
	DIMOS PAPHOU	-58		-38
	EAC		-120	
	ROAD TAX DEPARTMENT 2	-235		
	SO EASY TOP-UP	-22	-22	-17
Entertainment	WWW.CYSO.ORG.CY	-120	-13	
	WWW.WATCHNEWS.PRO			-7
Fees & Adjustments	PURCHASE INTEREST CHA..	-80	-138	-126
Food & Drink	BACK STREET		-10	
	BATHS OF APHRODITE RE..		-26	
	BEANHAUS COFFEE ROAS..	-32	-8	
	BOULEVARD REST WINE &..		-67	

We put dimensions on the row and columns. If you were to flip the rows and columns of the text table above, you get two **columns of columns** (category and description) by month.

This makes sense if you think of the idea of a **column** as being all the fields you have added to the column line at the top. A programmer would call this (category, description) a **tuple**.

You can also think of rows the same way, as being a collection of whatever you assign to the row line. For example, above each row contains both category and description or (category, description) pairs.
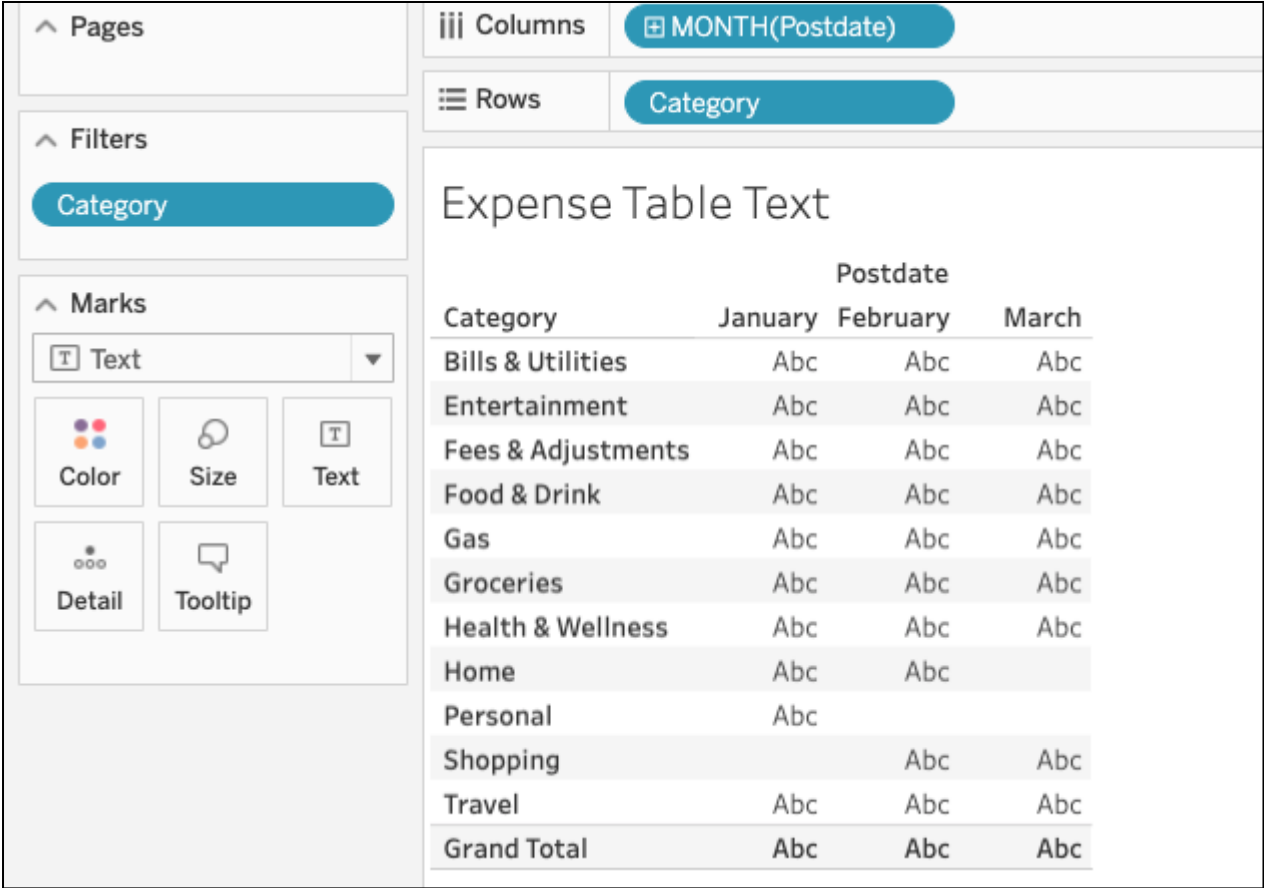
**Columns** Category | Description

Rows ⊞ MONTH(Postdate)

Expense Table Text

|			Bills & Utilities					Entertainment		Fees & Adjust..			
Month of Postdate	apply.g..	CYTA EBILL	DIMOS PAPHOU	EAC	ROAD TAX DE..	SO EASY TOP-UP	WWW...	WWW...	PURCHA SE INTE..	BACK STREET	BATHS OF APH..	B.. U.
January	-133	-57	-58		-235	-22	-120		-80			
February		-55		-120		-22	-13		-138	-10	-26	
March			-38			-17		-7	-126			

Adding measures to the text table

When you first pick a row and column dimension, Tableau does not know what value you want to put at each row, column intersection. So, it populates each cell with **abc**. To fix that, we add a **measure** to the table. You do that by dropping it onto the marks tab and then selecting **text**, **line**, **bar**, or however you want to display this. We use text for a text table.

Pages				
Columns		⊞ MONTH(Postdate)		
Rows		Category		

Expense Table Text

	Postdate		
Category	January	February	March
Bills & Utilities	Abc	Abc	Abc
Entertainment	Abc	Abc	Abc
Fees & Adjustments	Abc	Abc	Abc
Food & Drink	Abc	Abc	Abc
Gas	Abc	Abc	Abc
Groceries	Abc	Abc	Abc
Health & Wellness	Abc	Abc	Abc
Home	Abc	Abc	
Personal	Abc		
Shopping		Abc	Abc
Travel	Abc	Abc	Abc
Grand Total	**Abc**	**Abc**	**Abc**

Filters: Category

Marks: T Text
- Color
- Size
- Text
- Detail
- Tooltip

First note that we change date from **year(Postdate)** to **Month(Postdate)** as Tableau, by default, usually assumes we want to sum values by year. That is, aggregation is its initial position, and for whatever reason it picks year first.
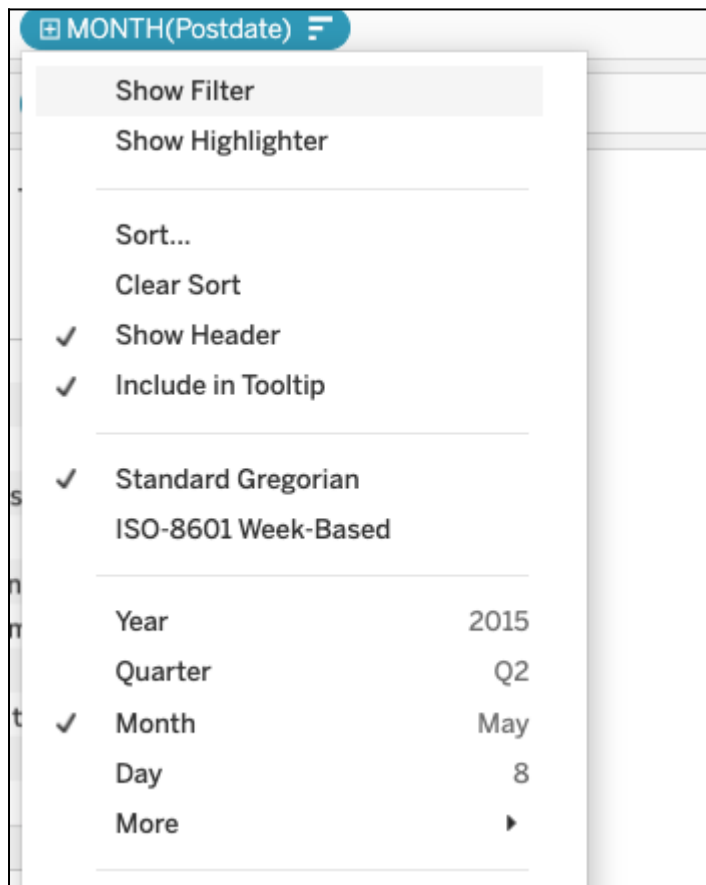
To put a number (dimension) onto the table, drag a dimension, in this case **amount**, onto the text mark. Since Tableau assumes aggregation it will add **sum()** to amount to give us expenses by month.
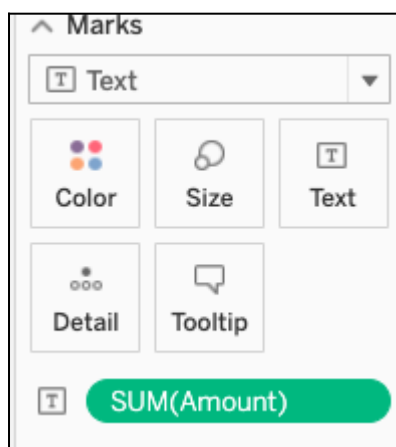
Then the worksheet fills in the numbers:

Expense Table Text

Category		March	Postdate January	February
Groceries		-926	-398	-413
Shopping		-449		-1,072
Food & Drink		-305	-323	-750
Bills & Utilities		-55	-505	-197
Home			-536	-12
Health & Wellness		-31	-270	-114
Fees & Adjustments		-126	-80	-138
Travel		2,176	-75	-2,408
Entertainment		-7	-120	-13
Gas		-56	-13	-49
Personal			-56	