STEM Literacy through Infographics

Creating a US Map in Venngage

Part of a Series of Tutorials on using Google Sheets to work with data for making charts in Venngage

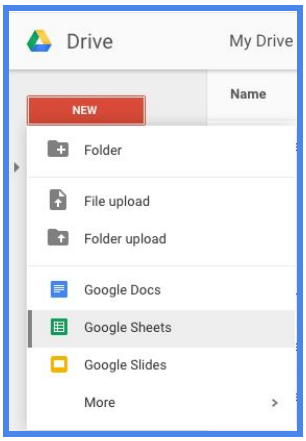
TERC

University of Colorado Boulder

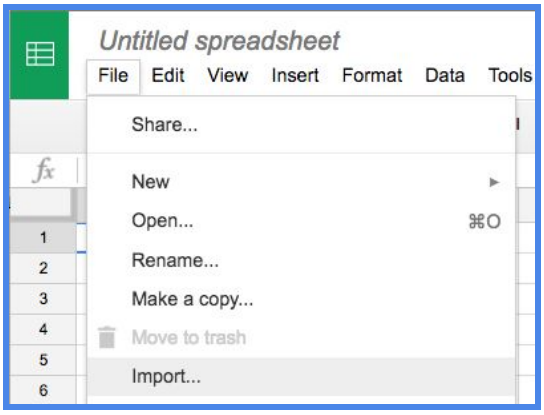
These materials are based upon work supported by the National Science Foundation under Grant Nos. IIS-1441561, IIS-1441471, & IIS-1441481. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the NSF.

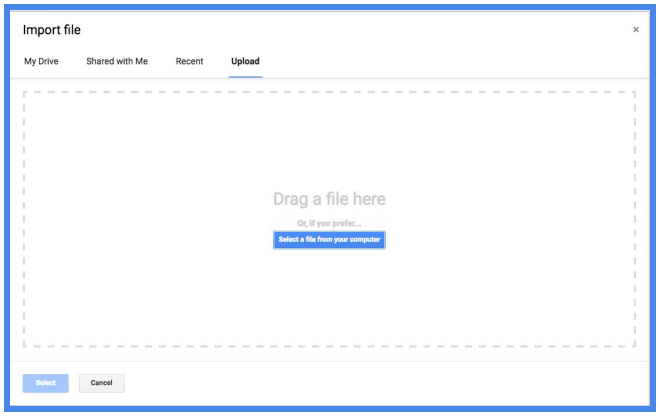
Sometimes data are related to locations and it can be useful to visualize them on a map. In Venngage, there are a variety of map templates that are pre-set with the names of countries (for world maps) or states (for the US map). To use these templates, you have to match up your data to the pre-set names. The following example shows how to do this with a map of the US with state-based data from the US Census. From the US Census Bureau, we can find a dataset on how much money is spent on public education per state for the latest year of collected data. These data can be found at: http://www.census.gov/govs/school/

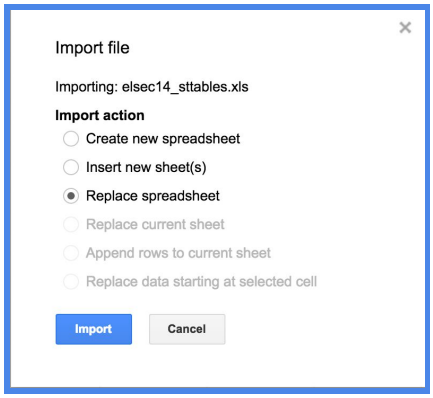
Download the first Excel file, the State-level tables, which is the first link under Downloadable Data. In Google Drive in your web browser, create a new Google Sheet file, going to New -> Google Sheets.



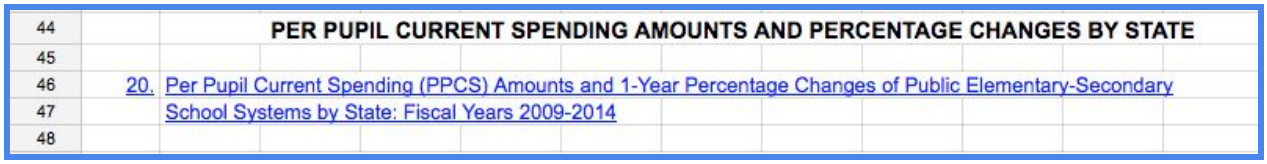
Once there, go to File ->Import ΄I and then upload the file. (You can drag the file onto the browser window.) When prompted, choose the default option to “Replace spreadsheet” since there’s nothing already there.



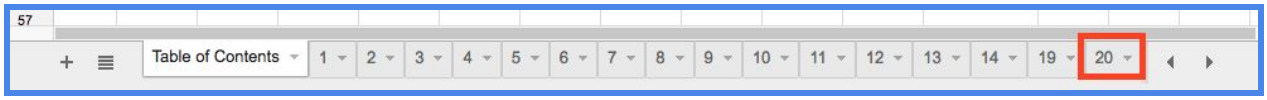




In your imported spreadsheet, the first worksheet is a Table of Contents showing what’s in the other enumerated sheets. The first one on the list shows a summary of revenue and spending per state. This information is not particularly useful because states with more students will likely spend more than states with fewer students. On the bottom of the list, the 20th worksheet, however, includes Per Pupil Current Spending (PPCS), so it will give us a better idea of how much states spend, taking into account the size of the state’s population.

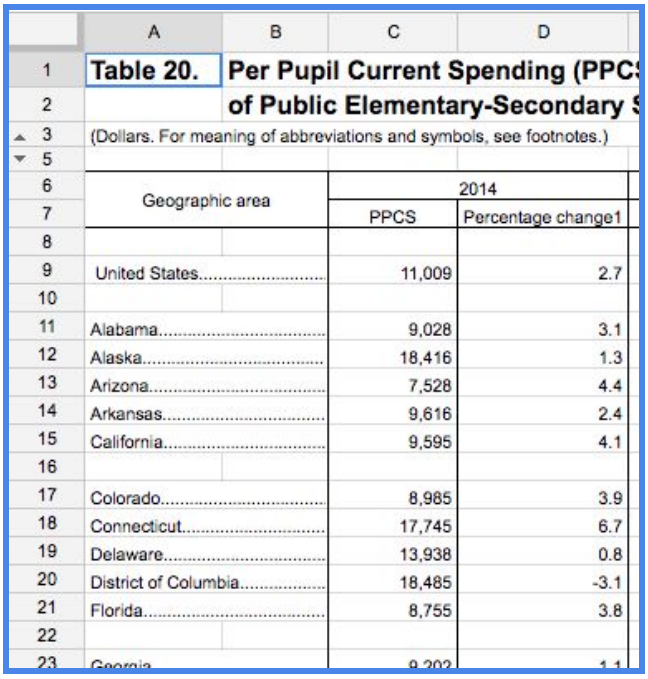


Go to this worksheet, by clicking on the worksheet tab number 20 in the bottom.



In this worksheet, for each year from 2014 back to 2009, we have Per Pupil Current Spending (PPCS) and Percent change from the previous year. Let’s focus on 2014, the most recent year for which there are data.

Notice the formatting in this sheet. The information we're interested in is in Columns A (state names) and C (per pupil spending). Column B is actually empty. Also notice that the states are grouped into sets of 5, with an empty row after every 5 states. In order to manipulate these data into the format we need for Venngage, we're going to copy just the data from columns A through C and rows from Alabama to Wyoming, and then paste it in a new sheet.



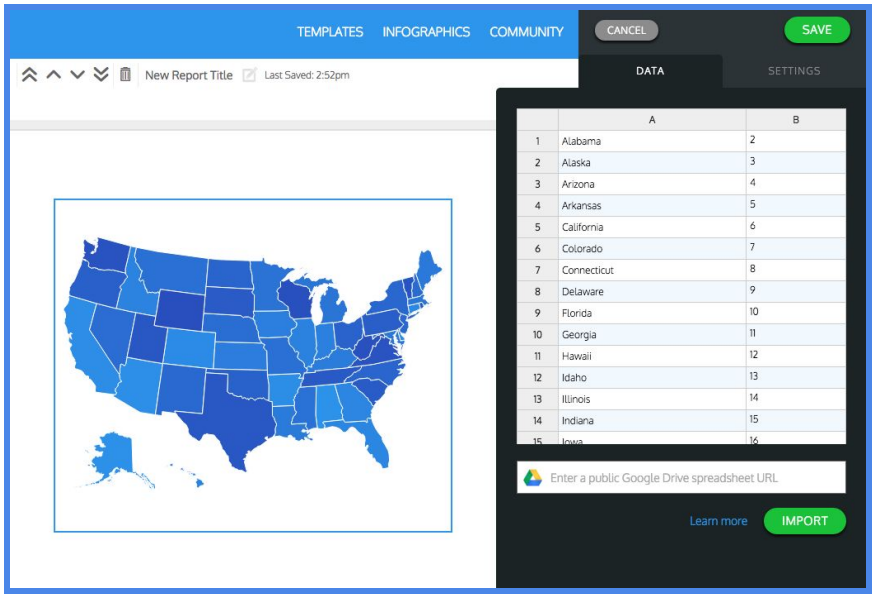
	A	B	C	D
1	**Table 20.**	**Per Pupil Current Spending (PPC**		
2		**of Public Elementary-Secondary**		
3	(Dollars. For meaning of abbreviations and symbols, see footnotes.)			
5				
6	Geographic area		2014	
7			PPCS	Percentage change1
8				
9	United States		11,009	2.7
10				
11	Alabama		9,028	3.1
12	Alaska		18,416	1.3
13	Arizona		7,528	4.4
14	Arkansas		9,616	2.4
15	California		9,595	4.1
16				
17	Colorado		8,985	3.9
18	Connecticut		17,745	6.7
19	Delaware		13,938	0.8
20	District of Columbia		18,485	-3.1
21	Florida		8,755	3.8
22				
23	Georgia		9,202	1.1

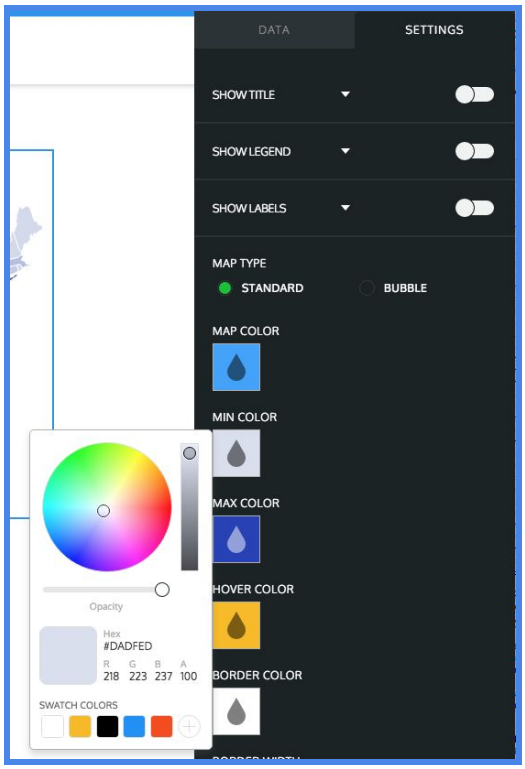
Copy the cells that contain the state names and PPCS columns, starting with Alabama, cell A11, going all the way down to Wyoming from worksheet 20.

Create a new sheet by clicking on the plus button where the worksheet tabs are. It will automatically open to the new sheet. Double-click on the name of the new sheet on the bottom, and rename it to "PPCS 2014".

Paste the data into your new sheet. Delete the empty rows in between each set of 5 states. (To delete, right click on the row number and select Delete row from the pop-up menu.) There are 51 rows left. District of Columbia is included, but it's not an available option on Venngage's US States map, so you'll need to delete it (row 9). Your data should now have just the states in Column A and the PPCS, per pupil current spending, in Column C.

In another browser tab, make sure you are signed in on Venngage and in an open infographic canvas. From under the Maps section on the left side panel, find and drag a map of the US with states to the canvas. Double-click on the map to edit it.



In column B in Venngage, paste the state data on amount spent on public education. This would be column C from your Google spreadsheet worksheet named “PPCS 2014”. Since we’ve deleted the District of Columbia, the data should line up appropriately with the states in the Venngage table.

In the Settings tab, change the min color to something lighter than the default to show more contrast.