

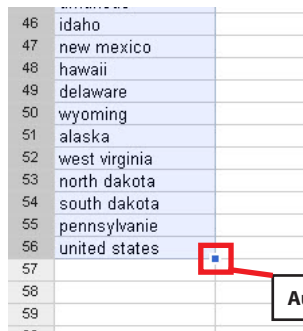
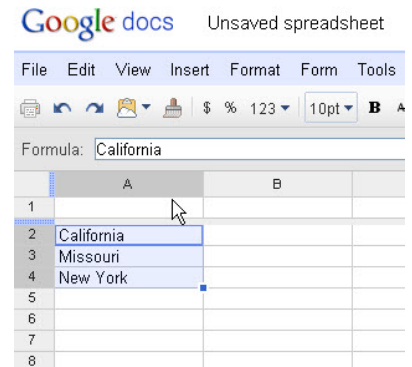
Google™ Spreadsheet Functions



Autofill/Magicfill

Open up Google Docs and create a new spreadsheet.

In cell A2 type the name of one state, in cell A3 type in the name of another state, in cell A4 type in the name of a third state. This forms a pattern that Google Sets (<http://labs.google.com/sets>) can recognize.



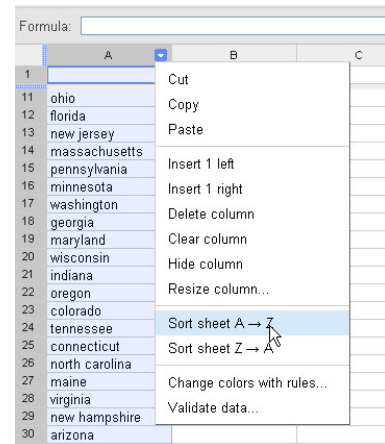
Autofill Button

Tip: Scroll down well past 50 cells to make sure you get all states.

Highlight those three cells and holding down the CTRL key (Option key for Mac) click on the crosshair in the lower right hand corner of that field and drag down. Your cells will be populated with other states.

At the top of column A, click on the down arrow and select "Sort Sheet A →Z" to alphabetize your list.

Now we need to validate our data. Go through and make sure you have 50 states and delete any duplicates.



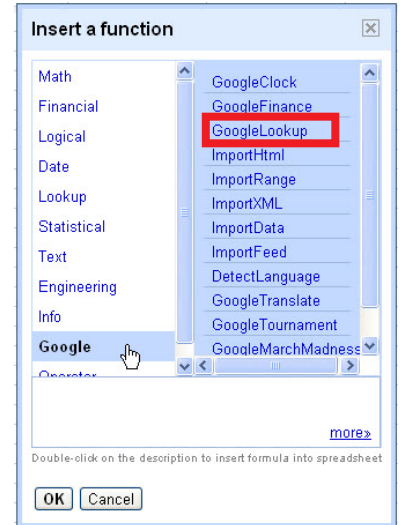
Data Validation Tip: Your list of states should end at cell A51 because we started at A2

After sorting your list and validating your data, you can move onto the next step. This is a good time to talk to students about why they need to check their data. In my list I had duplicates and mistakes because the computer was simply trying to find a pattern. It works well for the most part, but it's always important to check those results.

Google Lookup

Google Lookup is a function inside Google Spreadsheets that tries to match facts with existing data. In this case we are going to have Google match the capitals of the states with each state name and fill in our spreadsheet with the appropriate information. This can be done with data other than geographical information so experiment.

Click on cell B2 of your spreadsheet and select "Insert → Function → More...". Click "Google" on the popup that appears and then select "GoogleLookup" from the corresponding list. Double click to add the formula to the spreadsheet.

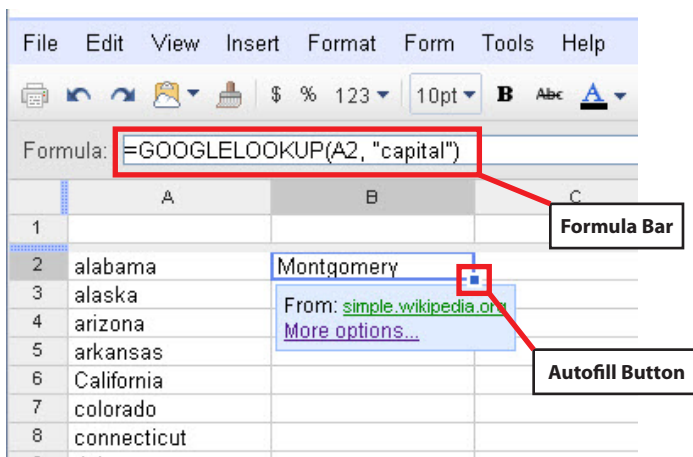


In that cell you will now see "=GOOGLELOOKUP()". Now let's add some instructions to look up. In this case, we're going to have Google find the capitals of each of the states in our data set.

Put your cursor inside of the parenthesis and click on cell A2. Now your formula should be =GOOGLELOOKUP(A2).

Now we need to tell Google what to look up so we type, "capital" behind the A2 giving us =GOOGLELOOKUP(A2, "capital") for our formula.

Pressing "Enter" will begin the search and you will soon see the capital of the state in cell A2 appear in cell A3.



Clicking on cell B2 will show the formula in formula bar as well as the source of the information. If this information doesn't seem correct or you want to use a different source, click "More options".

	A	B
1		
2	alabama	Montgomery
3	alaska	Juneau
4	arizona	Phoenix
5	arkansas	Little Rock
6	California	Sacramento
7	colorado	Denver
8	connecticut	
9	delaware	From: en.wikipedia.org
10	florida	More options...
11	georgia	Atlanta
12	hawaii	Honolulu
13	idaho	Boise
14	illinois	Springfield
15	indiana	Indianapolis
16	iowa	Des Moines
17	kansas	Topeka
18	kentucky	Frankfort
19	louisiana	Baton Rouge

To fill in the rest of the capitals, click and hold on the "Autofill" crosshair in the lower right hand corner and drag down. After a brief search, all cells should load with the correct capital for each state.

Concatenate

Concatenate is a function that will combine several text strings into one. In this case, we are going to combine A2 and B2 to make a single entry that has both the capital and state name in one. Ex. Cell C2 will contain "Montgomery, Alabama".

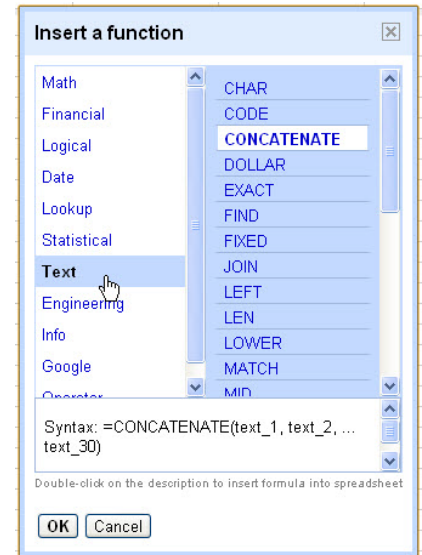
Click on cell C2 and select "Insert → Function → More..." and select "Text" and double click on "CONCATENATE" to insert the formula.

In that cell you will now see "=CONCATENATE()". Now let's add some instructions to look up.

Be sure your cursor is inside of the parenthesis and click on cell B2 to put in the name of the city. Your formula should be =CONCATENATE(B2).

Now we need to include the state name. After "B2" type " , , " (comma - quote - comma - space - quote - comma) exactly as listed. This puts a comma and space after the name of the city to make it grammatically correct. Your formula should now be =CONCATENATE(B2," , ").

Next we need the name of the state, however, it's not capitalized, so we're going to add another element to our formula so it's a proper name. After the comma type (PROPER(to make it a proper name and capitalize it. Then click on A2 to finish the formula. After a brief pause, cell C2 will display the text "Montgomery, Alabama" and the formula bar will show your formula to be =CONCATENATE(B2," , ,(PROPER(A2))).



Formula: =CONCATENATE(B2," , ,(PROPER(A2)))

	A	B	C
1			
2	alabama	Montgomery	Montgomery, Alabama
3	alaska	Juneau	
4	arizona	Phoenix	
5	arkansas	Little Rock	

Autofill Button (indicated by a red box and arrow on the bottom-right corner of cell C2)

To fill in the rest of the cells, click and hold on the "Autofill" crosshair in the lower right hand corner and drag down. After a moment, all cells should load with information from those two cells.

	A	B	C
1			
2	alabama	Montgomery	Montgomery, Alabama
3	alaska	Juneau	Juneau, Alaska
4	arizona	Phoenix	Phoenix, Arizona
5	arkansas	Little Rock	Little Rock, Arkansas
6	California	Sacramento	Sacramento, California
7	colorado	Denver	Denver, Colorado
8	connecticut	Hartford	Hartford, Connecticut
9	delaware	Dover	Dover, Delaware
10	florida	Tallahassee	Tallahassee, Florida
11	georgia	Atlanta	Atlanta, Georgia
12	hawaii	Honolulu	Honolulu, Hawaii
13	idaho	Boise	Boise, Idaho
14	illinois	Springfield	Springfield, Illinois
15	indiana	Indianapolis	Indianapolis, Indiana
16	iowa	Des Moines	Des Moines, Iowa
17	kansas	Topeka	Topeka, Kansas
18			Frankfort

Add a Gadget

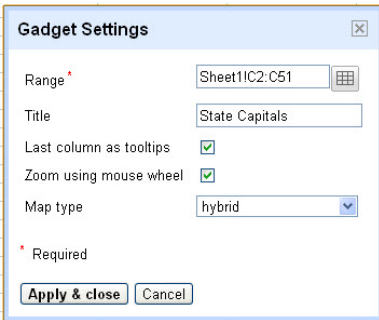
Google Spreadsheets gives you the option of inserting a number of “gadgets” based on data that you have collected. We’re going to add a map gadget to our spreadsheet with placemarks for each state capital.

To start, select cells C2 through C51 by either clicking and dragging or by clicking on cell C2, holding down shift and then clicking on cell C51.

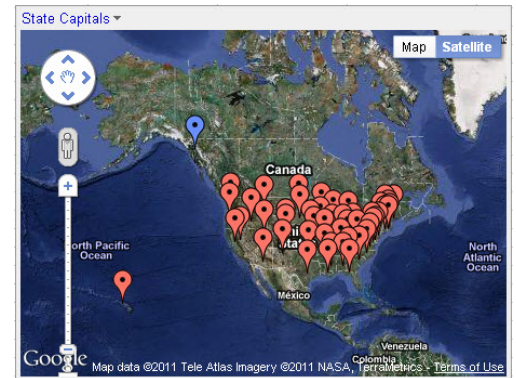
Select “Insert → Gadget” and select “Maps” and then “Add to spreadsheet”.

On the Gadget Settings screen, the range should already be filled in as “Sheet1!C2:C51”.

Add a title for your gadget and click the two checkboxes.

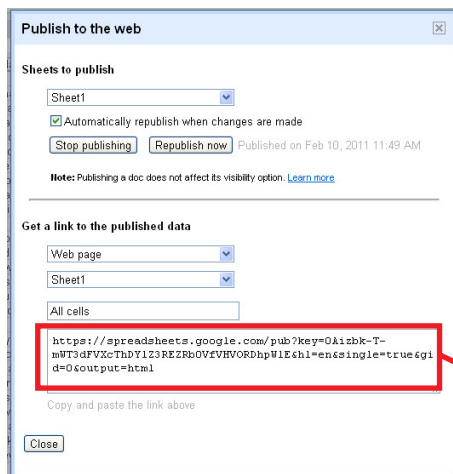


After a short loading period, you should see a map on your screen with all the capitals marked. Clicking on any of those points will bring up the name of the city and state.



Publish and embed in a Google Site

To publish your work, click on the arrow beside “Share” button in the upper right hand corner and select “Publish as a web page”. Click “Start Publishing and you will see the link to your page displayed at the bottom of that window.



Embedding your map on a Google Site is just as easy. On your site, select “Insert → Spreadsheet” and choose the spreadsheet you just made. When you click save on your site your data will load and after a short while, so will your map.

To see the published spreadsheet go to <http://goo.gl/pSqN5>

URL to share

With thanks to Chris Bell at www.everythingedtech.com