



# Advanced Interfacing with Data

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**Session Description:** Learn how to automate the creation of interactive data visualizations using Microsoft Excel to make it easier to access data to help inform important decisions at your school or district. This is a “How to” example of test data analysis using Aeries’s query results and Microsoft Excel. We will cover how to collect, join, format, display and refresh data using MS Excel’s Get Data, Power Query Editor, Pivot Tables, Pivot Charts and Slicers.

## **1. Export query results from Aeries into Microsoft Excel**

*Automate using Get Data*

## **2. Use Power Query to join and format the data.**

*Pivot Columns to create one row per student*

*Merge multiple queries*

## **3. Use MS Excel to Analyze Data**

*PivotTables*

*PivotCharts*

*Slicers*

# Step 1: Export query results from Aeries into MS Excel

This example will use two queries from Aeries. Follow the steps below to run each query and save to MS Excel.

**Login to Aeries > navigate to the Query Screen**

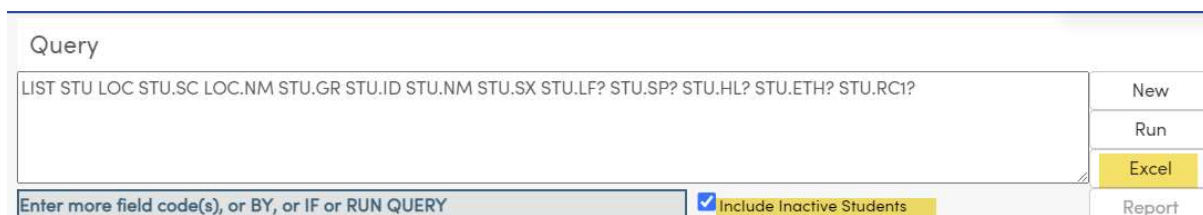
Copy **Query 1** and paste directly into the Query screen.

## Query 1 - Student Demographic

LIST STU LOC STU.SC LOC.NM STU.GR STU.ID STU.NM STU.SX STU.LF? STU.HL? STU.ETH? STU.RC1?

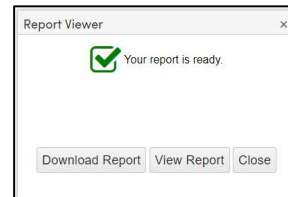
Be sure to check **Include Inactive Students**

After pasting the query text into Aeries Query, run your Query in Aeries by **Clicking** on the **Excel** Button.

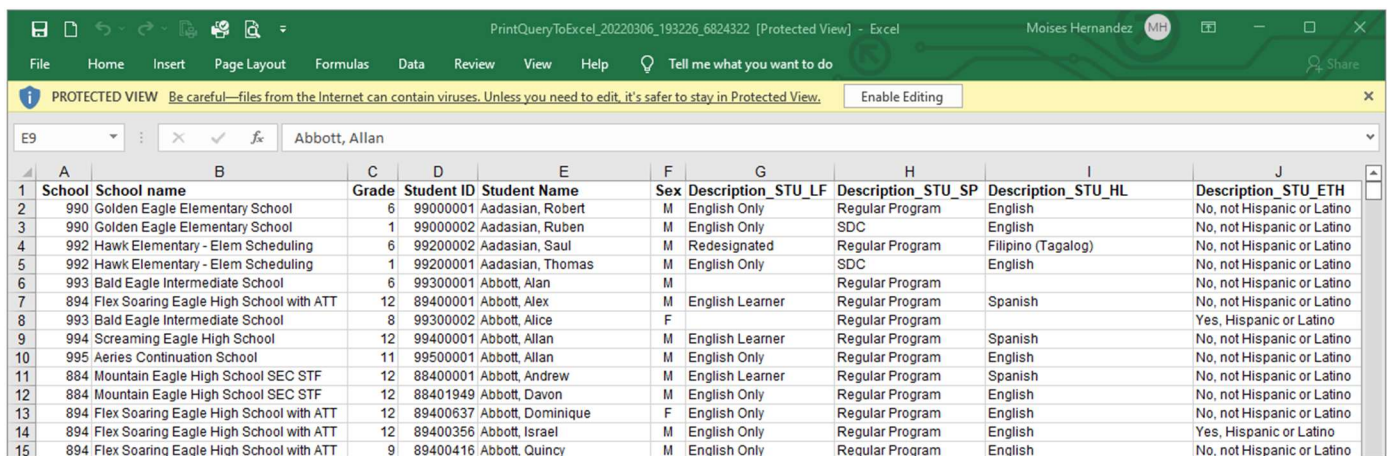


When the query results are ready to be viewed, you will see the dialog box below.

**Click** on the **View Report** Button to open results using MS Excel.  
When prompted to open the file **Click** the **Open** Button.



After opening MS Excel workbook, **Click** on the **Enable Editing** Button at the top. (In Yellow)



	A	B	C	D	E	F	G	H	I	J
	School	School name	Grade	Student ID	Student Name	Sex	Description_STU_LF	Description_STU_SP	Description_STU_HL	Description_STU_ETH
1	990	Golden Eagle Elementary School	6	99000001	Aadasian, Robert	M	English Only	Regular Program	English	No, not Hispanic or Latino
2	990	Golden Eagle Elementary School	1	99000002	Aadasian, Ruben	M	English Only	SDC	English	No, not Hispanic or Latino
3	992	Hawk Elementary - Elem Scheduling	6	99200002	Aadasian, Saul	M	Redesignated	Regular Program	Filipino (Tagalog)	No, not Hispanic or Latino
4	992	Hawk Elementary - Elem Scheduling	1	99200001	Aadasian, Thomas	M	English Only	SDC	English	No, not Hispanic or Latino
5	993	Bald Eagle Intermediate School	6	99300001	Abbott, Alan	M		Regular Program		No, not Hispanic or Latino
6	894	Flex Soaring Eagle High School with ATT	12	89400001	Abbott, Alex	M	English Learner		Spanish	No, not Hispanic or Latino
7	993	Bald Eagle Intermediate School	8	99300002	Abbott, Alice	F		Regular Program		Yes, Hispanic or Latino
8	994	Screaming Eagle High School	12	99400001	Abbott, Allan	M	English Learner		Spanish	No, not Hispanic or Latino
9	995	Aeries Continuation School	11	99500001	Abbott, Allan	M	English Only	Regular Program	English	No, not Hispanic or Latino
10	884	Mountain Eagle High School SEC STF	12	88400001	Abbott, Andrew	M	English Learner	Regular Program	Spanish	No, not Hispanic or Latino
11	884	Mountain Eagle High School SEC STF	12	88401949	Abbott, Davon	M	English Only	Regular Program	English	No, not Hispanic or Latino
12	894	Flex Soaring Eagle High School with ATT	12	89400637	Abbott, Dominique	F	English Only	Regular Program	English	No, not Hispanic or Latino
13	894	Flex Soaring Eagle High School with ATT	12	89400356	Abbott, Israel	M	English Only	Regular Program	English	Yes, Hispanic or Latino
14	894	Flex Soaring Eagle High School with ATT	9	89400416	Abbott, Quincy	M	English Only	Regular Program	English	No, not Hispanic or Latino

**Click** on **File > Save As >** (Choose desired location) & name the file **Demographics**.  
Click **Save** & close the workbook.

Repeat this same Query process from the beginning for Query 2.

## Query 2 - SBAC query for a specific school year

```
LIST STU TST CST CSN CTL STU.ID TST.ID TST.TA TST.GR CTL.NM
(( IIF ( TST.PL = 1, "1 - NOT MET", IIF ( TST.PL = 2, "2 - NEARLY MET", IIF ( TST.PL = 3, "3 - MET",
IIF ( TST.PL = 4, "4 - ABOVE", "No Test Data" ) ) ) ) ) IF ( TST.ID = SBAC AND ( TST.TA =
"SPRG22" ) ) )
```

\*Note if you get an error you may need to remove a space at the end of a line & then click the spacebar after the end of the query as cut/paste may insert a space.

This Nested IIF statement query will convert Proficiency Levels 1,2,3,4 to the phrases, 1 - NOT MET, 2 - NEARLY MET, 3 - MET, 4 - ABOVE, and "No Test Data" to indicate that there is no value for the test for both ELA and Math Proficiency Levels.

A	B	C	D	E	F
Student ID	TESTID	Test Admin	Grade	Test Title	PerformLvl = 4, '4 - ABOVE', 'No Test Data' ) ) )
99000001	SBAC	SPRG22	50	English Lang Arts /Liter	2 - NEARLY MET
99000001	SBAC	SPRG22	50	Mathematics	1 - NOT MET
99200002	SBAC	SPRG22	50	English Lang Arts /Liter	3 - MET
99200002	SBAC	SPRG22	50	Mathematics	2 - NEARLY MET
99300001	SBAC	SPRG22	50	English Lang Arts /Liter	3 - MET
99300001	SBAC	SPRG22	50	Mathematics	2 - NEARLY MET
89400001	SBAC	SPRG22	110	English Lang Arts /Liter	3 - MET
89400001	SBAC	SPRG22	110	Mathematics	1 - NOT MET
99300002	SBAC	SPRG22	70	English Lang Arts /Liter	4 - ABOVE
99300002	SBAC	SPRG22	70	Mathematics	3 - MFT

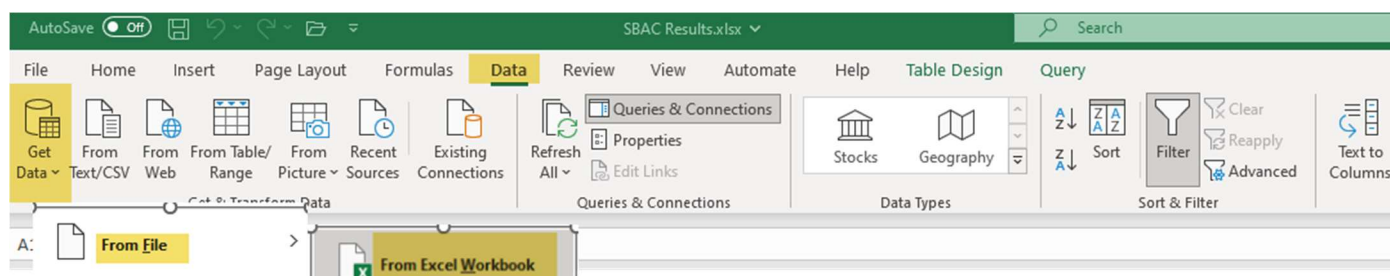
Save the query results as a MS Excel spreadsheet with the name **SBAC**. Close this workbook.

## Use Microsoft Excel Get Data

Open a **new blank Excel workbook** & **save** this workbook as **SBAC Analysis**.  
If you haven't already, close the workbooks you created from the 2 queries above.

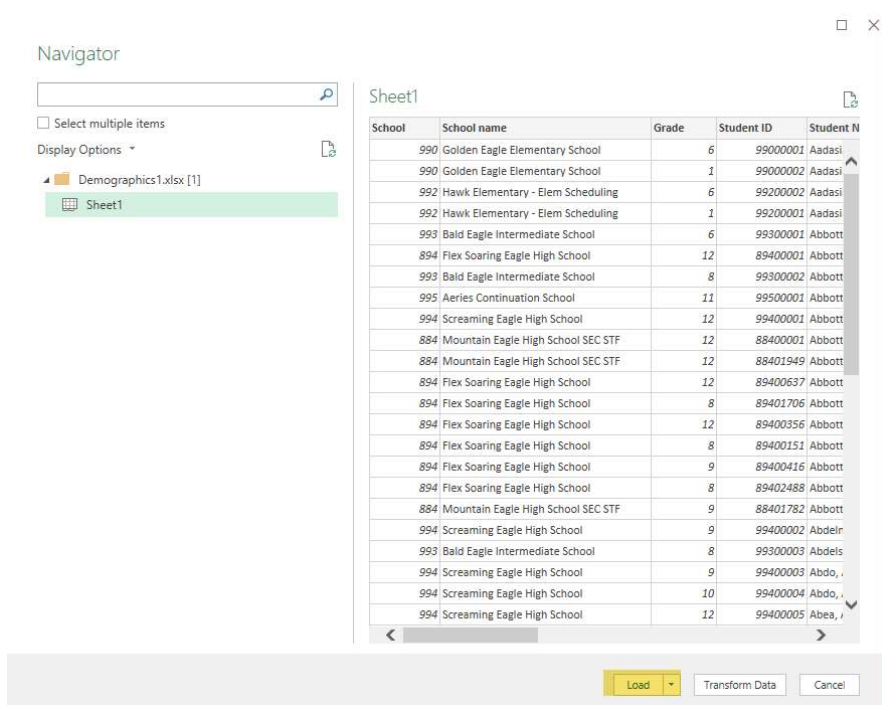
The next steps will create a connection to the 2 workbooks we saved containing our query data from Aeries. Using this **Get Data** feature in MS Excel will enable us to automate the refresh of our data & to utilize the **Power Query Editor** to join and format our data.

In MS Excel, click on the top menu item **Data > Get Data**  
Choose **From File > From Excel Workbook**



Navigate to the location where you saved the 2 query workbooks.  
Select the **Demographics.xlsx** file and click the **Import** button. *Note: you are only able to Import 1 file at a time.*

From the **Navigator** window, select the Demographics Sheet1 workbook. The data will then appear to the right. Click on the **Load** button



The data has now been loaded into MS Excel as a **Table**.  
Rename the table **Demographics** on the right side under Queries & Connections.

School	School name	Grade	Student ID	Student Name	Sex	Description_STU_LF	Description_STU_HL	Description_STU_ETH	Description_STU_LN
990	Golden Eagle Elementary School	6	99000001	Aadasian, Robert	M	English Only	English	No, not Hispanic or Latino	Tahitian
990	Golden Eagle Elementary School	1	99000002	Aadasian, Ruben	M	English Only	English	No, not Hispanic or Latino	Chinese
992	Hawk Elementary - Elem Scheduling	6	99200002	Aadasian, Saul	M	Redesignated	Filipino (Tagalog)	No, not Hispanic or Latino	Filipino
992	Hawk Elementary - Elem Scheduling	1	99200001	Aadasian, Thomas	M	English Only	English	No, not Hispanic or Latino	Hawaiian
993	Bald Eagle Intermediate School	6	99300001	Abbott, Alan	M			No, not Hispanic or Latino	Filipino

Follow the same steps to import the **SBAC** workbook & rename the Query to SBAC.

Student ID	TESTID	Test Admin	Grade	Test Title	PerformLvl = 4, '4 - ABOVE', 'No Test Data' ) ) )
88401949	SBAC	SPRG22	110	English Lang Arts /Liter	2 - NEARLY MET
88401949	SBAC	SPRG22	110	Mathematics	1 - NOT MET
89400637	SBAC	SPRG22	110	English Lang Arts /Liter	1 - NOT MET
99400007	SBAC	SPRG22	110	English Lang Arts /Liter	3 - MET
99400007	SBAC	SPRG22	110	Mathematics	1 - NOT MET
88402768	SBAC	SPRG22	110	English Lang Arts /Liter	3 - MET

You will see each workbook in a separate tab and a summary of the data in the **Queries & Connections** section on the right-hand side of the screen.

*Tip: Leave worksheets named Sheet 1 in the original Excel Workbook & at the bottom tabs of the SBAC Analysis workbook. Otherwise, when you Refresh the data you will need to make sure the worksheet tabs have the exact same name.*



## Step 2: Use Power Query to Join and Format the Data

To join the data from the 2 Tables, we first need to **pivot the SBAC** data so there is one row of data per student. **Microsoft Power Query Editor** makes this easy!

Click on the **SBAC** tab.

Click on **Query** on the top menu and then **Edit**.

File

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Share

Edit

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Combine

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fx

SPRG22

	A	B	C	D	E	F	G	
1	Student ID	TESTID	Test Admin	Grade	English Lang Arts /Liter	Mathematics		
2	88400001 SBAC	SPRG22	11 3 - MET		1 - NOT MET			
3	88400002 SBAC	SPRG22	8 2 - NEARLY MET		2 - NEARLY MET			
4	88400003 SBAC	SPRG22	8 2 - NEARLY MET		2 - NEARLY MET			
5	88400005 SBAC	SPRG22	11 3 - MET		2 - NEARLY MET			
6	88400007 SBAC	SPRG22	11 3 - MET		3 - MET			
7	88400008 SBAC	SPRG22	8 1 - NOT MET		1 - NOT MET			
8	88400009 SBAC	SPRG22	11 4 - ABOVE		3 - MET			
9	88400012 SBAC	SPRG22	8 2 - NEARLY MET		2 - NEARLY MET			
10	88400015 SBAC	SPRG22	11 4 - ABOVE		3 - MET			
11	88400018 SBAC	SPRG22	8 3 - MET		3 - MET			

The **MS Excel Power Query Editor** opens with a whole new world of possibilities! Notice that we see All of our data tables, or queries, on the left. Make sure the **SBAC** query name is highlighted.

File Home Transform Add Column View

Close & Load Refresh Preview Properties Advanced Editor Manage Query

Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Transform Data Type: Whole Number Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Manage Parameters Data source settings New Source Recent Sources Enter Data New Query

Queries [3] Demographics1 Demographics2 SBAC

Table.TransformColumnTypes("Promoted Headers",{{"Student ID", Int64.Type}, {"TESTID", type text}, {"Test Admin", type text}, {"Test Title", type text}, {"PerformLvl = 4, '4 - ABOVE', 'No Test Data' }]])

	Student ID	TESTID	Test Admin	Test Title	PerformLvl = 4, '4 - ABOVE', 'No Test Data'
1	99000001	SBAC	SPRG22	English Lang Arts /Liter	2 - NEARLY MET
2	99000001	SBAC	SPRG22	Mathematics	1 - NOT MET
3	99200002	SBAC	SPRG22	Mathematics	2 - NEARLY MET
4	99200002	SBAC	SPRG22	English Lang Arts /Liter	3 - MET
5	99300001	SBAC	SPRG22	Mathematics	2 - NEARLY MET
6	99300001	SBAC	SPRG22	English Lang Arts /Liter	3 - MET
7	89400001	SBAC	SPRG22	English Lang Arts /Liter	3 - MET
8	89400001	SBAC	SPRG22	Mathematics	1 - NOT MET
9	99300002	SBAC	SPRG22	Mathematics	3 - MET
10	99300002	SBAC	SPRG22	English Lang Arts /Liter	4 - ABOVE
11	99400001	SBAC	SPRG22	Mathematics	1 - NOT MET
12	99400001	SBAC	SPRG22	English Lang Arts /Liter	3 - MET
13	88400001	SBAC	SPRG22	English Lang Arts /Liter	3 - MET
14	88400001	SBAC	SPRG22	Mathematics	1 - NOT MET
15	88401949	SBAC	SPRG22	English Lang Arts /Liter	4 - ABOVE

Click on **Transform** from the top ribbon. Click on the **Test Title** column header to highlight the column. Select **Pivot Column** from the Transform menu.

File Home Transform Add Column View

Group By Use First Row as Headers Table

Transpose Reverse Rows Count Rows

Data Type: Text Detect Data Type Rename

Replace Values Fill Pivot Column Any Column

Unpivot Columns Move Convert to List

Split Column Format Text Column

Merge Columns Extract Parse

Queries [3]

Demographics1

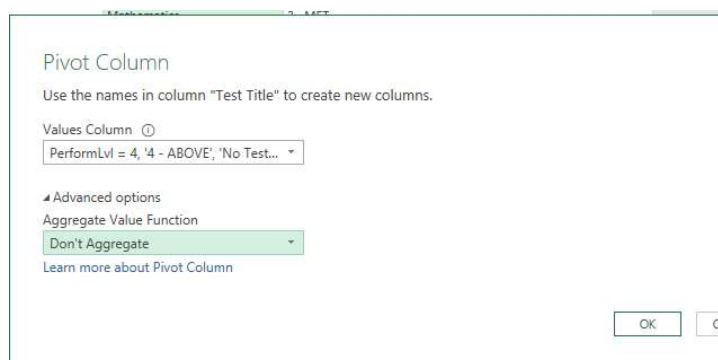
Demographics2

SPAC

Student ID TESTID Test Admin Test Title

1 99000001 SBAC SPRG22 English Lang Arts /Liter

This option will use the values in our selected column to create new column headers.  
 Select **PerformLvl** field in the **values column**.  
 Click **Advanced Options** and select **Don't Aggregate**, Click OK.



The SBAC data has now been flipped, or **pivoted**, to only have **one record for each student**.  
 There is a separate column for English Lang Arts & Mathematics with performance level for each student.

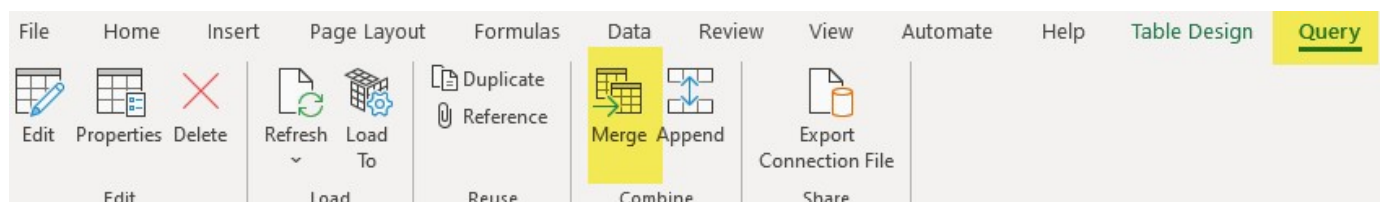
123 Student ID	A <sup>B</sup> <sub>C</sub> TESTID	A <sup>B</sup> <sub>C</sub> Test Admin	A <sup>B</sup> <sub>C</sub> 123 Grade	A <sup>B</sup> <sub>C</sub> English Lang Arts /Liter	A <sup>B</sup> <sub>C</sub> Mathematics
88400001	SBAC	SPRG22		11 3 - MET	1 - NOT MET
88400002	SBAC	SPRG22		8 2 - NEARLY MET	2 - NEARLY MET
88400003	SBAC	SPRG22		8 2 - NEARLY MET	2 - NEARLY MET
88400005	SBAC	SPRG22		11 3 - MET	2 - NEARLY MET
88400007	SBAC	SPRG22		11 3 - MET	3 - MET
88400008	SBAC	SPRG22		8 1 - NOT MET	1 - NOT MET
88400009	SBAC	SPRG22		11 4 - ABOVE	3 - MET
88400012	SBAC	SPRG22		8 2 - NEARLY MET	2 - NEARLY MET

Click on the **Home** menu tab at the top.  
 Click on **Close & Load**  
 This saves the changes to the SBAC table and brings us out of the Power Query Editor.

## Use Power Query to JOIN Data

Now we are ready to join or **Merge** the data from the 2 separate Queries into one table.

Click on The Demographics Query to see the **Query** menu option in the top toolbar.  
 Click on **Query**  
 Click on **Merge**



Select the following options to join the Demographics table to the SBAC table on Student ID.



## Merge

Select tables and matching columns to create a merged table.

Demographics



School	School name	Grade	Student ID	Student Name	Sex	Description_STU_LF
990	Golden Eagle Elementary School	6	99000001	Aadasian, Robert	M	English Only
990	Golden Eagle Elementary School	1	99000002	Aadasian, Ruben	M	English Only
992	Hawk Elementary - Elem Scheduling	6	99200002	Aadasian, Saul	M	Redesignated
992	Hawk Elementary - Elem Scheduling	1	99200001	Aadasian, Thomas	M	English Only

SBAC



Student ID	TESTID	Test Admin	Grade	English Lang Arts /Liter	Mathematics
88400007	SBAC	SPRG22	110	3 - MET	1 - NOT MET
88400062	SBAC	SPRG22	110	2 - NEARLY MET	1 - NOT MET
88400108	SBAC	SPRG22	80	1 - NOT MET	1 - NOT MET
88400208	SBAC	SPRG22	80	1 - NOT MET	1 - NOT MET
88400212	SBAC	SPRG22	80	2 - NEARLY MET	1 - NOT MET

Join Kind

Inner (only matching rows)

☐ Use fuzzy matching to perform the merge

▸ Fuzzy matching options

✓ The selection matches 481 of 13066 rows from the first table, and 481 of...

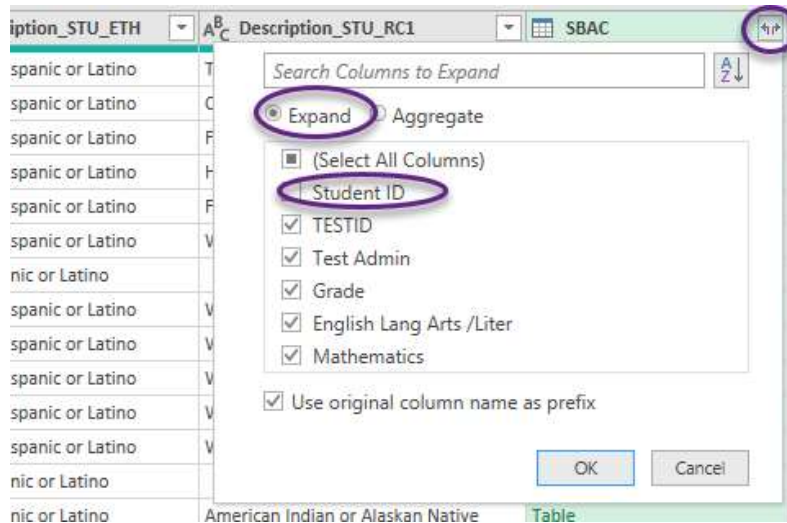
OK

Cancel

Click the **OK** button.

You now see a new Query named Merge1 with a column added to the end named SBAC. However, the values displayed for each record = 'Table'

To show the actual data, need to click on the **icon with arrows** in the column header name and choose **Expand**.



*Note: you only need to expand the fields you want to see in this merged table. Since we already have Student ID in the table from Demographics, I unchecked Student ID.*

Click the **OK** button.

The SBAC Test result fields have now been added to the end of this table.

There are now 3 Queries available. **Right-click** on the **Merge1** query name on the left **and rename to SBAC Demographics**.

From the **Home** menu select **Close & Load** to **save**.

## Use Power Query to Format Data

We also need to format the data to make our visualizations better.

Launch **Power Query Editor** either by selecting **Query** from the top menu OR **Data > Get Data > Launch Power Query Editor**.

Click on the **SBAC Demographics** table.

Rename columns to display better on your visualizations.

For example, right-Click on the Description\_STU\_LF column header and select **Rename**.

You can then begin typing to change the name.

Change the name of the column to **Language Fluency**.



School", Int64.Type}, {"School name", type text}, {"Grade",		
x	Language Fluency	Description_STU
	English Only	Regular Program
	English Only	SDC
	Redesignated	Regular Program
	English Only	SDC
	null	Regular Program

Repeat this process for any fields you would like to rename.

Explore the values in the fields. Replace null values with a better option.

For example, in the **Language Fluency**, **Home Language** and **Race** columns **replace null values with Unknown**.

To do this, right-click in any cell of the column & select **Replace Values**.

Enter **null** as the **Value To Find**.

Enter **Unknown** for the **Replace With** value.

The screenshot shows the Power BI Desktop interface with the 'Replace Values' dialog box open. The dialog is used to replace 'null' values with 'Not Taken' in the selected columns. The background table displays data for rows 66 to 83, with columns for Student ID, TESTID, Test Admin, English Lang Arts / Liter, and Mathematics. The 'Mathematics' column shows various performance levels like '1 - NOT MET', '3 - MET', and '4 - ABOVE'.

The **Grade** column comes from the test grade field (TST.GR) and has a zero after each grade. Use **Replace Values** to change each grade. Replace 110 to 11, 110 to 10..etc.

From the **Home** tab, click on **Close & Load** to save these changes.

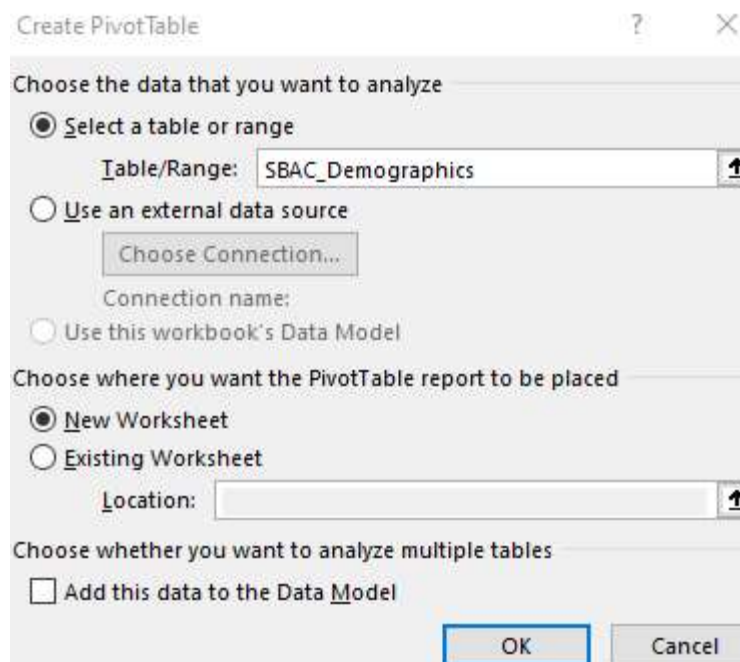
## Step 3: Use Analyze Data with Pivot Tables and Charts

Pivot Tables and Pivot Charts are powerful tools for analyzing data. We can create both a PivotTable and a PivotChart using our new **SBAC Demographics** table by **selecting** the **Insert** tab on the Ribbon and **Clicking** the **PivotChart** Button & selecting PivotChart & PivotTable.



The Create PivotTable Dialogue Box appears.

Ensure the Table/Range is **SBAC\_Demographics** and the **New Worksheet** radio Button is selected. **Click** the **OK** Button.



This will create a new worksheet in the workbook with a placeholder for the PivotTable. Name this worksheet **SBAC Analysis** by right-clicking with the mouse on the new Sheet tab.

Notice the PivotTable Fields control box on the right-hand side of the worksheet. This is where you control what is in the PivotTable.

The screenshot shows the Excel interface with a PivotTable on the left and the PivotChart Fields task pane on the right. The PivotTable is titled 'PivotTable4' and is located in the range G6:M38. The PivotChart Fields task pane is open, showing a list of fields to add to the report. The fields are: Student ID (checked), TESTID (unchecked), Test Admin (checked), Grade (checked), English Lang Arts /Liter (unchecked), Mathematics (checked), School Number (unchecked), School (unchecked), Current\_Grade (unchecked), Student Name (unchecked), Gender (unchecked), Language Fluency (unchecked), and Program (unchecked). The task pane also shows the 'Drag fields between areas below:' section with 'Filters' (empty), 'Legend (Series)' (Grade), 'Axis (Categories)' (Test Admin, Mathematics), and 'Values' (Count of Student ID). The 'Defer Layout Update' checkbox is unchecked, and the 'Update' button is visible.

Adding Fields to your PivotTable is as easy as clicking and dragging. To count the number of students in our data set **Click** the **check box** next to the **Student ID** field. This will add that field under the VALUES category. This is the box that performs calculations in a PivotTable. By default, it will Sum the value.

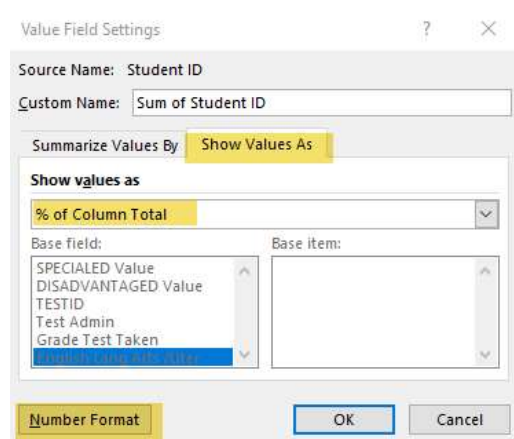
The screenshot shows the 'Values' field settings dropdown. The text 'Σ Values' is at the top. Below it, the dropdown menu is open, showing 'Sum of Student ID' as the selected option.

To get the total count of students instead of adding the student ID numbers together, **Click** on the **drop-down arrow** next to the **"Sum of Student ID Field"**. **Select Value Field Settings** and the Value Field Settings dialogue box will appear.

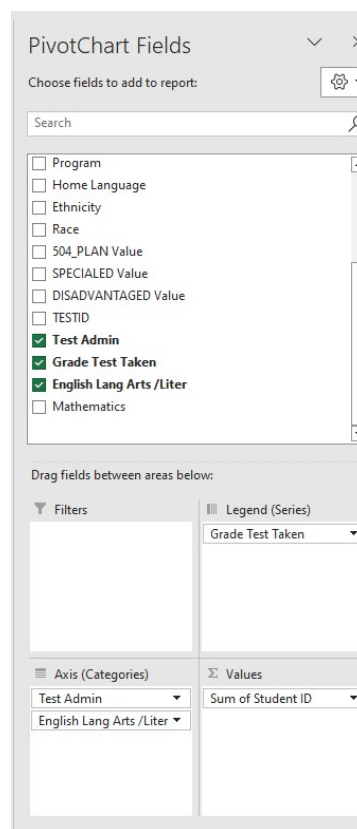
**Select Count** and **Click OK**.

The screenshot shows the 'Value Field Settings' dialog box. The 'Source Name' is 'Demographics1.Student ID'. The 'Custom Name' is 'Sum of Demographics1.Student ID'. The 'Summarize Values By' section is expanded, showing 'Summarize value field by' and 'Choose the type of calculation that you want to use to summarize data from the selected field'. The dropdown menu is open, showing 'Sum' as the selected option. Other options include Count, Average, Max, Min, and Product. The 'Number Format' button is at the bottom left, and the 'OK' and 'Cancel' buttons are at the bottom right.

It is usually better to analyze percentages instead of counts of the data. To turn the count of students into a percent of students, drag the Student ID to the Values box again. This time, in the **Value Field Settings** select the **Show Values As** tab and chose **% of Column Total** from the drop-down. Click on the **Number Format** button to format the data as a **percent** with **0 decimal places**.



**Select** the following **Fields** one at a time. **Drag** and **Drop** them into the **Row** or **Column** boxes as shown in the image below.



*Note, I removed the count of student by dragging the field from the Values box back to the tables box above.*

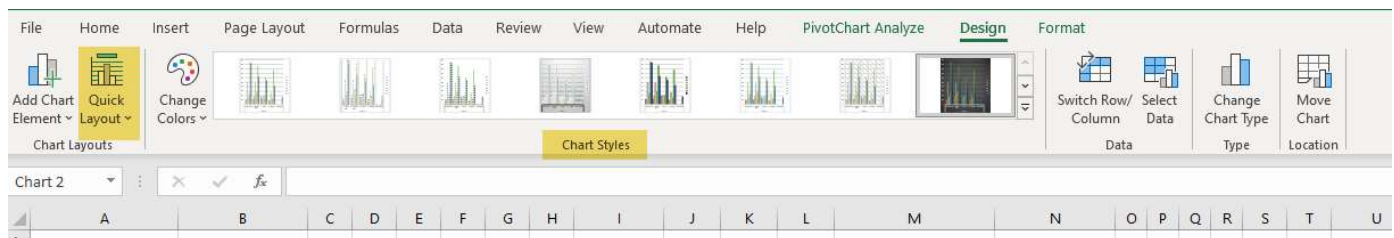
The PivotTable on the left side of the screen will look like this.

Sum of Student ID	Column Labels							
Row Labels	3	4	5	6	7	8	11	Grand Total
SPRG22	100%	100%	100%	100%	100%	100%	100%	100%
1 - NOT MET	24%	33%	27%	16%	21%	18%	12%	19%
2 - NEARLY MET	29%	18%	21%	23%	25%	24%	19%	22%
3 - MET	24%	24%	29%	43%	37%	40%	36%	36%
4 - ABOVE	20%	25%	22%	18%	15%	18%	32%	22%
(blank)	3%	0%	1%	1%	2%	0%	1%	1%
Grand Total	100%	100%	100%	100%	100%	100%	100%	100%

On the left, is the ELA Proficiency Level. Across the top is the grade level the student took this test. The numbers in the PivotTable represent the percent of students that fall within each category.

The PivotChart is also displayed. Use **Quick Layout** and **Chart Styles** for a quick and easy way to create great looking charts without having to spend a lot of time formatting.

While the PivotChart is selected **Select** the **Design** Tab. Choose the **Quick Layout** Button to select a preformatted layout. You may also select a **Chart Style**.

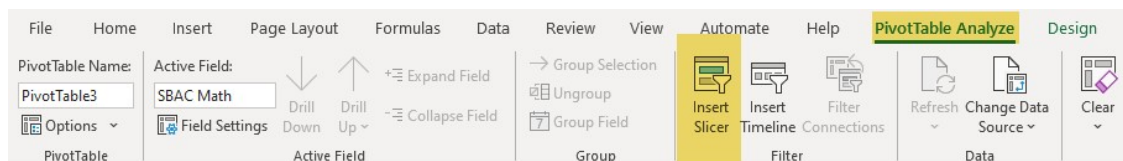


Repeat these steps to add a Pivot Chart for the Math Performance level on the same worksheet.

## Add Slicers

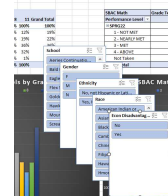
Slicers allow you to quickly filter the data in both the PivotTable and PivotChart by clicking on Slicer (filter) Buttons.

To insert Slicers. First **Click** anywhere on the **Pivot Table** or **Pivot Chart**. Then **Select** the **PivotTable Analyze** tab on the Ribbon. **Click** on the **Insert Slicer** Button in the Filter Group.



The Insert Slicers dialog box will appear.

**Check** the fields you want to be able to Filter by and **Click OK**. The slicers will be created. Move and resize the slicers on your spreadsheet.



You are now able to filter your Pivot Table and Pivot Chart by Clicking the items on the slicers.

*Tip: To use one set of slicers for multiple Pivot Tables or Charts, **Select a slicer**. Select **Slicer** tab on the ribbon and **Report Connections**. Check the visualizations to share this slicer.*

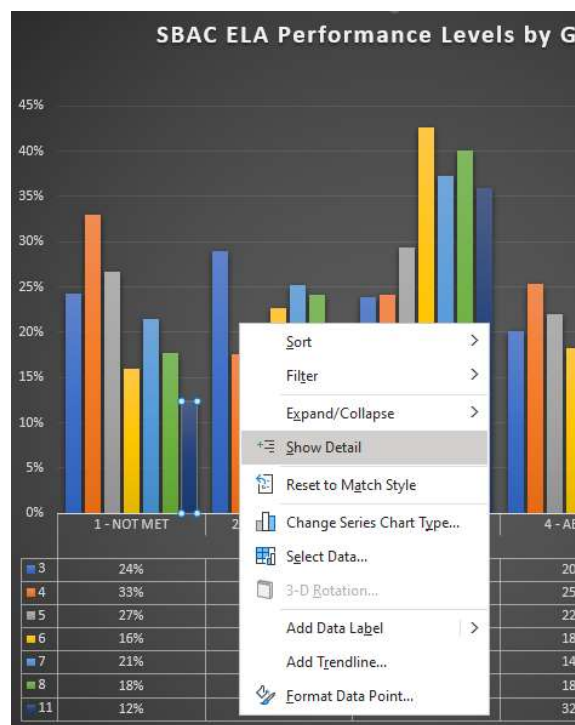


## Step 3: Analyze Data



Use the Slicers to filter the data.

Drill Down to see a list of students. When you right-click on any of the bars in the chart and select Show Detail a new worksheet will open listing the students who meet the criteria.



## Refresh the Data in 3 Easy Steps!

Once you have this setup, all you need to do is re-run the queries & refresh the data. No joining or formatting required!

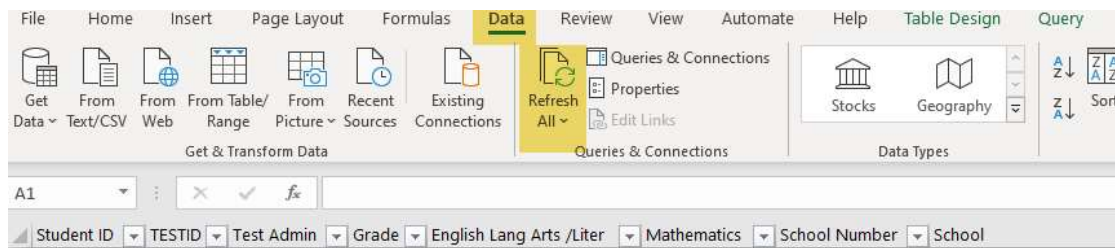
**1. Run Aeries Queries** - Re-Run queries to get the latest data. The SBAC query will need to be modified to add the new test administration:

```
LIST STU TST CST CSN CTL STU.ID TST.ID TST.TA TST.GR CTL.NM (( IIF ( TST.PL = 1, "1 - NOT MET", IIF ( TST.PL = 2, "2 - NEARLY MET", IIF ( TST.PL = 3, "3 - MET", IIF ( TST.PL = 4, "4 - ABOVE", "No Test Data" ) ) ) ) ) IF ( TST.ID = SBAC AND ( TST.TA = "SPRG22" OR TST.TA = "SPRG23" ) )
```

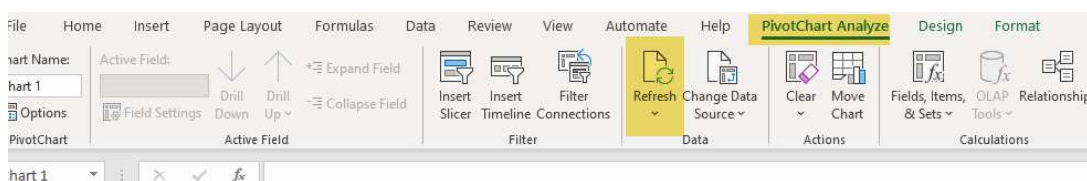
**2. Replace** - Save each new query result to Excel. Navigate to where you stored the original data & select the existing file to **REPLACE** the data. Close each workbook.

*Note: You could just run the query for the new test administration each year. Instead of replacing the SBAC workbook, you would cut & paste the new data to the end of the existing SBAC file and save.*

**3. Refresh** - Open the SBAC Analysis Workbook. Click on the **Data** tab on the ribbon & **Refresh All**. You will now see Spring23 data in the SBAC Demographics table.



Select the Pivot Chart and **PivotChart Analyze** from the ribbon and **Refresh All**.



The Charts are now updated. We can see data for both testing administrations.

