

Using Excel to Troubleshoot EMIS Data



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Overview

- Basic Excel techniques can be used to analyze EMIS data from Student Information Systems (SISs), from the Data Collector, and on ODE EMIS reports
- This session will demonstrate Excel functions and practical applications that can be helpful in all phases of the EMIS data review process



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Outline

- Simple formulas to troubleshoot student FTEs
- VLOOKUP to add LEA names to a report
- Macro to format an FTE Detail report
- Concatenation and conditional formatting to verify calendar data and student data



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Use Simple Formulas to Troubleshoot Student FTEs



Simple Formulas

- In this section we are going to use simple formulas to identify differences between
 - Original FTEs and Adjusted FTEs
 - Adjusted FTEs and Special Education Adjusted FTEs
- We will filter and highlight those differences to aid in troubleshooting the FTE Detail report



FTE Detail Report

Open the most recent version of the FTE Detail Report

Do not format/prepare the report

1. Add two new columns by selecting column S and column T, then right click and select "Insert"

2. Drag to widen, then name the two new columns

	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	First Name	Middle Name	LEA IRN	LEVEL 2 RE	RESULT CC	RESULT CC	FTE FUND	ENRL STAF	ENRL END	ORIG FTE	ADJSTD FT	ADJSTD SF	LEGAL DIS	ST	
2	First	Middle	011506	FTED-001	FT0000	FTE Detail	STEM	07/01/201	12/31/250	1	1		044180		
3	First	Middle	011506	FTED-001	FT0000	FTE Detail	STEM	08/15/201	01/06/201	0.491228	0.491228		044180		
4	First	Middle	000236	FTED-001	FT0000	FTE Detail	STEM	07/01/201	12/31/250	1	1		044180		
5	First	Middle	000577	FTED-001	FT0000	FTE Detail	STEM	07/01/201	12/31/250	1	1		044180		
6	First	Middle	000297	FTED-001	FT0000	FTE Detail	STEM	07/01/201	12/31/250	1	0.6		044180		
7	First	Middle	009957	FTED-001	FT0000	FTE Detail	STEM	07/01/201	12/31/250	1	1		044180		
8	First	Middle	045054	FTED-001	FT0000	FTE Detail	OPDD	05/28/201	12/31/250	0.048088	0.048088		044180		
9	First	Middle	000241	FTED-001	FT0000	FTE Detail	COMM	07/01/201	12/31/250	1	1		044180		
								105/30/201		1	1		044180		
								101/06/201		0.490798	0.387564	0.387564	044180		
								112/31/250		1	1		044180		
								105/31/201		0.92	0.92		044180		
								112/31/250		1	1		044180		
								106/30/201		1	1		044180		
										0.491228			044180		



Add Simple Formulas

Subtract ADJSTD FTE from ORIG FTE

In cell S2 type an equal sign then click into cell P2. Type a minus sign. Click into cell Q2 and press enter

	K	L	M	N	O	P	Q	R	S	T	
2	RE	RESULT CC	RESULT CC	FTE FUND	ENRL STAF	ENRL END	ORIG FTE	ADJSTD FT	ADJSTD SF	ORIG vs ADJ	ADJ vs Sp Ed
-001	FT0000	FTE Detail	STEM	07/01/201	12/31/250		1	1		=P2-Q2	
-001	FT0000	FTE Detail	STEM	08/15/201	01/06/201		0.491228	0.491228			
-001	FT0000	FTE Detail	COMM	08/27/201	05/31/201		1	1			

Double click, or click and drag the bottom right corner of cell S2 to populate the cells below

	K	L	M	N	O	P	Q	R	S	T	
2	RE	RESULT CC	RESULT CC	FTE FUND	ENRL STAF	ENRL END	ORIG FTE	ADJSTD FT	ADJSTD SF	ORIG vs ADJ	ADJ vs Sp Ed
-001	FT0000	FTE Detail	STEM	07/01/201	12/31/250		1	1		0	
-001	FT0000	FTE Detail	STEM	08/15/201	01/06/201		0.491228	0.491228			
-001	FT0000	FTE Detail	COMM	08/27/201	05/31/201		1	1			

Here we can see if there is a difference between the original and adjusted FTE



Add Simple Formulas, cont'd

Subtract ADJSTD SPECED from ADJSTD FTE

1. In cell T2 type an equal sign then click into cell Q2. Type a minus sign. Click into cell R2 and press enter

=Q2-R2

J	K	L	M	N	O	P	Q	R	S	T														
L 2	RE	RESULT	CC	RESULT	CC	FTE	FUND	ENRL	STAF	ENRL	END	ORIG	FTE	ADJSTD	FTE	ADJSTD	SE	ORIG	vs	ADJ	ADJ	vs	Sp	Ed
-001	FT0000	FTE	Detail	STEM	07/01/201	12/31/250						1		1							0	=Q2-R2		
-001	FT0000	FTE	Detail	STEM	08/15/201	01/06/201	0.491228					0.491228									0			
-001	FT0000	FTE	Detail	COMM	08/27/201	05/31/201						1		1							0			

2. Double click, or click and drag the bottom right corner of cell S2 to populate the cells below

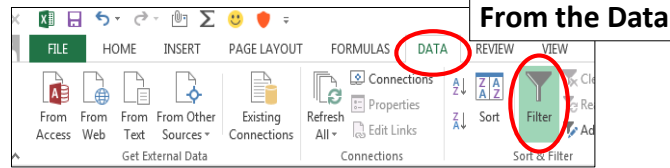
Here we can see if there is a difference between the adjusted FTE and adjusted special education FTE

J	K	L	M	N	O	P	Q	R	S	T														
L 2	RE	RESULT	CC	RESULT	CC	FTE	FUND	ENRL	STAF	ENRL	END	ORIG	FTE	ADJSTD	FTE	ADJSTD	SE	ORIG	vs	ADJ	ADJ	vs	Sp	Ed
-001	FT0000	FTE	Detail	STEM	07/01/201	12/31/250						1		1							0		1	
-001	FT0000	FTE	Detail	STEM	08/15/201	01/06/201	0.491228					0.491228		0.491228							0		0.491228	
-001	FT0000	FTE	Detail	COMM	08/27/201	05/31/201						1		1							0		1	



Filter and Highlight ORIG vs ADJ Data

From the Data tab, add filters

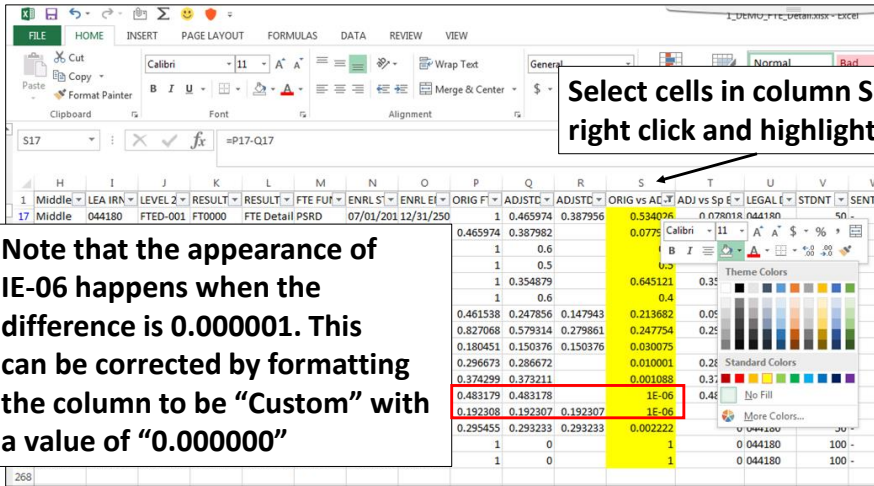


Filter on column S, "ORIG vs ADJ", unselect "0" and click OK

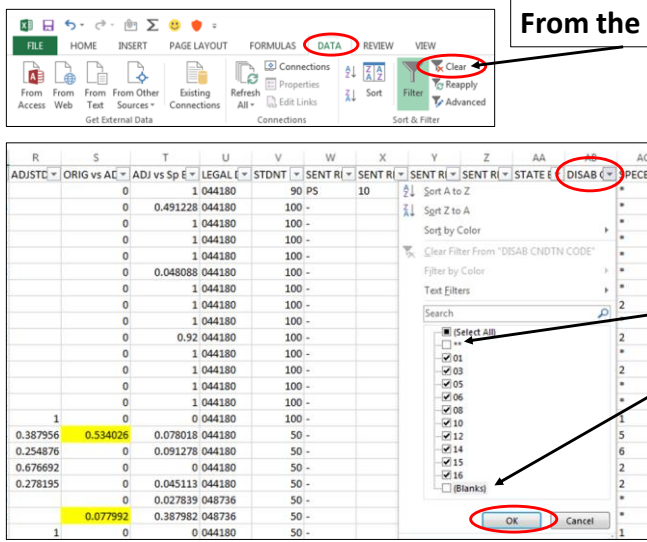
J	K	L	M	N	O	P	Q	R	S														
1	Middle	LEA	IRN	LEVEL	2	RESULT	FTE	FUND	ENRL	STAF	ENRL	END	ORIG	FTE	ADJSTD	FTE	ADJSTD	SE	ORIG	vs	ADJ		
2	Middle	011506	FTED-001	FT0000	FTE	Detail	STEM	07/01/201	12/31/250				1		1								
3	Middle	011506	FTED-001	FT0000	FTE	Detail	STEM	08/15/201	01/06/201				0.491228		0.491228								
4	Middle	000236	FTED-001	FT0000	FTE	Detail	COMM	08/27/201	05/31/201				1		1								
5	Middle	000577	FTED-001	FT0000	FTE	Detail	COMM	08/13/201	12/31/250				1		1								
6	Middle	009957	FTED-001	FT0000	FTE	Detail	COMM	07/01/201	12/31/250				1		1								
7	Middle	045054	FTED-001	FT0000	FTE	Detail	OPDD	05/28/201	12/31/250				1		1								
8	Middle	000241	FTED-001	FT0000	FTE	Detail	COMM	07/01/201	12/31/250				1		1								
9	Middle	052878	FTED-001	FT0000	FTE	Detail	JPSN	08/20/201	05/30/201				1		1								
10	Middle	009957	FTED-001	FT0000	FTE	Detail	COMM	07/01/201	12/31/250				1		1								
11	Middle	054239	FTED-001	FT0000	FTE	Detail	JPSN	09/19/201	05/31/201				1		1								
12	Middle	046128	FTED-001	FT0000	FTE	Detail	OPDD	08/15/201	12/31/250				1		1								
13	Middle	052803	FTED-001	FT0000	FTE	Detail	JPSN	07/01/201	06/30/201				1		1								
14	Middle	044180	FTED-001	FT0000	FTE	Detail	RGJV	07/01/201	12/31/250				1		1								
15	Middle	044180	FTED-001	FT0000	FTE	Detail	RGJV	07/01/201	12/31/250				1		1								
16	Middle	044180	FTED-001	FT0000	FTE	Detail	RGJV	07/01/201	12/31/250				1		1								
17	Middle	044180	FTED-001	FT0000	FTE	Detail	PSRD	07/01/201	12/31/250				1		1								
18	Middle	044180	FTED-001	FT0000	FTE	Detail	PSRD	07/01/201	11/08/201				1		1								
19	Middle	044180	FTED-001	FT0000	FTE	Detail	PSRD	11/07/201	12/31/250				1		1								
20	Middle	044180	FTED-001	FT0000	FTE	Detail	PSRD	03/04/201	05/23/201				1		1								



Filter and Highlight ORIG vs ADJ Data, cont'd



Filter and Highlight ADJ vs Sp Ed Data



Filter and Highlight ADJ vs Sp Ed Data, cont'd

Apply a second filter on column T, "ADJ vs Sp Ed", then unselect "0", and click "OK"

H	I	J	K	L	M	N	O	P	Q	R	S	T
Middle	LEA IRN	LEVEL 2	RESULT	RESULT	FTE FU	ENRL S	ENRL E	ORIG F	ADJSTC	ADJSTC	ORIG vs AC	ADJ vs Sp Ed
16	Middle	044180	FTED-001	FT0000	FTE Detail RGJV	07/01/201 12/31/250	1	0.465974	0.387956	0.534026	0.078018	044180
17	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	07/01/201 11/08/201	0.346154	0.346154	0.254876	0	0.091278	044180
18	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	07/01/201 11/08/201	0.346154	0.346154	0.254876	0	0.091278	044180
19	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	11/07/201 12/31/250	0.676692	0.676692	0.676692	0	0.111139	044180
20	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	03/04/201 05/23/201	0.323308	0.323308	0.278195	0	0.045113	044180
23	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	07/01/201 12/31/250	1	0.511278	0.348762	0	0.11	044180
27	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	03/13/201 12/31/250	0.284615	0.284615	0.284615	0	0.16	044180
31	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	07/01/201 12/31/250	1	0.511278	0.348762	0	0.09	044180
32	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	12/17/201 04/10/201	0.360902	0.360902	0.249763	0	0.11	044180
33	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	01/08/201 12/31/250	0.511278	0.511278	0.348762	0	0.16	044180
37	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	04/11/201 12/31/250	0.180451	0.180451	0.180451	0	0.074458	044180
38	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	02/25/201 04/10/201	0.172932	0.172932	0.172932	0	0.091278	044180
39	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	07/01/201 05/06/201	0.923077	0.923077	0.923077	0	0.099913	044180
40	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	05/07/201 12/31/250	0.076923	0.076923	0.076923	0	0.111139	044180
41	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	07/01/201 12/31/250	0.461538	0.461538	0.461538	0	0.162054	044180
42	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	12/14/201 12/31/250	0.538462	0.538462	0.538462	0	0.162054	044180
43	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	07/01/201 12/31/250	1	0.511278	0.348762	0	0.16	044180
46	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	07/01/201 12/31/250	1	0.511278	0.348762	0	0.16	044180
47	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	12/10/201 12/31/250	0.571429	0.571429	0.571429	0	0.074458	044180
49	Middle	044180	FTED-001	FT0000	FTE Detail PSNR	10/08/201 05/08/201	0.729323	0.729323	0.654865	0	0.162054	044180

Filter and Highlight ADJ vs Sp Ed Data, cont'd

Select cells in column T, right click and highlight in green

H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	
Middle	LEA IRN	LEVEL 2	RESULT	RESULT	FTE FU	ENRL S	ENRL E	ORIG F	ADJSTC	ADJSTC	ORIG vs AC	ADJ vs Sp Ed	LEGAL E	STNDT	SENT RI	SENT RI	
17	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	07/01/201 12/31/250	1	0.465974	0.387956	0.534026	0.078018	044180	50-	-	-	-	
18	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	07/01/201 11/08/201	0.346154	0.346154	0.254876	0	0.091278	044180	50-	-	-	-	
20	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	03/04/201 05/23/201	0.323308	0.323308	0.278195	0	0.045113	044180	50-	-	-	-	
32	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	12/17/201 04/10/201	0.360902	0.360902	0.249763	0	0.11	044180	50-	-	-	-	
33	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	01/08/201 12/31/250	0.511278	0.511278	0.348762	0	0.16	044180	50-	-	-	-	
41	Middle	044180	FTED-001	FT0000	FTE Detail PSNR	10/08/201 05/08/201	0.729323	0.729323	0.654865	0	0.074458	048694	50-	-	-	-	
49	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	02/07/201 12/31/250	0.407692	0.407692	0.245638	0	0.162054	044180	50-	-	-	-	
70	Middle	044180	FTED-001	FT0000	FTE Detail PSRD	10/01/201 12/31/250	0.827068	0.579314	0.279861	0	0.247754	0.299453	044180	50-	-	-	-

Remove Filters, View Highlighted Cells, and Save

From the Data tab click on “Filter” to remove all filters from the report

Notice that the highlighted cells are showing the amount of Original FTE (yellow) and Special Education weighted FTE (green) that is not being funded

Investigate if the FTE is fundable and if there is an appropriate corrective action. Refer to the FTE Adjustment report for Result Codes

Q272	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	
1	Last Name	First Name	Middle Name	LEA IRN	LEVEL 2	RESULT CC	RESULT CC	FTE FUND	ENRL STA	ENRL END	ORIG FTE	ADJSTO FT	ADJSTO S	ORIG vs ADJ	ADJ vs Sp Ed	LEGAL DIS	STONT	PC SENT RE	
2	Last	First	Middle	044180	FTED-001	FT0000	FTE Detail STEM	07/01/2012	31/250		1	1	1	0	0.491228	044180	100	-	
3	Last													0	1.044180	100	-		
4	Last													0	1.044180	100	-		
5	Last													0	1.044180	100	-		
6	Last													0	1.044180	100	-		
7	Last													0	0.048088	044180	100	-	
8	Last													0	1.044180	100	-		
9	Last													0	1.044180	100	-		
10	Last													0	1.044180	100	-		
11	Last													0	0.92	044180	100	-	
12	Last													0	1.044180	100	-		
13	Last	First	Middle	022803	FTED-001	FT0000	FTE Detail JPSN	07/01/2012	08/30/201		1	1	1	0	1.044180	100	-		
14	Last	First	Middle	044180	FTED-001	FT0000	FTE Detail RGJV	07/01/2012	31/250		1	1	1	0	1.044180	100	-		
15	Last	First	Middle	044180	FTED-001	FT0000	FTE Detail RGJV	07/01/2012	31/250		1	1	1	0	1.044180	100	-		
16														1	0	0	044180	100	-
17														87956	0.534026	0.078018	044180	50	-
18														84876	0	0.091278	044180	50	-
19														78692	0	0	044180	50	-
20														78195	0	0.045113	044180	50	-



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Quick Check

Focusing on differences in original FTEs, adjusted FTEs, and special education adjusted FTEs can aid in troubleshooting FTE report data. Since many FTE Detail reports are quite large, highlighting can make the effected FTEs more obvious.

- Are you able to add columns and perform simple formulas?
- Are you able to filter and highlight adjusted values that should be investigated?
- Are you looking at the FTE Adjustment report to identify the causes of the adjustments?



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Use VLOOKUP to add LEA Names from OEDS to a Report



Adding LEA Names

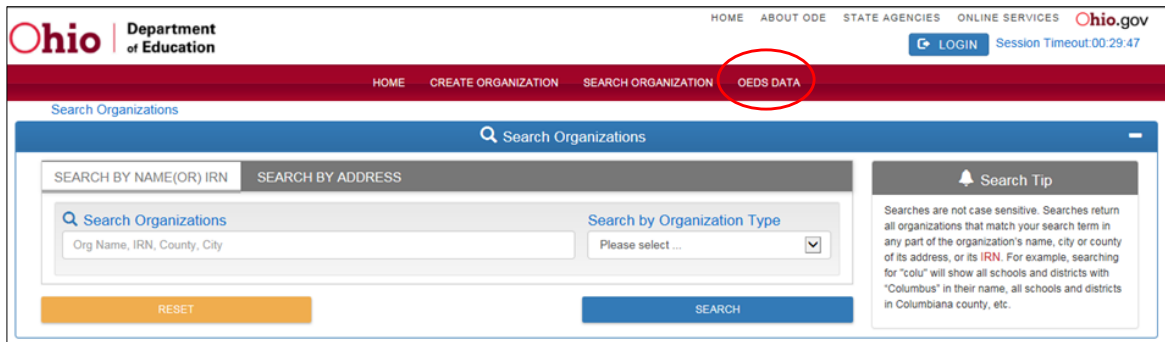
- Most EMIS reports contain IRNs and no LEA names which can make troubleshooting difficult
- This section will add LEA names to the FTE Detail report for a more user friendly outcome
- We will begin by running a report of LEA IRNs and names from OEDS and will perform a VLOOKUP to add the LEA names to the FTE Detail report



Use OEDS Data to Create a Source File

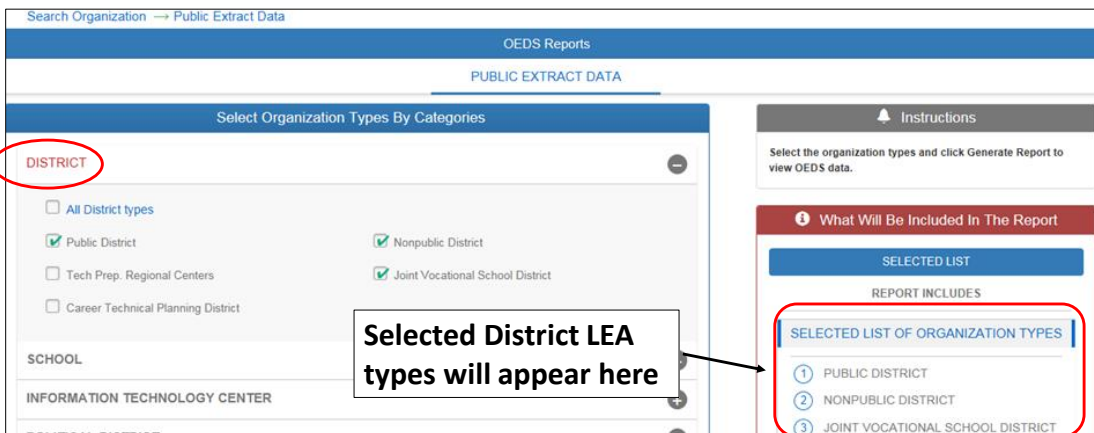
<https://oeds.ode.state.oh.us/SearchOrg>

LEA data can be pulled into Excel using the OEDS Data link



Select LEA Types

Select District LEA Types to Include



Select School LEA Types

Select School LEA Types to Include

Select Organization Types By Categories

DISTRICT +

SCHOOL -

All School types

Nonpublic School

Public School

Night/Adult School

Vocational School

Community School

Science, Technology, Engineering and Mathematics

INFORMATION TECHNOLOGY CENTER +

POLITICAL DISTRICT +

MEDIA +

Instructions

Select the organization types and click Generate Report to view OEDS data.

What Will Be Included In The Report

SELECTED LIST

REPORT INCLUDES

SELECTED LIST OF ORGANIZATION TYPES

- 1 PUBLIC DISTRICT
- 2 JOINT VOCATIONAL SCHOOL DISTRICT
- 3 NONPUBLIC SCHOOL
- 4 PUBLIC SCHOOL
- 5 COMMUNITY SCHOOL

Selected School LEA types will appear here



Select More LEA Types and Generate Report

Select Organization Types By Categories

DISTRICT +

SCHOOL +

INFORMATION TECHNOLOGY CENTER +

POLITICAL DISTRICT +

MEDIA +

UNIVERSITY/COLLEGE +

SERVICE CENTER +

CHILDCARE/PRESCHOOL +

STATE ORGANIZATION +

STATE SUPPORTED ORGANIZATION +

OTHER ORGANIZATION +

CHILD NUTRITION ORGANIZATION +

Educational Service Center

State Supported Organization

State Supported School

Developmental Disabilities Organization

Scholarship Provider

Unclassified OEC Service Provider

Click on "Generate Report"

Instructions

Select the organization types and click Generate Report to view OEDS data.

What Will Be Included In The Report

SELECTED LIST

REPORT INCLUDES

SELECTED LIST OF ORGANIZATION TYPES

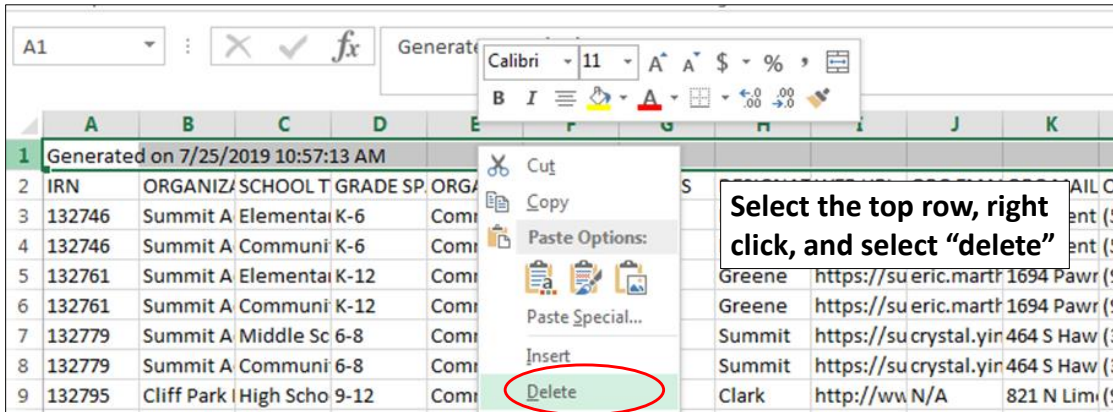
- 1 PUBLIC DISTRICT
- 2 JOINT VOCATIONAL SCHOOL DISTRICT
- 3 PUBLIC SCHOOL
- 4 COMMUNITY SCHOOL
- 5 SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS
- 6 EDUCATIONAL SERVICE CENTER

GENERATE REPORT

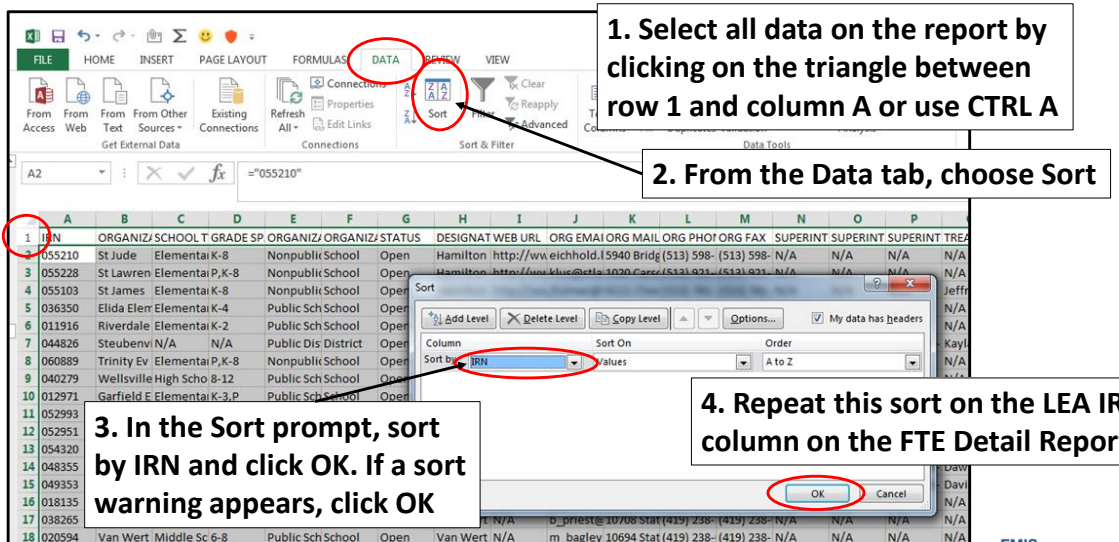


Prepare the Source File

Delete the top row



Sort Both Files



Adding LEA Names to FTE Detail Report

1. Select the column to the right of the LEA IRN column, right click and select "Insert". Label the new column "LEA Name"

2. Place cursor in the first open cell in the new column, then select the function icon

	Last Name	First Name	Middle Name	LEA IRN
1	Last	First	Middle	011506
2	Last	First	Middle	011506
3	Last	First	Middle	000236
4	Last	First	Middle	000577
5	Last	First	Middle	009957
6	Last	First	Middle	045054
7	Last	First	Middle	000241
8	Last	First	Middle	052878
9	Last	First	Middle	009957
10	Last	First	Middle	054239
11	Last	First	Middle	046128
12	Last	First	Middle	052803
13	Last	First	Middle	044180
14	Last	First	Middle	044180
15	Last	First	Middle	044180
16	Last	First	Middle	044180
17	Last	First	Middle	044180
18	Last	First	Middle	044180
19	Last	First	Middle	044180
20	Last	First	Middle	044180
21	Last	First	Middle	044180

Begin the VLOOKUP

If VLOOKUP does not appear in the list of functions, search for VLOOKUP and select "Go"

Select VLOOKUP from the "Select a Function" list and click "OK"

	Last Name	First Name	Middle Name	LEA IRN	LEA Name
1	Last	First	Middle	011506	
2	Last	First	Middle	011506	
3	Last	First	Middle	000236	
4	Last	First	Middle	000577	
5	Last	First	Middle	009957	
6	Last	First	Middle	045054	
7	Last	First	Middle	000241	
8	Last	First	Middle	052878	
9	Last	First	Middle	009957	
10	Last	First	Middle	054239	
11	Last	First	Middle	046128	
12	Last	First	Middle	052803	
13	Last	First	Middle	044180	
14	Last	First	Middle	044180	
15	Last	First	Middle	044180	
16	Last	First	Middle	044180	
17	Last	First	Middle	044180	
18	Last	First	Middle	044180	
19	Last	First	Middle	044180	
20	Last	First	Middle	044180	
21	Last	First	Middle	044180	

Build the VLOOKUP

1. Be sure that your cursor is in the field next to "Lookup_value"

2. Select cell I2 in the "LEA IRN" column

3. See that I2 appears in the Lookup_value field

4. Place cursor in the Table_array field

Build the VLOOKUP, cont'd

- Toggle to your OEDS Data spreadsheet and place your cursor in cell A2
- While holding down the Shift and CTRL keys at the same time, press right arrow then down arrow

This will populate the Table_array field

Place cursor into Col_Index_Num field

Build the VLOOKUP, cont'd

To determine the Col_index_num count the number of columns from the left that contain the values we want to bring back from the OEDS file. In this case, column B is 2 columns from the left

	A	B	C	D	E
1	IRN	ORGANIZATION NAME	SCHOOL TYPE	GRADE SPAN	ORGANIZATION TYPE
2	000059	Ada Elementary School	Elementary School	K-6	Public School
3	000067	Ada High School	High School	7-12	Public School
4	000083	Sandusky Middle School	Middle School	7-8	Public School
5	000102	Meigs Primary School	Elementary School	K-2	Public School
6	000105	Meigs Intermediate School	Elementary School	3-5	Public School
7	000117	Adamsville Elementary School	Elementary School	K-6	Public School
8	000118	Hamilton Intermediate School	Middle School	4-6	Public School

Build the VLOOKUP, cont'd

The complete VLOOKUP function appears here

`=VLOOKUP(I2,[2_DEMO_OEDS_Data.xlsx]Data!A2:X6320,2,FALSE)`

1. Insert 2 in the Col_index_num and FALSE in the Range_lookup

2. Note that the first match appears in the prompt

3. Click OK

Function Arguments
 Lookup_value: I2 = 041506
 Table_array: 'xls[Data!\$A\$2:\$X\$6320
 Col_index_num: 2 = 2
 Range_lookup: FALSE = FALSE
 Looks for a value in the leftmost column of a table, and then returns a value in the same row from a column you specify. By default, the table must be sorted in an ascending order.
 Find the closest match in the first column (sorted in TRUE or omitted; find an exact match = FALSE.
 Formula result = Dayton Regional STEM School
 OK Cancel

View LEA Names then Save Changes

See the first LEA Name appear, then double click or drag down to populate cells below

Widen the LEA Name column as needed

Before sending this report to others, change the formulas in column J to values. Right click column J and choose "Copy", then right click and paste values

LEA IRN	LEA Name	LEVEL 2 RE	RESULT	CC	RESULT	CC
011506	Dayton Regional STEM School	FTED-001	FT0000	FTE Detail		
011506	Dayton Regional STEM School	FTED-001	FT0000	FTE Detail		
000236	Ohio Connections Academy In	FTED-001	FT0000	FTE Detail		
000577	Emerson Academy	FTED-001	FT0000	FTE Detail		
009957	Klepinger Community School	FTED-001	FT0000	FTE Detail		

Formula: `=VLOOKUP(I2,[2_DEMO_OEDS_Data.xlsx]Data!A2:X6320,2,FALSE)`

RPT DEST	Bldg	IRN	Middle	LEA IRN	LEA Name	LEVEL 2 RE	RESULT	CC	RESULT	CC
040404	011111	I	Middle	011506	Dayton Regional STEM School	FTED-001	FT0000	FTE Detail		
040404	011111	I	Middle	011506	Dayton Regional STEM School	FTED-001	FT0000	FTE Detail		
040404	011111	I	Middle	000236	Ohio Connections Academy In	FTED-001	FT0000	FTE Detail		
040404	011111	I	Middle	000577	Emerson Academy	FTED-001	FT0000	FTE Detail		
040404	011111	I	Middle	009957	Klepinger Community School	FTED-001	FT0000	FTE Detail		



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Quick Check

Using data from OEDs to populate LEA names into an FTE Detail report can make the report easier to troubleshoot. Consider doing the VLOOKUP on other columns in the FTE Detail report or on other EMIS reports.

- Are you able to generate an LEA report from OEDS?
- Are you able to perform a VLOOKUP to add LEA names to the FTE Detail report?
- What other EMIS reports could be made more user friendly by populating LEA names into the report?



32

Create MACROs to Format Spreadsheets



Create a Macro

- A macro can be created to complete spreadsheet set ups with one click
- Create it once and use it over and over
- Continue using the same FTE Detail Report that we have used in previous exercises
 - If you are using the same FTE Detail report from the last segment, remove filters before beginning the recording
 - Note that we are not going to record the simple formulas exercise or the VLOOKUP to add LEA names

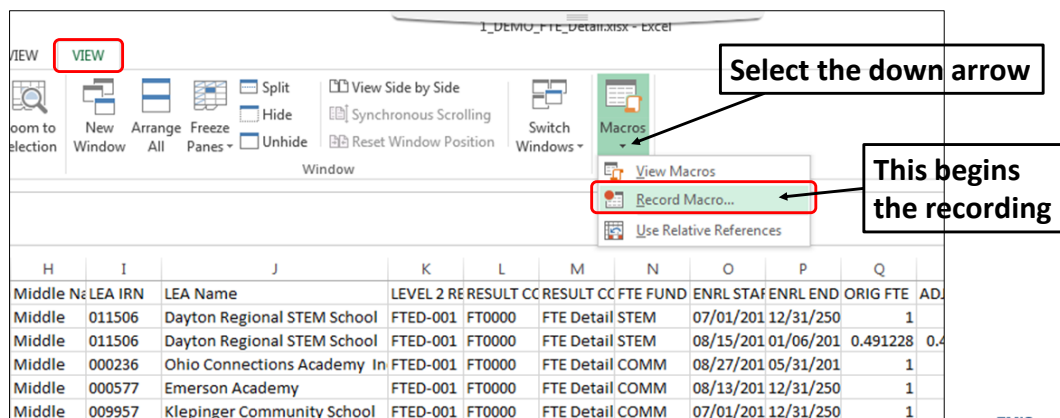


Macro Steps

- Freeze Top Row
- Wrap Text in the Header Row
- Justify column width
- Apply Filters
- Sort
- Subtotal then highlight subtotaled rows

Begin Creating a Macro

From the View tab, select the down arrow under Macros and select "Record Macro"

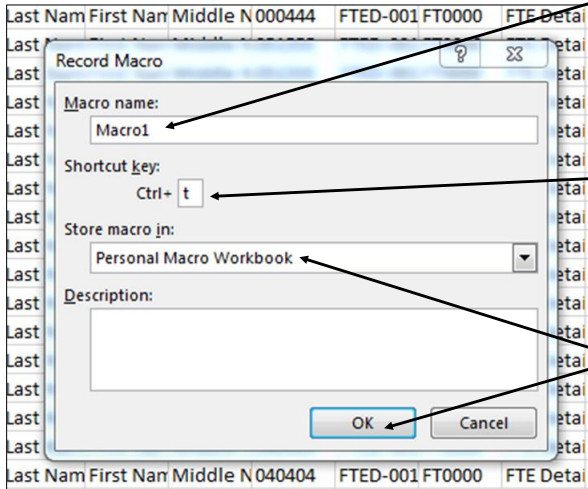


The screenshot shows the Excel ribbon with the 'VIEW' tab selected. The 'Macros' dropdown menu is open, and 'Record Macro...' is highlighted. A callout box points to the down arrow on the 'Macros' button, and another callout box points to the 'Record Macro...' option.

H	I	J	K	L	M	N	O	P	Q	
Middle N	LEA IRN	LEA Name	LEVEL 2 RE	RESULT	CC	FTE FUND	ENRL STAF	ENRL END	ORIG FTE	AD
Middle	011506	Dayton Regional STEM School	FTED-001	FT0000	FTE Detail	STEM	07/01/201	12/31/250	1	
Middle	011506	Dayton Regional STEM School	FTED-001	FT0000	FTE Detail	STEM	08/15/201	01/06/201	0.491228	0.4
Middle	000236	Ohio Connections Academy In	FTED-001	FT0000	FTE Detail	COMM	08/27/201	05/31/201	1	
Middle	000577	Emerson Academy	FTED-001	FT0000	FTE Detail	COMM	08/13/201	12/31/250	1	
Middle	009957	Klepinger Community School	FTED-001	FT0000	FTE Detail	COMM	07/01/201	12/31/250	1	

Record Macro Prompt

Set up the prompt



Enter a Macro name or leave as the default value

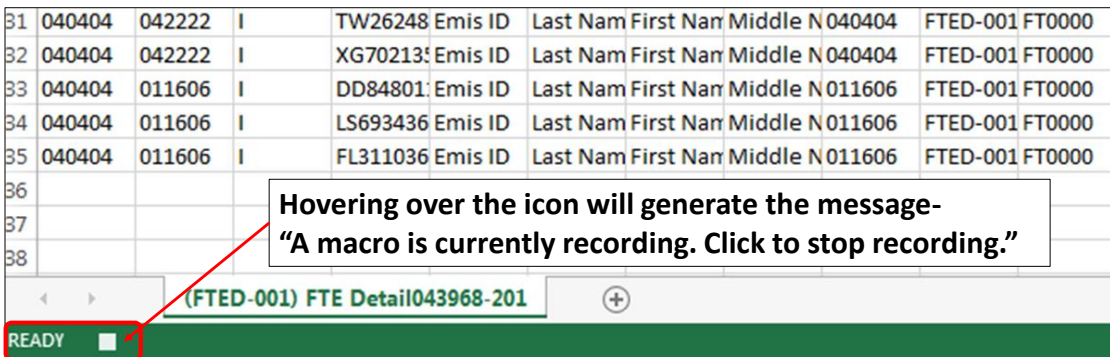
Enter a unique Shortcut key value
Tip- enter a value that you don't typically use as a Ctrl command (don't use values such as Ctrl A, Ctrl C, Ctrl V, etc.)

Select "Personal Macro Workbook" from the "Store macro in" dropdown menu then click OK



Begin Recording the Macro

- Macro is now recording
- Ready status and a small square icon show at bottom left

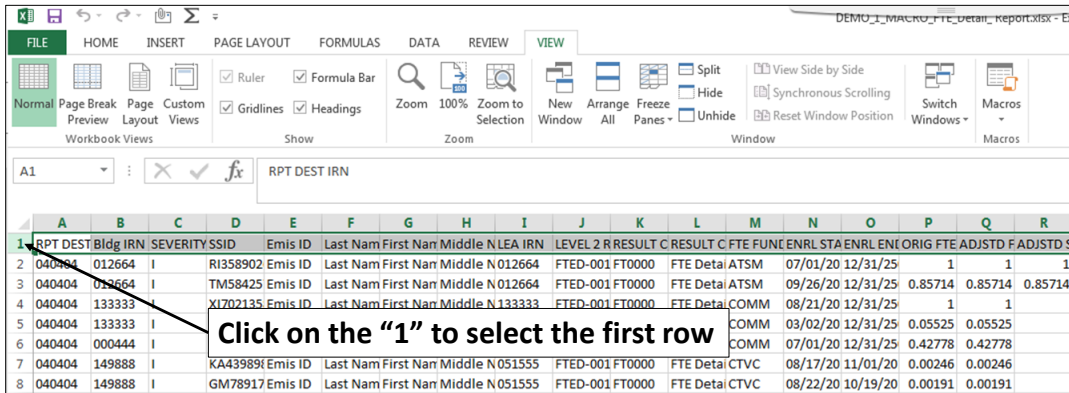


Hovering over the icon will generate the message-
"A macro is currently recording. Click to stop recording."



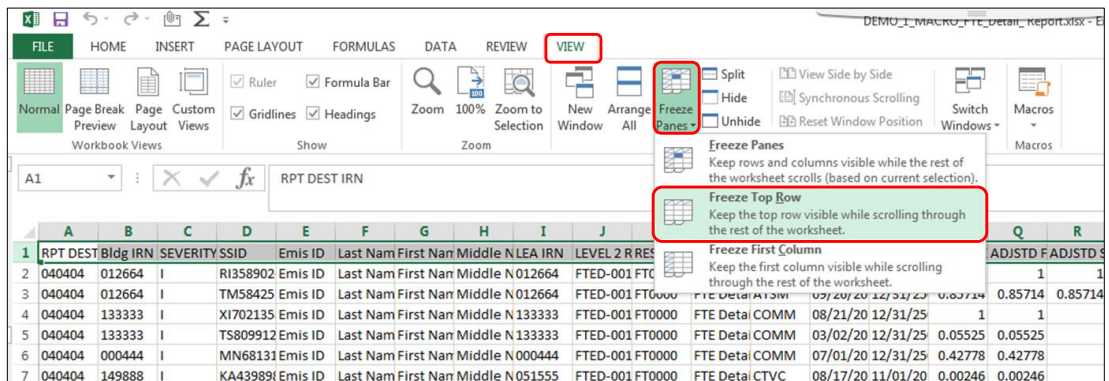
Recording the Macro

Start by selecting the top row



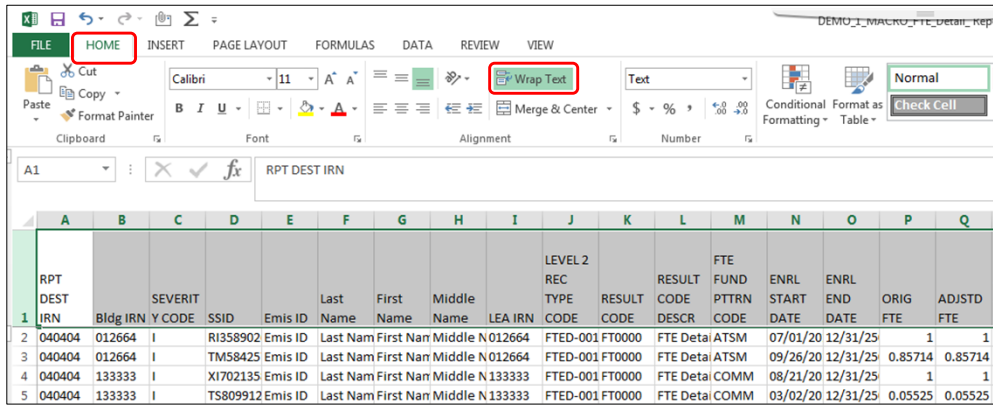
Recording the Macro, cont'd

From the View tab, select "Freeze Panes" and "Freeze Top Row"



Recording the Macro, cont'd

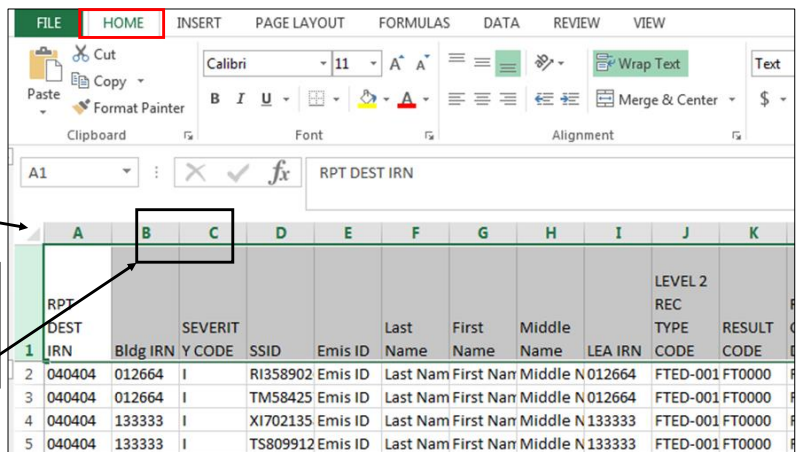
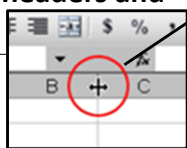
From the Home Tab, select "Wrap Text"



Recording the Macro, cont'd

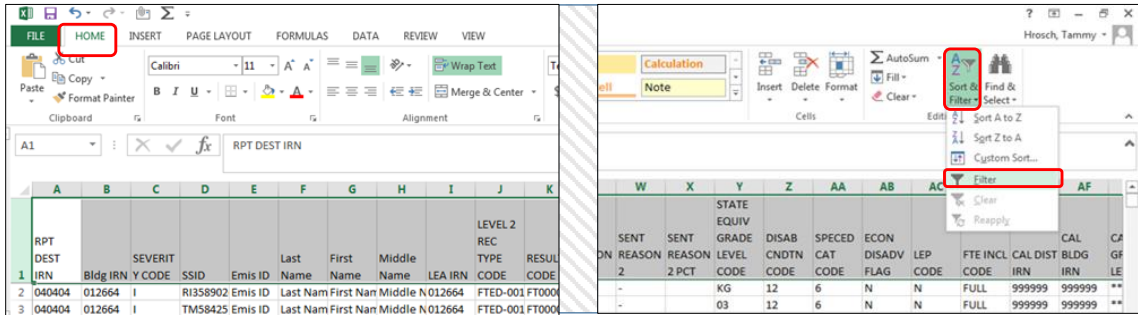
Click on the triangle between Column A and Row 1 to select the entire spreadsheet

Place cursor between any two column headers and double click



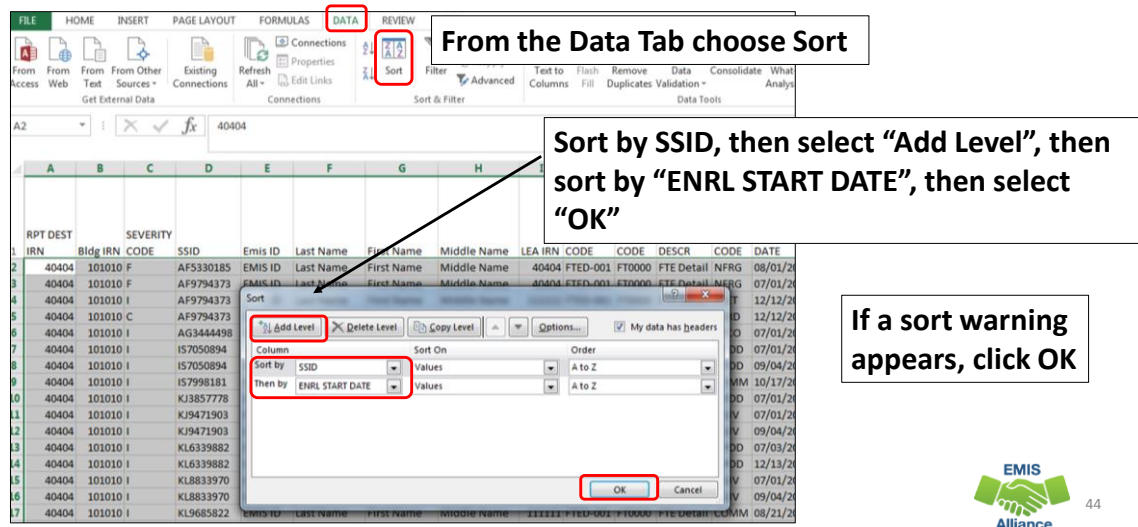
Recording the Macro, cont'd

From the Home tab, select "Sort & Filter" and then "Filter"



Recording the Macro, New Steps

Sort by SSID, then by Enrollment Start Date



Apply Subtotals

From the Data Tab select Subtotal

In the Subtotal Prompt select

1. "At each change in:" SSID
2. "Use function:" Sum
3. "Add subtotal to:" ORIG FTE and ADJSTD FTE and ADJSTD SPECED CAT FTE
4. Select "OK"

IRN	Bldg IF	CODE	SSID	Emis ID	Nan	Nan	Nam	LEA IF	
1	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
2	040404	011111	I	BJ0082484	123463241	Last	First	Middle	044180
3	040404	011111	I	BJ6408068	123457795	Last	First	Middle	044180
4	040404	011111	I	BN0024228	123463197	Last	First	Middle	044180
5	040404	011111	I	BN2282646	123461615	Last	First	Middle	044180
6	040404	011111	I	BN6204622	123457306	Last	First	Middle	044180
7	040404	011111	I	BN6060042	123457361	Last	First	Middle	044180
8	040404	011111	I	BP4288864	123463226	Last	First	Middle	044180
9	040404	011111	I	BP8606484	123457010	Last	First	Middle	044180
10	040404	011111	I	BR6260824	123463229	Last	First	Middle	044180
11	040404	011111	I	BV6024606	123463225	Last	First	Middle	044180
12	040404	011111	I	BV6084064	123457681	Last	First	Middle	044180
13	040404	011111	I	BV6084064	123457680	Last	First	Middle	044180
14	040404	011111	I	BX2640686	123463242	Last	First	Middle	044180
15	040404	011111	I	BX2844844	123457534	Last	First	Middle	044180
16	040404	011111	I	BX6684304	123456829	Last	First	Middle	044180
17	040404	011111	I						
18	040404	011111	I						

Filter and Highlight

1. Filter on the "RPT DIST IRN" column and select only "Blanks" then click "OK"

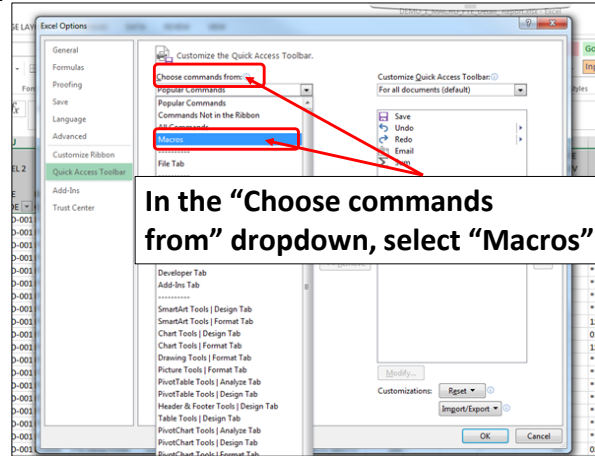
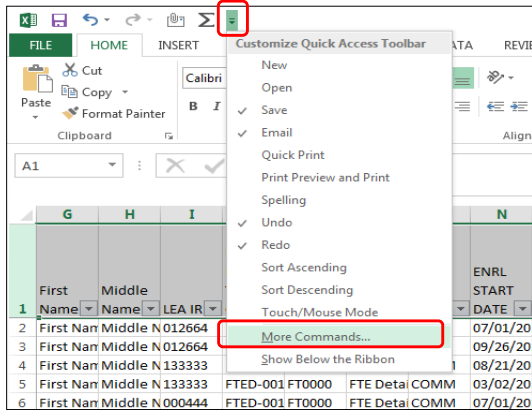
2. From the Home Tab select highlight and choose a color

3. Choose the filter on the "RPT DIST IRN" column again and check "Select All" then click "OK"

IRN	Bldg IF	CODE	SSID	Emis ID	Nan	Nan	Nam	LEA IF	
1	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
2	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
3	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
4	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
5	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
6	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
7	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
8	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
9	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
10	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
11	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
12	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
13	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
14	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
15	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
16	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
17	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180
18	040404	011111	I	BF8442646	123463667	Last	First	Middle	044180

Make the Macro a Quick Link

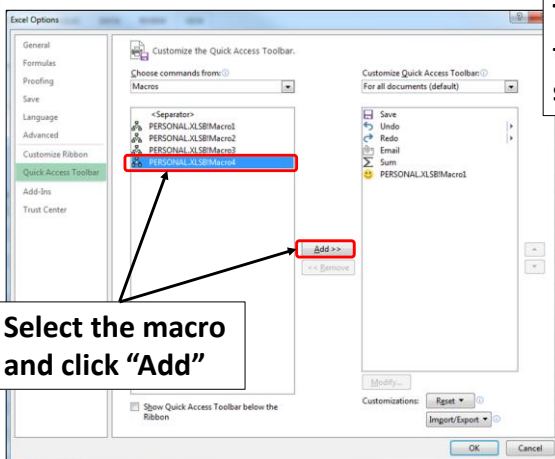
Select the Quick Link dropdown arrow, then "More Commands"



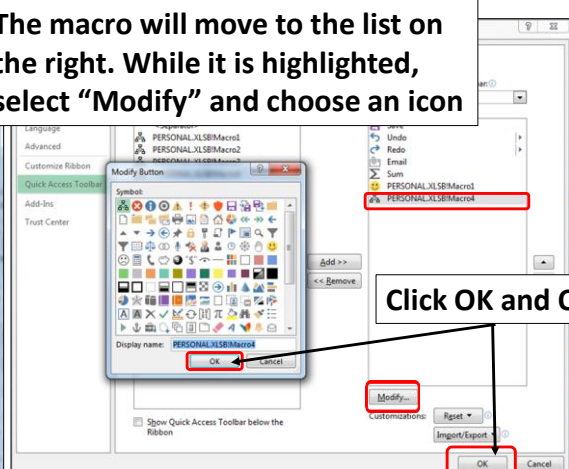
Make the Macro a Quick Link

The macro will move to the list on the right. While it is highlighted, select "Modify" and choose an icon

Select the macro and click "Add"

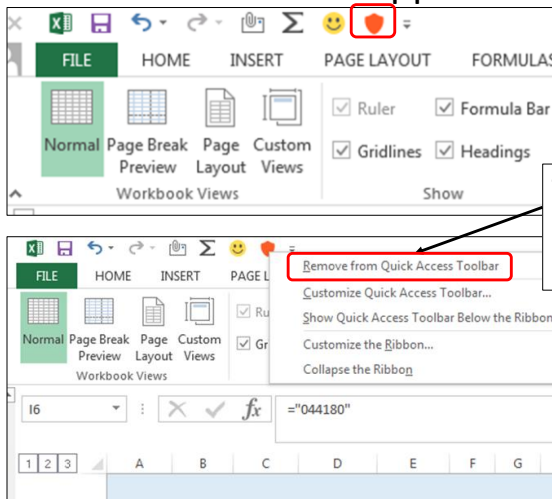


Click OK and OK



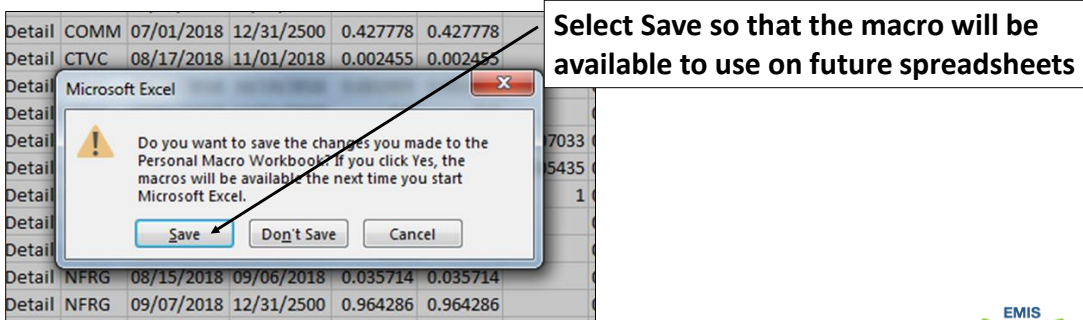
Quick Link

New Quick Link now appears



Save the Macro

- You can choose to save or not save your spreadsheet
- A second prompt will ask if you want to save the changes made to your Personal Macro Workbook



Delete a Macro

Once a Macro is created a few extra steps are needed to delete it if needed

From a new or existing spreadsheet select "Unhide" from the View tab

In the Unhide prompt with PERSONAL.XLSB selected, click OK

A	B	C																		
1	RPT DEST	Bldg IRN	SEVERITY	SSIN																
2	040404	012664	I	RI3																
3	040404	012664	I	TMS8425	Emis ID	Last Nam	First Nam	Middle N	012664	FTED-001	FT0000	FTE Detail	ATST							
4	040404	133333	I	XI702135	Emis ID	Last Nam	First Nam	Middle N	133333	FTED-001	FT0000	FTE Detail	COMM	08/21/20	12/31/25	1	1			
5	040404	133333	I	TS809912	Emis ID	Last Nam	First Nam	Middle N	133333	FTED-001	FT0000	FTE Detail	COMM	03/02/20	12/31/25	0.05525	0.05525			
6	040404	000444	I	MN68131	Emis ID	Last Nam	First Nam	Middle N	000444	FTED-001	FT0000	FTE Detail	COMM	07/01/20	12/31/25	0.42778	0.42778			

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Delete a Macro, cont'd

A blank spreadsheet named PERSONAL.XLSB will open

Select "Macros" from the View tab, then in the Macro prompt select the macro to be deleted select "delete"

IMPORTANT! When finished, close the Macro prompt and select "Hide" and the PERSONAL.XLSB will close

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Quick Check

Macros are a quick way to turn a multi-step process in Excel into one click. Creating a quick link macro does not embed the macro into the spreadsheet. This macro is for use on the machine where it is created.

- Are you able to record and save your macro?
- Can you think of other instances where a macro can save time?
- Are you able to find and manage your macros?



Using Concatenation and Conditional Formatting to Verify Calendar Data and Student Data



Data Comparison

- Compare the Calendar Display report to the Student Attributes Effective Date Record (FD)
- Look for students who have no matching calendar in the calendar collection
- Look for calendars being reported to EMIS that have no students assigned to them
- Result will be cleaner data and correct calendar assignments on the FTE Detail report



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Calendar Display Report

Find the Calendar Display report that aligns with the current student collection

- In this example we will use the Final Calendar Collection for FY19 and compare it to the End of Year Student Collection for FY19

Calendar Collection - Final (FY19)
 FY19-C-Cal Final: The Final Calendar Collection is required for all EMIS reporting entities educating students in 2019. Source files for DL And DN re...

Submissions: October
 Version: 1
 Status: The col
 Submission Status: Process
 Submission Number: 3 (attem
 Actions: [Start C](#)
[Add Ne](#)
[Set Def](#)

Select "View submission # Data" and find the Calendar Display Report and the Student Attributes Date Effective (FD) file

Prepare Outputs: [Level 1 Validations](#)
[View submission 3 Data](#)

End of Year Student Collection (FY19)
 FY19-S-TRAD Final: Collection required for all Traditional Districts, JVSs, ESCs, and State Supported Schools. Source file(s) for D... GI, FS, FD, FB,...

Submissions: May 03, 2019 - July 17, 2019 (closed) Data only available via Reports > Received Files: in 501 days
 Version: 6 From ODE: [Level 2 Reports](#)
 Status: The collection was submitted July 09, 2019 at 01:03:59 PM by
 Submission Status: Processing Completed (July 09, 2019 at 01:03:39 PM)
 Submission Number: 4 (attempt 1)
 Actions: [Start Collection](#)
[Add New Scheduled Collection](#)
[Set Default Collection properties](#)

Prepare Outputs: [Level 1 Validations](#)
[View submission 4 Data](#)



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Prepare the Calendar Display Report

- Run macro to prepare the report (original macro from FY19, not new subtotaling macro) or prepare the report manually
- Filter Row Number column to include only Row 1

	A	B	C	D	E	F	G
	Calendar For: Dist-Bldg: Row						
1	Grade-AP	Numb	Mont	Sund	Monday	Tuesday	Wednesday
2	040404-001111-01.**	01	Jul-18				
80	040404-001111-02.**	01					
158	040404-001111-03.**	01					
236	040404-001111-04.**	01					
314	040404-001111-05.**	01	Jul-18				
392	040404-001111-KG-HA	01	Jul-18				
470	040404-001111-KG-HP	01	Jul-18				
548	040404-001111-KG-WC	01	Jul-18				
625	040404-008888-01.**	01	Jul-18				
703	040404-008888-02.**	01	Jul-18				

The result will be an unduplicated list of calendars that are being reported to EMIS

Prepare the Student Attributes (FD) Report

- Run macro to prepare the report (original macro from FY19, not new subtotaling macro) or prepare the report manually

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Disadvantage													
	District	Buildin	EMIS	Last	First	State	Effective	Effective	State	Atten	Disac			
	IRN	g IRN	Student ID	Number	Nan	Student I	Date	End Da	Grade	ance	anta			
1	040404	001111	1232456789	Last	First	VB0662802	20180701	20180814	02	**	*			
2	040404	001111	1232456790	Last	First	XD4464240	20180701	20180814	01	**	*			
3	040404	001111	1232456791	Last	First	XD4464240	20180815	20190207	01	**	1			
4	040404	001111	1232456792	Last	First	XD4464240	20190208	00000000	01	**	1			
5	040404	001111	1232456793	Last	First	HZ4820082	20180701	20180814	03	**	*			
6	040404	001111	1232456794	Last	First	HZ4820082	20180701	20190207	03	**	1			
7	040404	001111	1232456794	Last	First	HZ4820082	20180815	20190207	03	**	1			

Select the column to the right of the Attendance Pattern column, then right click and select "insert"

Concatenate Calendar Data

Name the new column (i.e. Calendar) and expand width of column

1. Place cursor into cell K2 then select the Insert Function Wizard

2. If CONCATENATE does not appear in the list of functions, search for CONCATENATE and select "Go"

3. Select CONCATENATE from the "Select a Function" list and click "OK"

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Concatenate Function Arguments

Using the CONCATENATE Wizard, select the cells to include

- Place cursor in Text1 field
 - then select cell A2
- In Text 2 enter a dash
- Place cursor in Text3 field
 - then select cell B2
- In Text4 enter a dash
- Place cursor in Text5 field
 - then select cell I2

Click the down arrow to see more fields

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Concatenate Function Arguments, cont'd

Function Arguments

CONCATENATE

Text3 B2 = "001111"

Text4 "-" = "-"

Text5 J2 = "02"

Text6 "-" = "-"

Text7 J2 = "**"

Preview of results: "040404-001111-02-**-**"

OK

- In Text6 enter a dash
- Place cursor in Text7 field
 - then select cell J2
- Click "OK"

Preview of results



Concatenated Calendar Data

Data from all four cells is joined together with dashes in the same format at the data on the Calendar Display report

Function Arguments

CONCATENATE

Text3 A2 = "040404"

Text4 "-" = "-"

Text5 B2 = "001111"

Text6 "-" = "-"

Text7 J2 = "02"

Text8 J2 = "**"

Preview of results: "040404-001111-02-**-**"

Double click or drag to copy into cells below

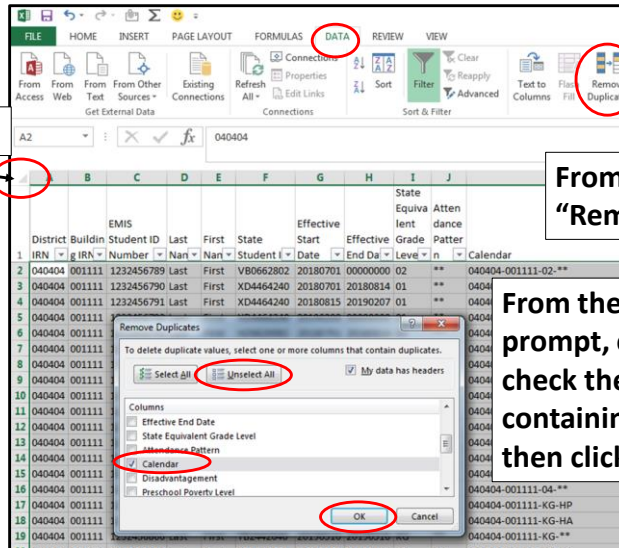


Remove Duplicates

Select all data

From the Data tab, select "Remove Duplicates"

From the Remove Duplicates prompt, click "Unselect All" and check the box for the column containing the concatenated data, then click "OK"



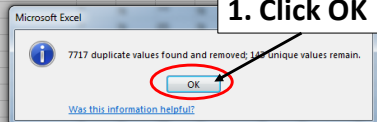
Duplicates Removed

2. With duplicates removed, the report now contains an unduplicated list of calendars assigned to students

3. Scroll to the bottom of the report

District	Buildin	Student ID	Last	First	State	Start	Effective	Grade	Attendance	Calendar
040404	001111	1232456789	Last	First	VB0662802	20180701	00000000	02	**	040404-001111-02-**
040404	001111	1232456790	Last	First	XD4464240	20180701	20180814	01	**	040404-001111-01-**
040404	001111	1232456793	Last	First	H24820082	20180701	20180814	03	**	040404-001111-03-**
040404	001111	1232456796	Last	First	TR8026626	20180701	00000000	04	**	040404-001111-04-**
040404	001111	1232456798	Last	First	TJ2800886	20180701	00000000	05	**	040404-001111-05-**
040404	001111	1232456799	Last	First	XB8644622	20180701	20190515	KG	HA	040404-001111-KG-HA
040404	001111	1232456800	Last	First	XB8644622	20190516	20190516	KG	**	040404-001111-KG-**
040404	001111	1232456804	Last	First	TB2442646	20180701	20181022	KG	HP	040404-001111-KG-HP
040404	001111	1232456808	Last	First	NV2006822	20190402	00000000	02	DN	040404-001111-02-DN
040404	001111	1232456839	Last	First	RH2444200	20180701	00000000	04	DN	040404-001111-04-DN

1. Click OK



Copy Data from Calendar Display Report

Toggle to the Calendar Display report

Calendar For: Dist-Bldg: Row	Grade-AP	Numb	Mont	Sund	Monday	Tuesday	Wednesday	Thursday	Friday	Satur
5298	040404-025555-03-**	01	Jul-18							
5376	040404-025555-04-**	01	Jul-18							
5454	040404-025555-05-**	01	Jul-18							
5532	040404-025555-KG-HA	01	Jul-18							
5610	040404-025555-KG-HP	01	Jul-18							
5688	040404-039156-06-**	01	Jul-18							
5766	040404-039156-06-MW	01	Jul-18							
5844	040404-039156-06-ST	01	Jul-18							

Select cells in Column A (not including the header row) then right click and select "copy"

Paste Data into Student Attributes (FD) Report

Toggle to the Student Attributes (FD) report

District	Buildin	EMIS Student ID	Last	First	State	Effective Start	Effective End Da	Grade	Leve	Calendar	Disadvantage	Preschool	Disability	Student being served by	Homeless	Home Unacc	
134	040404	036666	1232464211	Last	First	JD0268488	20180701	20190512	KG	HA	040404-036666-KG-HA	*	N	01	N	*	N
135	040404	036666	1232464212	Last	First	JD0268488	20190513	20190513	KG	**	040404-036666-KG-**	*	N	01	N	*	N
136	040404	036666	1232464215	Last	First	VJ6624628	20180701	20180701	05	DN	040404-036666-05-DN	*	N	**	N	*	N
137	040404	036666	1232464216	Last	First	FL2622046	20180701	20180702	01	**	040404-036666-01-**	*	N	**	N	*	N

In the cell below the concatenated data column, paste the data from the Calendar Display report

Conditional Formatting

Select column containing calendar data, then from the Home tab, select "Conditional Formatting", "Highlight Cell Rules", then "Duplicate Values"

Conditional Formatting, cont'd

Duplicate values will be highlighted in pink

Cells highlighted in pink indicate a matching calendar in the calendar collection for calendar assigned to the student

Click OK

Filter for Mismatches

The screenshot shows an Excel spreadsheet with a data table. The columns include District, Building, Student ID, Last Name, First Name, State, Effective Start Date, Effective End Date, Level, and Attendance Pattern. A filter dropdown is open for the 'Calendar' column, showing options like 'Filter by Color' and 'No Fill', which are highlighted with red circles. The spreadsheet also shows a ribbon with 'DATA' and 'VIEW' tabs, and a 'Filter' icon in the ribbon.

Click on the filter in the column containing concatenated data then select "Filter by Color", then "No Fill"



Troubleshoot the data

The screenshot shows an Excel spreadsheet with a data table. The columns include District, Building, Student ID, Last Name, First Name, State, Effective Start Date, Effective End Date, Level, Attendance Pattern, and Calendar. Two rows are highlighted with red boxes: one for '040404-019034-KG-HP' and another for '040404-026422-01-**'. The spreadsheet also shows a ribbon with 'DATA' and 'VIEW' tabs, and a 'Filter' icon in the ribbon.

Students without calendars in the calendar collection

Calendars with no students in the student collection



Troubleshoot the data

Why do students not have a matching calendar?

- Is there something preventing a calendar from being reported, or is there no matching calendar being reported?
 - If yes, fix or create a matching calendar in the SIS and submit it to EMIS
- Is the student on a calendar that is not reportable to EMIS?
 - If yes, ignore the mismatch
- Does the student match to a calendar based on a wildcard grade level?
 - Grade level ** in the calendar collection is a wildcard
 - Example - District IRN-Building IRN-01-** matches to District IRN-Building IRN-**-**
 - Match these students and calendars manually
- Check your FTE Detail Report to verify that students are being correctly assigned to calendars through the calendar determination process



Troubleshoot the data, cont'd

Why are there calendars with no students?

- Typically okay to report calendars with no students just be careful if the unused calendar has a start date that is before your district's earliest calendar or an end date that is after your latest calendar as this could effect some of the checks that EMIS uses such as separated staff and summer graduates
- The early start date issue can be found for any calendar in the calendar collection whether it is used for students or not
- Consider not reporting unused calendars to EMIS



Quick Check

Calendar verification is very important since there are no checks in EMIS between the student collections and the calendar collections. This exercise will allow for a very quick comparison to identify EMIS reporting issues.

- Are you able to perform concatenation and conditional formatting?
- Do you have students with no calendar in the calendar collection?
- Do you have calendars reported to EMIS with no students assigned?



Summary

- Basic Excel techniques can be very useful when troubleshooting
 - EMIS data in the Student Information System
 - EMIS reports
 - preview/review files
- These techniques should be part of your everyday practices



Resources

- Microsoft Excel Help within Excel “?” Articles and Videos
- Google it
- Microsoft Excel Classes
- Your ITC



Questions?

