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

- ODDEX Student Cross Reference (SCR) Export
- Calendar and Student Data Comparison
- Staff Data Formatting to Share with District Staff
- FTE Detail Report Subtotaling
- FTE Detail Report PivotTable

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ODDEX SCR Export

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ODDEX SCR Export Text File

Choose to "Exclude Inactive" or "Exclude Hidden" records

In the SCR, select a "Display Mode" and "Find" and the students will appear below
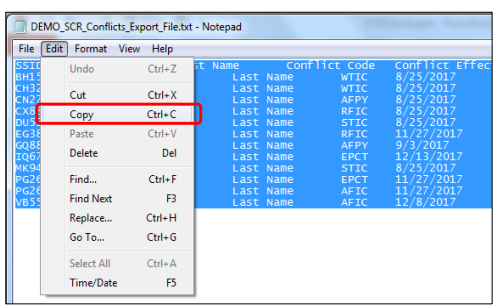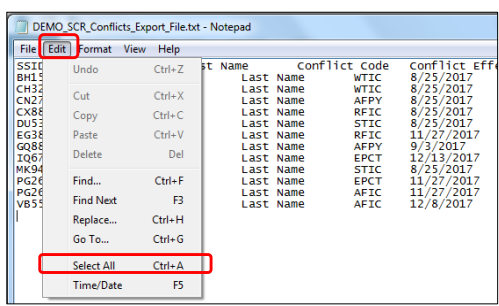
Select "Export" to generate a text file
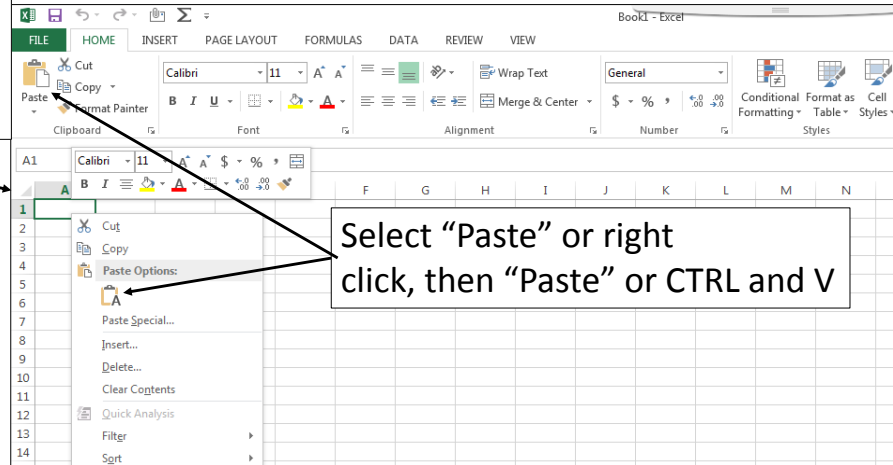
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SCR Text File

Open the scr_export.txt file from ODDEX
- Select "Edit" then "Select All" or Press CTRL and A
- Once data is selected, go to "Edit" and "Copy" or Press CTRL and C

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Copy Data Into Excel

Open Excel, then place cursor into cell A1

Select "Paste" or right click, then "Paste" or CTRL and V

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Prepare the SCR Export Report

- Select Header Row and Wrap Text
- Freeze Top Row
- Justify column width
- Apply Filters

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Review SCR Conflict Data

Data on the report is separated by LEA1 and LEA2 the same as clicking on the Conflict Code and viewing the Conflict Details in SCR

- Students can have more than one line when they have multiple errors

	M	N	LEA1	P	Q	R	S	LEA2	T	U	V	W
1	LEA1 Admitted From	LEA1 How Received Code		LEA1 How Received	LEA1 Sent Reason	LEA1 Educating or Resident	Reporting LEA2 IRN	Reporting LEA2 Name	LEA2 Date Range		LEA2 Percent Of Time	LEA2 Admission Date	LEA2 Admission Reason
2	LEA1 Admitted From	*		LEA1 How Received		LEA1 Educating or Resident	40404	Reporting LEA2 Name					
3	LEA1 Admitted From	*		LEA1 How Received		LEA1 Educating or Resident	50505	Reporting LEA2 Name					
4	LEA1 Admitted From	*		LEA1 How Received		LEA1 Educating or Resident	30303	Reporting LEA2 Name					
5	LEA1 Admitted From	C		LEA1 How Received		LEA1 Educating or Resident	60606	Reporting LEA2 Name					
6	LEA1 Admitted From	*		LEA1 How Received	OE	LEA1 Educating or Resident	40404	Reporting LEA2 Name					
7	LEA1 Admitted From	C		LEA1 How Received		LEA1 Educating or Resident	50505	Reporting LEA2 Name					

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Quick Check

Exporting data from SCR in ODDEX and copying the data into Excel provides a quick way to sort and filter as the data is reviewed. Spreadsheets of data along with district notes added to the spreadsheet can be easily saved for future reference.

- Are you regularly submitting updated SCR data to EMIS?
- How often do you review SCR data in ODDEX?
- Are you using Excel as an additional tool to review SCR data?

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Calendar and Student Data Comparison

Calendar Data and Student Data

- Calendar Collections contain calendar data and no student data
- Student Collections contain student Building IRNs, State Equivalent Grade Levels, and Attendance Patterns
- The data does not meet until the FTE Reports are generated
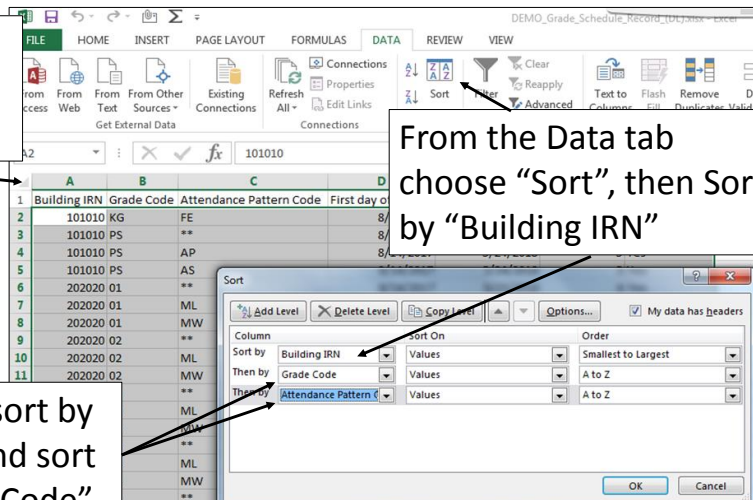- Using Excel, the data can be compared to ensure that calendar data and student data align

Data Collector Files

- From the most recent Calendar Collection view the Submission/Preview Files
  - Open the Grade_Schedule_Record_(DL) file
- From the most recent Student Collection
  - Open the Student_Attributes_Effective_Date_Record_(FD) file
- Prepare both files for review

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Sort the DL File

Select the box in the upper left corner between the 1 and the A

From the Data tab choose "Sort", then Sort by "Building IRN"

Select "Add Level" and sort by "Grade Code", repeat and sort by "Attendance Pattern Code"

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Sort Error

A sort error occurs when a column has numeric values formatted as text and can be ignored

Leave as defaulted and click "OK"

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Minimize DL File

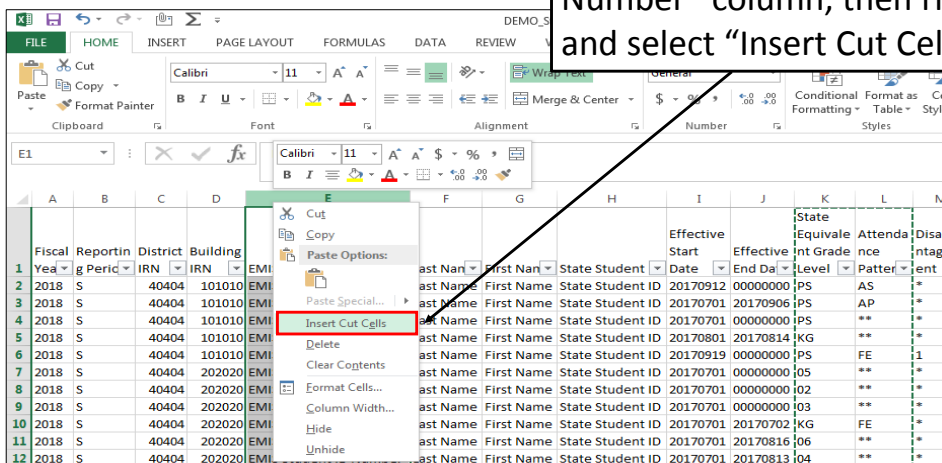Minimize the DL file once it is prepared and sorted

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FD File - Cut Columns

Select the columns for "State Equivalent Grade Level" and "Attendance Pattern", then select "Cut" from the Menu bar or right click and "Cut"
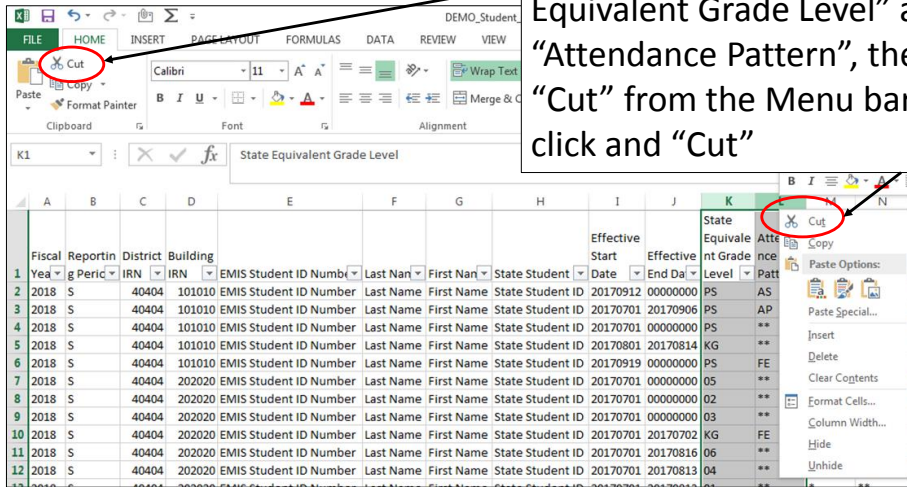
Insert Cut Cells

Select the "EMIS Student ID Number" column, then right click and select "Insert Cut Cells"

Columns Side by Side

Columns are now in the same order as the DL file to easily compare the data

Sort the FD File

Select the box in the upper left corner between the 1 and the A

From the Data tab choose "Sort", then Sort by "Building IRN"

Select "Add Level" and sort by "Grade Code", repeat and sort by "Attendance Pattern Code"

Remove Duplicates in FD File

Select all data in the spreadsheet then from the Data Tab, select "Remove Duplicates"

In the Remove Duplicates Prompt, click on "Unselect All", then check the boxes next to "Building IRN", "State Equivalent Grade Level", and "Attendance Pattern" and click "OK"

Duplicates Removed

Message will indicate how many duplicates were found and how many unique values remain, click "OK"

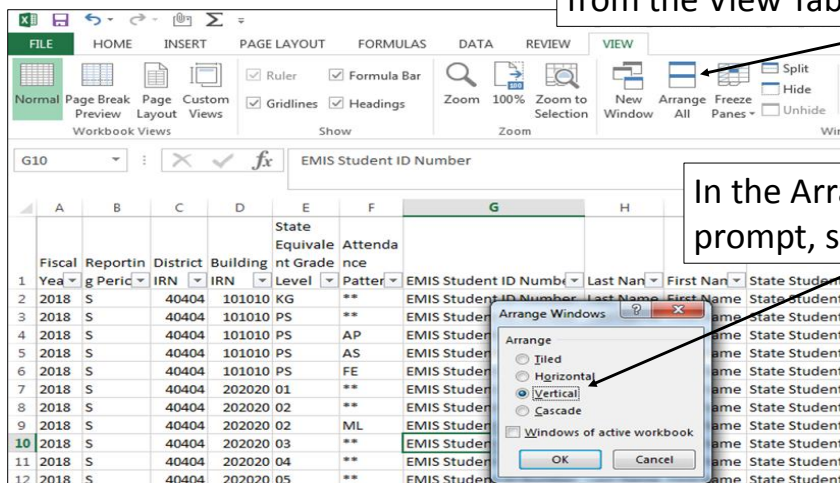10454 duplicate values found and removed; 79 unique values remain.

1/24/2018

Compare the Data

- The two spreadsheets have unduplicated instances of Building IRN, Grade Level and Attendance Pattern
- Compare the two spreadsheets to verify that all combinations in the FD file appear in the DL file
- When Grade Level contains asterisks **, the asterisks should be treated as wildcards that can be matched against any grade level
- There could be DL records that are not represented in the FD file

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Arrange All

With both spreadsheets open, from the View Tab, select "Arrange All"

In the Arrange Windows prompt, select "Vertical"

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Apply Filters and Compare Data

Filter on one Building IRN at a time

Remember that ** for an Attendance Pattern is a specific Attendance Pattern while ** for Grade Level is a wildcard for any Grade Level

Compare the students on the left to the DL file on the right. Are all combinations appearing on both files?

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Quick Check

Since Calendar Data and Student Data don't meet until FTE Reports are generated, data integrity issues could exist without error. Cross check the data to identify issues between calendars and students.

- Are you comparing data from the most recent EMIS submissions?
- Do all student Building IRN, Grade Level, and Attendance Pattern combinations appear in the DL file?
- Should any unused calendars be set to not report to EMIS?

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Staff Data Formatting to Share with District Staff

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Sharing Staff Data

Staff EMIS data can come from a separate source system that is often managed by someone other than the EMIS Coordinator

- Sharing staff EMIS data can be a helpful when correcting and verifying the data
- Consider sharing
  - Level 1 Validations
  - Submission Files
  - Level 2 Reports
  - Staff and Course sections of the EMIS Manual

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EMIS Manual Sections

3.9 POSITION CODES

NUMERICAL LISTING OF POSITION CODES
Official/Administrative Positions (1xx)

Table 1. Official/Administrative Positions

Position Code	Description
101	**Administrative Assistant Assignment** An assignment to perform activities assisting an executi... ...ties in the school district.
103	**Assistant, Deputy/Associate Superintendent Assignment** An assignment to a staff member (e.g., an assistant, deputy or associate superintendent or the assistant) to perform high-level, system-wide executive management functions in a school district.
104	**Assistant Principal Assignment** An assignment to a staff member (e.g., an assistant, deputy, or associate principal) to perform high-level executive management functions in an individual school, group of schools, or unit(s) of a school district.

Sections of the EMIS Manual could be helpful to staff as they verify data in an EMIS submission file such as the Staff Employment File (CK)

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Prepare the Data for Review

- Some EMIS data files and reports can be quite large
- Preparing the data before distribution could bring back better results from staff
- Consider doing some of the following:
  - Basic report preparations such as wrapping the text in the header row
  - Deleting unneeded columns
  - Sorting or Filtering
  - Separating data by building
  - Highlighting cells
  - Printing or emailing the data

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Staff and Course Level 1 Validations

Initial Staff and Course Collection (FY18)

FY18-L-Stf Crs Init: Collection required for all EMIS reporting entities. The beginning of year staff collection includes staff employed

Submissions: October 03, 2017 - January 31, 2018

Version: 3

Status: The collection was submitted December 11, 2017 at 04:17:19 PM by

Submission Status: Processing Completed (December 11, 2017 at 04:17:00 PM)

Submission Number: 4 (attempt 1)

Actions: Start Collection
Add New Scheduled Collection
Set Default Collection properties

From ODE: Level 2 Reports

Prepare Outputs: Level 1 Validations
View submission 3 Data

Select "Level 1 Validations"

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Level 1 Validations

Initial Staff and Course Collection (FY18)

Submission Number 4 (attempt 1), LEA: Franklin-Monroe Local

Validation exceptions are listed by record type and exception severity.
To generate the exception report for one record type and/or exception severity, click the link in the corresponding row and column.

Last Prepared: December 11, 2017 (17 days ago) at 04:15:17 PM

Record Type	Fatal	Critical	Warning	Info	Total Lv1Er	I	Depnd Invalid	Valid Recs
Career-Technical Education Correlated Class Record (CV)	0	0	0	0	0		0	0
Contract Only Staff Record (CC)	0	0	0	0	0		0	0
Contractor Staff Employment Record (CJ)	0	0	0	0	0			
Course Master Record (CN)	0	0	0	0	0			
Mapped Classroom Code Record (CM)	0	0	0	0	0			
Staff Course Record (CU)	30	0	0	0	30			
Staff Demographic Record (CI)	4	0	8	0	12			
Staff Employment Record (CK)	13	0	0	0	13			
Staff Missing Override Record (CP)	0	0	0	0	0			
Staff Summer Employment Separation Record (CL)	0	0	0	0	0			
Student Course Record (GN)	0	0	0	0	0			
Total Counts:	47	0	8	0	55			

Generate Full Validation Report

Click on the link below to download the zip file.

Report(s)

AllRTs046649-2018L1STRv2-sub4-1AllSevs2017-12-28_08-12-31.csv

Output Type

The validation exception report can be viewed as an HTML pop-up or downloaded as a CSV file(s). CSV file(s) will download as a single .zip file.

○ HTML ● CSV

CSV Output Options

You can create a separate CSV file for each Record Type by checking the box below:

☐ Record Type

Select Output Type "CSV" and uncheck the CSV Output Option for "Record Type"

Select "Generate Full Validation Report" and then open the report

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Level 1 Validations ,cont'd

	A	B	C	D	E	F	G	H	I	J
1	Error Number	Error Level	Message	Description	Employee ID	Employee Name	State Staff ID	Local Classroom Code	Position Code	Local Contract Code
2	CU.0007	Fatal	Element value cannot be blank	(CU100) Missing value for Highly Qualified Teacher						
3	CU.0007	Fatal	Element value cannot be blank	(CU100) Missing value for Highly Qualified Teacher						
4	CU.0007	Fatal	Element value cannot be blank	(CU100) Missing value for Highly Qualified Teacher						
5	CU.0007	Fatal	Element value cannot be blank	(CU100) Missing value for Highly Qualified Teacher						
6	CU.0007	Fatal	Element value cannot be blank	(CU100) Missing value for Highly Qualified Teacher						
7	CU.0007	Fatal	Element value cannot be blank	(CU100) Missing value for Highly Qualified Teacher						
8	CU.0007	Fatal	Element value cannot be blank	(CU100) Missing value for Highly Qualified Teacher						
9	CU.0007	Fatal	Element value cannot be blank	(CU100) Missing value for Highly Qualified Teacher						
10	CU.0007	Fatal	Element value cannot be blank	(CU100) Missing value for Highly Qualified Teacher						
11	CU.0007	Fatal	Element value cannot be blank	(CU100) Missing value for Highly Qualified Teacher						
12	CU.0007	Fatal	Element value cannot be blank	(CU100) Missing value for Highly Qualified Teacher	Employee ID	Employee Name	State Staff ID	AAHS-200-01		
13	CU.0007	Fatal	Element value cannot be blank	(CU100) Missing value for Highly Qualified Teacher	Employee ID	Employee Name	State Staff ID	AAHS-445UR-01		
14	CU						ID	AAHS-240UR-01		
15	CU						ID	AAHS-300J7-01		
16	CU						ID	AAHS-300J7-02		

Using Excel can make working through Level 1 Validations easier since records can be quickly sorted or filtered

Before sending this to district staff for review, consider sorting by Employee Name or adding additional explanations to aid in identifying the issue

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Submission Files

Staff and Course Collection Submission Files/Review Data

Initial Staff and Course Collection (FY18)
FY18-L-Stf Crs Init: Collection required for all EMIS reporting entities. The beginning of year staff collection include

Submissions: October 03, 2017 - January 31, 2018
Version: 3
Status: The collection was submitted December 12, 2017 at 01:55:28 PM by Walters.
Submission Status: Processing Completed (December 12, 2017 at 01:55:03 PM)
Submission Number: 5 (attempt 1)
Actions: Start Collection
Add New Scheduled Collection
Set Default Collection properties
Prepare Outputs: Level 1 Validations
View submission 4 Data

Select "View Submission Data"

Initial Staff and Course Collection (FY18)
Submission Number 5 (attempt 1), LEA: Ansonia Local
Use the Generate Review Data link to review the data previously submitted.

Last Prepared: December 12, 2017 (15 days ago) at 01:20:38 PM

Review Types
☑ Detail
☑ Missing Data

Output Options
Zip File: ☐ Download file as a compressed .zip (for faster downloads)
File Format: ☐ HTML ● CSV
Include in CSV files: ● Data only ☐ Data and Fatal exceptions ☐ Data and All exceptions

Generate Review Data

Select "Generate Review Data"

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Review Files cont'd

File	Submission 5				Sub 4
	Valid	Invalid	Total		Valid
Career-Technical_Education_Correlated_Class_Record_(CV).					
Contract_Only_Staff_Record_(CC).csv					
Contractor_Staff_Employment_Record_(CJ).csv	0	0	0		0
Course_Master_Record_(CN).csv	373	0	373		365
Excluded_Records.csv			5		
Mapped_Classroom_Code_Record_(CM).csv	0	0	0		0
Staff_Course_Record_(CU).csv	367	6	373		363
Staff_Demographic_Record_(CI).csv	109	0	109		106
Staff_Employment_Record_(CK).csv	158	0	158		153
Staff_Missing_Override_Record_(CP).csv	0	0	0		0
Staff_Missing_Report.csv			0		
Staff_Summer_Employment_Separation_Record_(CL).csv	0	0	0		0
Student_Course_Record_(GN).csv	5200	0	5200		5148
Total counts:	6207	6	6218		

Open the Staff Demographic Record (CI) file

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Sharing Data for Review

- Prepare the file for review
- Add grid lines
- Print titles at top of each page
- Add a header
- Select page setup options
- View print preview

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Prepare the Staff Demographic File (CI)

Demographic file contains one line per staff member
- Prepare your spreadsheet to be user friendly

Header data is wrapped, top row is frozen, all data is viewable

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Select Cells with Data

Select Cell A1 and then hold CRTL and Shift keys down and then Right Arrow and the Down Arrow. This will select the rows and columns on your spreadsheet that contain data.

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Add Grid Lines

From the Home Tab select the grid lines icon and then select "All Borders"

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Print Titles at Top of Each Page

From the Page Layout tab select the Print Titles icon

From the Page Setup prompt place cursor in the "Rows to repeat at Top", then select row 1. This will populate the "Rows to Repeat at Top".

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Add Header

Select the Page Layout tab bottom right corner icon, select the Header/Footer tab and then "Custom Header"

In the Header prompt, enter information and click "OK"

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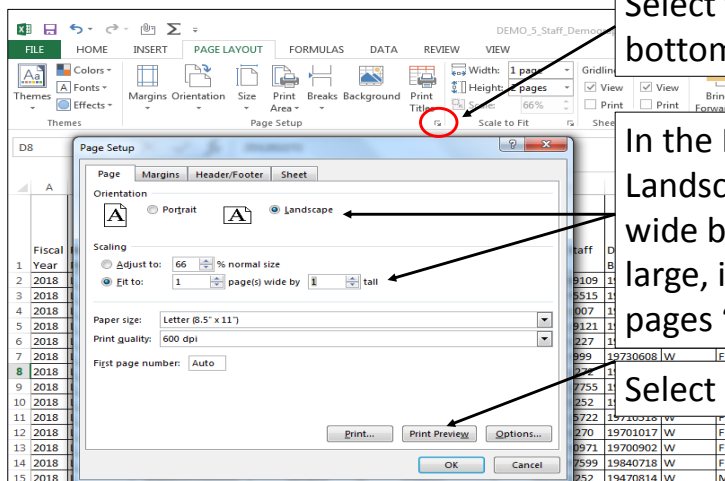
Page Setup

Select the Page Layout tab bottom right corner icon

In the Page Setup Prompt, select Landscape and "Fit To" 1 page(s) wide by 1 tall. If your report is large, increase the number of pages "tall" to print.

Select "Print Preview"

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Print Preview

Print Preview is a great way to adjust the data on the page prior to printing

Consider using narrow margins or changing the page orientation for a better fit

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Quick Check

Formatting your reports prior to printing can result in easier to review documents that district staff will appreciate. Adding a title, date and contact information will allow easy tracking of when and to whom the data was sent.

- What columns of data on your report could be hidden or deleted to make the report easier to review?

- Have you included instructions to help understand the data in the report?

- Are you able to set up your report into a printable format?

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FTE Detail Report Subtotaling

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FTE Detail Report Subtotaling

Subtotal the FTE Detail Report

- Sort by SSID, then by Enrollment Start Date

From the Data Tab choose Sort

Sort by SSID, then select "Add Level", then sort by "ENRL START DATE", then select "OK"

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Sort Warning

This Sort Warning is generated because the ENRL START DATE column contains some numbers that are formatted as text
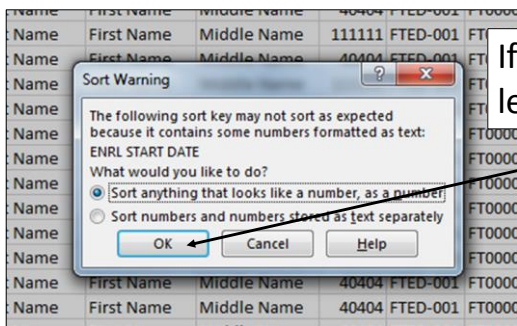
If a Sort Warning is generated, leave as defaulted and select "OK"

Apply Subtotals
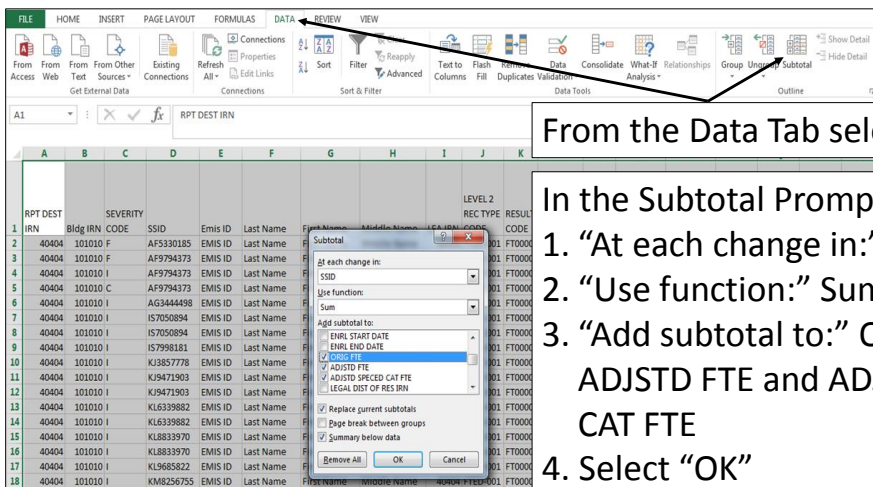
From the Data Tab select Subtotal

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"

FTE Detail Report Subtotaled

Undo Subtotals

Quick Check

Subtotaling the FTE Detail Report provides a format for easier analysis of the data. Since many students have multiple FTEs calculated, using Excel to sum by student will allow the detail to be available while providing subtotals below each student.

- Are there students with Adjusted or Special Education FTEs that are less than the Original FTE?
- Are you using this report with your FTE Adjustment report to identify reasons for the adjustments?
- Are you saving your reports between reviews?

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FTE Detail Report PivotTable

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FTE Detail Report PivotTable

Create a PivotTable in an FTE Detail Report

From the Insert Tab, select "PivotTable"
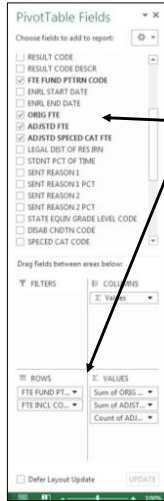
On the Create PivotTable Prompt, select "OK"

PivotTable Fields

PivotTable Fields are available to select to set up the PivotTable

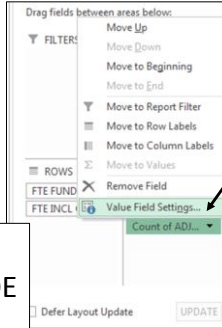When inserting a PivotTable, a new tab is opened

Select PivotTable Fields

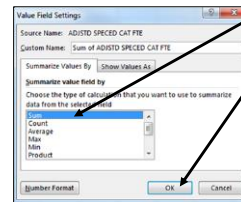Click and Drag fields into the PivotTable areas below

For Rows select:
FTE FUND PTTRN CODE
FTE INCL CODE

For Values select:
ORIG FTE
ADJSTD FTE
ADJSTD SPECED CAT FTE

Select the "Count" of ADJSTD SPECED CAT FTE, then in the menu select "Value Field Settings"

In the Value Field Settings prompt, select "Sum" and "OK"

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PivotTable

Row Labels	Sum of ORIG FTE	Sum of ADJSTD FTE	Sum of ADJSTD SPECED CAT FTE
⊞COMM	1.901528	1.901528	
⊟NFRG	9.714285	0	
NONE	9.714285	0	
⊟OPDD	19.502042	19.502042	2
FULL	3.558118	3.558118	
NONE	15.943924	15.943924	2
⊟OPID	1	1	
PART	1	1	
⊟PSET	0.612676	0.612676	0.612676
FULL	0.612676	0.612676	0.612676
⊟PSRD	0.623377	0.387324	0.387324
FULL	0.623377	0.387324	0.387324
⊟RGJV	48.343595	48.325029	3
FULL	42.343595	42.325029	3
PART	6	6	
⊟SPCO	1	1	1
FULL	1	1	1
Grand Total	82.697503	72.728599	7

Click on specific values to drill into the detailed data

When drilling on a number within the PivotTable, all of the data within the row will appear

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Detailed Data

Detailed data will appear in a new tab

When finished, the new tab can be deleted or just go back to the PivotTable on Sheet1 to drill again

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Quick Check

PivotTables can provide a summary of a large amount of data that allows the data to be analyzed in smaller sections. Try using Recommended PivotTables to think of different ways to analyze your data.

- Are you able to create a PivotTable and drill into the detailed data?

- What other fields in the FTE Report could be brought into a PivotTable?

- Can you think of other reports that could be analyzed using PivotTables?

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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

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Resources

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

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Questions?