

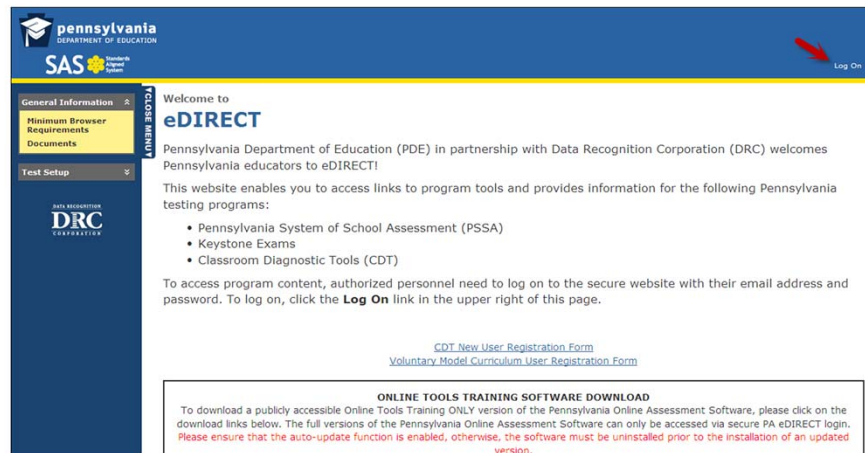
DRC Simulation Algebra I



CLASSROOM DIAGNOSTIC TOOLS

Logging on to eDIRECT

<https://pa.drctdirect.com>

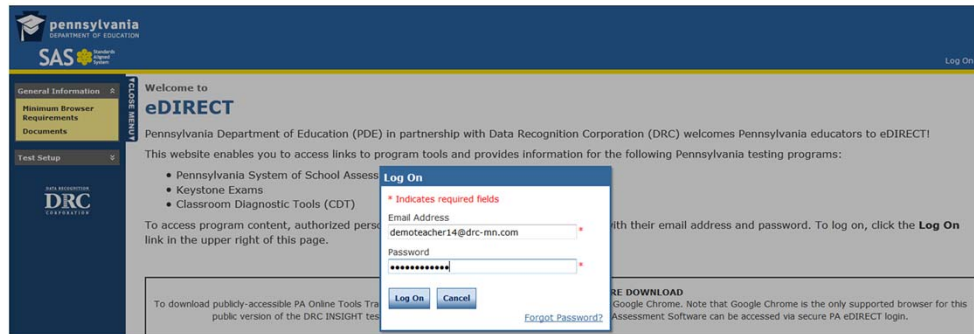


2

To access the Algebra I CDT simulation:

- Using an Internet browser, go to <https://pa.drctdirect.com>
- Click on the **Log On** icon at the right end of the eDIRECT banner

Logging on to eDIRECT



Email Address: **demoteacher14@drc-mn.com**

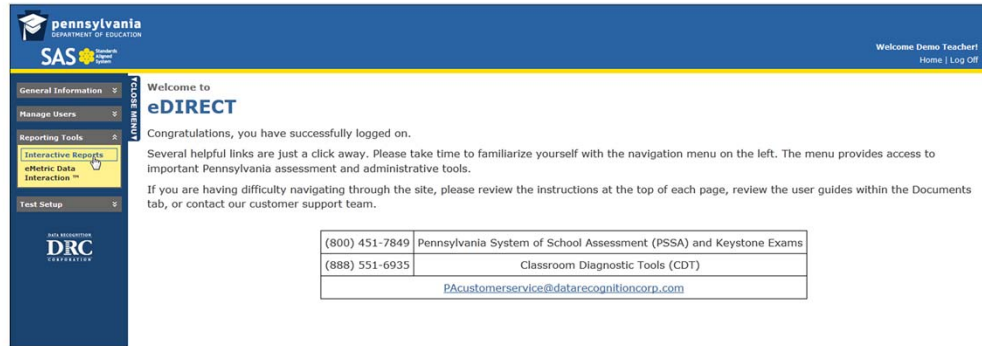
Password: **Simulation14**

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To access the Algebra I CDT simulation:

- In the Log On window, enter the training email address: **demoteacher14@drc-mn.com**
- Next, enter the training password: **Simulation14**
- Now, click on the **Log On** button
- You will normally use your school email address and password to access eDIRECT and the Classroom Diagnostic Tools

You are now able to use the CDT Reporting Tools and the simulation



pennsylvania
DEPARTMENT OF EDUCATION

SAS Standards Assessment System

Welcome Demo Teacher! Home | Log Off

TOOLBAR

- General Information
- Manage Users
- Reporting Tools
 - Interactive Reports
 - Historic Data Interaction
- Test Setup

Welcome to eDIRECT

Congratulations, you have successfully logged on.

Several helpful links are just a click away. Please take time to familiarize yourself with the navigation menu on the left. The menu provides access to important Pennsylvania assessment and administrative tools.

If you are having difficulty navigating through the site, please review the instructions at the top of each page, review the user guides within the Documents tab, or contact our customer support team.

(800) 451-7849	Pennsylvania System of School Assessment (PSSA) and Keystone Exams
(888) 551-6935	Classroom Diagnostic Tools (CDT)
PAcustomerservice@datarecognitioncorp.com	

Select **Reporting Tools** and then **Interactive Reports**

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To access the Algebra I CDT simulation:

- Go to the eDIRECT menu options on the left
- Select **Reporting Tools**
- Then select **Interactive Reports**

Select **Teacher, Demo (151224152)** from the **Teacher** dropdown menu.

The screenshot displays the 'Student Diagnostic Maps' interface. On the left is a sidebar with a 'CLOSE MENU' button and navigation links: General Information, Manage Users, Reporting Tools (highlighted), and Test Setup. The main content area has a header with the Pennsylvania Department of Education logo and 'SAS' branding. Below the header, there's a 'Welcome Demo Teacher!' message with 'Home' and 'Log Off' links. The 'Student Diagnostic Maps' section includes an 'Instructions' link and a red asterisk indicating required fields. The form contains the following fields: Administration (CDT Training DEMO Sprin), District (PA DEMO DISTRICT - 44), School (PA DEMO SCHOOL - 000), Last Name, First Name, PAscoreID, Grade, Teacher (with a dropdown menu open showing 'Teacher, Demo (151224152)'), and Student Group. There are 'Continue' and 'Clear' buttons at the bottom of the form.

This window is used to select the Student Group or to search for individual students to see their scores in current and previous administrations. Here is a sample scenario.

- It is the third week of school, and my Algebra I students have completed their online Algebra I CDT. I would like to know how well prepared the students are as they build toward mastery of the Algebra I Assessment Anchors and Eligible Content.
- Use the **Teacher** dropdown menu to select **Teacher, Demo (151224152)**. (You will normally select your last name, first name, and PPID to view the results for your class.) This causes the Student Group dropdown menu to become populated with all Student Groups to which you have access.

Select **HS Algebra I Administration #1** from the **Student Group** dropdown menu.

Student Diagnostic Maps

* Indicates required fields

Administration: CDT Training DEMO Sprir *
District: PA DEMO DISTRICT - 44 *
School: PA DEMO SCHOOL - 000 *
Last Name:
First Name:
PAsecureID:
Grade:
Teacher: Teacher, Demo (151224) *
Student Group: HS Algebra I Administration #1

Continue Clear

Click the *Continue* button.

To select the Student Group and configure the diagnostic map:

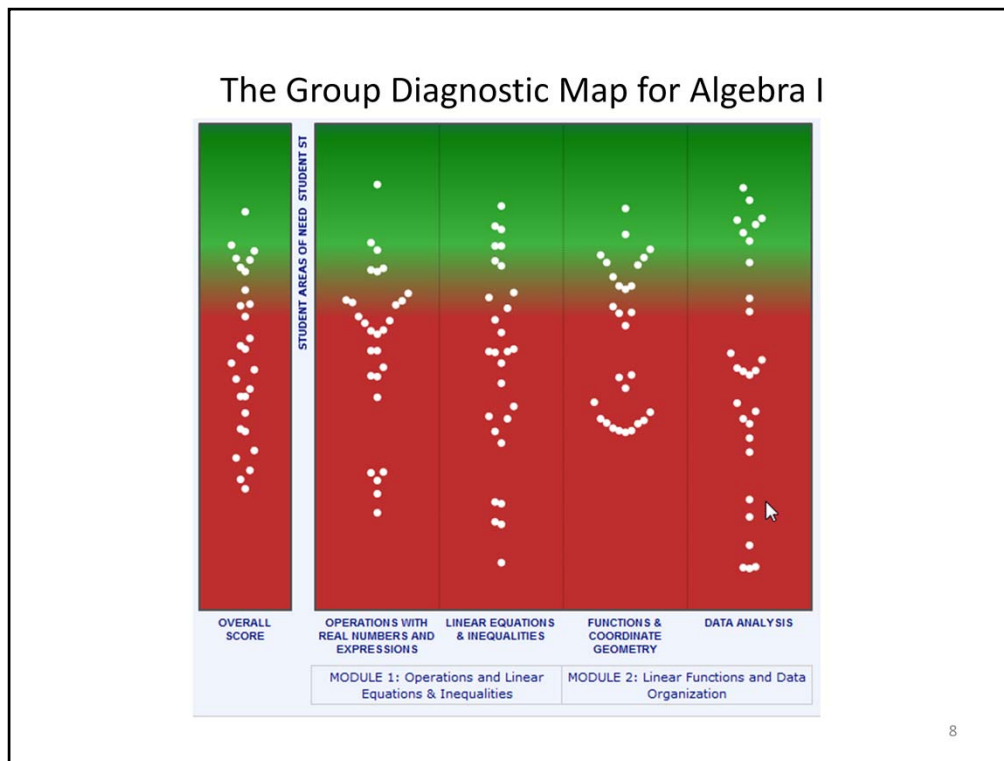
- Use the **Student Group** dropdown menu to select **HS Algebra I Administration #1**
- Click the **Continue** button

Select **Algebra I** from the **Map Configuration** dropdown menu.

The screenshot shows a web application interface with four tabs: 'Group Map', 'Individual Map', 'Individual Learning Progression Map', and 'Group Learning Progression Map'. The 'Group Map' tab is active. Below the tabs is an 'Instructions' link. The main form contains several fields: 'Begin Date' (9/1/2013), 'End Date' (7/31/2014), 'Content Area' (empty), 'Map Configuration' (dropdown menu), 'Category' (empty), and 'Range' (empty). The 'Map Configuration' dropdown menu is open, showing a list of subjects: '(Select)', 'Algebra I', 'Algebra II', 'Biology', 'Chemistry', 'English Composition', and 'Geometry'. 'Algebra I' is highlighted. A mouse cursor is pointing at 'Algebra I'. In the background, there is a faint text 'Data Recognition Corporation. Patents P' and a 'Home' link.

To select the Student Group and configure the diagnostic map:

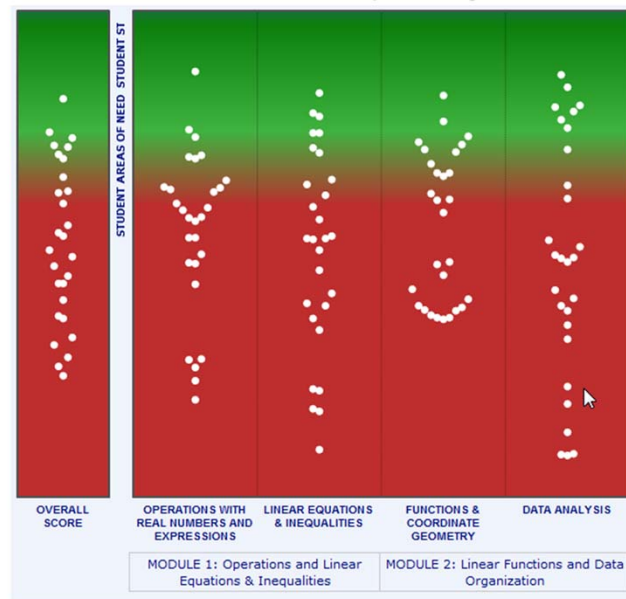
- Leave the Begin Date and End Date as they are currently set. (You can set your Begin Date and End Date to the range of dates during which the students in your student group were administered the CDT. Because the CDT will show the most recent data within the date range for each student, defining the date range ensures that you are looking at students' data when they have received similar amounts of instruction, i.e., students who did not test during the date range that other students tested will not show up in the reports.)
- Use the **Map Configuration** dropdown menu in the Group Map tab to select **Algebra I**
- Once the Map Configuration has been selected, the data will load to show the Group Map for this student group



Here I see the Group Diagnostic Map. I have selected **Optimize Zoom** to focus in on the range of scores received by my students.

Taking into consideration the time of year, how well prepared are my students?

Elements of the Group Diagnostic Map



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In order to answer the question, I first notice that there are four diagnostic categories spread across the two Keystone Algebra I modules. What are the categories?

I also notice that there is an Overall Score.

There are also several white dots appearing across two different colors. The white dots represent individual student scores on the CDT. By hovering over a dot, I can learn more information about the student.

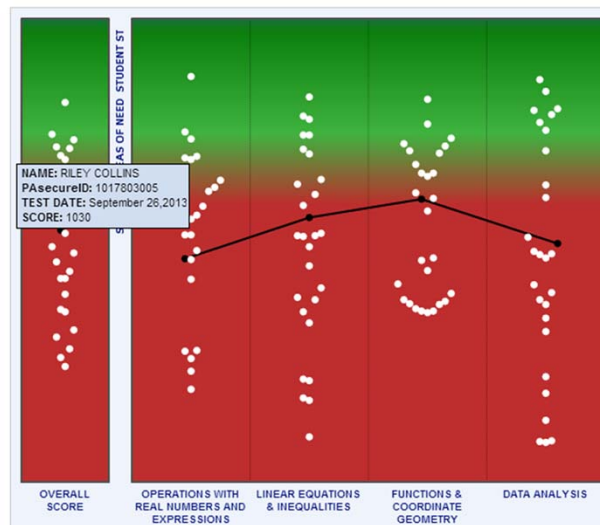
The colors represent Student Areas of Need (red) and Student Strengths to Build On (green). Notice that some scores in each of the categories are in the Green band while others are in the Red band or between the two bands. Many of the student scores are within the Red band, which is to be expected at the beginning of the school year.

From this report, are there any students who have already met the end of grade level or course expectations?

There is also a third color (blue) that appears when you expand the slider bar along the left side. The blue is just barely visible because I have selected the Optimize Zoom button and there are no dots that appear in the blue area. What does that mean? Why are there no dots in the blue?

The position of the dots on the colors represents the scores of the students in my class in each diagnostic category. What do the scores in the red represent? What do the scores in the green represent?

Considering the Grade 8 Expectations



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Because the Algebra I CDT does not have the same diagnostic categories as Mathematics CDT, I cannot change to a grade 8 map configuration to help me determine how the students in my class are doing. However, I can look at the CDT Range document to see the overall score that students were expected to achieve to be in the green band in eighth grade. I find that the bottom of the green band corresponds to a score of 1037. The students who have scores below 1037 are most likely starting the year below the expectations for students at the beginning of Algebra I, so I may want to identify those students for additional instruction. I can hover over each dot to see the student's name, PAsecureID, Testing Date, and Score. I can also click on a dot to see the diagnostic category scores that combine to create that student's Overall Score. The student with the highest Overall Score that is less than 1037 is Riley Collins.

To remove the line, I click on the black dot again. (I could also select the **Clear Map** button below the Group Map and then select the **Optimize Zoom** button again.)

Grid View of Diagnostic Map

28 of 28 Students have tested

<input type="checkbox"/>	First Name	Last Name	PASecureID	Overall Score ▲	OPERATIONS WITH REAL NUMBERS AND EXPRESSIONS	LINEAR EQUATIONS & INEQUALITIES	FUNCTIONS & COORDINATE GEOMETRY	DATA ANALYSIS	Test Date
<input type="checkbox"/>	PARKER	WILLIAMSON	3554760692	858	968	769	928	764	09/26/2013
<input type="checkbox"/>	CASSIDY	HART	3363208219	869	829	913	992	762	09/26/2013
<input type="checkbox"/>	HARPER	NICHOLS	2613724293	880	868	818	1077	763	09/26/2013
<input type="checkbox"/>	STACEY	NELSON	2588981364	895	852	815	928	995	09/26/2013
<input type="checkbox"/>	ADRIAN	LEE	3287808265	904	1079	842	936	790	09/26/2013
<input type="checkbox"/>	DOMINIQUE	RYAN	2436007098	927	1004	957	940	824	09/26/2013
<input type="checkbox"/>	EMILY	PALMER	2468286472	930	1024	927	926	845	09/26/2013
<input type="checkbox"/>	CARSON	DAVIS	2316725791	949	1084	840	937	961	09/26/2013
<input type="checkbox"/>	ASA	EVANS	2042337811	969	878	942	1136	936	09/26/2013
<input type="checkbox"/>	ALEXIS	JENKINS	2176564081	969	877	1023	962	1003	09/26/2013
<input type="checkbox"/>	AIDEN	HARPER	1274357993	978	1044	985	942	942	09/26/2013
<input type="checkbox"/>	ANDREA	MATTHEWS	1157917968	990	1065	945	950	999	09/26/2013
<input type="checkbox"/>	PERRY	MCDONALD	1142950476	1001	1024	1009	1054	919	09/26/2013
<input type="checkbox"/>	JESSE	REED	1066598584	1009	1085	1023	931	1000	09/26/2013
<input type="checkbox"/>	RYAN	LYNCH	1127456164	1026	1048	1022	1130	902	09/26/2013
<input type="checkbox"/>	RILEY	COLLINS	1017803005	1030	994	1046	1069	1013	09/26/2013
<input type="checkbox"/>	KYLE	BUTLER	1043433929	1039	1060	1026	995	1071	09/26/2013
<input type="checkbox"/>	KELLY	ANDREWS	3653711363	1065	1049	1075	1113	1021	09/26/2013
<input type="checkbox"/>	GEORGIA	REID	2531881883	1078	1057	1068	979	1183	09/26/2013
<input type="checkbox"/>	DREW	WILSON	1763826228	1080	1082	1150	1139	951	09/26/2013
<input type="checkbox"/>	MORGAN	COLE	1843380927	1097	1093	1094	1070	1130	09/26/2013
<input type="checkbox"/>	SHANNON	MORRISON	3213182834	1119	1119	1170	1098	1087	09/26/2013
<input type="checkbox"/>	PHOENIX	CLARK	3077598108	1124	1121	1061	1102	1220	09/26/2013
<input type="checkbox"/>	CHRISTOPHER	WELCH	3127487592	1133	1145	1132	1102	1156	09/26/2013
<input type="checkbox"/>	SHELBY	GRAHT	3426340887	1135	993	1198	1195	1166	09/26/2013
<input type="checkbox"/>	CARRIE	MILLS	1816396567	1144	1123	1126	1146	1181	09/26/2013
<input type="checkbox"/>	DEREK	SPENCER	3257990456	1151	1154	1150	1127	1176	09/26/2013
<input type="checkbox"/>	TYLER	WHEELER	1836359268	1191	1224	1174	1164	1205	09/26/2013

[Show Selected Students](#)
[Export to CSV](#)
[Export to PDF](#)
[Export to Zip](#)
[Export Individual Reports](#)

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I can also scroll down below the group map to see a grid that contains the results for my students. If I click on Overall Score, the data is sorted by the students' Overall Scores. (I can also sort by any of the other columns, e.g., a diagnostic category such as Data Analysis, student last name, or test date.) I can also move the columns around by clicking on and dragging them, so I have moved the Overall Score to be next to the student's PASecureID.

I know that any student with an Overall Score below 1037 is most likely showing areas of need. I might want to form one or more student groups for additional support and include Parker, Cassidy, Harper, Stacey, Adrian, Dominique, Emily, Carson, Asa, Alexis, Aiden, Andrea, Perry, Jesse, Ryan, and Riley.

How else might I use this grid?

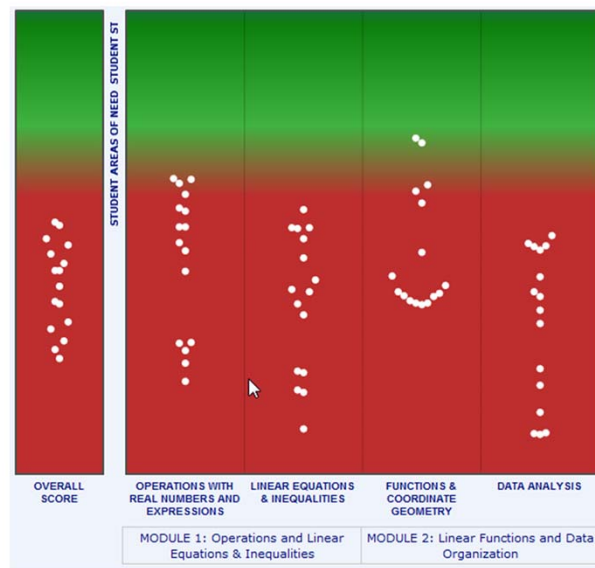
If I would like to use this data in Excel or Access, I can click on the **Export to CSV** button. Why might I want to export this data?

If I would like to print this report, I can click on the **Export to PDF** button. Besides providing a snapshot of where my students are, how might I use this report?

How would this data support me during a data team meeting(s)?

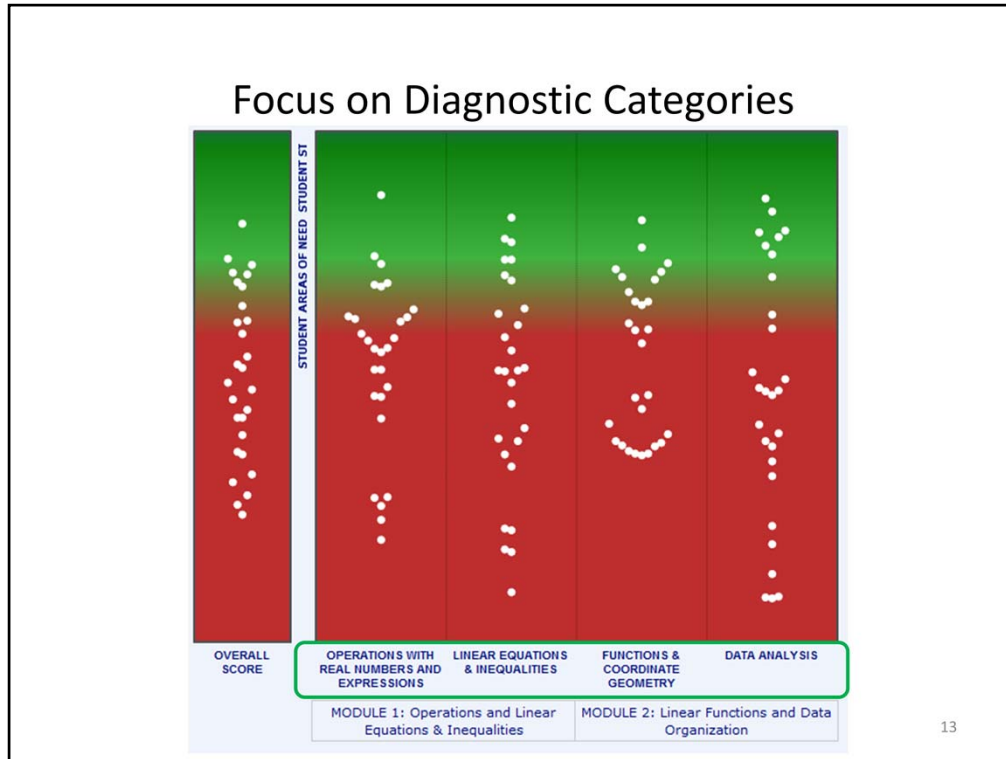
I also notice a **Show Selected Students** button. I can select students in the grid which enables me to see only those selected students in the map. I can also print a report for just those students. I click on the boxes beside each of the students I identified as having areas of need and select **Show Selected Students**.

Show Selected Students



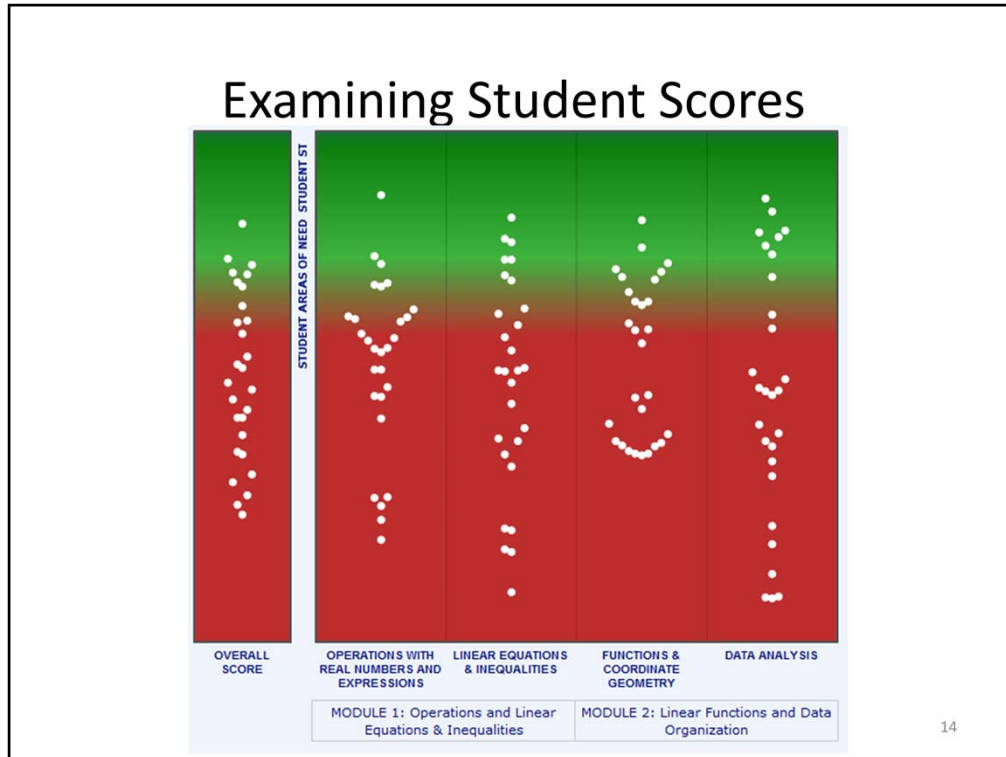
12

Except for two scores in Functions & Coordinate Geometry, I can see that each Diagnostic Category score for each of these students is also in the Red band, so I know that most of these students will likely need additional support with all four Diagnostic Categories as we work toward understanding of the Algebra I Assessment Anchors and Eligible Content. I can see that several students are doing well (considering that this is the beginning of the year) in Operations with Real Numbers and Expressions as well as Functions & Coordinate Geometry, so those students may need more support in the other two diagnostic categories, which helps me to know how to focus my instructional time. I can also use other formal and informal formative assessments in my classroom to gauge how these students are progressing in the Algebra I AA/ECs.



I want to look at the report for my entire class, so I click on the ***Clear Map*** button and select the **Optimize Zoom** button again.

I notice that students in this class seem to be spread across both the red and green bands for each of the diagnostic categories. I can also see (by hovering over dots, clicking on a dot to show all of the diagnostic category scores of a student, or by scrolling down to the grid below the map) that many students have a Diagnostic Category score that is much higher or much lower than the other Diagnostic Category scores and that not all of the students in my class have the same strengths or areas of need.



Now I want to focus on student scores in the Overall Score column in relation to the diagnostic categories.

Are there any students showing areas of strength?

Which students show areas of need?

What patterns do I see? (Are there groups of students that are showing similar areas of strength or areas of need across diagnostic categories? Are students scoring between the red and green bands in one diagnostic category performing similarly in other diagnostic categories as well or are the scores in other diagnostic categories higher or lower?)

Group Learning Progression Map

Eligible Content	Summary	Count of Green	Count of Red	ANDREWS, KELLY (0653711363)	BUTLER, KYLE (1043433929)	CLARK, PHOENIX (3077598108)	COLE, MORGAN (1843380927)	COLLINS, RILEY (1017803005)	DAVIS, CARSON (2316725791)	EVANS, ASA (2042337811)	GRANT, SHELBY (3426340887)	HARPER, JUDEN (1274357093)	HART, CASSIDY (3363208219)	JENKINS, ALEXIS (2176564081)	LEE, ADRIAN (3287808265)	LYNCH, RYAN (1127456164)	MATTHEWS, ANDREA (1157917968)	MCDONALD, PERRY (1142950476)	MILLS, CARRIE (1816396567)	MORRISON, SHANNON (3213182834)	NELSON, STACEY (2589881364)	NICHOLS, HARPER (2813724283)	PALMER, EMILY (2468286472)	REED, JESSE (1066596564)	REID, GEORGIA (2531881883)	RYAN, DOMINIQUE (2436007098)	SPENCER, DEREK (3257990456)	WELCH, CHRISTOPHE (3127487592)	WHEELER, TYLER (1836359288)	WILLIAMSON, PARKER (3554760892)	WILSON, DREW (1763826228)
Functional Representations																															
M03.B-O.3.1.5																															
M04.B-O.3.1.1																															
M04.B-O.3.1.2																															
M04.B-O.3.1.3																															
M05.B-O.2.1.1																															
M05.B-O.2.1.2																															
M06.B-E.3.1.2																															
M08.B-E.2.1.1	+	2	11	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
M08.B-E.2.1.2	+	2	5	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
M08.B-E.2.1.3	+	2	3	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
M08.B-F.1.1.1	+	0	1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
M08.B-F.1.1.2	+	2	3	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
M08.B-F.1.1.3	+	5	6	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
M08.B-F.2.1.1	+	2	0	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
A1.2.1.2.1	+	9	13	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
A1.2.1.2.2	+	5	9	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
A1.2.2.1.1	+	9	7	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

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Another way that I can analyze the results of the students in my class is by using the Group Learning Progression Map. I select the Group Learning Progression Map tab and the Group Learning Progression Map populates. I see a row for each Eligible Content assessed on the CDT and a column for each of my students, in addition to a few extra columns. These columns are: Summary, Count of Green, and Count of Red.

The **Summary** column shows either a red dot or a green dot. To determine the color of the summary dot, all students in the group who received at least one item for that Eligible Content count equally, even though they may have taken different numbers of items for the Eligible Content. The summary dot calculation includes how close each student's performance is to the expected performance for a student just ready for the next grade/course rather than just whether the student scored better or worse than expected. Therefore, the summary dot color may not be the same as the most frequently-occurring color for the group. By hovering over the Summary dot, I learn how many students in my student group received items for this Eligible Content and how many items those students received. (Remember that the dot colors are based on the expectation for the end of Algebra I since the Algebra I Map Configuration is being used.)

The **Count of Green** and **Count of Red** columns indicate the number of students who received each of those colors of dots on their individual learning progression map. (Remember, some students may have received more items than other students.)

I can also hover over the Eligible Content code to see the Eligible Content Description and links to Materials and Resources in SAS as well as a sample item for that Eligible Content.

Group Learning Progression Map

Eligible Content	Summary	Count of Green	Count of Red	ANDREWS, KELLY (3653711363)	BUTLER, KYLE (1043433929)	CLARK, PHOENIX (3077598108)	COLE, MORGAN (1943380927)	COLLINS, RILEY (1017003005)	DAVIS, CARSON (2316725791)	EVANS, ASA (2042337811)	GRANT, SHELBY (3426340887)	HARPER, AIDEN (1274357993)	HART, CASSIDY (3383208219)	JENKINS, ALEXIS (2176564081)	LEE, ADRIAN (3287808265)	LYNCH, RYAN (1274501164)	MATTHEWS, ANDREA (1157917968)	MCDONALD, PERRY (1142950476)	MILLS, CARRIE (1816306567)	MORRISON, SHANNON (3213182834)	NELSON, STACEY (2588881364)	NICHOLS, HARPER (2613724293)	PALMER, EMILY (2468286472)	REED, JESSE (1065595854)	REID, GEORGIA (2531881883)	RYAN, DOMINIQUE (2436007098)	SPENCER, DEREK (3257900456)	WELCH, CHRISTOPHE (3124757592)	WHEELER, TYLER (183659208)	WILLIAMSON, PARKER (3554700892)	WILSON, DREW (1763828228)
M08.B-F.1.1.2	2	3	0																												
M08.B-F.1.1.3	5	6	0																												
M08.B-F.2.1.1	2	0	0																												
A1.2.1.2.1	9	13	0																												
A1.2.1.2.2	5	9	0																												
A1.2.2.1.1	9	7	0																												
A1.2.2.1.2	8	10	0																												
A1.2.2.1.3	1	8	0																												
A1.2.2.1.4	9	12	0																												
M08.B-F.2.1.2	8	9	0																												
A1.2.1.1.1	9	11	0																												
A1.2.1.1.2	3	4	0																												
A1.2.1.1.3	4	11	0																												
A2.1.3.2.1	1	0	0																												
A2.2.1.1.1	3	2	0																												
A2.2.1.1.2	3	1	0																												
A2.2.1.1.3																															
A2.2.1.1.4																															

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I can use the Summary, Count of Green, and Count of Red columns to identify Eligible Content for which targeted instruction could benefit my students.

Under Algebraic Concepts; Functional Representations, I see the Eligible Content code A1.2.1.1.3, which has a red summary dot.

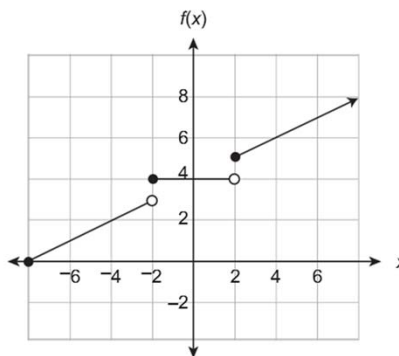
The code tells me a lot of information about this Eligible Content. A1 at the beginning tells me this is content for Algebra I. The next part of the code, 2, tells me that this EC is for Module 2. The following three numbers represent the Assessment Anchor, Descriptor, and Eligible Content. I can find more information about the Reporting Categories, Assessment Anchors, Descriptors, and Eligible Content in the Assessment Anchors and Eligible Content documents posted at www.pdesas.org or www.education.state.pa.us.

I see that 15 of my 28 students received one or more items for this Eligible Content, and that only 4 received green dots, while the other 11 received red dots. I hover over the Eligible Content code, and I see the Eligible Content Description, as well as links to Materials and Resources and a Sample Item. The Eligible Content Description says "Identify the domain or range of a relation (may be presented as ordered pairs, a graph, or a table)."

I can click on Sample Item to see an example of an item aligned to this Eligible Content.

Sample Item

1. The graph of a function is shown below.



Which value is **not** in the range of the function?

- A. 0
- B. 3
- C. 4
- D. 5

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A PDF showing a sample item opens. This Eligible Content asks students to identify the domain or range of a function. I can use this sample item as a formative assessment in my classroom. I can also ask students to explain their answers and to identify the domain of the function shown. This can help me to determine what part of the eligible content they are struggling with prior to planning my instruction. I go back to the Group Learning Progression Map, hover over the Eligible Content Code again, and click on **Materials and Resources** for additional resources to help me plan my next steps.

Materials and Resources

The screenshot shows the Pennsylvania Standards Aligned System (SAS) interface. The top navigation bar includes links for Standards, Assessment, Curriculum Framework, Instruction, Materials & Resources (highlighted), and Safe & Supportive Schools. A search bar is located in the top right corner. Below the navigation bar, a grid of icons represents different resource types: Lesson/Unit Plan, Instructional Content, Educational Resources, Assessment, Videos, Web-Based Content, and PA Educator Created Content. The main content area, titled 'Materials & Resources - Results', displays a list of resources. Each resource entry includes a title, a description, and a list of applicable grades.

Resource Title	Resource Type	Grade(s)
Intuitive Notion of Symmetry	Web-based Resource	9th Grade, 10th Grade
KITES: The Snow is Falling! The Snow is Falling!, Math A	Activity	9th Grade, 10th Grade, 11th Grade, 12th Grade
Linear Systems	Unit Plan	Grade(s):
Limits	Web-based Content	

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This takes me directly into SAS, where I can find lessons/unit plans, instructional content, educational resources, assessments, videos, web-based content, and/or Pennsylvania Educator-created content. I can use these resources, along with other instructional materials I have developed or found, to work with my students on finding probabilities.

Group Learning Progression Map

Eligible Content	Summary	Count of Green	Count of Red	ANDREWS, KELLY (3653711363)	BUTLER, KYLE (1043433929)	CLARK, PHOENIX (3077598108)	COLE, MORGAN (1943380927)	COLLINS, RILEY (1017003005)	DAVIS, CARSON (2316725791)	EVANS, ASA (2042337811)	GRANT, SHELBY (3426340887)	HARPER, AIDEN (1274357993)	HART, CASSIDY (3383208219)	JENKINS, ALEXIS (2176564081)	LEE, ADRIAN (3287808265)	LYNCH, RYAN (1274501164)	MATTHEWS, ANDREA (1157917968)	MCDONALD, PERRY (1142950476)	MILLS, CARRIE (1816306567)	MORRISON, SHANNON (3213182834)	NELSON, STACEY (2588881364)	NICHOLS, HARPER (2613742853)	PALMER, EMILY (2468286472)	REED, JESSE (1065595854)	REID, GEORGIA (2531881883)	RYAN, DOMINIQUE (2436007098)	SPENCER, DEREK (3257900456)	WELCH, CHRISTOPHE (3127487592)	WHEELER, TYLER (183659208)	WILLIAMSON, PARKER (3554700892)	WILSON, DREW (1763828228)
M08.B-F.1.1.2	2	3	3																												
M08.B-F.1.1.3	5	6	6																												
M08.B-F.2.1.1	2	0	0																												
A1.2.1.2.1	9	13	13																												
A1.2.1.2.2	5	9	9																												
A1.2.2.1.1	9	7	7																												
A1.2.2.1.2	8	10	10																												
A1.2.2.1.3	1	8	8																												
A1.2.2.1.4	9	12	12																												
M08.B-F.2.1.2	8	9	9																												
A1.2.1.1.1	9	11	11																												
A1.2.1.1.2	3	4	4																												
A1.2.1.1.3	4	11	11																												
A2.1.3.2.1	1	0	0																												
A2.2.1.1.1	3	2	2																												
A2.2.1.1.2	3	1	1																												
A2.2.1.1.3																															
A2.2.1.1.4																															

19

I can also use the Group Learning Progression Map to identify content that might benefit students during small-group instruction. For example, also under Algebraic Concepts; Functional Representations, I see that 9 students received a green dot for A1.2.2.1.1, while 7 students received a red dot. If I hover over the Eligible Content code, I see that this Eligible Content expects students to “Identify, describe, and/or use constant rates of change.” Kyle Butler, Aiden Harper, Alexis Jenkins, Carrie Mills, Georgia Reid, Dominique Ryan, and Parker Williamson received red dots for that Eligible Content.

I remember that these dots may represent only a few items for each student. I can hover over each student’s dot to see how many items this score is based on. For each of the students with a red dot, the dot is based on one, two, or three items. I can look at the sample item and ask these students, as well as students who did not receive items for this Eligible Content, questions similar to the sample item to determine if they really are struggling with this Eligible Content. (The same applies to students who received green dots. The dot may be based on only a few items; if I feel a student needs additional support with an Eligible Content regardless of a green dot on the CDT, I should use my professional judgment and provide that support.)

Once I have identified my flexible student group for additional support, I can access the Materials and Resources in SAS to help me find ways to support my students.

Now open HS Algebra I Administration #2

- Go to the Student Group dropdown menu and select [HS Algebra I Administration #2](#)
- Next click on the ***Continue*** button
- Then select [Algebra I](#) from the Map Configuration dropdown menu

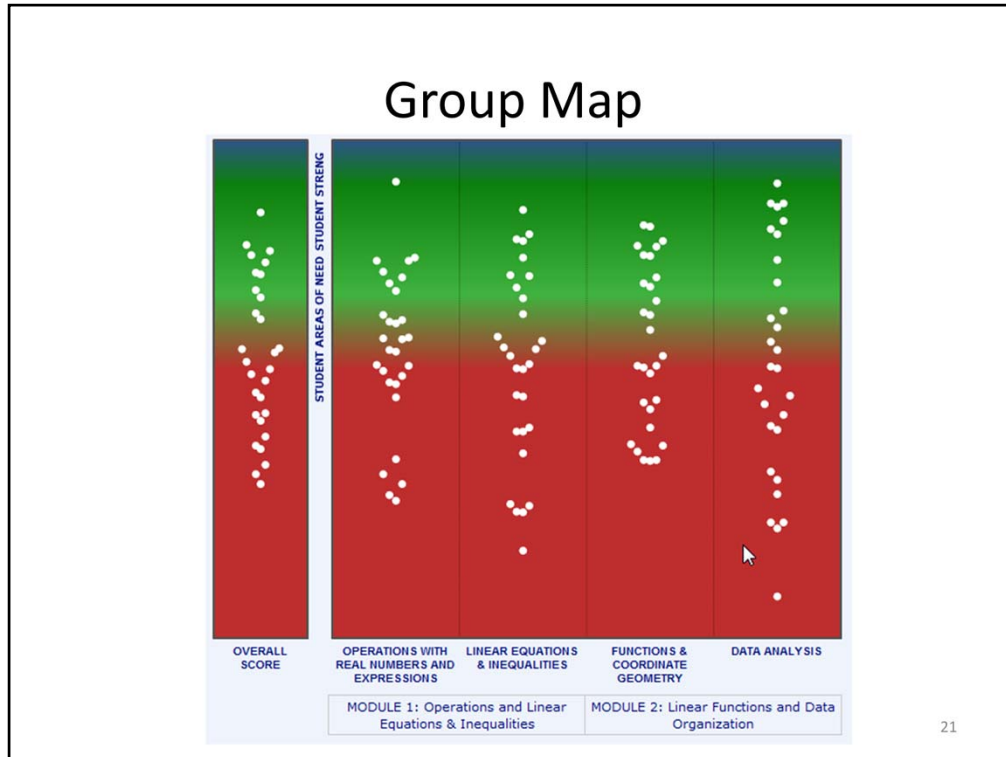
The resulting Group Map represents student scores after the mid-year CDT administration.

20

Note to Trainer: For this scenario, data for the previous test event for Algebra I will also be shown.

The current version of the CDT only shows the most recent test event for the Group Learning Progression Map and the Individual Learning Progression Map; therefore, the 1st, 2nd, and 3rd test events are stored as separate Student Groups for the purpose of training. This is why you need to select the different student group as we enter this part of the training.

This part of the demonstration uses the second test administration.



I administered the CDT to my entire class on February 4, and now I am going to analyze the results. I am using this mid-year CDT administration to see how my students are doing as they progress toward understanding of the Assessment Anchors and Eligible Content. In some schools, the teacher may decide to use the second administration only for students who participated in a particular intervention due to issues of timing or access to technology.

Note: If I scroll down below the map, I see that my class now has 29 students instead of 28. This is because I have a new student in my class, Kegan Morris.

Individual Learning Progression Map

Student

KEGAN MORRIS (4350823727) *

Content Area

Map Configuration

Algebra I *

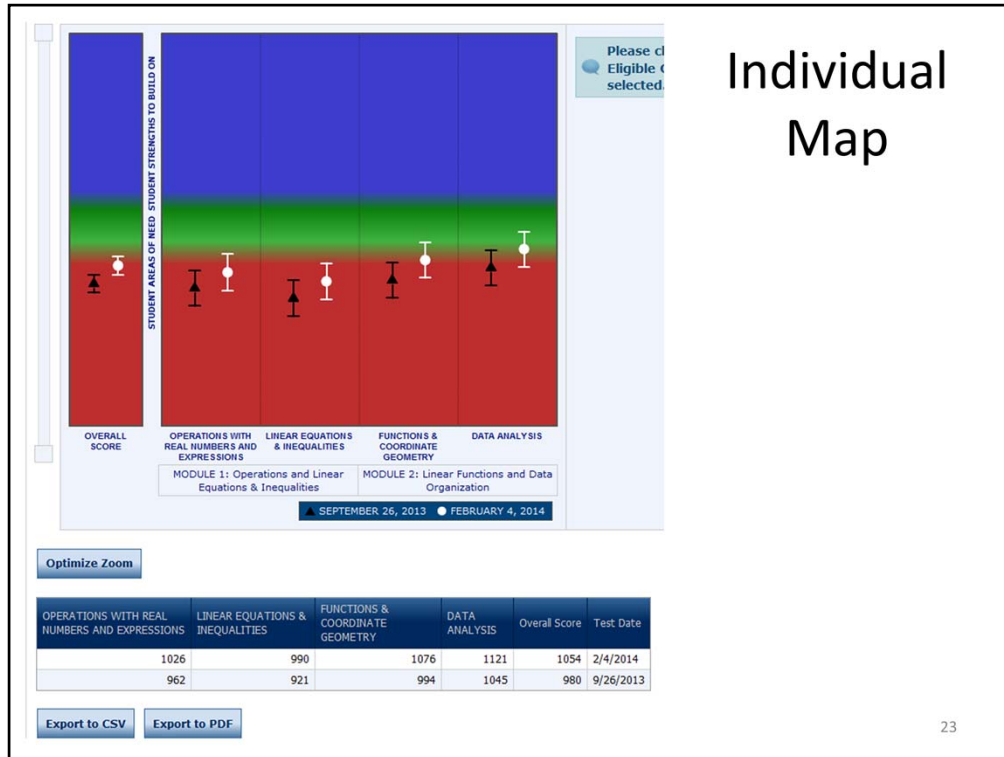
Export to CSV

22

Kegan recently moved into this school district from out of state. I don't know a lot about the previous instruction Kegan has received, so I added Kegan to my student group and included Kegan in the second CDT administration for my class.

I click on the **Individual Learning Progression Map** tab and select Kegan Morris from the **Student** dropdown menu, and I see the Individual Learning Progression Map. Like the Group Learning Progression Map, there is a row for each Eligible Content, and I can hover over the codes to see the Eligible Content Description and links to Materials and Resources and a Sample Item.

As I scroll through Kegan's learning progression map, I can see red and green dots that identify the Eligible Content for which Kegan received items. I can hover over each dot to see the number of items administered and the administration date. Below the map is the **Export to CSV** button that I can use to create a .csv file that I can open in Excel or Access.

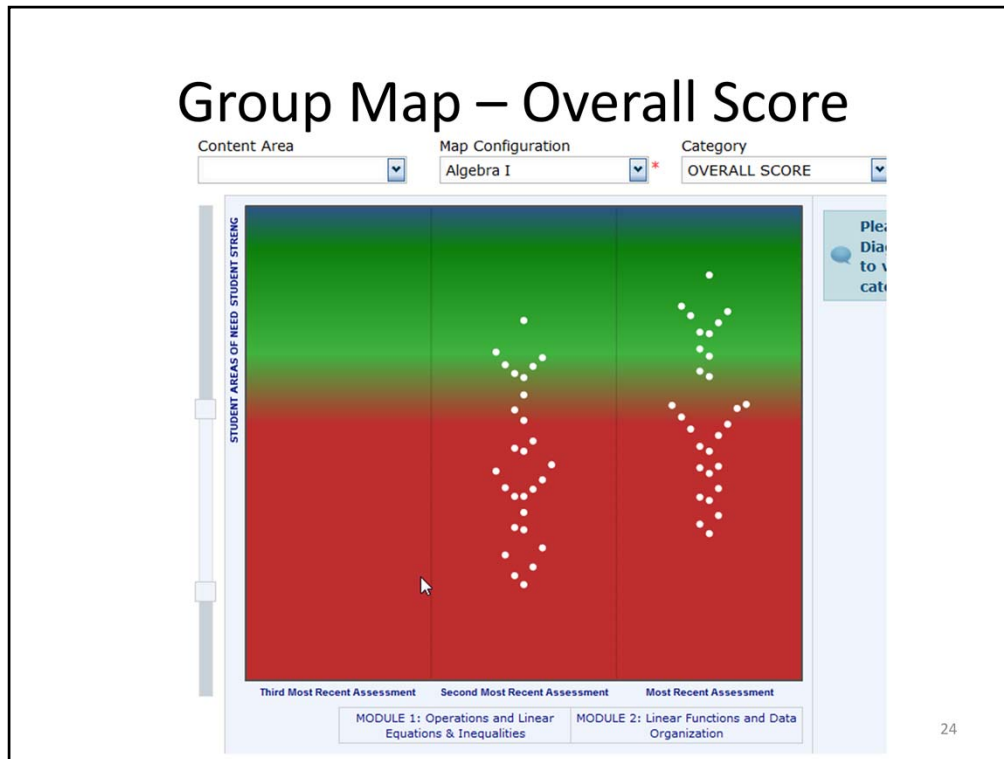


If you remember from the first administration, Riley Collins began the year below the expectations for students completing eighth grade. Riley's family is monitoring his progress and has scheduled a conference to discuss his current progress and next steps.

I can click on the **Individual Map** tab and select Riley from the Student dropdown menu. The Individual Map shows a student's Overall Score and each Diagnostic Category score for the three most recent administrations of the CDT. Riley has only completed two administrations of the CDT so far this year.

I see that there are vertical lines with a dot or triangle in the center of each line. The dots (or triangles) represent the student's actual score. The lines represent error bands. The error band (or standard error of measurement) shows the variation in CDT scores if the same student were to take the CDT multiple times without additional instruction. The variation in scores is similar to the variation found when other tools are used to measure attributes. For example, if you use a bathroom scale and measure your weight multiple times, it is unlikely that the same weight will appear every time. This variation is related to the reliability, or precision, of the tool you are using. For the CDT, I can see that the error bands for the Overall Score are shorter than the error bands for each Diagnostic Category score. Because a student's Overall Score is made up of more test questions than each of the Diagnostic Category scores, the Overall Score is a more precise measurement, and the lines are not as long.

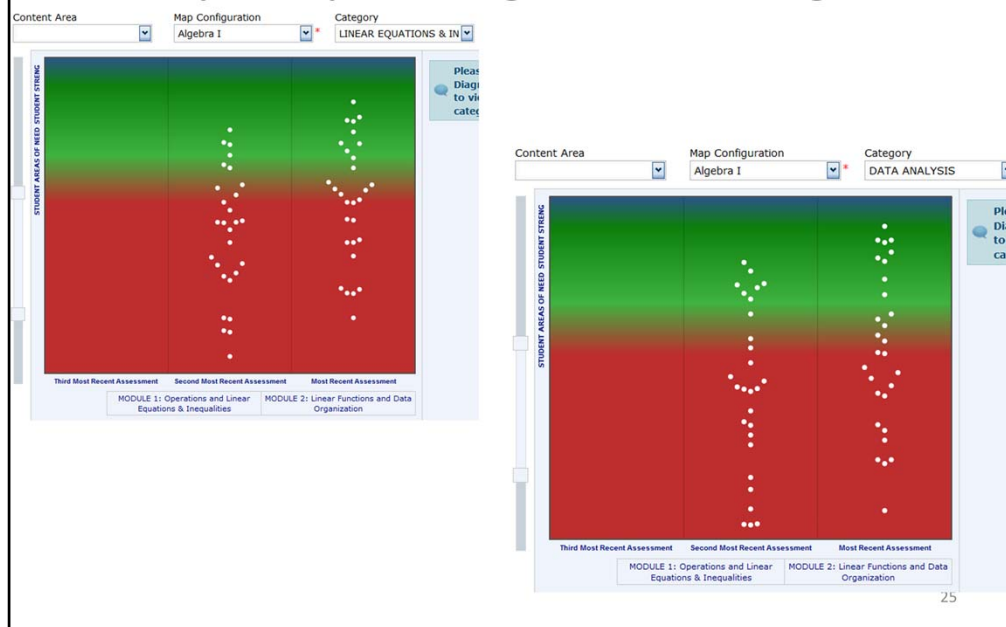
If the lines for different Diagnostic Categories overlap, there may not be a statistically significant difference between the two scores. However, for instructional purposes, I may still want to look at the entire profile to help inform instructional decisions. The grid shows that Riley's scores have increased since September, and the lines show that this growth is statistically significant for the Overall Score but not for the Diagnostic Category scores, so we still have more work to do. I can Export this report to either a .csv file or a .pdf file to use during my conference with Riley's family.



Now that I am ready for my conference, I will take some time to look over the results for all of the students in my class. I switch back to the Group Map and click on **Optimize Zoom**. Under the Category dropdown menu, I first select Overall Score.

I see that more of my students have moved into the Green band or the area between the Green and Red bands, but there are still several students in the Red band, so I will take a look at the growth in each diagnostic category to help me determine my next steps.

Group Map – Diagnostic Categories



These are the Group Maps for Linear Equations & Inequalities and Data Analysis for the second administration. It seems that most of my students have shown some growth in Linear Equations & Inequalities since the first administration, while some students showed growth while others did not in Data Analysis, increasing the range of scores shown by my students in that category.

I can use this information, as well as information from the Group Learning Progression Map, to determine my next instructional steps. I also might want to compare the Group Maps for other Diagnostic Categories based on the areas I have focused on in my instruction as well as the topics I am planning to cover in upcoming instruction.

Now open HS Algebra I Administration #3

- Go to the Student Group dropdown menu and select [HS Algebra I Administration #3](#)
- Next click on the ***Continue*** button
- Then select [Algebra I](#) from the Map Configuration dropdown menu

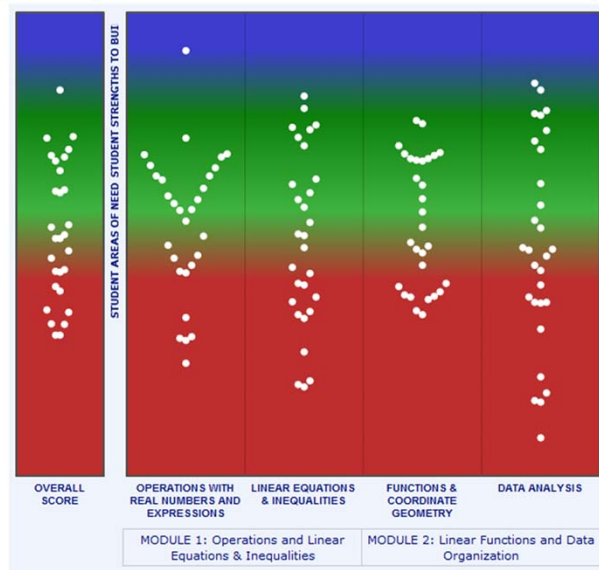
The resulting Group Map represents student scores for the end-of-year CDT administration.

26

Reminder to Trainer: The current version of the CDT only shows the most recent test event for the Group Learning Progression Map and the Individual Learning Progression Map; therefore, the 1st, 2nd, and 3rd test events are stored as separate Student Groups for the purpose of training. This is why you need to select the different student group as we enter this part of the training.

This part of the demonstration uses the third test administration.

Group Map – End of Instruction for Algebra I



27

It is now nearing the end of the school year, and these students have completed the third administration of the Algebra I CDT. I am still interested to know how well prepared the students are as they approach the end of instruction.

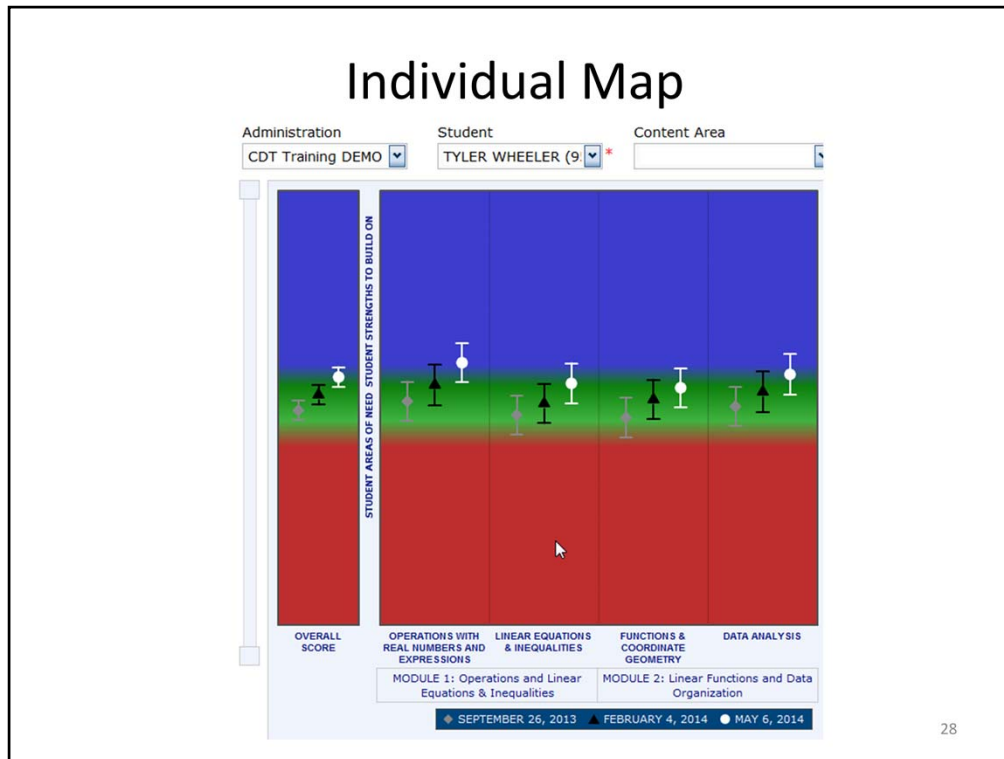
I notice that the map looks quite a bit different from the first administration.

Which students are showing strengths to build on?

Which students are showing areas of need?

Which students might need additional support?

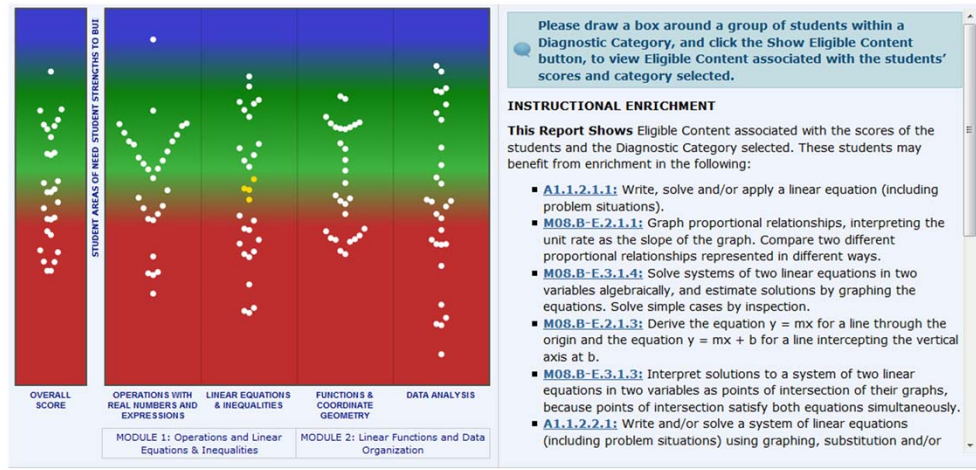
How can I use the maps in the CDT to help build on student strengths and support student areas of need?



I hover over the dot with the highest overall score and find that it belongs to Tyler Wheeler, so I click on the Individual Map tab and select Tyler Wheeler from the Student dropdown menu.

Tyler's individual map shows Diagnostic Category and Overall scores for each of the three administrations. I can see that the error bands for Diagnostic Categories for the most recent administration (shown by white dots) overlap, so it seems that Tyler is not performing significantly differently in any of the diagnostic categories. I can use the Individual Learning Progression Map or Tyler's column in the Group Learning Progression Map to look for patterns and identify some ways to build on Tyler's strengths.

Selecting Students



29

I go back to the Group Map and notice that there is a group of students who are between the Green and Red bands for Linear Equations & Inequalities. To identify all of those students at once, I can draw a box around them and click the **Show Eligible Content** button. Eligible Content for which these students may benefit from additional instruction are shown to the right of the Group Map, and the dots that were enclosed in the box are now highlighted yellow.

Selecting Students

29 of 29 Students have tested

	First Name	Last Name	PAScoreID	OPERATIONS WITH REAL NUMBERS AND EXPRESSIONS	LINEAR EQUATIONS & INEQUALITIES	FUNCTIONS & COORDINATE GEOMETRY	DATA ANALYSIS	Overall Score	Test Date
<input type="checkbox"/>	KELLY	ANDREWS	9241615117	1165	1190	1232	1133	1181	05/06/2014
<input checked="" type="checkbox"/>	KYLE	BUTLER	7071037035	1142	1123	1109	1163	1134	05/06/2014
<input checked="" type="checkbox"/>	PHOENIX	CLARK	8301488476	1226	1140	1224	1314	1228	05/06/2014
<input type="checkbox"/>	MORGAN	COLE	9529963475	1196	1197	1189	1247	1208	05/06/2014
<input type="checkbox"/>	RILEY	COLLINS	7040542749	1084	1170	1134	1107	1124	05/06/2014
<input type="checkbox"/>	CARSON	DAVIS	8009157643	1170	932	1043	1077	1056	05/06/2014
<input type="checkbox"/>	ASA	EVANS	7344371286	1015	1036	1228	1034	1076	05/06/2014
<input type="checkbox"/>	SHELBY	GRANT	9117977495	1097	1306	1270	1261	1236	05/06/2014
<input type="checkbox"/>	AIDEN	HARPER	7306167189	1156	1073	1045	1042	1078	05/06/2014
<input type="checkbox"/>	CASSIDY	HART	9079728551	955	1019	1084	906	992	05/06/2014
<input checked="" type="checkbox"/>	ALEXIS	JENKINS	7409653388	990	1125	1105	1084	1075	05/06/2014
<input type="checkbox"/>	ADRIAN	LEE	9064746168	1201	970	1039	916	1025	05/06/2014
<input type="checkbox"/>	RYAN	LYNCH	7140464782	1201	1081	1241	1035	1137	05/06/2014
<input type="checkbox"/>	ANDREA	MATTHEWS	7212976237	1157	1058	1100	1096	1103	05/06/2014
<input type="checkbox"/>	PERRY	MCDONALD	7172749537	1122	1160	1154	1035	1119	05/06/2014
<input type="checkbox"/>	CARRIE	MILLS	9477090662	1229	1265	1230	1281	1251	05/06/2014
<input type="checkbox"/>	KEGAN	MORRIS	7285291269	1074	1042	1114	1143	1093	05/06/2014
<input type="checkbox"/>	SHANNON	MORRISON	8393266556	1212	1262	1221	1191	1221	05/06/2014
<input type="checkbox"/>	STACEY	NELSON	8159676247	985	927	1024	1104	1006	05/06/2014
<input type="checkbox"/>	HARPER	NICHOLS	8184978502	988	1014	1171	857	1007	05/06/2014
<input type="checkbox"/>	EMILY	PALMER	8114340177	1110	1023	1019	937	1022	05/06/2014
<input checked="" type="checkbox"/>	JESSE	REED	7098404314	1215	1107	1042	1105	1119	05/06/2014
<input type="checkbox"/>	GEORGIA	REID	8154046814	1185	1179	1056	1287	1179	05/06/2014
<input type="checkbox"/>	DOMINIQUE	RYAN	8062372871	1093	1060	1049	1000	1050	05/06/2014
<input type="checkbox"/>	DEREK	SPENCER	8462860318	1251	1252	1224	1283	1253	05/06/2014
<input type="checkbox"/>	CHRISTOPHER	WELCH	8357457312	1230	1241	1198	1236	1226	05/06/2014
<input type="checkbox"/>	TYLER	WHEELER	9518128413	1366	1290	1274	1323	1314	05/06/2014
<input type="checkbox"/>	PARKER	WILLIAMSON	9149784684	1076	924	1060	904	992	05/06/2014
<input type="checkbox"/>	DREW	WILSON	9304473853	1175	1268	1222	1058	1183	05/06/2014

[Show Selected Students](#)
[Export to CSV](#)
[Export to PDF](#)
[Export to Zip](#)
[Export Individual Reports](#)

30

If I scroll down below the map, the students who received these scores are highlighted in yellow.

I can put a checkmark in the box beside each row and click on **Show Selected Students** to see only those students' scores in the Group Map. This can help me find patterns in these students' performances across Diagnostic Categories that might help me to improve their understanding as we approach the end of the year. In addition, this information will be available to the students' next teacher(s) as they move into the next grade in the fall.

Individual Learning Progression Map

Student: PARKER WILLIAMSON (9149784684) *
 Content Area: *
 Map Configuration: Algebra I *

Eligible Content	Grades / Courses												
	K	1	2	3	4	5	6	7	8	A1	A2	G	
Algebraic Concepts													
Functional Representations													
M03.B-O.3.1.5													
M04.B-O.3.1.1													
M04.B-O.3.1.2													
M04.B-O.3.1.3													
M05.B-O.2.1.1													
M05.B-O.2.1.2													
M06.B-E.3.1.2													
M08.B-E.2.1.1													
M08.B-E.2.1.2													
M08.B-E.2.1.3													
M08.B-F.1.1.1													
M08.B-F.1.1.2													
M08.B-F.1.1.3													
M08.B-F.2.1.1													
A1.2.1.2.1													
A1.2.1.2.2													

Export to CSV

31

For students like Parker Williamson who continue to struggle in the final CDT administration of the year, I can click on the Individual Learning Progression Map, select the student name from the Student dropdown menu, and then click the **Export to CSV** button at the bottom of the screen.

Individual Learning Progression Map

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	CDT - Individual Learning Progression Map Export														
2	Student:	PARKER WILLIAMSON (9149784684)													
3	Administration:														
4	District:														
5	School:														
6	Teacher:														
7	Student Group:														
8	Map Configuration:	Algebra I													
9	Date Generated:	10/22/2014													
10															
11	Diagnostic Category	Assessment Anch	ECC	ECC Dot	O ECC Description	Materials and Resources	Sample Item								
96	Algebraic Concepts	Functional Repres	M03.B-O.3.1.5		Identify arithmetic patterns (including	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/M03_B-O_3_1_5.pdf									
97	Algebraic Concepts	Functional Repres	M04.B-O.3.1.1		Generate a number or shape pattern th	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/M04_B-O_3_1_1.pdf									
98	Algebraic Concepts	Functional Repres	M04.B-O.3.1.2		Determine the missing elements in a fi	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/M04_B-O_3_1_2.pdf									
99	Algebraic Concepts	Functional Repres	M04.B-O.3.1.3		Determine the rule for a function giv	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/M04_B-O_3_1_3.pdf									
100	Algebraic Concepts	Functional Repres	M05.B-O.2.1.1		Generate two numerical patterns using	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/M05_B-O_2_1_1.pdf									
101	Algebraic Concepts	Functional Repres	M05.B-O.2.1.2		Identify apparent relationships betwe	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/M05_B-O_2_1_2.pdf									
102	Algebraic Concepts	Functional Repres	M06.B-F.3.1.2		Analyze the relationship between the	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/M06_B-F_3_1_2.pdf									
103	Algebraic Concepts	Functional Repres	M08.B-F.2.1.1	RED	Graph proportional relationships, inter	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/M08_B-F_2_1_1.pdf									
104	Algebraic Concepts	Functional Repres	M08.B-F.2.1.2		Use similar right triangles to show and	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/M08_B-F_2_1_2.pdf									
105	Algebraic Concepts	Functional Repres	M08.B-F.2.1.3		Derive the equation $y = mx$ for a line th	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/M08_B-F_2_1_3.pdf									
106	Algebraic Concepts	Functional Repres	M08.B-F.1.1.1	RED	Determine whether a relation is a func	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/M08_B-F_1_1_1.pdf									
107	Algebraic Concepts	Functional Repres	M08.B-F.1.1.2		Compare properties of two functions e	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/M08_B-F_1_1_2.pdf									
108	Algebraic Concepts	Functional Repres	M08.B-F.1.1.3		Interpret the equation $y = mx + b$ as de	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/M08_B-F_1_1_3.pdf									
109	Algebraic Concepts	Functional Repres	M08.B-F.2.1.1		Construct a function to model a linear	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/M08_B-F_2_1_1.pdf									
110	Algebraic Concepts	Functional Repres	A1.2.1.2.1	RED	Create, interpret and/or use the equati	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/A1_2_1_2_1.pdf									
111	Algebraic Concepts	Functional Repres	A1.2.1.2.2	RED	Translate from one representation of a	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/A1_2_1_2_2.pdf									
112	Algebraic Concepts	Functional Repres	A1.2.1.1.1	GREEN	Identify, describe and/or use constant	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/A1_2_1_1_1.pdf									
113	Algebraic Concepts	Functional Repres	A1.2.1.1.2		Apply the concept of linear rate of cha	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/A1_2_1_1_2.pdf									
114	Algebraic Concepts	Functional Repres	A1.2.1.3	GREEN	Write or identify a linear equation whe	http://pa.drccdirect.com/ThirdPartyTransfer/https://assets.drccdirect.com/States/PA/550389/SampleItems/MATH/A1_2_1_3.pdf									

This gives me a file with links to Materials and Resources as well as Sample Items for each Eligible Content code. I can see if Parker received items for each Eligible Content and if he scored at least as well as expected for a student at the end of Algebra I (Green) or if Parker scored below the expectations for a student at the end of Algebra I (Red). (Those EC with blanks in the ECC Dot Color Column are those for which Parker was not administered items.)

I can use the Sample Items one-on-one with Parker, which will give me more information about how Parker is doing and what next steps I should take. (It is possible that testing makes Parker nervous and these results are not actually indicative of what he knows, understands, and is able to do in Algebra I.)

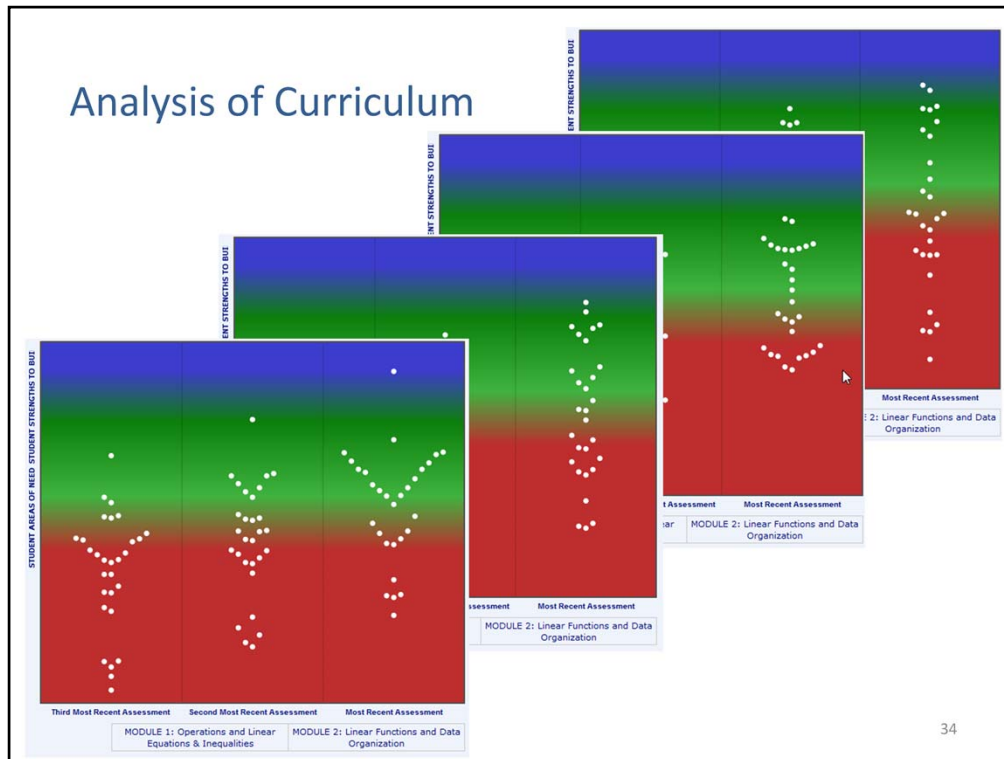
I can also use the Materials and Resources to find additional activities that Parker can do to improve his understanding.

Planning

Eligible Content	Summary																														
	Count of Green	Count of Red	ANDREWS, KELLY (9241615117)	BUTLER, KYLE (7071037035)	CLARK, PHOENIX (8301488476)	COLE, MORGAN (9529963475)	COLLINS, RILEY (7040542749)	DAVIS, CARSON (8009157643)	EVANS, ASA (7344371286)	GRANT, SHELBY (9117977495)	HARPER, AUDEN (7306167189)	HART, CASSIDY (9079728551)	JENKINS, ALEXIS (7409653388)	LEE, ADRIAN (9064746188)	LYNCH, RYAN (7140464782)	MATTHEWS, ANDREA (7212676237)	MCDONALD, PERRY (7172349537)	MILLS, CARRIE (9477090602)	MORRIS, KEGAN (7285291269)	MORRISON, SHANNON (8393266556)	NELSON, STACEY (8159676247)	NICHOLS, HARPER (8184978502)	PALMER, EMILY (8114340177)	REED, JESSE (7098404314)	REID, GEORGIA (8154046814)	RYAN, DOMINIQUE (8062372871)	SPENCER, DEREK (8462860316)	WELCH, CHRISTOPHE (8357457312)	WHEELER, TYLER (9518128413)	WILLIAMSON, PARKER (8140784684)	WILSON, DREW (9304473853)
M08.B-E.2.1.2	3	5																													
M08.B-E.2.1.3	2	2																													
M08.B-F.1.1.1	2	5																													
M08.B-F.1.1.2	4	3																													
M08.B-F.1.1.3	3	4																													
M08.B-F.2.1.1	0	1																													
A1.2.1.2.1	5	13																													
A1.2.1.2.2	6	15																													
A1.2.2.1.1	9	7																													
A1.2.2.1.2	7	14																													
A1.2.2.1.3	7	14																													
A1.2.2.1.4	10	8																													
M08.B-F.2.1.2	6	4																													
A1.2.1.1.1	11	4																													
A1.2.1.1.2	13	6																													
A1.2.1.1.3	8	10																													
A2.1.3.2.1	1	3																													
A2.2.1.1.1	0	1																													
A2.2.1.1.2	1	0																													

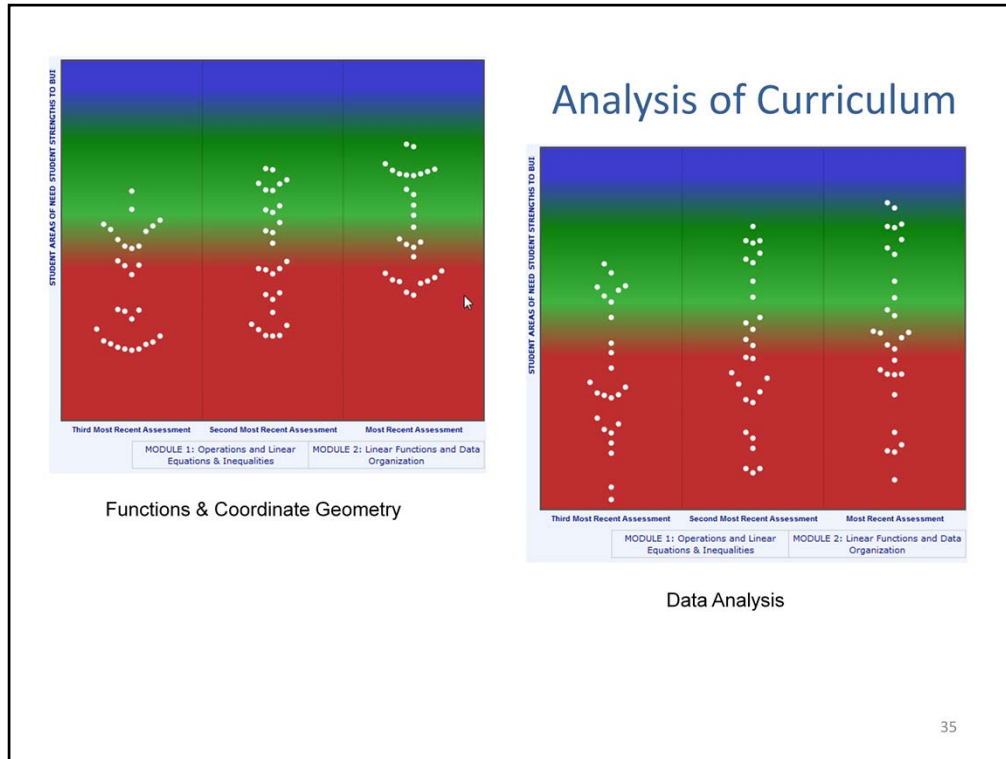
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I can look at the Group Learning Progression Map to identify Eligible Content that would most benefit my class for me to focus on as we near the end of the year. I can also use this data as I plan for next year, identifying Eligible Content that my students learned well so that I can continue to use the activities that I tried out this year. I can also identify Eligible Content on which my students struggled, and use that information to modify existing lessons and activities in my classroom or add something that may be a missing link in building their understanding.



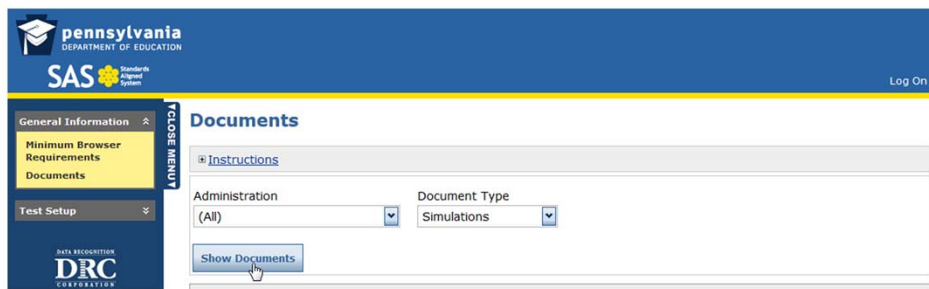
In addition to considering specific Eligible Content, I may want to compare the Group Map for each Diagnostic Category as I plan for the following year.

What might the data (from the reports) suggest about curriculum, interventions, and resources?



Focusing on the *Functions & Coordinate Geometry* and the *Data Analysis* Category Maps, I notice that more students in my class are progressing in *Functions & Coordinate Geometry* than in *Data Analysis*.

- Could the steady growth in *Functions & Coordinate Geometry* be reflective of previous instruction, student interest, or the focus of the *Functions & Coordinate Geometry* curriculum?
- Could the lagging growth of *Data Analysis* scores be reflective of the conceptual difficulty of the content and the possible timing of instruction during the year?
- How could *Data Analysis* curriculum and instruction be adjusted to improve class achievement by the end of the year?
- What important skills that are not assessable using the CDT do I need to consider as I analyze and revise my curriculum?
- Are there patterns between Diagnostic Categories that I need to consider?



This simulation (and others) can be found at

<https://pa.drctdirect.com>

Select Documents under General Information;
then Select “Simulations” under the Document
Type dropdown menu and click on Show
Documents.

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Are you ready to analyze data of your own?

If you have questions, you can contact your IU or district representative or call PA Customer Service at (888) 551-6935.

If you need a refresher, this presentation can be found by going to <https://pa.drctdirect.com>, then select Documents under General Information in the right-hand column. Select Simulations from the Document Type dropdown menu and click on Show Documents. A presentation for each content area is available for each of grades 4, 7, and high school.