DRC Simulation Science G7

pennsylvania
DEPARTMENT OF EDUCATION

CLASSROOM
DIAGNOSTIC TOOLS

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Logging on to eDIRECT

https://pa.drcedirect.com

To access the Grade 7 Science CDT simulation:

- Using an Internet browser, go to https://pa.drcedirect.com

- Click on the **Log On** icon at the right end of the eDIRECT banner

To access the Grade 7 Science CDT simulation:
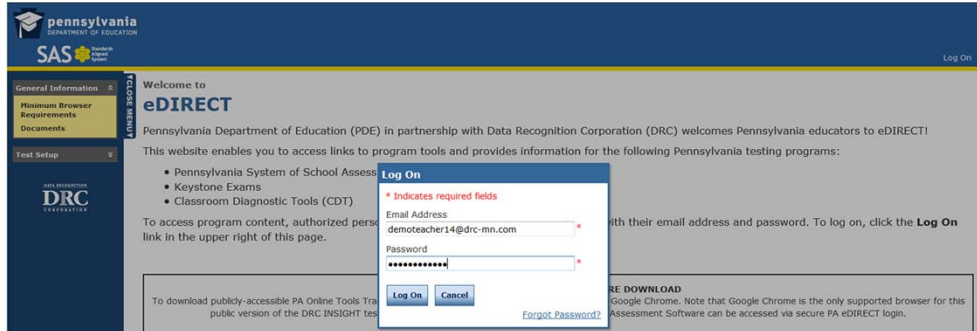
- In the Log On window, enter the training email address: **demoteacher14@drc-mn.com**

- 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

To access the Grade 7 Science CDT simulation:

- Go to the eDIRECT menu options on the left

- Select **Reporting Tools**

- Then select **Interactive Reports**

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 seventh-grade students have completed their online Science CDT for students in Grades 6 through high school. I would like to know how well prepared the students are as they build toward mastery of the Mathematics 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 Gr 7 Science Administration #1 from the Student Group dropdown menu.

Click the *Continue* button.

To select the Student Group and configure the diagnostic map:

- Use the **Student Group** dropdown menu to select **Gr 7 Science Administration #1**
- Click the *Continue* button

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 **Science Grade 7**

- Once the Map Configuration has been selected, the data will load to show the Group Map for this student group

The Group Diagnostic Map for Science Grade 7
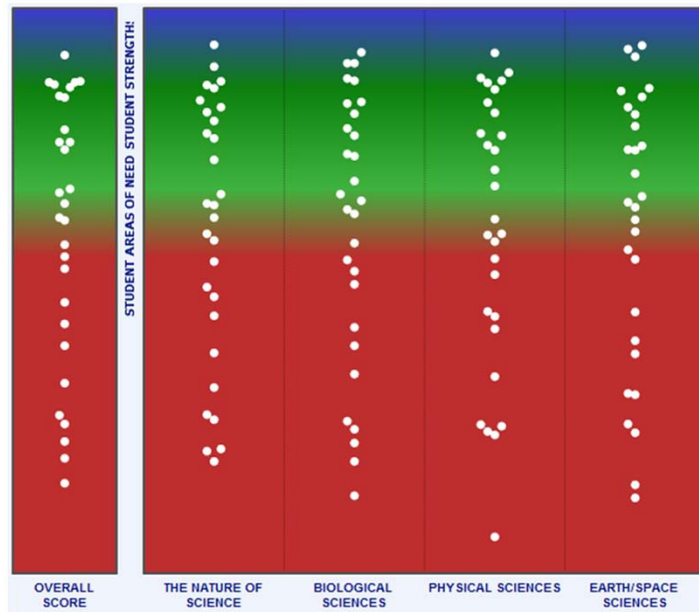
Here I see the Group Diagnostic Map. I have selected *Optimize Zoom* to focus in on the range of scores received by my students.

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

Elements of the Group Diagnostic Map
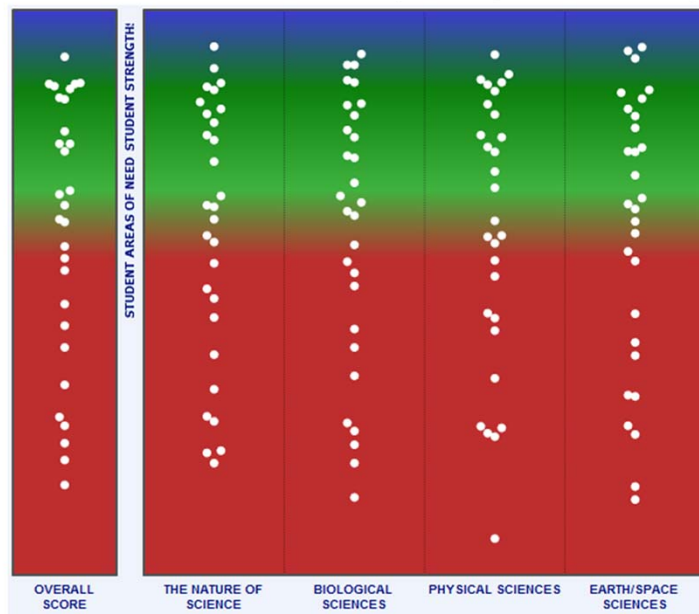
In order to answer the question, I first notice that there are four diagnostic categories. What are the categories?

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?

Another way I can answer the question of how well prepared my students are, given that it is the beginning of the school year, is to change the **Map Configuration** to *Science Grade 6* The Group Map reconfigures to show my students' scores with the expectations for the end of grade 6.

I select ***Optimize Zoom*** again. More students are now in the Green band, but I have only one student with an Overall score in the Blue band, and there are still several students in the Red band. What does this tell me about the students in this classroom?

Using the Science Grade 6 Map Configuration
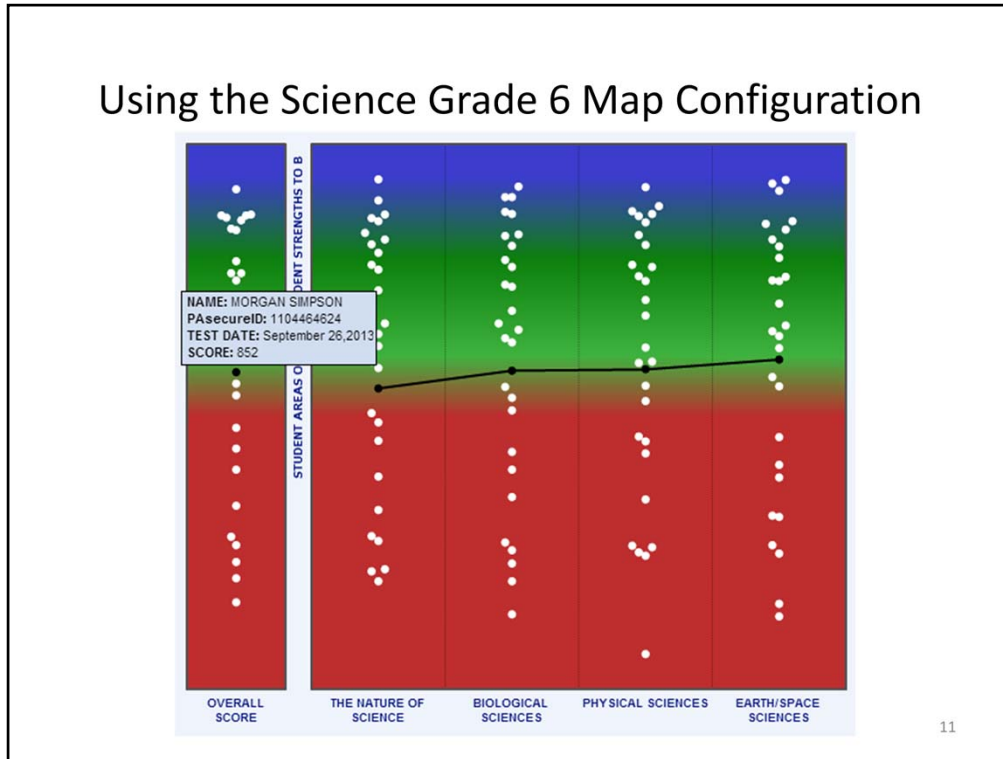
The students who are still in the Red band are starting the year below the expectations for students at the end of grade 6, so I may want to identify those students for additional instruction. I can hover over each dot to see the student's name, PAsecureID, Testing Date, and Score. I can also click on 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 still in the Red band is Morgan Simpson.

Grid View of Diagnostic Map

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 Biological Sciences, 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.

Because Morgan Simpson's Overall Score was near the top of the Red band, I know that any student with a lower Overall Score is also showing areas of need. I might want to form a student group consisting of Jamie, Guadalupe, Mackenzie, Keeton, Victoria, Bailey, Matthew, Jayden, Elizabeth, Avery, Taylor, and Morgan for additional support.

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**.
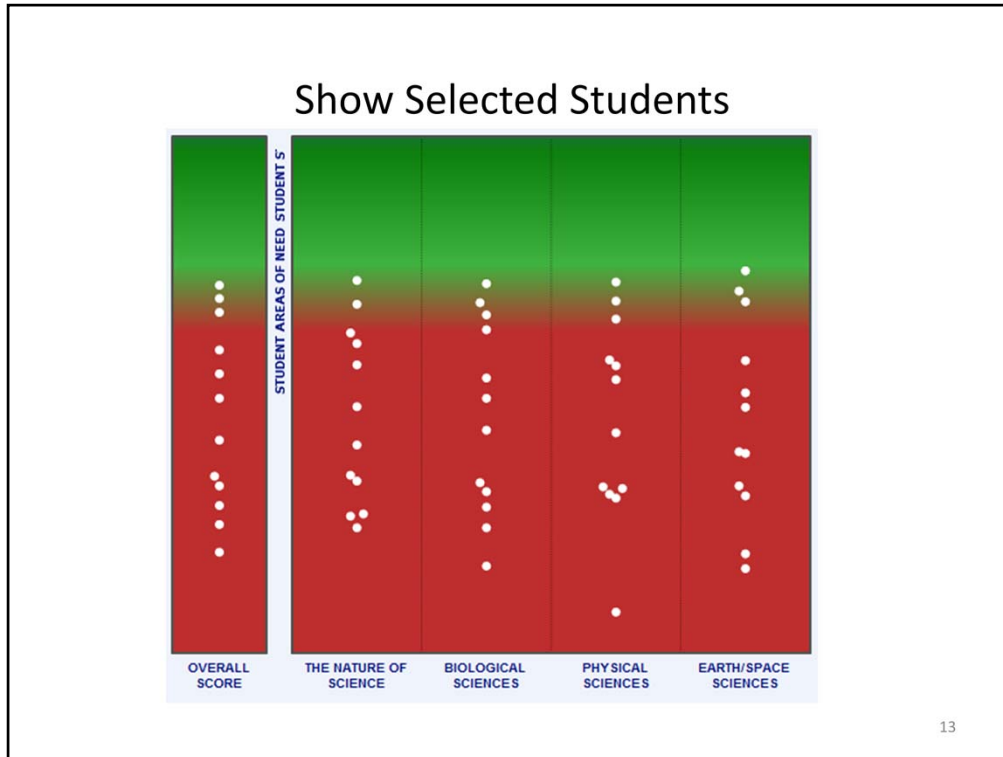
I can see that each Diagnostic Category score for each of these students is also in the Red band when using the Grade 6 Map Configuration, so I know these students will likely need additional support with all four Diagnostic Categories as we work toward understanding of the Science Assessment Anchors and Eligible Content. I can also use other formal and informal formative assessments in my classroom to gauge how these students are progressing in the Science AA/ECs.

Note to Trainer: Some teachers may be unaware of the Eligible Content for grades K-2, 3, 5, 6, and 7. These Eligible Content are available on SAS at: http://www.pdesas.org/Standard/AnchorsDownloads. Off-grade Eligible Content needed to be developed in collaboration with Pennsylvania educators for the purpose of the Classroom Diagnostic Tools. This was done for grades 3, 5, 6, and 7 first, and Eligible Content for the grade band of K-2 were developed using a similar process prior to the development of items that would allow the CDT to be extended down to students in grades 3-5. The Assessment Anchors and Eligible Content for grades 4, 8, and 11 were foundational in developing a vertical articulation of science content from grade to grade.
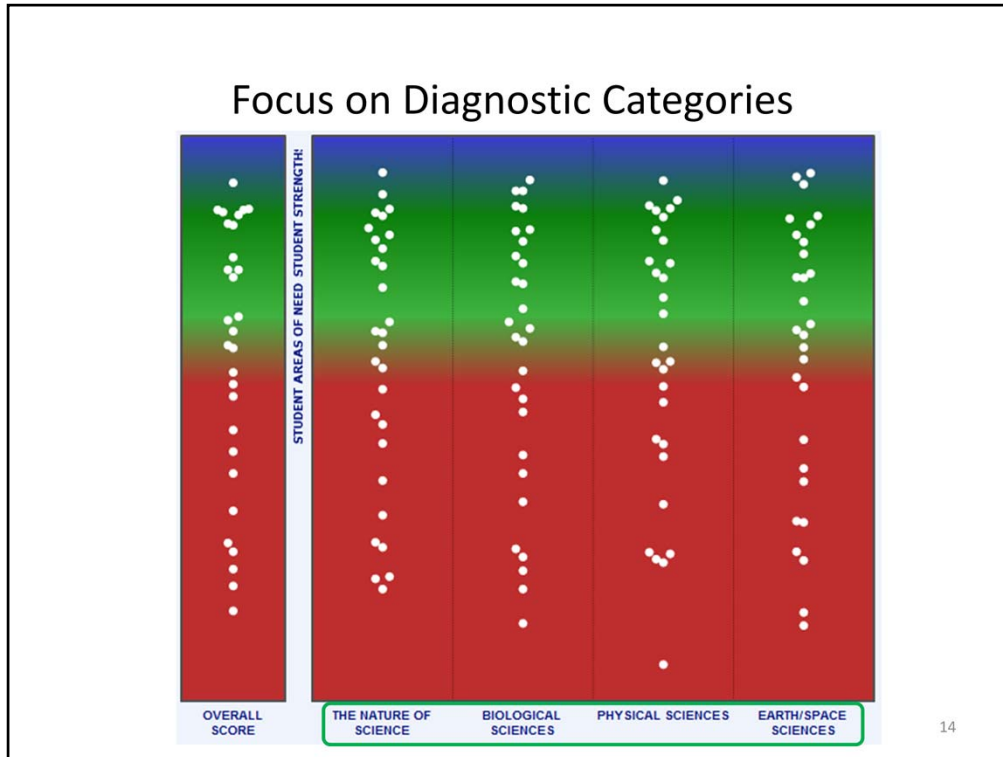
I want to look at the report for my entire class using the Grade 7 expectations, so I change the **Map Configuration** back to *Science Grade 7 Lower Grades* and select the **Optimize Zoom** button again.

I notice that this class does not seem to have differing performances across the diagnostic categories, but students seem to be spread across both the red and green bands for each of the diagnostic categories. In fact, I can 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 most students are performing quite consistently across diagnostic categories.
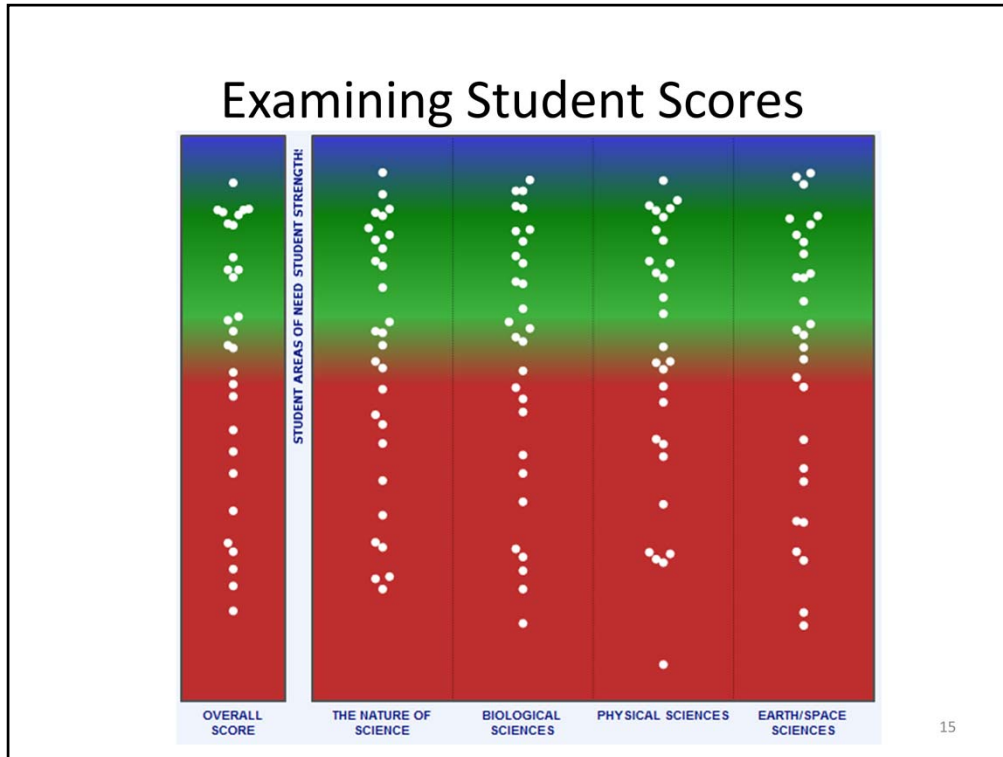
Now I want to focus on student scores in the Overall Score column in relation to the diagnostic categories.

Are there any students showing areas of strength?

Which students show areas of need?

What patterns do I see? (Are the students showing areas of strength or areas of need similar 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

Content Area	Map Configuration	Diagnostic Category	Diagnostic Sub-Category
	Science Grade 7 *	(All)	(All)

Student columns: ALVAREZ, RORY (1029338566); BANKS, KEETON (2431328503); BROWN, CORBIN (2604303159); BURKE, MYLES (3410710094); CAMPBELL, ADDISON (3503623051); CHAPMAN, LUIS (3054593207); DEAN, REESE (1014138124); DUNN, HAYDEN (2579043535); EDWARDS, MACKENZIE (2459630069); FERNANDEZ, CARLOS (3245433905); GARCIA, JAMIE (2511509032); GARDNER, ETHAN (1678977292); GORDON, SIDNEY (1741361184); HALL, TAYLOR (1051630746); HARRISON, MATTHEW (1267501979); HAWKINS, DEVON (3171355833); HERNANDEZ, GUADALUPE (2119295387); JONES, MICAH (1743810881); LARSEN, ELIZABETH (1155360869); MONTGOMERY, JAYDEN (1171919492); MOORE, BAILEY (2028190876); MORALES, VICTORIA (2308789379); PEREZ, STEPHANIE (1731659431); PETERSON, KELLY (3347812263); ROBERTS, PIPER (3589378328); ROSE, JONATHAN (1700693913); SCOTT, ANDRE (3281758932); SIMPSON, MORGAN (1104464624); WILLIAMS, AVERY (1133137229)

Eligible Content	Summary	Count of Green	Count of Red
S5.C.2.1.2			
S5.C.2.1.3			
S5.C.2.1.4			
S6.C.2.1.1	Red	4	9
S6.C.2.1.2	Red	6	10
S6.C.2.1.3	Red	6	8
S7.C.1.2.2	Red	8	5
S7.C.2.1.1	Red	1	5
S7.C.2.1.2	Green	3	4
S7.C.2.1.3	Red	3	4
S8.C.2.1.1	Red	1	8
S8.C.2.1.2	Red	2	4
S8.C.2.1.3	Red	7	9
S8.C.2.2.1	Red	7	8
S8.C.2.2.2	Red	4	6
S8.C.2.2.3	Red	1	4
S8.C.3.1.2	Green	5	1
S11.C.2.1.1			
S11.C.2.1.2			

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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 grade 7 since the Science Grade 7 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	ALVAREZ, RORY (1029338566)	BANKS, KEETON (2431328503)	BROWN, CORBIN (2604303159)	BURKE, MYLES (3410710094)	CAMPBELL, ADDISON (3503623051)	CHAPMAN, LUIS (3054593207)	DEAN, REESE (1014138124)	DUNN, HAYDEN (2579043535)	EDWARDS, MACKENZIE (2459630069)	FERNANDEZ, CARLOS (3245433905)	GARCIA, JAMIE (2511509032)	GARDNER, ETHAN (1678977292)	GORDON, SIDNEY (1741361184)	HALL, TAYLOR (1051630746)	HARRISON, MATTHEW (1267501979)	HAWKINS, DEVON (3171355833)	HERNANDEZ, GUADALUPE (2119295387)	JONES, MICAH (1743810881)	LARSEN, ELIZABETH (1155360869)	MONTGOMERY, JAYDEN (1171919492)	MOORE, BAILEY (2028190876)	MORALES, VICTORIA (2308789379)	PEREZ, STEPHANIE (1731659431)	PETERSON, KELLY (3569378328)	ROBERTS, PIPER (3347812263)	ROSE, JONATHAN (1700693913)	SCOTT, ANDRE (3281758932)	SIMPSON, MORGAN (1104464624)	WILLIAMS, AVERY (1133137229)
S5.D.1.2.2																																	
S5.D.2.1.1																																	
S5.D.2.1.2																																	
S6.D.1.1.1	🔴	3	4				🟢		🔴	🔴	🔴					🟢			🟢											🔴		
S6.D.1.1.2	🟢	4	5				🔴		🟢		🟢				🔴	🟢	🟢		🟢							🔴	🟢					
S6.D.2.1.1	🔴	3	9	🔴					🔴	🔴		🔴		🟢		🔴	🔴		🔴							🟢		🔴	🔴	🔴	🟢	
S6.D.2.1.2	🔴	0	4					🔴	🔴																	🔴			🔴			
S6.D.2.1.3	🔴	3	10	🔴			🔴	🟢	🟢	🟢	🟢								🔴							🔴	🔴		🔴	🔴	🔴	
S7.D.1.1.1	🔴	1	5			🔴						🔴		🟢		🔴		🔴		🔴												
S7.D.1.1.2	🔴	3	12	🔴	🔴				🟢	🟢	🟢	🟢	🔴	🔴			🔴		🟢	🟢		🔴			🔴	🔴		🔴		🟢	
S7.D.1.2.1	🔴	8	9	🟢	🟢	🟢			🟢	🟢		🔴	🔴		🟢	🟢		🔴		🟢	🟢	🟢	🔴		🟢			🔴		🔴	🔴	
S7.D.1.2.2	🔴	2	4			🔴						🔴					🔴		🟢	🟢					🟢			🔴			🔴	
S7.D.1.2.3	🟢	4	1														🔴		🟢				🟢	🟢	🟢							
S7.D.2.1.1	🔴	4	7	🔴							🔴	🟢	🟢		🟢	🔴	🔴	🔴		🟢		🔴		🔴				🟢				
S7.D.2.1.2	🔴	3	4	🔴						🟢		🔴			🟢		🔴	🟢								🔴			🔴			
S8.D.1.1.1	🔴	3	2	🔴				🟢				🔴																	🟢	🟢		
S8.D.1.1.2	🔴	1	3							🔴				🟢				🔴				🔴										
S8.D.1.1.3	🟢	3	1				🔴			🟢				🟢													🟢					
S8.D.1.1.4	🔴	3	10	🟢	🔴						🔴		🔴			🟢	🟢		🔴		🔴	🔴	🔴	🔴						🟢	🔴	

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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 Earth and Space Sciences, Earth, I see the Eligible Content code S7.D.1.1.2, which has a red summary dot.

The code tells me a lot of information about this Eligible Content. S7 at the beginning tells me this is content for Science, grade 7. The next part of the code, D, tells me that this EC is for Earth and Space Sciences. (The letter refers to the PSSA Reporting Category, which is also the Diagnostic Category. A is for The Nature of Science; B is for Biological Sciences; C is for Physical Sciences; and D is for Earth and Space Sciences.) 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.

I see that 15 of my 24 students received one or more items for this Eligible Content, and that only 3 received green dots, while the other 12 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 "Explain how fossils are formed and how they can provide evidence about plants and animals that once lived on Earth."

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

Sample Item

1. An insect is discovered within hardened tree sap, called amber. Which statement **best** describes the insect?

   A. It is a rock because the amber is now solid.

   B. It is a mineral because the tree sap has hardened.

   C. It is a crystal because it is a single organism within the amber.

   D. It is a fossil because it is a preserved organism that was once alive.

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A PDF showing a sample item opens. This item asks students to identify that an insect within hardened sap (amber) is a fossil because it preserves an organism that was once alive. I can use this question without the answer choices to begin a class discussion about different fossils are formed prior to planning additional 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

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 the effects of pollution in a community.

Group Learning Progression Map

Eligible Content	Summary	Count of Green	Count of Red
S5.C.2.1.1			
S5.C.2.1.2			
S5.C.2.1.3			
S5.C.2.1.4			
S6.C.2.1.1	red	4	9
S6.C.2.1.2	red	6	10
S6.C.2.1.3	red	6	8
S7.C.1.2.2	red	8	5
S7.C.2.1.1	red	1	5
S7.C.2.1.2	green	3	4
S7.C.2.1.3	red	3	4
S8.C.2.1.1	red	1	8
S8.C.2.1.2	red	2	4
S8.C.2.1.3	red	7	9
S8.C.2.2.1	red	7	8
S8.C.2.2.2	red	4	6
S8.C.2.2.3	red	1	4
S8.C.3.1.2	green	5	1

Student columns (left to right): ALVAREZ, RORY (1029338566); BANKS, KEETON (2431328503); BROWN, CORBIN (2804303159); BURKE, MYLES (3410710094); CAMPBELL, ADDISON (3503623051); CHAPMAN, LUIS (3054593207); DEAN, REESE (1014138124); DUNN, HAYDEN (2579043535); EDWARDS, MACKENZIE (2459630069); FERNANDEZ, CARLOS (3245433905); GARCIA, JAMIE (2511509032); GARDNER, ETHAN (1678977292); GORDON, SIDNEY (1741361184); HALL, TAYLOR (1051630746); HARRISON, MATTHEW (1267501979); HAWKINS, DEVON (3171355833); HERNANDEZ, GUADALUPE (2119295387); JONES, MICAH (1743810881); LARSEN, ELIZABETH (1155360869); MONTGOMERY, JAYDEN (1171919492); MOORE, BAILEY (2028190876); MORALES, VICTORIA (2308789379); PEREZ, STEPHANIE (1731659431); PETERSON, KELLY (3509378328); ROBERTS, PIPER (3347812263); ROSE, JONATHAN (1700693913); SCOTT, ANDRE (3281758932); SIMPSON, MORGAN (1104646424); WILLIAMS, AVERY (1131137229)

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I can also use the Group Learning Progression Map to identify content that might benefit students during small-group instruction. For example, under Physical Sciences, Energy, I see that 8 students received a green dot for S7.C.1.2.2, while 5 students received a red dot. If I hover over the Eligible Content code, I see that this Eligible Content expects students to "Compare the behavior of particle motion in solids, liquids, and gases." Carlos Fernandez, Jamie Garcia, Matthew Harrison, Bailey Moore, and Morgan Simpson all received red dots for that Eligible Content. I know that each student counts equally in the calculation of the summary dot and that the distance from the expected score for each student is factored into the calculation of the summary dot. I see that the summary dot for this Eligible Content is red even though more students received green dots than red dots. Therefore, it is likely that the students who struggle with this Eligible Content need substantial help. (It is also likely that some of the students who received green dots just met the expectations of a student at the end of seventh grade and may benefit from additional instruction as well.)

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 item. 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 Gr 7 Science Administration #2

- Go to the Student Group dropdown menu and select Gr 7 Science Administration #2
- Next click on the **Continue** button
- Then select Science Grade 7 from the Map Configuration dropdown menu

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

Note to Trainer: For this scenario, data for the previous test event for Science Grade 7 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.
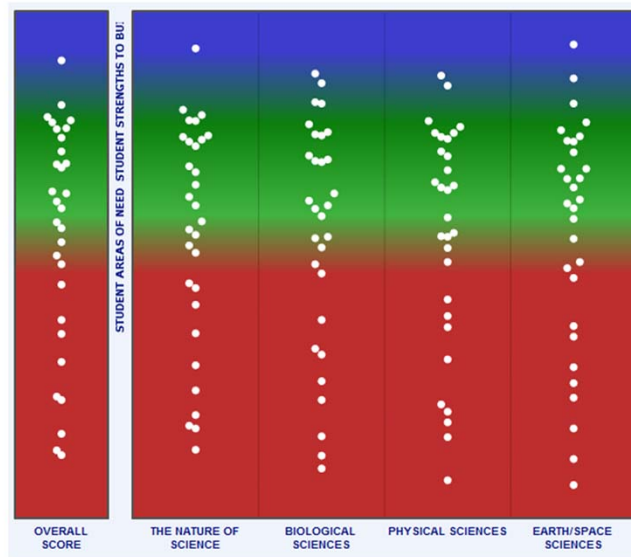
I administered the CDT to my entire class on February 4, and now I am going to analyze the results. I am using this mid-year CDT administration to see how my students are doing as they progress toward understanding of the Assessment Anchors and Eligible Content. In some schools, the teacher may decide 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 30 students instead of 29. This is because I have a new student in my class, Madison Howell.

Individual Learning Progression Map

Student	Content Area	Map Configuration
MADISON HOWELL (5574902834) ▾ *	▾	Science Grade 7 ▾ *

Eligible Content	K	1	2	3	4	5	6	7	8	B	C	K-2	HS
S6.D.2.1.1								❌					
S6.D.2.1.2													
S6.D.2.1.3													
S7.D.1.1.1													
S7.D.1.1.2													
S7.D.1.2.1								❌					
S7.D.1.2.2													
S7.D.1.2.3													
S7.D.2.1.1								❌					
S7.D.2.1.2								✅					
S8.D.1.1.1													
S8.D.1.1.2													
S8.D.1.1.3									❌				
S8.D.1.1.4													
S8.D.1.2.1													
S8.D.1.2.2								❌					
S8.D.1.3.1								❌					
S8.D.1.3.2													

Export to CSV

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

I click on the **Individual Learning Progression Map** tab and select Madison Howell 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 Madison's learning progression map, I can see red and green dots that identify the Eligible Content for which Madison 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.
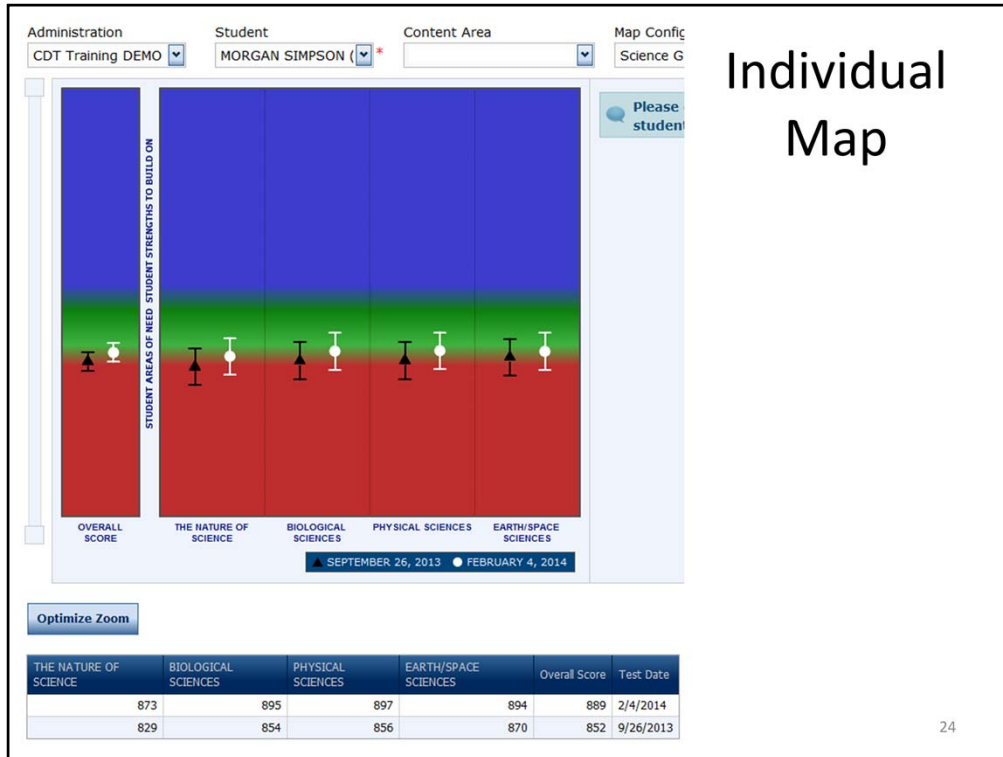
If you remember from the first administration, Morgan Simpson began the year below the expectations for students completing third grade. Morgan's family is monitoring his progress and has scheduled a conference to discuss his current progress and next steps.

I can click on the **Individual Map** tab and select Cameron 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. Morgan 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. While the grid shows that Morgan's scores have increased since September, the lines show that this growth is not statistically significant and 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 Morgan's family.
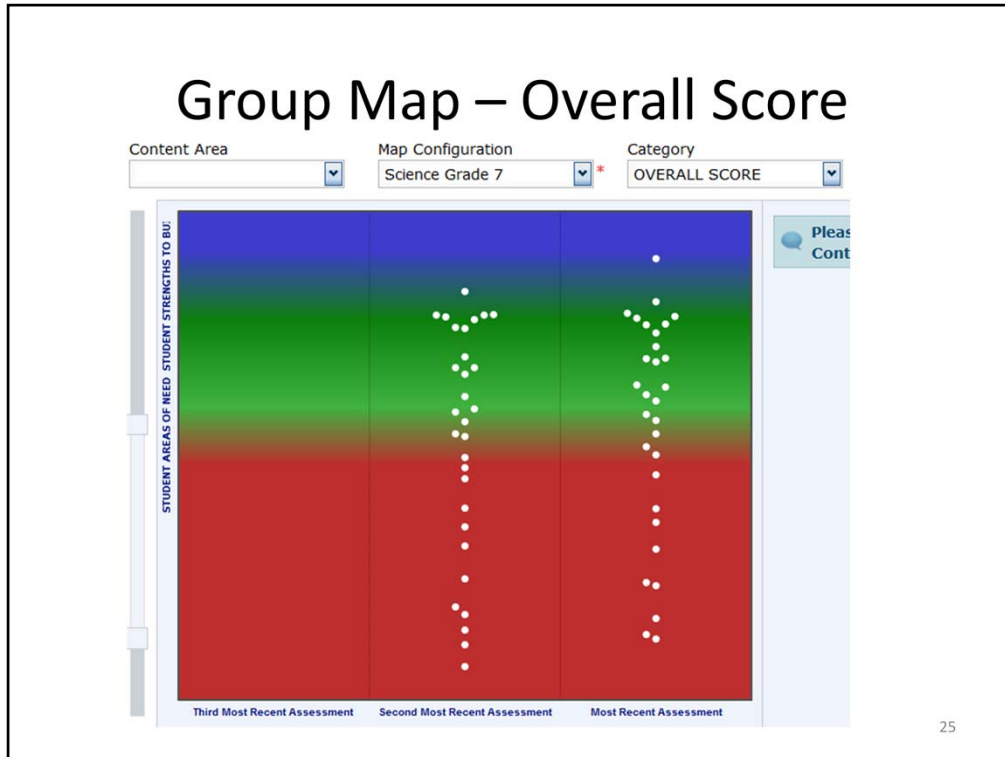
Now that I am ready for my conference, I will take some time to look over the results for all of the students in my class. I switch back to the Group Map and click on **Optimize Zoom**. Under the Category dropdown menu, I first select Overall Score.

I see that more of my students have moved into the Green band, 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.
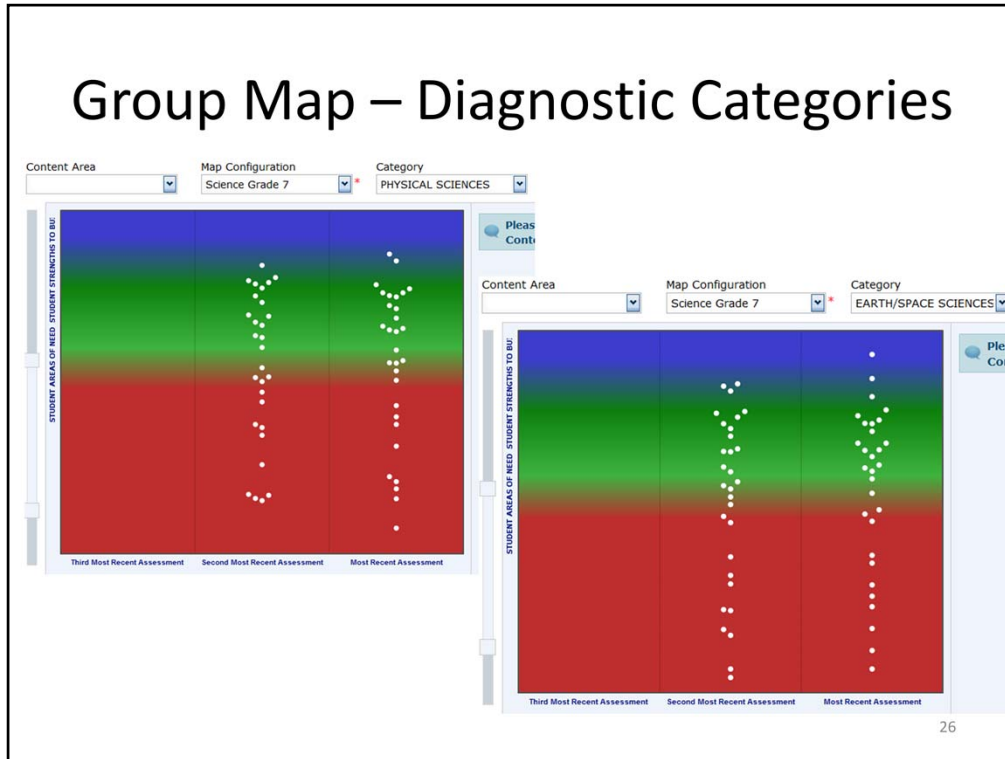
These are the Group Maps for Physical Sciences and Earth and Space Sciences for the second administration. It seems that more of my students have shown growth in Earth and Space Sciences (the map on the right) than in Physical Sciences (the map on the left) since the first administration.

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 Gr 7 Science Administration #3

- Go to the Student Group dropdown menu and select Gr 7 Science Administration #3
- Next click on the *Continue* button
- Then select Science Grade 7 from the Map Configuration dropdown menu

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

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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 Grade 7 Science
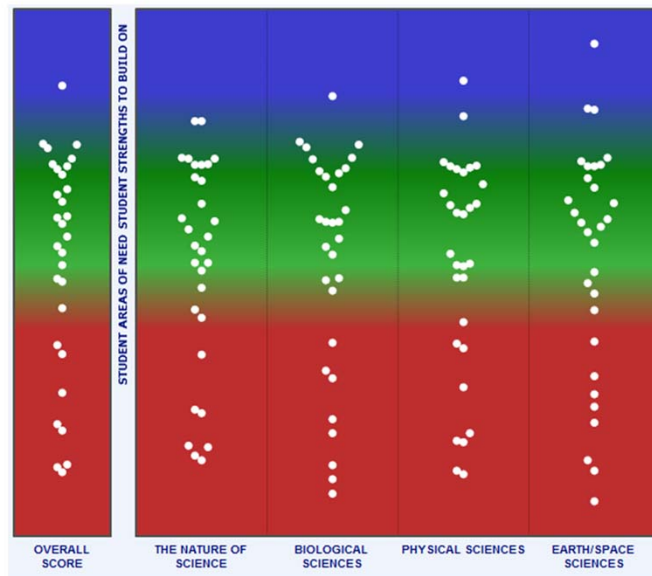
It is now nearing the end of the school year, and these students have completed the third administration of the Science CDT for Grades 6 through high school. I am still interested to know how well prepared the students are as they approach the end of instruction.

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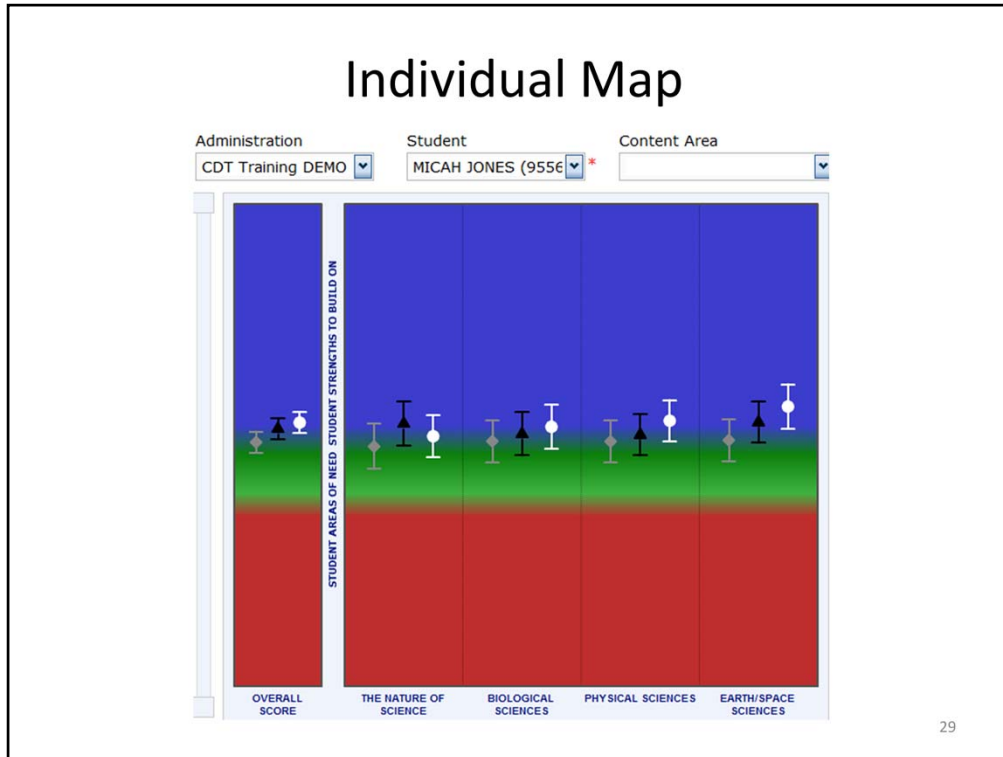
I hover over the dot with the highest overall score and find that it belongs to Micah Jones, so I click on the Individual Map tab and select Micah Jones from the Student dropdown menu.

Micah'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 Micah is not performing significantly differently in any of the diagnostic categories. I can use the Individual Learning Progression Map or Sidney's column in the Group Learning Progression Map to look for patterns and identify some ways to build on Micah's strengths.

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 Earth and Space Sciences. 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.

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

For students like Mackenzie Edwards 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.

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 Mackenzie received items for each Eligible Content and if she scored at least as well as expected for a student at the end of seventh grade (Green) or if she scored below the expectations for a student at the end of seventh grade (Red). (Those EC with blanks in the ECC Dot Color Column are those for which Mackenzie was not administered items.)

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

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

Planning

Eligible Content	Summary	Count of Green	Count of Red	ALVAREZ, RORY (7055472547)	BANKS, KEETON (8049035565)	BROWN, CORBIN (8179874648)	BURKE, MYLES (9109432639)	CAMPBELL, ADDISON (9128895568)	CHAPMAN, LUIS (8270687464)	DEAN, REESE (7028082695)	DUNN, HAYDEN (8156183185)	EDWARDS, MACKENZIE (8098647676)	FERNANDEZ, CARLOS (8407285269)	GARCIA, JAMIE (8138237376)	GARDNER, ETHAN (9295072995)	GORDON, SIDNEY (9529630395)	HALL, TAYLOR (7098011371)	HARRISON, MATTHEW (7302381232)	HAWKINS, DEVON (8389984784)	HERNANDEZ, GUADALUPE (7396767385)	HOWELL, MADISON (8341761351)	JONES, MICAH (9556203923)	LARSEN, ELIZABETH (7206682545)	MONTGOMERY, JAYDEN (7237806572)	MOORE, BAILEY (7327885013)	MORALES, VICTORIA (8006324379)	PEREZ, STEPHANIE (9502340256)	PETERSON, KELLY (9190782933)	ROBERTS, PIPER (9073309204)	ROSE, JONATHAN (9471225264)	SCOTT, ANDRE (9008232731)	SIMPSON, MORGAN (7134611086)	WILLIAMS, AVERY (7167997692)
S6.B.1.1.1	✅	3	2																	❌													
S6.B.1.1.2	✅	5	2	✅										❌									✅	✅		✅			✅		❌		
S6.B.1.1.3	✅	3	5		✅										❌			✅			❌						❌	❌	❌	✅			
S6.B.2.1.1	✅	4	1			✅			✅					✅					✅						✅	❌							
S7.B.1.1.1	✅	7	3		✅			✅			✅		❌	❌		✅			✅								❌		✅	✅	✅		
S7.B.1.1.2	❌	7	4	❌					✅	✅			❌		✅			✅			✅			✅			✅				✅	✅	
S7.B.1.1.3	✅	7	4				❌			✅	✅		✅		✅		✅		❌	✅			✅		✅	❌							
S7.B.1.2.1	❌	4	5	✅	❌			❌		✅		✅	❌					❌										✅		✅			
S7.B.1.2.2	❌	1	2															❌		❌							✅						
S7.B.1.2.3	✅	3	4		✅					❌		✅	✅					❌					✅										❌
S7.B.2.1.1	❌	2	10		❌		❌	❌			❌		✅		❌	✅	✅		❌			❌	❌				❌						
S7.B.2.1.2	✅	3	3			❌				✅	❌						✅								❌	✅							
S7.B.2.1.3	✅	2	2																							❌		✅	✅	✅	❌		
S7.B.2.2.1	❌	4	2	✅				✅	✅					❌		✅						❌											
S7.B.2.2.2	❌	2	5	❌		✅				✅								❌	❌			❌	❌										
S7.B.2.2.3	❌	1	3			✅		❌										❌									❌						
S7.B.2.2.4	❌	2	3										❌										✅		✅		❌						
S8.B.1.1.1	❌	4	3			✅					❌	❌		✅								❌	✅	✅									
S8.B.1.1.2	❌	3	2	✅	❌			✅												❌			✅									

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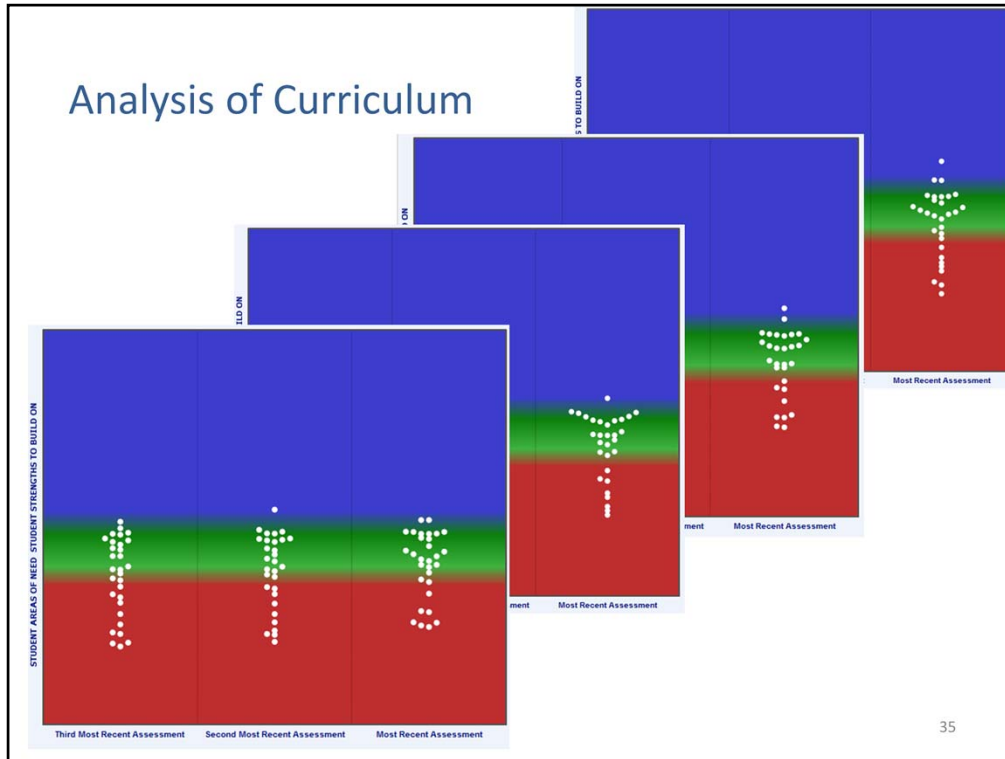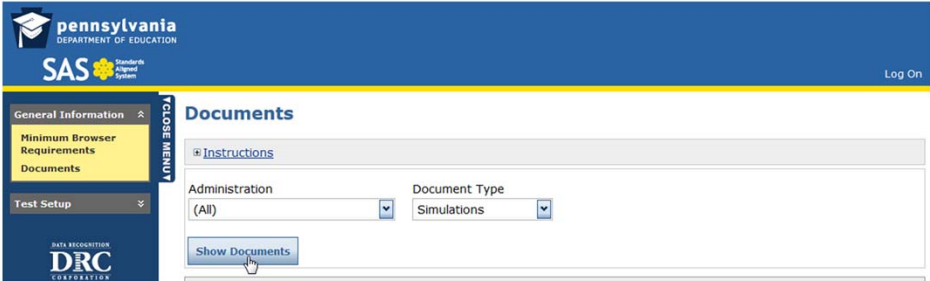
In addition to considering specific Eligible Content, I may want to compare the Group Map for each Diagnostic Category as I plan for the following year.

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

Analysis of Curriculum

Biological Sciences

Earth and Space Sciences
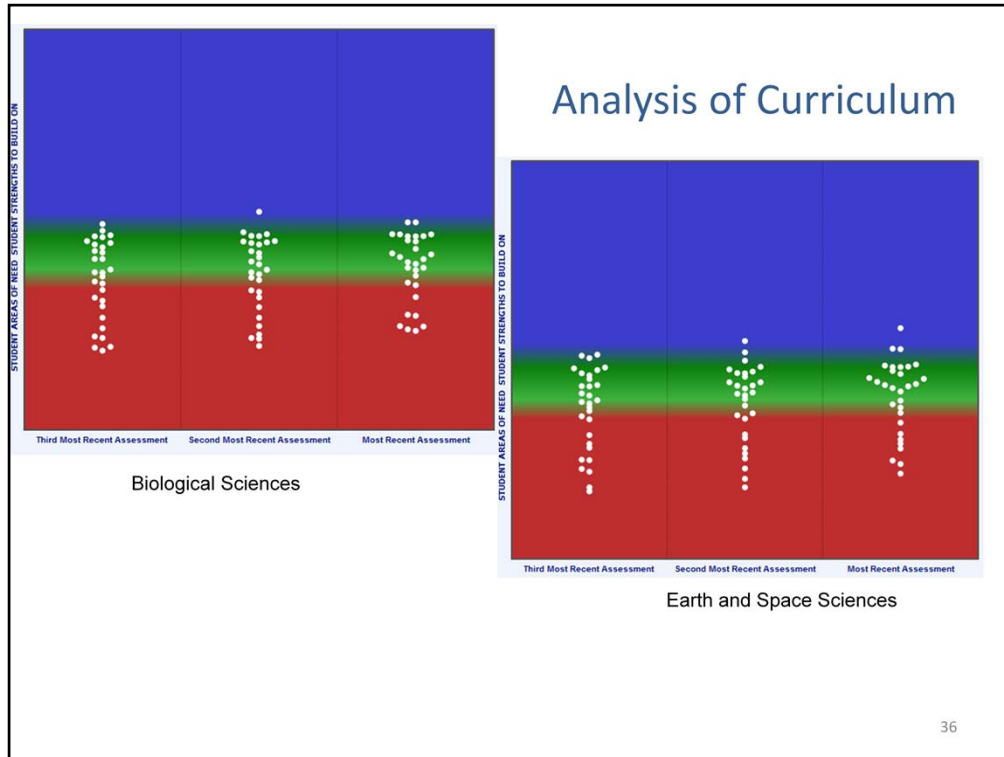
Focusing on the *Biological Sciences* and the *Earth and Space Sciences* Category Maps, I notice that more students in the class have made gains in *Biological Sciences* than in *Earth and Space Sciences* since the last administration.

- Could the steady growth in *Biological Sciences* be reflective of previous instruction, student interest, or the focus of the *Biological Sciences* curriculum?

- Could the lagging growth of *Earth and Space Sciences* scores be reflective of the conceptual difficulty of the content and the possible timing of instruction during the year?

- How could *Earth and Space Sciences* 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.drcedirect.com
Select Documents under General Information; then Select "Simulations" under the Document Type dropdown menu and click on Show Documents.

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.drcedirect.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.