ANNUAL STATE
SUMMATIVE ASSESSMENTS REPORT

Smarter Balanced Assessment (SBA) Grades 3-8

CMT/ CAPT Science Grades 5, 8 & 10

Scholastic Aptitude Test (SAT) Grade 11

Spring 2017

Presented to the Board of Education on October 26, 2017

by Craig C. Powers, Assistant Superintendent

Connecticut's Growth Model for the Smarter Balanced Summative Assessments: English Language Arts (ELA) and Mathematics

This is the third administration of the Smarter Balanced Assessment (SBA). After the baseline administration in the 2014-15 school year, the assessment was modified to shorten the time of the overall administration by eliminating the ELA performance tasks. Also, the state changed the high school's assessment from SBA to the Scholastic Aptitude Test (SAT). The SBA measures student / school / district performance in two ways; overall achievement and growth.

To understand the differences between achievement and growth, let's start first with a simple definition of achievement. **Achievement or proficiency** is a one-time snapshot measurement of a student's academic performance in a subject area like ELA or Mathematics. The Achievement levels are: Not Met; Approaching; Met; Exceeded.

Growth is about the change in that achievement score for the same student between two or more points in time (i.e. from one year to the next).

This model in grades 3-8 is a continuous system aligned to vertical scale scores. ***This means all growth counts; there are no more golden bands. Unlike in the past, there is no incentive in this system to focus on getting a small group of students over some magical proficiency bar; instead the message here is that all growth achieved by all students counts.*** By measuring improvement in these two ways we are able to see how each student is doing (and in aggregate, how a grade level is achieving) compared to a set performance level:

Level 1	Low High	Does not meet the achievement level
Level 2	Low High	Approaching the achievement level expected
Level 3	Low High	Meets the achievement level expected
Level 4	Low High	Exceeds the achievement level expected

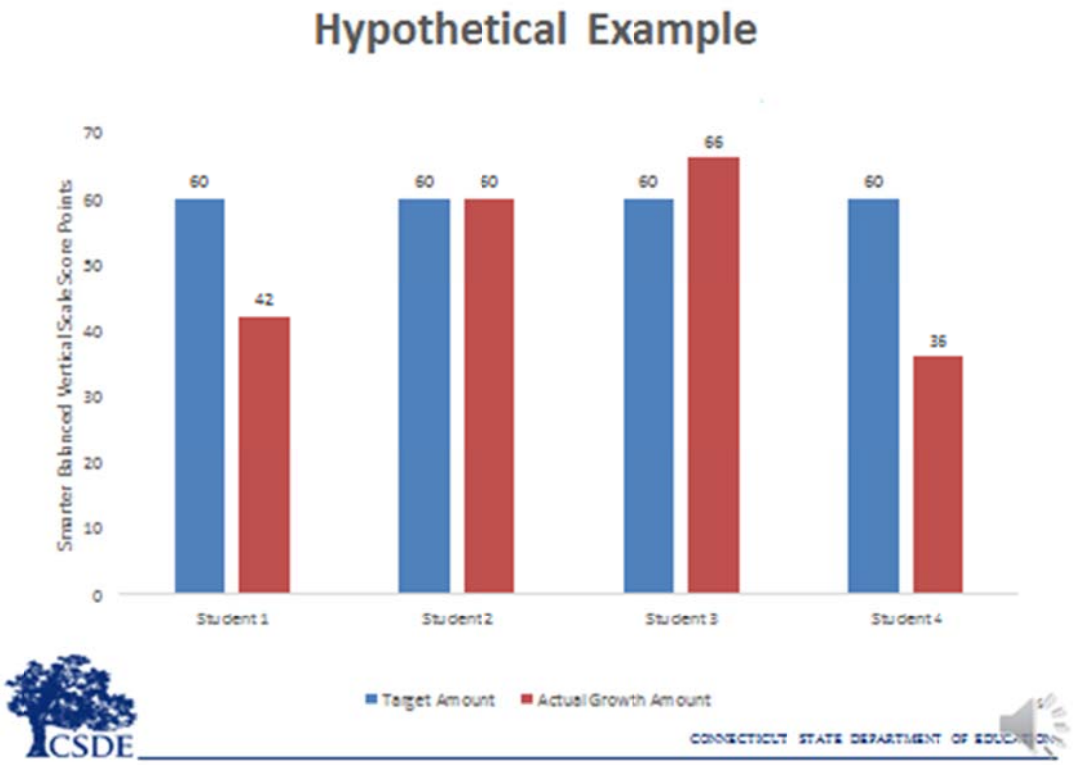
This criterion is based on the Smarter Balanced Vertical Scale for ELA and Mathematics, a scale that spans the grades from 3 through 8. The ELA and Math scales range from around two thousand one hundred to two thousand eight hundred. ***See Appendix A and B.***

"Connecticut's growth model uses the matched student cohort growth approach. The approach is criterion referenced in that the amount of growth made by a student from one year to the next is evaluated against a fixed standard – or criterion – and not against how other students grew. The growth model preserves the concept of the Smarter Balanced achievement levels to support interpretation. It provides targets and an approach to evaluating growth against those targets that are both ambitious yet achievable for each and every

student. It expects all students to grow, including those in the highest achievement levels of 3 and 4. The individual student growth can be aggregated for group level results." [CT SDE]

For purposes of the Next Generation Accountability System this Achievement or Proficiency level is half of Indicator 1, with the Growth indicator being the other half. This means Connecticut is not only measuring where you are in time, but also on how much improvement or growth each student has made from one year to the next. The overall goal, of course, is to have all students to achieve at high levels and to close the achievement gap for students not at those high achievement levels at this time.

Connecticut's Growth Model Example [from CT SDE October 16, 2016 ppt]



Now let's look at an example of how the individual student level targets play out in the aggregate. Let's look at four students who have the exact same target of 60 points.

- Student 1 grew 42 points from one year to the next. This student did not meet the target but achieved seventy percent of the target (42 out of 60 points).
- Student 2 grew exactly 60 points. This student met the target, and achieved 100 percent of the target.
- Student 3 grew 66 points. This student met the target and actually achieved 110 percent of the target.
- Student 4 grew 36 points. This student did not meet the target but achieved 60 percent of the target.

Overall, the **growth rate was 50 percent because 2 out of 4 students met their target.** The **average percentage of target achieved was 85%;** that is the average of the individual student percentages of target

achieved. So, the two aggregate statistics that will be reported are the growth rate and the percentage of target achieved.

The **growth rate is the percentage of students meeting their respective growth target**, while the **percentage of target achieved is the average percentage of the growth target that is achieved by all students in the group.**

The growth rate is a binary measure. It asks a yes/no question. Did the student meet her target? The Percentage of Target Achieved on the other hands asks a different question… how much of the target did the student achieve in aggregate?

The growth rate is not a continuous measure. Students nearly meeting the target will be deemed to not have met the target, even if they missed it by just 1 scale score point! On the contrary, the Percentage of Target Achieved is a continuous measure. Students get credit for any growth up to and even 10 percent beyond the target.

The growth rate is simpler to understand while the percentage of target achieved is a bit more nuanced. The chart below shows the differences between the two ways Connecticut is reporting out scores:

Two Aggregate Outcome Metrics		
	Growth Rate	**Percentage of Target Achieved**
Measure?	Percentage of students meeting their respective growth target	Average percentage of growth target achieved for all students
Precision?	Binary (yes/no), less precise	Based on scale score, more precise
Continuous?	No. Students *nearly* meeting target will be deemed *not* meeting target	Yes. Students get "credit" for any growth up to *and* beyond the target
Interpretability?	Simple to understand	More nuanced
Uses?	Reporting only	Reporting and district/school accountability

State Overview of the Smarter Balanced Assessment (SBA)

(HARTFORD, CT)—The Connecticut State Department of Education (CSDE) today announced the preliminary results of the 2017 administration of the Smarter Balanced assessment. Overall, across all grades combined, the percentage of students meeting or exceeding the mathematics achievement standard statewide increased by 1.6 points to 45.6 percent. In English Language Arts (ELA), scores dipped slightly by 1.4 points to 54.2 percent. Importantly, the percentage of students meeting the standard in both math and ELA scores has increased over the 2014-2015 baseline year.

"These results are a testament to the commitment of our students for rising to meet the challenge of higher standards and to our educators for instilling critical thinking skills and a love of learning in our students," Education Commissioner Dianna R. Wentzell said. "We are particularly pleased that preliminary results are available before the end of the school year, allowing teachers and district staff ample time to examine successful practices and plan for the next school year." [CT SDE Press Release 7/14/17]

State of Connecticut Data Grades 3-8

	ELA				Math			
	Percent Level 3 or Above			Average Vertical Scaled Score	Percent Level 3 or Above			Average Vertical Scaled Score
Grade	2014-15	2015-16	**2016-17**		2014-15	2015-16	**2016-17**	
Grade 3	50.8%	53.9%	**51.8%**	2432	47.7%	52.8%	**53.1%**	2439
Grade 4	52.9%	55.5%	**54.1%**	2477	44.0%	47.9%	**50.0%**	2482
Grade 5	55.9%	58.7%	**56.3%**	2512	36.7%	40.8%	**42.9%**	2505
Grade 6	52.2%	55.0%	**54.0%**	2534	37.2%	40.6%	**43.6%**	2526
Grade 7	52.1%	55.2%	**54.9%**	2556	38.6%	41.8%	**42.7%**	2541
Grade 8	50.5%	55.5%	**53.7%**	2569	36.6%	40.3%	**41.8%**	2554
All Grades	**52.4%**	**55.6%**	**54.2%**		**40.1%**	**44.0%**	**45.6%**	

To the right is a matched cohort table showing how the State of Connecticut, as a whole, is achieving their **Growth Rate** and what **Percent of the Growth Target** was achieved.

District	Subject	Growth Rate	Average Percentage of Target Achieved
State of Connecticut	**ELA**	35.9%	55.4%
	Math	41.5%	61.7%

"There's probably no educator in Connecticut who's satisfied with what's going on with the achievement gap," Wentzell said. "That's honestly the heart of our mission; to make sure very child in Connecticut has equal access not only to rich, robust instruction on a daily basis but to achievement as well." [Hartford Courant "*Statewide Test Scores: Math Achievement Up Slightly, English Down A Bit"* July 14 2017]

Waterford's Executive Summary of Smarter Balanced Assessment (SBA)

This charts for ELA and Math below shows how Waterford students performed overall (grades 3-8) on the SBA compared to the State and the District Reference Group (DRG). Appendix F provides information on the DRG. Percentage of Students Meeting (Level 3) or Exceeding (Level 4) the Achievement Standard.

Table ELA Results WPS vs. DRG vs. State, Grades 3 - 8

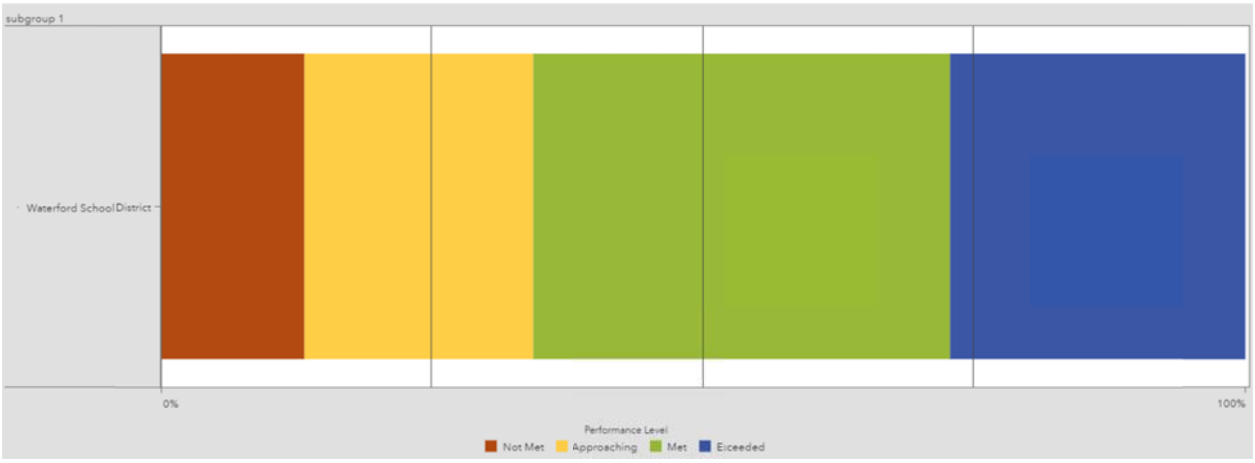
	ELA 2016-17 percentage of students level 3 or 4	**ELA** 2015-16 percentage of students level 3 or 4	**ELA** Change from 2015-16 to 2016-17	**ELA** 2014-2015 percentage of students level 3 or 4
Waterford	**65.7%**	**66.0%**	**-0.3 points**	**52.0%**
DRG	63.9%	64.9%	-1 point	63.7%
State	54.2%	55.7%	-1.5 points	52.7%

Notable Data Points:

- Waterford is above the State and DRG average in ELA
- While the percent change was lower for the State, the DRG, and Waterford; Waterford's drop, year over year, was the least.

This graph breaks out how Waterford students achieved as a whole, breaking out into the 4 achievement bands.

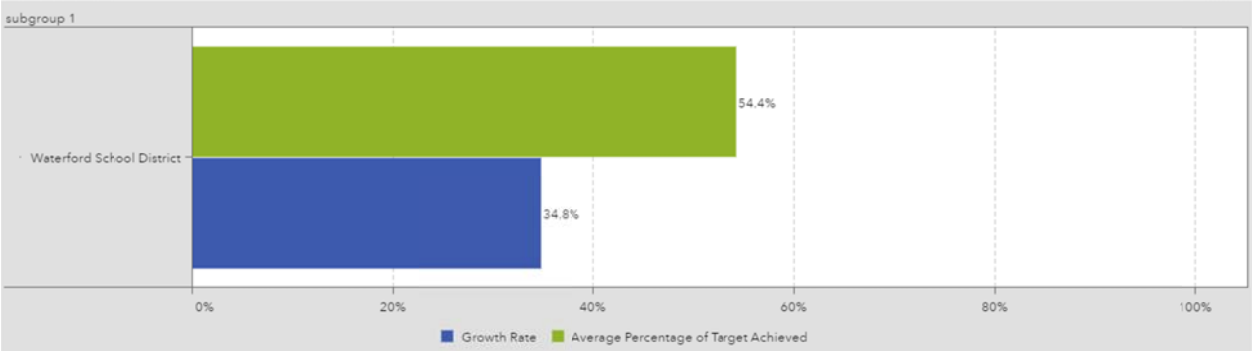
District Level Performance Levels – ELA 2016-17 School Year



Not met – 13.23% **Approaching – 21.11%** **Met – 38.53%** **Exceeded – 27.14%**

Below is a matched cohort table showing how the Waterford, as a whole, is achieving in **ELA** looking at the **Growth Rate** and what **Percent of the Growth Target** was achieved. The **Growth Rate** (in blue) is the percent of students reaching their target in ELA. This measures if the student made their target or not. The Percentage of Target Achieved looks at all student and determines how much of the target their achieved.

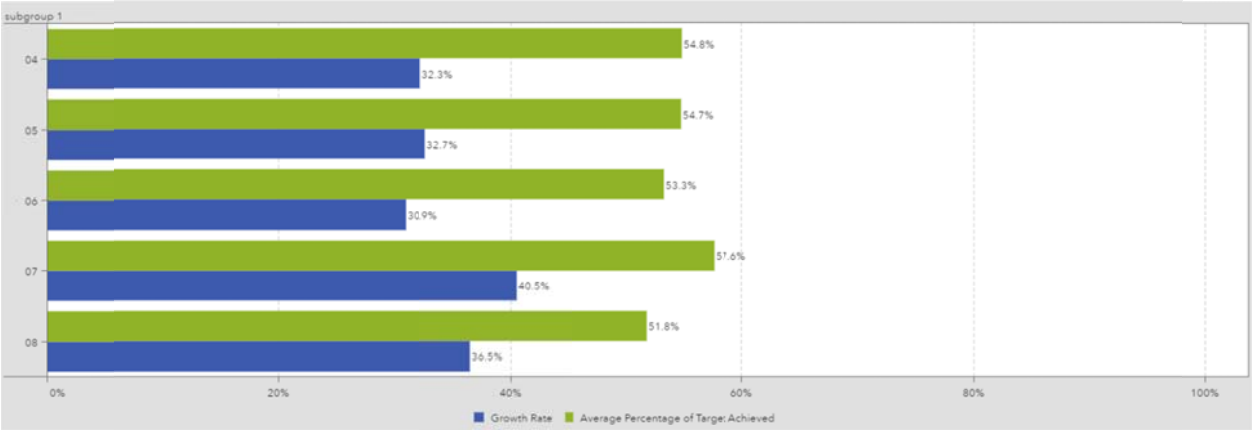
ELA Growth Rate and Average Percentage of Target Achieved across District 2016-17



Average Percentage of Target Achieved – 54.4% **Growth Rate – 34.8%**

Below is a matched cohort table showing how the Waterford, as a whole, is achieving in **ELA** looking at the **Growth Rate** and what **Percent of the Growth Target** was achieved for each grade level.

ELA Growth Rate and Average Percentage of Target Achieved per Grade Level 2016-17



Grade 4	**Average Percentage of Target Achieved – 54.8%**	**Growth Rate – 32.3%**
Grade 5	**Average Percentage of Target Achieved – 54.7%**	**Growth Rate – 32.7%**
Grade 6	**Average Percentage of Target Achieved – 53.3%**	**Growth Rate – 30.9%**
Grade 7	**Average Percentage of Target Achieved – 57.6%**	**Growth Rate – 40.5%**
Grade 8	**Average Percentage of Target Achieved – 51.8%**	**Growth Rate – 36.5%**

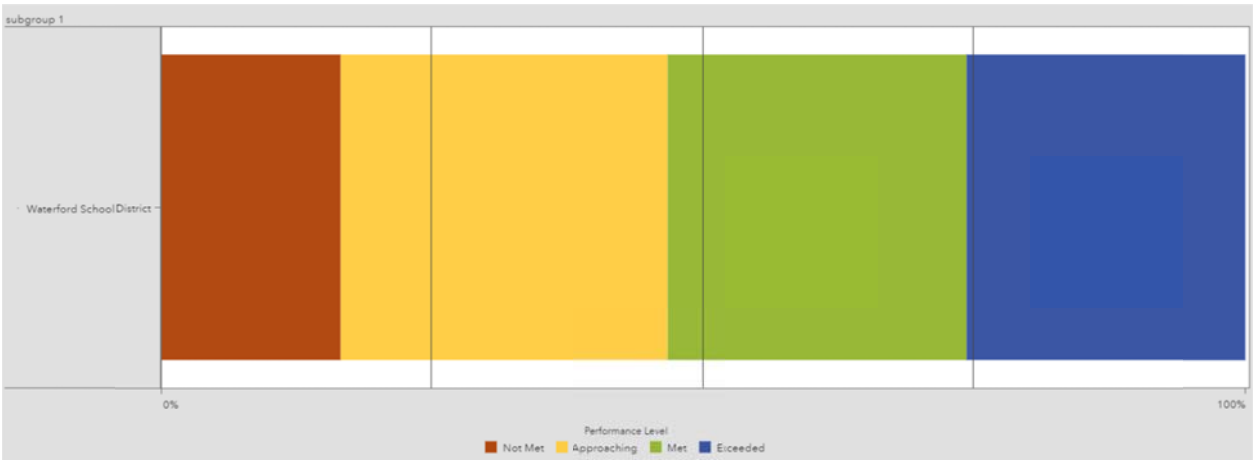
Table Math Results WPS vs. DRG vs. State, Grades 3 - 8

	Math 2016-17 percentage of students level 3 or 4	**Math** 2015-16 percentage of students level 3 or 4	**Math** Change from 2015-16 to 2016-17	**Math** 2014-15 percentage of students level 3 or 4
Waterford	**53.3%**	**50.7%**	**2.6 points**	**42.8%**
DRG	55.5%	53.0%	1.5 points	46.7%
State	45.6%	44.0%	1.6 points	40.1%

Notable Data Points:

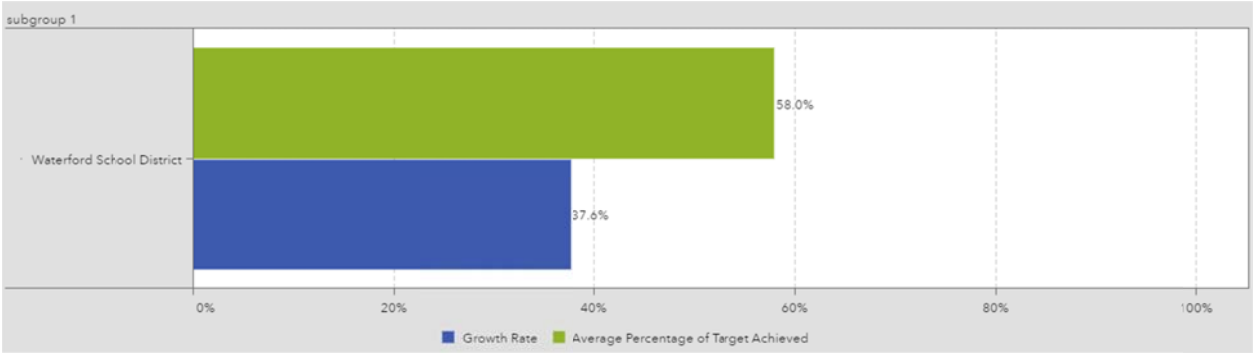
- The percent of students meeting or exceeding the expected achievement level has gone up in Math and the growth has exceeded both the DRG and the State
- Waterford is above the State in Math but below the DRG although the growth exceeded both the State and DRG

District Level Performance Levels – Math 2016-17 School Year



Not met – 16.58% **Approaching – 30.15%** **Met – 27.64%** **Exceeded – 25.63%**

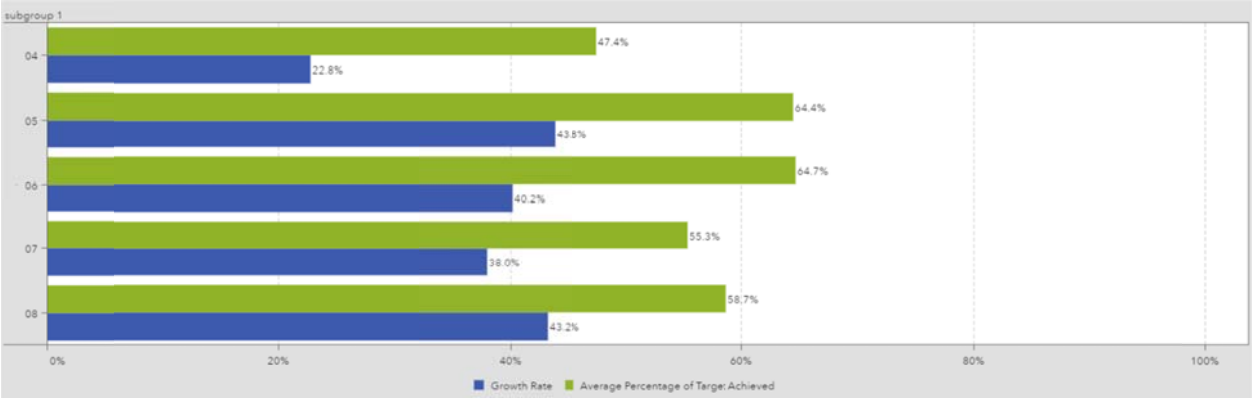
Below is a matched cohort table showing how the Waterford, as a whole, is achieving in **Math** looking at the **Growth Rate** and what **Percent of the Growth Target** was achieved. The **Growth Rate** (in blue) is the percent of students reaching their target in Math. This measures if the student made their target or not. The Percentage of Target Achieved looks at all student and determines how much of the target their achieved.



Average Percentage of Target Achieved – 58% **Growth Rate – 37.6%**

Below is a matched cohort table showing how the Waterford, as a whole, is achieving in **Math** looking at the **Growth Rate** and what **Percent of the Growth Target** was achieved for each grade level.

Math Growth Rate per Grade Level across District 2016-17



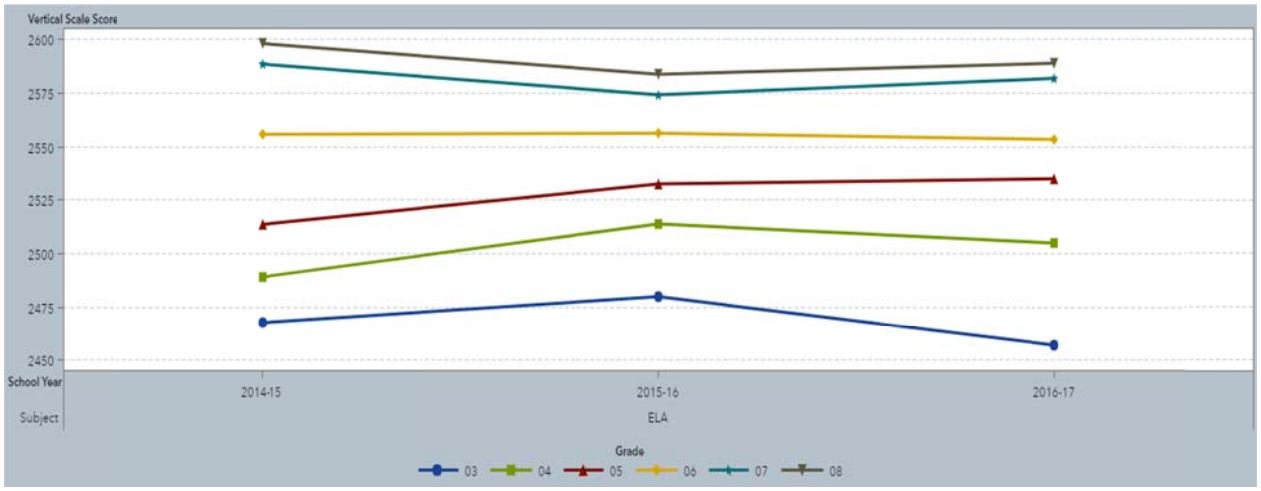
Grade 4 Average Percentage of Target Achieved – 47.4% Growth Rate – 22.8%
Grade 5 Average Percentage of Target Achieved – 66.4% Growth Rate – 43.8%
Grade 6 Average Percentage of Target Achieved – 64.7% Growth Rate – 40.2%
Grade 7 Average Percentage of Target Achieved – 55.3% Growth Rate – 38.0%
Grade 8 Average Percentage of Target Achieved – 58.7% Growth Rate – 43.2%

SBA TREND AND COHORT DATA

Since last year, the state has released a new system called EdSight Secure which has built in analytics allowing school districts to pull match cohort data and trend data. Below is the three year trend of each grade level.

Waterford's Three Year Trend of ELA Data for Grades 3 - 8:

It should be noted that this compares different students each year in the grade level.



ELA 2016/2017

Grade	Trend Data Average Vertical Scale Score
3	2457
4	2505
5	2535
6	2554
7	2582
8	2589

Notable Data Points:

- In the ELA content area grade 4 is in the Level 3: Met Achievement Band, in the high range.
- In the ELA content area grades 3, 5 - 8 were in the Level 3: Met Achievement Band, in the low range.

As we look at cohort group over time we would hope to see an annual increase in the number of students achieving in the target performance bands of 3 & 4. We must also realize (when looking at the ELA Achievement Level Achievement Ranges and Growth Targets, Appendix A) that the expectations increase annually, so maintaining students in those bands while moving more to the goal bands are ambitious and achievable.

Match Cohort Data Percent of Students in ELA Achieving Performance Level 3 and 4 Combined

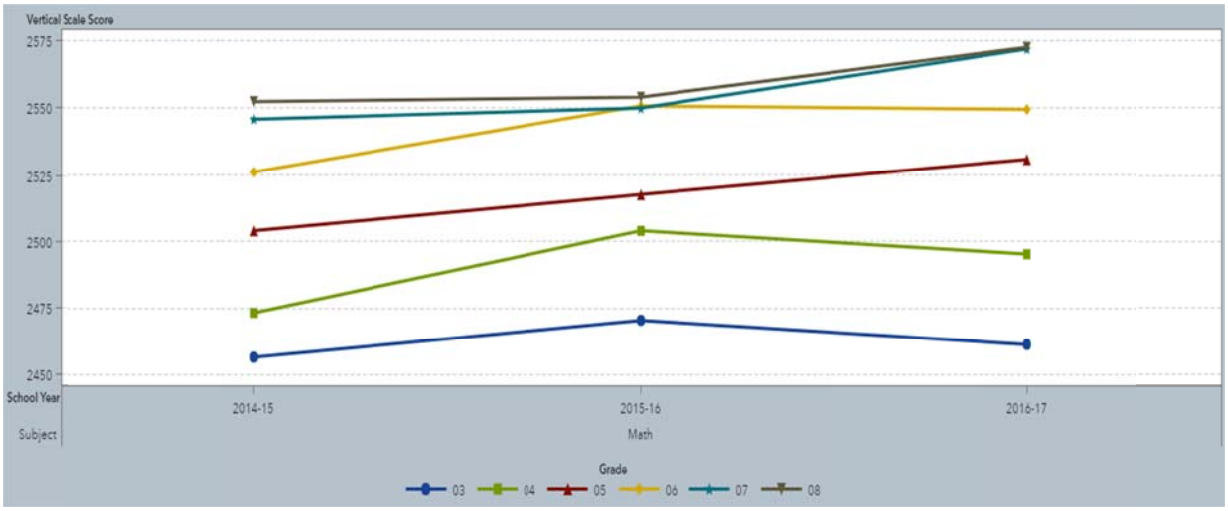
School Year	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
2014-15	69.9%	59.6%	60.5%	63.0%	71.8%	69.0%
2015-16	77.0%	68.8%	63.8%	62.8%	64.4%	61.5%
2016-17	66.3%	68.9%	66.1%	63.2%	67.8%	62.3%

Notable Data Points:

- 2016-17 Grade 6 compared to 2014-15 Grade 4 cohort improvement by 3.6%
- 2016-17 Grade 7 compared to 2014-15 Grade 5 cohort improvement by 7.3%

Waterford's Three Year Trend of Math Data for Grades 3 - 8:

It should be noted that this compares different students each year in the grade level.



Math 2016/2017

Grade	Trend Data Average Vertical Scale Score
3	2462
4	2495
5	2531
6	2549
7	2572
8	2573

- In the Math content area grades 3 – 5, and 7 were in the Level 3 Achievement Band, in the low range.
- In the Math content area grades 6 and 8 were in the Level 2 Achievement Band, in the high range.

Match Cohort Data Percent of Students in Math Achieving Performance Level 3 and 4 Combined

School Year	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
2014-15	65.0%	42.0%	37.5%	36.2%	41.5%	40.6%
2015-16	71.7%	58.4%	49.3%	51.5%	39.6%	39.9%
2016-17	63.7%	56.3%	49.4%	50.3%	55.1%	45.6%

Notable Data Points:

- 2016-17 Grade 6 compared to the 2014-15 Grade 4 cohort improvement by 8.3%
- 2016-17 Grade 7 compared to the 2014-15 Grade 5 cohort improvement by 17.6%
- 2016-17 Grade 8 compared to the 2014-15 Grade 6 cohort improvement by 9.4%

SBA ENGLISH LANGUAGE ARTS DETAILED RESULTS

The chart below shows the percent of Waterford students at each grade level that met or exceeded the achievement level compared to the DRG and State.

Students Performing at Levels 3 or 4 on SBA English Language Arts (ELA) 2016-2017

	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	All Grades Combined
WPS	**66.3%**	**69%**	**66.1%**	**63.2%**	**67.8%**	**62.3%**	**65.7%**
DRG	61.2%	64.3%	67.1%	64.5%	63.8%	62.2%	64%
State	54.2%	54.1%	56.3%	54.0%	54.9%	53.7%	54.2%

Notable Data Points:

- Student achievement in grades 3, 4, 7 & 8 are above the State and DRG average
- Student achievement in grades 5 and 6 are above the State average
- All grades combined at 1.7% above DRG

This is a better means of looking at grade level achievement. Below are the ELA Achievement levels for each school in each grade level compared to the state. This shows that we are in the expected achievement band (level 3). This also shows some variation between the low and high levels some schools have reached. Since this measure gives each student an individual target to achieve, with the goal of moving up one band level (i.e. Level 3 low to Level 3 high); we still have room to improve.

Our work in the district in literacy, especially Readers' and Writers' workshop and continuous job embedded professional learning that the Instructional Coaches have provided has a large part in this achievement.

ELA ACHIEVEMENT

Grade	LEVEL 1: Not Met		LEVEL 2: Approaching		LEVEL 3: Met		LEVEL 4: Exceeded	
	1 – Low	2 –High	3 –Low	4 – High	5 – Low	6 –High	7 – Low	8 -High
3	2114-2330	2331-2366	2367-2399	2400-2431	2432-2460 **OSW= 2449** **QH = 2445** **CT = 2432**	2461-2489 **GN = 2489**	2490-2522	2523+
4	2131-2378	2379-2415	2416-2444	2445-2472	2473-2502 **QH = 2492** **CT = 2477**	2503-2532 **GN = 2514** **OSW= 2507**	2533-2568	2569+
5	2201-2405	2406-2441	2442-2471	2472-2501	2502-2541 **QH = 2530** **CT = 2512**	2542-2581 **GN = 2542** **OSW= 2542**	2582-2619	2620+
6	2210-2417	2418-2456	2457-2493	2494-2530	2531-2574 **CL = 2554** **CT = 2534**	2575-2617	2618-2656	2657+
7	2258-2438	2439-2478	2479-2515	2516-2551	2552-2600 **CL = 2582** **CT = 2556**	2601-2648	2649-2687	2688+
8	2288-2446	2447-2486	2487-2526	2527-2566	2567-2617 **CL = 2589** **CT = 2569**	2618-2667	2668-2703	2709+

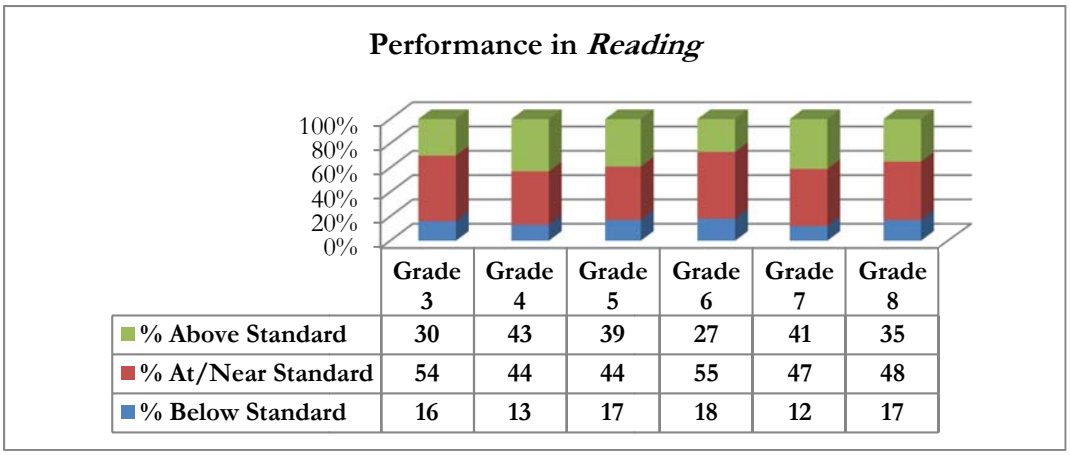
ELA CLAIMS

The English Language Arts portion of the test can be drilled down to three 'claims' or subsets of ELA. The three claims are: Reading, Writing and Research/Inquiry, and Listening. These are reported out in three levels: Above Standard, At/Near Standard, and Below Standard. **It is important to note that since the claim data is based on a limited amount of test questions it is easy to determine the extremes of the data (i.e. above and below standard), but it is hard to determine, with accurate psychometric reliability, the middle. This is why the state combines at and near as one band to report out.**

Reading Performance

The graph below shows the district's performance on the *Reading* claim.

Students can read closely and analytically to comprehend a range of increasingly complex literacy and informational texts.

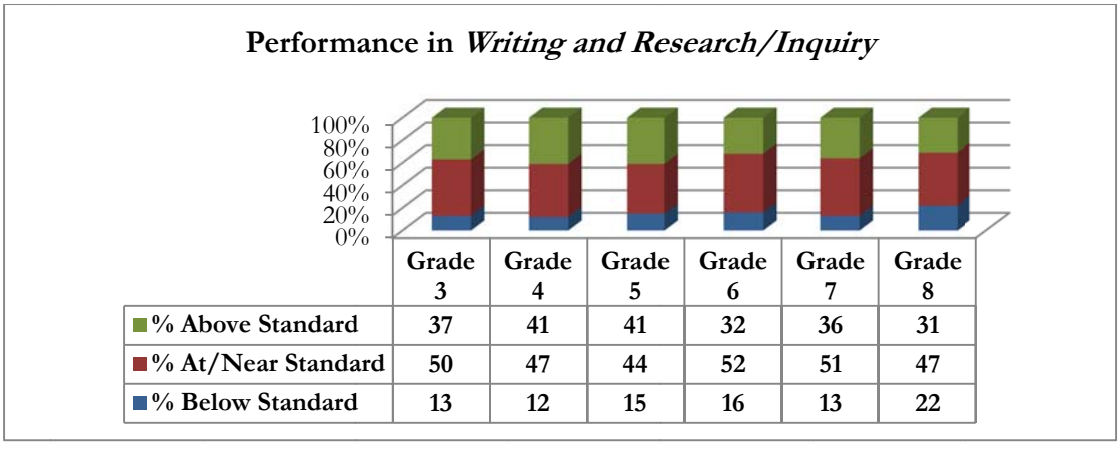


	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
% Above Standard	30	43	39	27	41	35
% At/Near Standard	54	44	44	55	47	48
% Below Standard	16	13	17	18	12	17

Writing and Research/Inquiry Performance

This graph shows the district's performance on the *Writing and Research/Inquiry* claim.

Students can produce effective and well-grounded writing for a range of purposes and audiences.

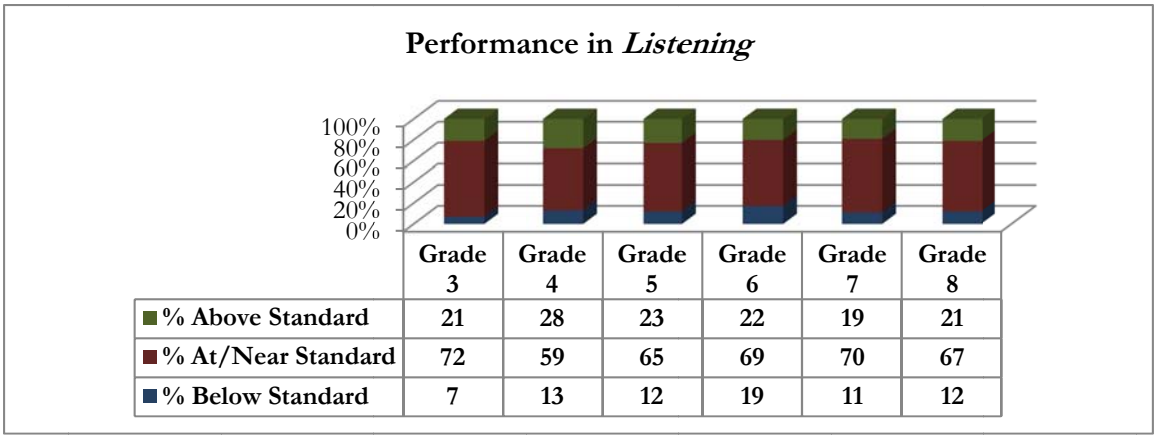


	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
% Above Standard	37	41	41	32	36	31
% At/Near Standard	50	47	44	52	51	47
% Below Standard	13	12	15	16	13	22

Listening Performance

The graph below shows the district's performance on the *Listening* claim.

Students can employ effective speaking and listening skills for a range of purposes and audiences.



	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
% Above Standard	21	28	23	22	19	21
% At/Near Standard	72	59	65	69	70	67
% Below Standard	7	13	12	19	11	12

This information along with our Universal Screening instrument the NWEA MAP Assessment will assist teachers in differentiating their instruction based upon what the students need there is a high correlation between the SBA and MAP, see Appendix C. The Universal Screen is administered to all students in grades K-11 three times a year and provides teachers with similar (and potentially more information) as SBA.

SBA MATHEMATICS DETAILED RESULTS

The chart below shows the percent of Waterford students at each grade level that met or exceeded the achievement level compared to the DRG and State.

Students Performing at Levels 3 or 4 on Smarter Balanced Math 2016-2017

	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	All Grades Combined
WPS	**63.7%**	**56.3%**	**49.4%**	**50.2%**	**55.1%**	**45.6%**	**53.3%**
DRG	62.1%	60.8%	52.7%	53.5%	52.4%	51.9%	55.5%
State	53.1%	50.0%	42.9%	43.6%	42.7%	41.8%	45.6%

Notable Data Points:

- Student achievement in grades 3 and 7 are above the State and DRG average
- Student achievement in grades 4, 5 and 8 are above the State average
- Student achievement in grades 3, 4, 5 and 6 made good growth from a year ago

MATH ACHIEVEMENT

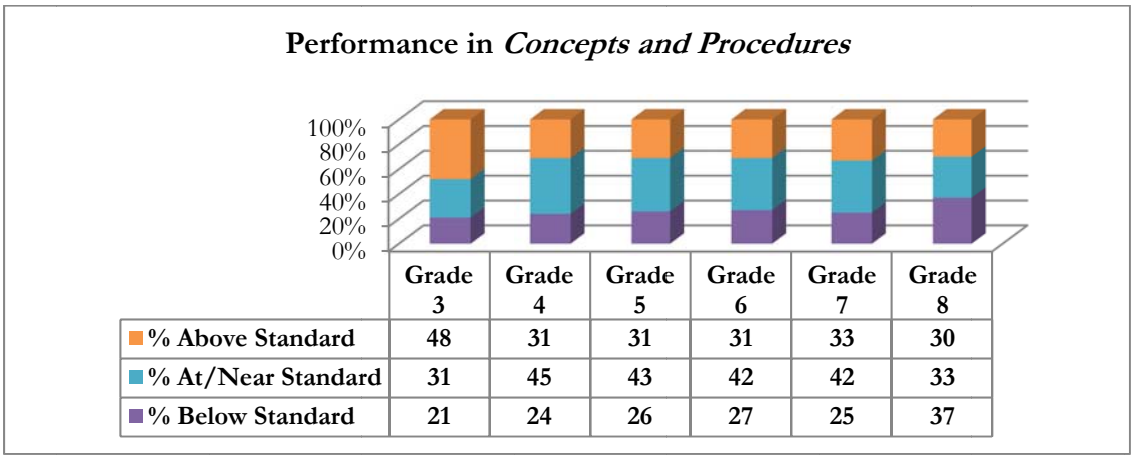
Grade	LEVEL 1: Not Met		LEVEL 2: Approaching		LEVEL 3: Met		LEVEL 4: Exceeded	
	1 – Low	2 –High	3 –Low	4 – High	5 – Low	6 –High	7 – Low	8 -High
3	2189-2351	2352-2380	2381-2408	2409-2435	2436-2468 **GN = 2466** **OSW=2446** **CT = 2439**	2469-2500 **QH = 2473**	2501-2526	2527+
4	2204-2381	2382-2410	2411-2447	2448-2484 **CT = 2482**	2485-2516 **OSW= 2588** **GN = 2501** **QH = 2497**	2517-2548	2549-2574	2575+
5	2219-2419	2420-2454	2455-2491	2492-2527 **OSW=2526** **CT = 2505**	2528-2553 **GN = 2544** **QH = 2533**	2554-2578	2579-2605	2606+
6	2235-2434	2435-2472	2473-2512	2513-2551 **CL = 2550** **CT = 2526**	2552-2580	2581-2609	2610-2639	2640+
7	2250-2438	2439-2483	2484-2525	2526-2566 **CT = 2541**	2567-2600 **CL = 2573**	2601-2634	2635-2664	2665+
8	2265-2455	2457-2503	2504-2544	2545-2585 **CL = 2573** **CT = 2554**	2586-2619	2620-2652	2653-2685	2686+

MATHEMATICS CLAIMS

The Math portion of the test can be drilled down to three 'claims' or subsets of Math. The three claims are: Concepts and Procedures, Problem Solving and Modeling & Data Analysis, and Communicating Reasoning. These are reported out in three levels: Above Standard, At/Near Standard, and Below Standard. **It is important to note that since the claim data is based on a limited amount of test questions it is easy to determine the extremes of the data (i.e. above and below standard), but it is hard to determine, with accurate psychometric reliability, the middle. This is why the state combines at and near as one band to report out.** This claim information will help each school develop areas of focus for this school year.

Concepts and Procedures Performance

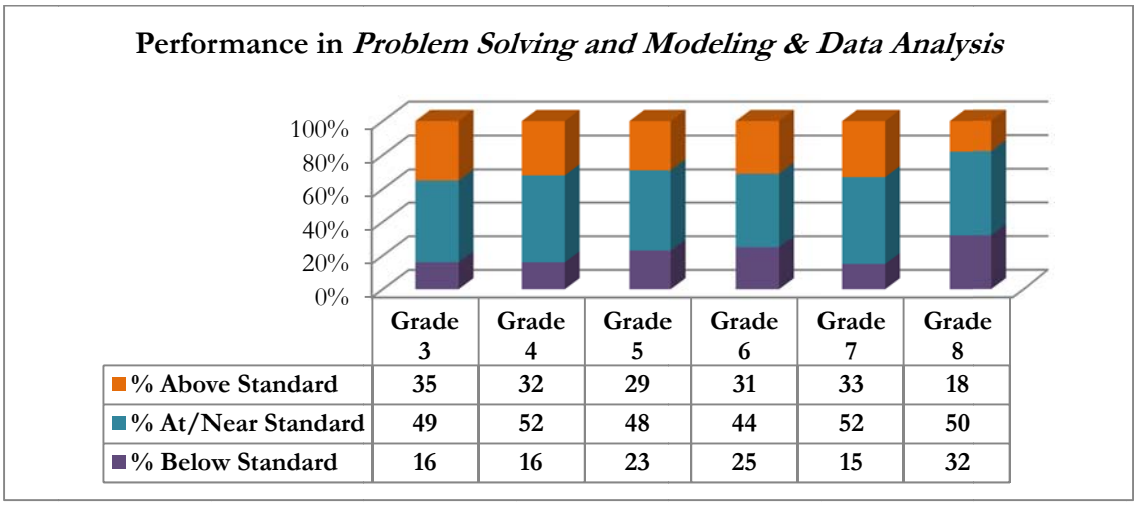
This graph shows the district's performance on the *Concepts and Procedures* claim. *Students can explain and apply mathematical concepts and interpret and carry out mathematical procedures with precision and fluency.*



Problem Solving and Modeling & Data Analysis Performance

The graph below shows the district's performance on the *Problem Solving and Modeling & Data Analysis* claim.

Students can solve a range of complex well-posed problems in pure and applied mathematics, making productive use of knowledge and problem-solving strategies.

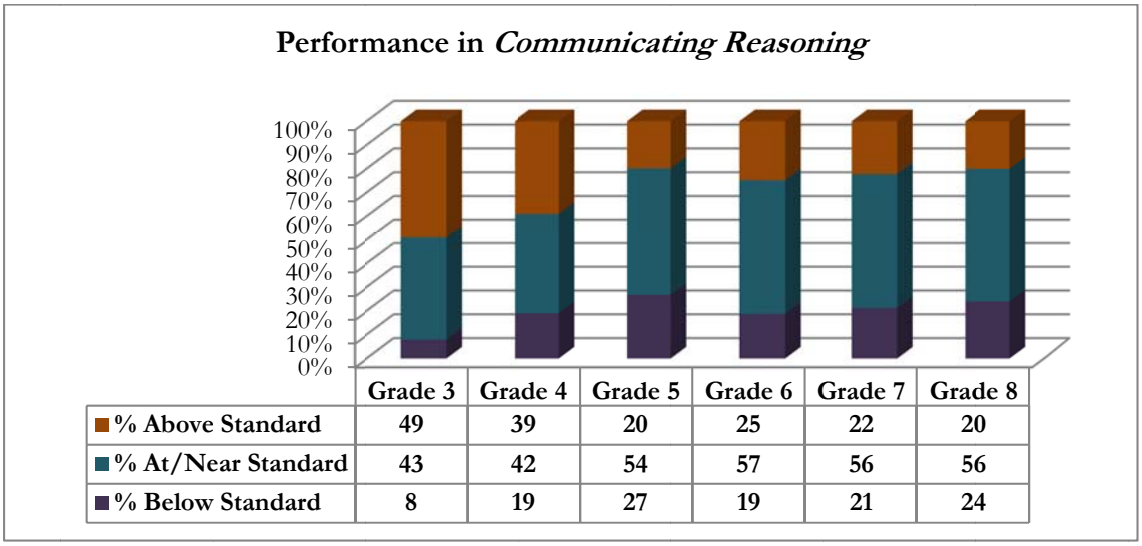


	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
% Above Standard	35	32	29	31	33	18
% At/Near Standard	49	52	48	44	52	50
% Below Standard	16	16	23	25	15	32

Communicating Reasoning Performance

This graph shows the district's performance on the *Communicating Reasoning* claim.

Students can clearly and precisely construct viable arguments to support their own reasons and to critique the reasonins of others.

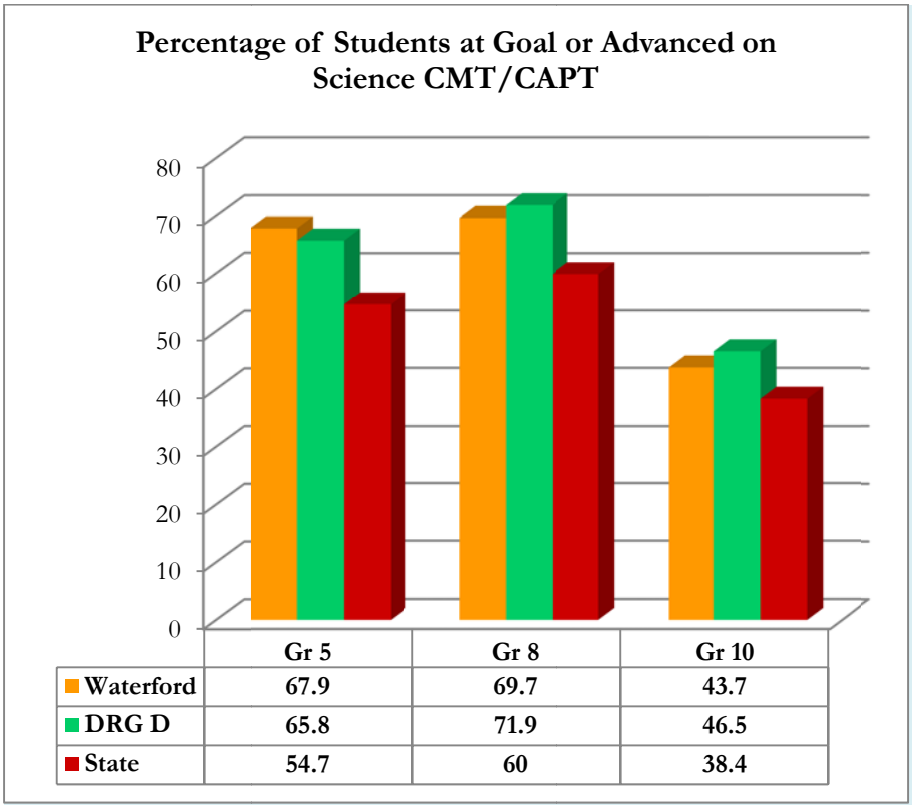


	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
% Above Standard	49	39	20	25	22	20
% At/Near Standard	43	42	54	57	56	56
% Below Standard	8	19	27	19	21	24

SCIENCE ASSESSMENTS

This section of the report summarizes student performance on the Connecticut Mastery Test (CMT) in science that was administered to all 5th and 8th grade students and the Connecticut Academic Performance Test (CAPT) in science that was administered to all 10th graders in the spring of 2017.

Although the State Board of Education has adopted the Next Generation Science Standards (NGSS) and districts are expected to fully implement by 2019, they have not phased out this assessment yet. **It is expected that the State will replace this assessment with one that is aligned to the NGSS in the 2018-19 School Year.** Waterford Public Schools has implemented an NGSS-aligned science curriculum in grades 6 through 12 since 2015 that is being phased in over three years. Until the Science CMT/CAPT is revised, there is a mismatch of curriculum and assessment in grades 8 and 10 science.



	Gr 5	Gr 8	Gr 10
Waterford	67.9	69.7	43.7
DRG D	65.8	71.9	46.5
State	54.7	60	38.4

Notable Data Points:

- Waterford is above the State and DRG average in grade 5. The Elementary Science curriculum is under revision now and will be completed in the 2018-19 school year.
- Waterford is above the State but below the DRG average in grades 8 and 10
- The state will have an NGSS aligned assessment in grades 5, 8, and 11 for the 2018-19 school year.

SCHOLASTIC APTITUDE TEST (SAT) GRADE 11

Two years ago, the State Department of Education made the decision to shift our federally mandated high school level assessment for literacy and math to the newly designed SAT in the junior year. Every 11th grader in the state of Connecticut takes the SAT as least one time for free, on the day that it is administered in school as the summative assessment.

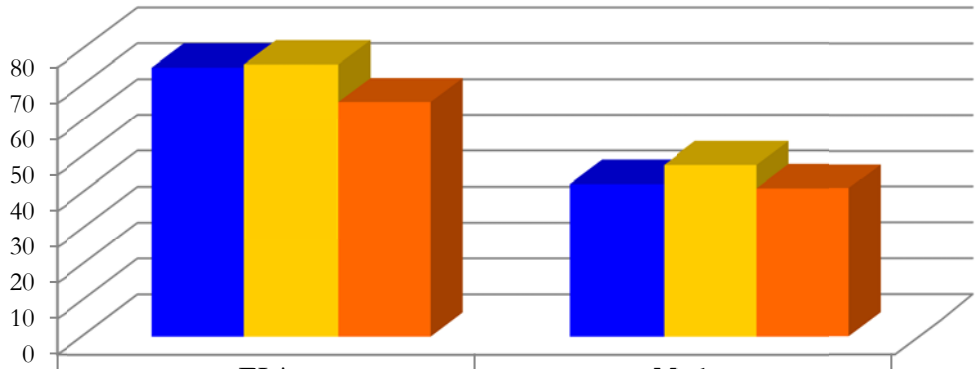
This assessment takes place of the other assessments that have been given to determine student and school performance and was meant to reduce the number of hours high school students spend taking a mandated assessment. Below is a historical overview of the high school mandated assessments for English Language Arts and Mathematics.

Time Frame	Assessment	Grade Assessed
1997-2013	CAPT	Grade 10
Spring 2014	SBA Field Test	Grade 11
Spring 2015	SBA	Grade 11
Spring 2016	SAT	Grade 11
Spring 2017	SAT	Grade 11

STATE DEFINED ACHIEVEMENT LEVELS

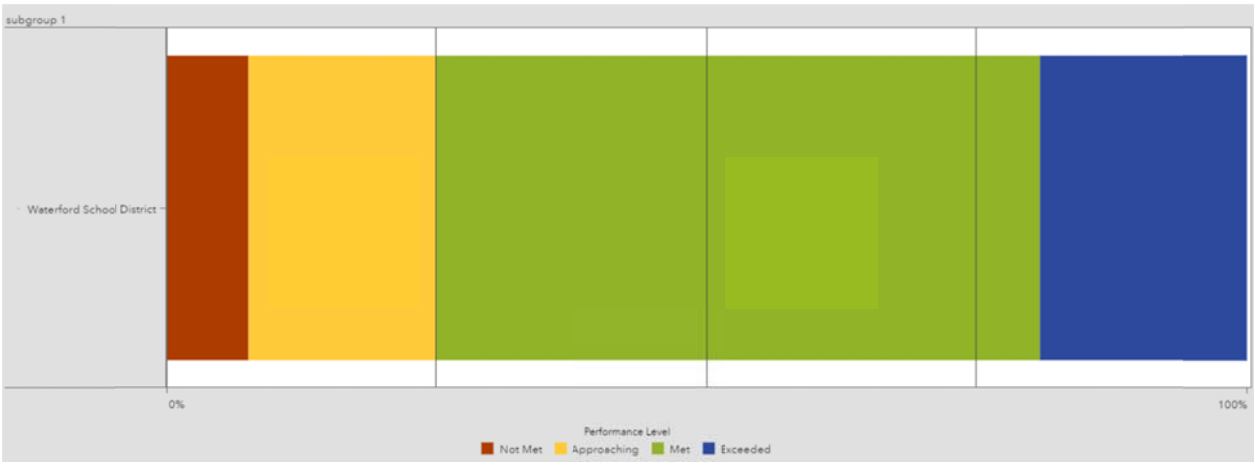
In the past, the SAT scores that student received were not associated with a performance level. Now that the SAT is our high school state summative assessment, the State set benchmark levels this past spring. Similar to the Smarter Balanced Assessment in grades 3-8, the State established four categories to describe student performance: Level 1 (Not Meeting), Level 2 (Approaching), Level 3 (Meeting), and Level 4 (Exceeding). Our students' performance compared to that of the DRG and the state is summarized below. You can see the ELA and Math Achievement Band descriptors in Appendix D and E.

Student Performance on SAT: Percentage of Students at Level 3 or 4



	ELA	Math
Waterford	75	42.5
DRG D	75.9	47.7
State	65.4	41.3

District Level SAT Performance Levels – ELA 2016



Not met – 7.50% **Approaching - 17.50%** **Met – 56%** **Exceeded – 19%**

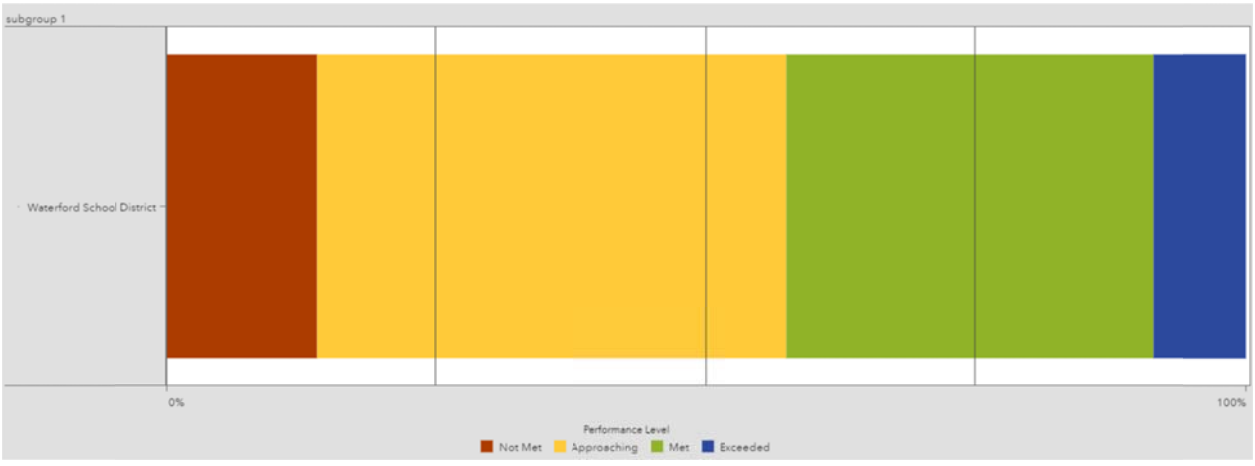
GRADE 11 SAT ENGLISH LANGUAGE ARTS 2016-2017

ELA	Level 1 Not Met	Level 2 Approaching	Level 3 Met	Level 4 Exceeded	Level 3 or 4 Met or Exceeded	Average Score
WPS	7.5%	17.5%	56%	19%	75%	543
DRG	9.5%	14.9%	57.1%	20%	75%	543
State	17.6%	17%	46.3%	19.1%	65.4%	524

Notable Data Points:

- Waterford students are performing above the State and at the DRG average in ELA
- The average SAT ELA score is above the state average and at the DRG average, which is up from last year by 3 points.

District Level SAT Performance Levels – Math 2016



Not met – 14% **Approaching – 43.50%** **Met – 34%** **Exceeded – 8.5%**

GRADE 11 SAT MATHEMATICS 2016-2017

MATH	Level 1 Not Met	Level 2 Approaching	Level 3 Met	Level 4 Exceeded	Level 3 or 4 Met or Exceeded	Average Score
WPS	**14%**	**43.5%**	**34%**	**8.5%**	**42.5%**	**510**
DRG	**13.4%**	**38.4%**	**36.6%**	**11.9%**	**47.7%**	**523**
State	**21.2%**	**37.5%**	**28.8%**	**12.5%**	**41.3%**	**510**

Notable Data Points:

- Waterford students are performing above the State average in Math, but below the DRG
- The average Math score is at the State average but below the DRG average

GRADE 11 SAT PERCENT OF STUDENTS IN THE MEET AND EXCEEDED ACHIEVEMENT BANDS AND AVERAGE SCALED SCORE

School Year	ELA		Math	
	Level 3 or 4 Met or Exceeded	Average Score	Level 3 or 4 Met or Exceeded	Average Score
2015-16	75.9%	533	41.9%	513
2016-17	75%	543	42.5%	510

Notable Data Points:

- It should be noted that this compares different students each year in the 11th grade.
- In ELA the achievement percent is similar from year to year, but the average score increased by 10 points
- In Math the achievement percent is similar from year to year, but the average score decreased by 3 points

Jason Adler, our Director of School Counseling will have further information next month when he presents the *Waterford High School Class of 2018 Summary Report*.

NEXT STEPS IN CURRICULUM AND INSTRUCTION

The Smarter Balanced results, as well as other norm reference tests and standard-based assessment data, are used by teachers, principals and district leaders as part of the feedback loop that helps us improve teaching and learning for all students. While we recognize that this is only one test and one indicator of a large body of evidence we have about the performance of our individual students and about the district as a whole, it is an important one that helps us set goals for our improvement work. As such, assessment data are used for a variety of purposes.

District Level:

- Individual Smarter Balanced student performance reports were sent out to parents. Parents are invited to contact the principal or teacher from the current school to discuss results.
- District Analysis and Action Team will be formed this year to look at these and other data points.

Elementary Schools:

- SBAC Data has been shared with grades 3-5 teachers, they have received all student individual reports and overall school and grade level data.
- Schools are using MAP data and reading and math assessments in our SRBI process to identify students who need tier 1,2,3 instruction and interventions.
- Teachers will use protocols for looking at student data and work to guide strategies for instruction in the classroom and SRBI block.
- Continued training in the SRBI and PLC processes.
- Teachers will work with the instructional mathematics coaches to implement the Contexts for Learning Mathematics (CFLM) Unit by Cathy Fosnot.
- Teachers will continue to work with coaches on the implementation of Writer's and Reader's workshop.
- Investigate the high SBA ELA performance in grade 3 to see if it is linked to the changes in the curriculum by seeing if this success grows to 4th grade too.
- Curriculum renewal work is in process for K-5 Science.
- Investigate our Math support systems to determine if we are catching students up with their mathematical deficits.
- Continue to fully implement Readers, Writers and Math workshop in all grades K-5 because if we have high standards for our students, support them with research based instructional strategies, and foster independence, then the test scores will take care of themselves.
- PLC teams will analyze this data to help drive instruction this year.
- To mitigate the testing fatigue, by balancing the amount of interim assessments given to (1 in ELA and 1 in Math)

- Administration and Grade 3, 4 & 5 teams will analyze January MAP assessments (and SBAC projections) to identify students on the borderline of Level 2 & 3 to provide targeted instruction during Feb, March and April to help them perform in May.
- Planning a presentation to the leadership team in November to look at areas of focus and at how much growth is needed for each individual student. Our focus for ELA this year is writing across all content areas. We chose this because it pushes students to reflect and explain their thinking on a regular basis. Working with the coaches we are discussing a plan to leverage the IBAs more in alignment with curriculum units to provide students exposure to typical SBA questions and to provide them opportunities to practice. Responses will be used as a teaching tool especially as it relates to response to text. Parent/Teacher conferences will also be a great opportunity to discuss last year's results with parents and to provide information to parents about what they can do to best support their child.
- Several grade level PLCs will be used to discuss results in-depth and plan for the upcoming year.

Middle School:

- SBA results were shared with the entire faculty at our first meeting. We noted growth in certain areas and the work that needs to be done to support students to increase achievement.
- SBA data was shared with all teachers in all core disciplines by the Curriculum Leaders, with assistance from the LA and MATH Coaches. Teachers in core subjects received their rosters and how their students did on SBA as well as MAP.
- Teachers looked at students to determine areas of weakness and success and discussed implications for instruction.
- LA Coach, Math Coach and Curriculum Leaders to analyze Interim Assessments and lead teachers in using the highest leverage lessons and examples for support of struggling learners.
- Teachers will use SBA data along with MAP testing data, to inform any interventions that a student might need in the classroom, and where applicable, would indicate that there is an area to watch and address with regards to the LA and Math Claims as outlined in SBA and MAP indicators for intervention.
- Teachers will work with their Curriculum Leaders and Coaches to review concepts through Interim Assessments and other SBA-type tasks and exercises.
- Teachers will use Interim Assessments with all students as a way to focus on areas of concerns and to maintain familiarity with the testing format of SBA.
- As in the previous year, an after school program to assist students who struggled on either SBA or MAP (in the area of mathematics) will be offered and concerns relayed to parents. We would like to increase enrollment in our Math Stars program.
- Certified teachers will once again be instructing the math support program.
- Use of certified teacher in tutoring center to assist students who struggled on either SBA or MAP or need assistance in any area of Math or LA

- Teachers will look at the MAP test in Winter '18 to see the correlation that exists with most students on these two tests. Lessons, Interim Assessment practice, and the use of intervention software packets, will be examined for their efficacy in remediating students.
- Math Coach will be working with Science teachers (focusing on 6th this year) to assist them in implementing more effectively math concepts in labs and assignments.
- LA and Math Coaches will be using new materials they researched and ordered to support both writing and reading goals as well as Mathematical Practices.
- LA Coach working with all core classes to assist in essential writing goals such as defining main meaning, inference, and supporting a stance with effective evidence.

High School:

- All WHS Teachers are required to have at least one SLO (Student Learning Objective) that focuses on math or literacy skills.
- Math and Literacy coaches are using SAT released items to guide their work with Math, ELA and Social Studies departments.
- Math and Literacy coaches have been trained in how to identify patterns of concern in SAT released items – both individual student and whole-group trend data.
- All department chairs have been trained in how to make use of the information provided by the College Board Score Portal, all relevant teachers have been given accounts to access the portal.
- Examine the gender equity within the standard level courses offered at WHS to determine if the underperforming male ELA data is linked.
- Math teachers will be using SAT released items on all department assessments through Pre-Calculus.
- English teachers are using SAT released items for activities in classes as appropriate to the course content.
- Teachers are looking at SAT results in PLCs to determine how their course content can help reinforce SAT skills.
- SAT preparation resources being used from the College Board.
- This year our guidance department is going to conduct a self-study around the following SLO, "*Juniors who take the 2017 PSAT will link to Khan Academy and will utilize the program to improve identified areas of weakness.*" The rationale behind this SLO is that research conducted by the College Board suggests that linking PSAT scores to Khan Academy and utilizing its curriculum will lead to improved test scores.
- Develop a PSAT to SAT Cohort data set

CONCLUSION

Waterford's students as a whole continue to perform well on state summative assessments. This is a reflection of the dedication to the students of Waterford by our teachers, staff and administration. We will continue to work on fulfilling our mission statement to guarantee that each student acquire the skills and knowledge to become a successful individual and a responsible citizen by setting high expectations and requiring excellence in an atmosphere of integrity and respect.

APPENDIX A

ELA Achievement

Level Achievement Ranges and Growth Targets

Grade in Year 1	Achievement Level	LEVEL 1: Not Met		LEVEL 2: Approaching		LEVEL 3: Met		LEVEL 4: Exceeded	
		1 – Low	2 –High	3 –Low	4 – High	5 – Low	6 –High	7 – Low	8 -High
3	Vertical Scale	2114-2330	2331-2366	2367-2399	2400-2431	2432-2460	2461-2489	2490-2522	2523+
	Growth Target	82	71	70	69	68	64	60	45/maintain
4	Vertical Scale	2131-2378	2379-2415	2416-2444	2445-2472	2473-2502	2503-2532	2533-2568	2569+
	Growth Target	82	69	69	64	58	55	49	34/maintain
5	Vertical Scale	2201-2405	2406-2441	2442-2471	2472-2501	2502-2541	2542-2581	2582-2619	2620+
	Growth Target	69	56	55	48	43	39	30	16/maintain
6	Vertical Scale	2210-2417	2418-2456	2457-2493	2494-2530	2531-2574	2575-2617	2618-2656	2657+
	Growth Target	73	58	53	47	44	38	33	21/maintain
7	Vertical Scale	2258-2438	2439-2478	2479-2515	2516-2551	2552-2600	2601-2648	2649-2687	2688+
	Growth Target	69	50	49	44	40	31	20	12/maintain
8	Vertical Scale	2288-2446	2447-2486	2487-2526	2527-2566	2567-2617	2618-2667	2668-2703	2709+

APPENDIX B

Math Achievement
Level Achievement Ranges and Growth Targets

Grade in Year 1	Achievement Level	LEVEL 1: Not Met		LEVEL 2: Approaching		LEVEL 3: Met		LEVEL 4: Exceeded	
		1 – Low	2 –High	3 –Low	4 – High	5 – Low	6 –High	7 – Low	8 -High
3	Vertical Scale	2189-2351	2352-2380	2381-2408	2409-2435	2436-2468	2469-2500	2501-2526	2527+
	Growth Target	77	61	59	60	59	57	56	47/maintain
4	Vertical Scale	2204-2381	2382-2410	2411-2447	2448-2484	2485-2516	2517-2548	2549-2574	2575+
	Growth Target	51	38	40	44	46	47	43	37/maintain
5	Vertical Scale	2219-2419	2420-2454	2455-2491	2492-2527	2528-2553	2554-2578	2579-2605	2606+
	Growth Target	43	46	45	44	42	41	41	44/maintain
6	Vertical Scale	2235-2434	2435-2472	2473-2512	2513-2551	2552-2580	2581-2609	2610-2639	2640+
	Growth Target	49	41	38	36	36	36	38	31/maintain
7	Vertical Scale	2250-2438	2439-2483	2484-2525	2526-2566	2567-2600	2601-2634	2635-2664	2665+
	Growth Target	58	35	31	31	36	37	38	35/maintain
8	Vertical Scale	2265-2455	2457-2503	2504-2544	2545-2585	2586-2619	2620-2652	2653-2685	2686+

APPENDIX C

Concordance between MAP RIT scores and Smarter Balanced cut scores

Subject	Grade	Smarter Balanced				MAP RIT			
		Level 1	Level 2	Level 3	Level 4	Level 1	Level 2	Level 3	Level 4
		Not Met	Nearly Met	Met	Exceeded	Not Met	Nearly Met	Met	Exceeded
ELA	3	2114–2366	2367–2431	2432–2489	2490–2623	100–190	191–201	202–210	211–350
	4	2131–2415	2416–2472	2473–2532	2533–2663	100–199	200–208	209–216	217–350
	5	2201–2441	2442–2501	2502–2581	2582–2701	100–203	204–213	214–224	225–350
	6	2210–2456	2457–2530	2531–2617	2618–2724	100–205	206–217	218–230	231–350
	7	2258–2478	2479–2551	2552–2648	2649–2745	100–209	210–221	222–234	235–350
	8	2288–2486	2487–2566	2567–2667	2668–2769	100–211	212–224	225–238	239–350
Math	3	2189–2380	2381–2435	2436–2500	2501–2621	100–193	194–203	204–214	215–350
	4	2204–2410	2411–2484	2485–2548	2549–2659	100–201	202–216	217–228	229–350
	5	2219–2454	2455–2527	2528–2578	2579–2700	100–213	214–228	229–237	238–350
	6	2235–2472	2473–2551	2552–2609	2610–2748	100–216	217–229	230–239	240–350
	7	2250–2483	2484–2566	2567–2634	2635–2778	100–220	221–234	235–245	246–350
	8	2265–2503	2504–2585	2586–2652	2653–2802	100–227	228–241	242–251	252–350

Data used in this study were collected from 87 schools in California, 44 schools in Washington, and seven schools in Maine. The data contained matched Smarter Balanced and MAP math scores from a total of 39,582 students from grades 3 – 8 and matched Smarter Balanced ELA and MAP reading scores from 39,530 students from Grades 3 – 8 who completed both Smarter Balanced and MAP tests in the spring of 2015. Equipercentile procedure (Kolen & Brennan, 1995[1]) with these matched scores was used to determine the concordance between Smarter Balanced and MAP test scores and identify third and eighth grade cut scores on MAP Math and Reading scales that correspond to performance level cut scores on the Smarter Balanced tests.

APPENDIX D

Connecticut SAT School Day Reporting Descriptors

Achievement Level Descriptors

Grade 11: Evidence-Based Reading and Writing

Achievement Standard 4	Achievement Standard 3	Achievement Standard 2	Achievement Standard 1
The student has exceeded the achievement standard and demonstrates a ***thorough*** understanding of the knowledge and skills needed for college and career readiness and achievement relative to the Common Core ELA/Literacy Content Standards.	The student has met the achievement standard and demonstrates ***adequate*** understanding of the knowledge and skills needed for college and career readiness and achievement relative to the Common Core ELA/Literacy Content Standards.	The student has partially met the achievement standard and demonstrates an ***incomplete*** understanding of the knowledge and skills needed for college and career readiness and achievement relative to the Common Core ELA/Literacy Content Standards.	The student has not met the achievement standard and demonstrates ***minimal*** understanding of the knowledge and skills needed for college and career readiness and achievement relative to the Common Core ELA/Literacy Content Standards.

Achievement Level Descriptors

Grade 11: Math

Achievement Standard 4	Achievement Standard 3	Achievement Standard 2	Achievement Standard 1
The student has exceeded the achievement standard and demonstrates a ***thorough*** understanding of, and the ability to apply the mathematics knowledge and skills needed for college and career readiness and achievement relative to the Math Content Standards. The student solves problems that call for a range of strategies, accurate and insightful reasoning, and connecting difference areas of mathematics.	The student has met the achievement standard and demonstrates an ***adequate*** understanding of, and the ability to apply the mathematics knowledge and skills needed for college and career readiness and achievement relative to the Math Content Standards. The student solves problems that call for a range of strategies, accurate and insightful reasoning, and connecting difference areas of mathematics.	The student has partially met the achievement standard and demonstrates an ***incomplete*** understanding of, and the ability to apply the mathematics knowledge and skills needed for college and career readiness and achievement relative to the Math Content Standards. The student solves problems that call for simple strategies and reasoning accurately applied to basic areas of mathematics.	The student has not met the achievement standard and demonstrates a ***minimal*** understanding of, and the ability to apply the mathematics knowledge and skills needed for college and career readiness and achievement relative to the Math Content Standards. The student solves some problems that require applying simple strategies to basic areas of mathematics without an understanding of the reasoning behind the strategies.

APPENDIX F

District Reference Groups (DRG)

"District Reference Groups (DRGs) is a classification system in which districts that have public school students with similar socioeconomic status (SES) and need are grouped together. Grouping like districts together is useful in order to make legitimate comparisons among districts." There are six variables that went into the makeup of DRGs. Those variables are: Income, Education, Occupation, Family Structure, Poverty, Home Language, and District Enrollment.

The towns in the state of Connecticut are divided into nine DRGs, Waterford is in DRG D. District Reference Group D is comprised of 24 towns in the state of Connecticut. This group consists of one ERG B district, two ERG C districts, 16 ERG D districts, one ERG E district and four ERG F districts. Waterford was one of the four towns that moved from ERG F to DRG D. The towns in DRG D are: **Berlin, Bethel, Branford, Clinton, Colchester, Cromwell, East Granby, East Hampton, East Lyme, Ledyard, Milford, Newington, Rocky Hill, New Milford, North Haven, Old Saybrook, Shelton, Southington, Stonington, Waterford, Watertown, Wethersfield, Windsor, and Wallingford.**

Source: Connecticut State Department of Education, Research Bulletin, June 2006
http://edsight.ct.gov/relatedreports/DRG%20Data%20Bulletin%202005-06.pdf

It should be noted that the State Department of Education (SDE) has discontinued using the DRG. Calculating the DRGs now has to be done manually at the district level. This is a very time intensive task. This calibration of the like towns is now eleven years old and there are models (not endorsed by the SDE) showing that these grouping need significant change in order to measure like communities. The SDE has no plan to recalibrate the DRGs, so as a result, this will be the last year that this information will be provided in this report.