

**Agenda Item:** Connecticut Mastery Test & Connecticut Academic Performance Test  
Science Results

**Meeting Date:** November 21, 2017

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This report presents the Spring 2017 results for the Science Connecticut Mastery Test (CMT) that was administered in grades 5 and 8 and the Science Connecticut Academic Performance Test (CAPT) that was administered in grade 10.

## 2017 CMT Science Results

The Fourth Generation Science CMT is the standard assessment administered to all students in Grades 5 and 8. The content of the test measures students’ understanding of life, earth, and physical scientific concepts; application to real-world issues; scientific inquiry; and scientific reasoning to solve problems. The test includes multiple-choice and open ended questions.

This year in science Grade 5 had a one percentage point increase and grade 8 showed an eight percentage point increase from 2016.

The table below summarizes the percentage of students at or above goal for science since 2008.

### Overall Results: Percentage of Students by Content Area At/Above Goal for 2008-2017

Grade Level	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Grade 5 Science	78	89	86	89	92	81	76	84	82	83
Grade 8 Science	92	90	88	89	84	88	90	89	82	90

A total of 220 fifth graders were tested, with 97% of the students scoring at or above proficiency and 83% of the students scoring at or above goal. In grade 8, 273 students were tested and 96% of the students scored at or above proficiency and 90% scored at or above goal.

The table below indicates the percentage of students performing in each of the five performance levels: Level 1 (Below Basic), Level 2 (Basic), Level 3 (Proficient), Level 4 (Goal), and Level 5 (Advanced). Levels 4 and 5 are considered “Mastery” by the state and Level 3 is considered “Proficient”. The majority of our students reach the “At/Above Grade Level” bands.

### Percent of Students by Performance Level

Grade	Level 1 Below Basic	Level 2 Basic	At/Above Grade Level		
			Level 3 Proficient	Level 4 Goal	Level 5 Advanced
5	1	2	14	49	34
8	1	3	6	49	41

The next section of tables detail student performance in the areas of special education, English Learners (EL), and gender. The percentage of students performing in each of the five performance levels: Level 1 (Below Basic), Level 2 (Basic), Level 3 (Proficient), Level 4 (Goal), and Level 5 (Advanced) are listed in addition to the percentage of students performing at or above proficiency and at or above goal.

**Percent of Special Education Learners by Performance Levels**

Grade	# Tested	Below Basic	Basic	Proficient	Goal	Advanced	% At/Above Proficiency	% At/Above Goal
5	10	30	20	10	20	20	50	40
8	26	8	15	19	35	23	77	58

**Percent of English Learners by Performance Levels**

Grade	# Tested	Below Basic	Basic	Proficient	Goal	Advanced	% At/Above Proficiency	% At/Above Goal
5	*	*	*	*	*	*	*	*
8	*	*	*	*	*	*	*	*

\*the data are suppressed to ensure confidentiality

**Percent of Students by Gender by Performance Levels**

Group	Grade	# Tested	Below Basic	Basic	Proficient	Goal	Advanced	% At/Above Proficiency	% At/Above Goal
All	5	220	1	2	14	49	34	97	83
Male	5	106	3	0	10	50	37	97	87
Female	5	114	1	4	17	47	31	95	78
All	8	273	1	3	6	49	41	96	90
Male	8	156	0	3	6	42	49	97	91
Female	8	117	1	3	5	59	32	96	91

The state has placed Avon in District Reference Group (DRG) B. The table below compares the performance of Avon with DRG A and similar DRG B school districts. These scores represent the percentage of students scoring at or above goal in the area of science.

**Comparison of 2017 CMT Science At/Above Goal Among DRG A/B Districts**

<b>DRG A Districts</b> Grade 5 CMT Science		<b>DRG A Districts</b> Grade 8 CMT Science	
New Canaan School District	88.8%	Avon School District	90.5%
Wilton School District	87.2%	Darien School District	90.4%
Weston School District	85.7%	New Canaan School District	88.4%
Darien School District	84.2%	Redding School District	88.3%
Ridgefield School District	83.7%	Wilton School District	86.8%
Easton School District	82.4%	Weston School District	84.7%
Westport School District	82.4%	Ridgefield School District	84.4%
Avon School District	82.3%	Westport School District	83.7%
Redding School District	80.2%	Easton School District	80.2%

**Ranking for Avon DRG A:**

**8/9**

**1/9**

<b>DRG B Districts</b> Grade 5 CMT Science		<b>DRG B Districts</b> Grade 8 CMT Science	
Farmington School District	91.9%	Avon School District	90.5%
Monroe School District	88.8%	Regional School District 05	87.2%
Granby School District	85.1%	Newtown School District	86.7%
Woodbridge School District	83.2%	Monroe School District	85.7%
Trumbull School District	82.5%	Farmington School District	85.1%
Avon School District	82.3%	Fairfield School District	84.4%
Glastonbury School District	81.9%	Granby School District	84.0%
New Fairfield School District	81.5%	Simsbury School District	83.6%
Orange School District	80.7%	Glastonbury School District	83.4%
Simsbury School District	80.0%	Trumbull School District	82.7%
South Windsor School District	77.4%	Guilford School District	82.6%
Cheshire School District	77.1%	Regional School District 15	82.4%
Fairfield School District	76.7%	Cheshire School District	82.4%
Greenwich School District	76.4%	Greenwich School District	81.1%
Guilford School District	75.5%	Madison School District	81.0%
Newtown School District	74.1%	New Fairfield School District	77.7%
Brookfield School District	73.5%	Brookfield School District	77.6%
Regional School District 15	71.6%	West Hartford School District	76.2%
West Hartford School District	70.4%	South Windsor School District	76.0%
Madison School District	70.2%		

**Ranking for Avon DRG B:**

**6/20**

**1/19**

## 2017 CAPT Science Results

The Third Generation CAPT test assesses 10<sup>th</sup> grade students on important scientific knowledge and skills from the areas of life science, physical science, and earth science. Student’s knowledge about scientific inquiry, literacy, and numeracy are imbedded in the assessment. The test is comprised of multiple choice and open-ended items that assess five equally weighted content strands:

- Energy Transformations
- Chemical Structures and Properties
- Global Interdependence
- Cell Chemistry and Biotechnology
- Genetics, Evolution and Biodiversity

The table below displays student performance in the area of Science for all students, special education, English Learners (EL), and gender. The percentage of students performing in each of the five performance levels: Level 1 (Below Basic), Level 2 (Basic), Level 3 (Proficient), Level 4 (Goal), and Level 5 (Advanced) are listed in addition to the percentage of students performing at or above proficiency and at or above goal. The percentage of all students at or above proficiency declined by three percentage points while the percentage of all students at or above goal decreased nine percentage points from last year.

Group	# Tested	% Below Basic	% Basic	% Proficient	% Goal	% Advanced	% At/Above Proficiency	% At/Above Goal
All	235	3	7	26	27	37	90	64
SPED	22	23	32	27	9	9	45	18
EL	0	0	0	0	0	0	0	0
Male	102	5	5	27	25	38	90	63
Female	133	2	9	25	29	35	89	64

### Percentage of Students At/Above Goal for 2008-2017

Content	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Science	76	70	76	75	76	83	76	79	73	64

### Percentage of Students At/Above Proficiency for 2008-2017

Content	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Science	97	96	97	97	96	97	96	96	93	90

Avon has been placed by the state in District Reference Group (DRG) B. The tables below compare the performance of Avon with DRG A and similar DRG B school districts. These scores represent the percentage of students scoring at Level 3 or above goal and at or above proficiency in science.

**Comparison of 2017 CAPT Science At/Above Goal Among DRG A/B Districts**

<b>DRG A Districts</b> Grade 10 CAPT Science	
Regional School District 09	72.7%
New Canaan School District	71.8%
Ridgefield School District	71.3%
Westport School District	69.3%
<b>Avon School District</b>	<b>63.6%</b>
Weston School District	61.6%
Wilton School District	61.3%
Darien School District	60.0%

**Ranking for Avon DRG A: 5/8**

<b>DRG B Districts</b> Grade 10 CAPT Science	
Simsbury School District	74.6%
West Hartford School District	70.5%
Trumbull School District	68.7%
Farmington School District	68.1%
Greenwich School District	68.0%
Regional School District 05	67.6%
Granby School District	66.9%
Monroe School District	66.4%
Regional School District 15	64.5%
Fairfield School District	63.9%
<b>Avon School District</b>	<b>63.6%</b>
Newtown School District	62.7%
New Fairfield School District	62.4%
Guilford School District	61.1%
Glastonbury School District	60.2%
South Windsor School District	56.7%
Brookfield School District	53.4%
Cheshire School District	52.4%
Madison School District	43.8%

**Ranking for Avon DRG B: 11/19**

## **CONCLUSION:**

Beginning in the current school year, the CMT and CAPT Science assessments will no longer be administered. These assessments will be replaced with the Next Generation Science Standards Assessment and will be taken by students in grades 5, 8, and 11. This year, the Next Generation Science Standards Assessment will be administered as a statewide field test. Similar to the field test for the Smarter Balanced Assessment, districts and students will not receive summative results for the field test. Districts will however have to meet the state and federal participation requirements.

As the state science assessment is changing this year, we did not engage in a full analysis of the CMT and CAPT data at the district, grade level, or student level since the data analysis wouldn't inform our current curriculum, instruction, or assessment based on the fact that these assessments don't measure the same content or skills as the Next Generation Science Standards Assessment will.

In conclusion, we anticipate that our students will be well-prepared for the new assessment as the science curriculum review and revision was informed by the Next Generation Science Standards and considerable changes were made K-12 to ensure alignment with the new standards.