Gallatin Gateway School District

Montana Criterion Reference Test Analysis - Science

August 2017

Table of Contents

Introduction

This report contains data analysis of the Gallatin Gateway School District student performance on the Montana Criterion Reference Test. The CRT state achievement test is given each year to grades 4, 8 & 10 for science. The first section of this report provides a summary of analysis results from the data in this document. Also, the first section compares and lists the conclusions from the data analysis. The report documents science CRT results for 2017 by grade level for students in the district compared to the student profile for the entire state of Montana. The analysis utilizes the percentage of students scoring proficient and advanced in the Gallatin Gateway District compared to the state wide results for the same group. This report provides the district with a year by year comparison of proficiency district wide in science along with an overall view of results on the CRT test. Also, subgroups of sufficient size are analyzed to show proficiency (Gender, Special Education, etc.). The report compares results for each grade level over the years that the test has been administered and includes tracking results for a class through each grade level where they took the test. The percentage of students achieving proficient/advanced is used as a base line when comparing trends. Gallatin Gateway District CRT results for 2017 are compiled for each Montana Science Standard and compared to the state wide average on each standard. The percentage of correct responses by all district students at each grade is shown by specific Montana Standard and compared to previous years. The report analyzes open response questions for all student groups in the district and subgroups of sufficient size. The state did not release any specific questions from the test this year, so no examples are listed.

Summary of CRT Data Analysis Results

Science

The district scored 78% proficient in science (all tested students in grades 4, 8, and 10) on the CRT test in 2017 compared to 81% proficient in 2016 and 74% in 2015. Grade 4 district students scored 73% proficient compared to 71% state wide. Grade 8 students scored 86% proficient compared to 66% state wide. Overall the district was well above the state wide proficiency rate of 68.5% in 2017.

The district sub groups of students by gender and special education scored as follows: males in the district in 2017 scored higher than females in science with 83.3% proficient compared to females at 72.2%, special education students scored 67% proficient in 2017 (state was 28.6% proficient in 2017) compared to 100% in 2016 and 0% in 2015.

The data analysis results indicate that the district was well above the state profile in 2017 for science with 78% proficiency compared to the state at 68.5%. The district scored at or higher than the state on the CRT test in all grades for science. When all tested students in grades 4 and 8 are combined each year for the district from 2008 to 2017 the results show science scores have averaged 80% proficient in the district compared to Montana at 59% proficient over the same time period.

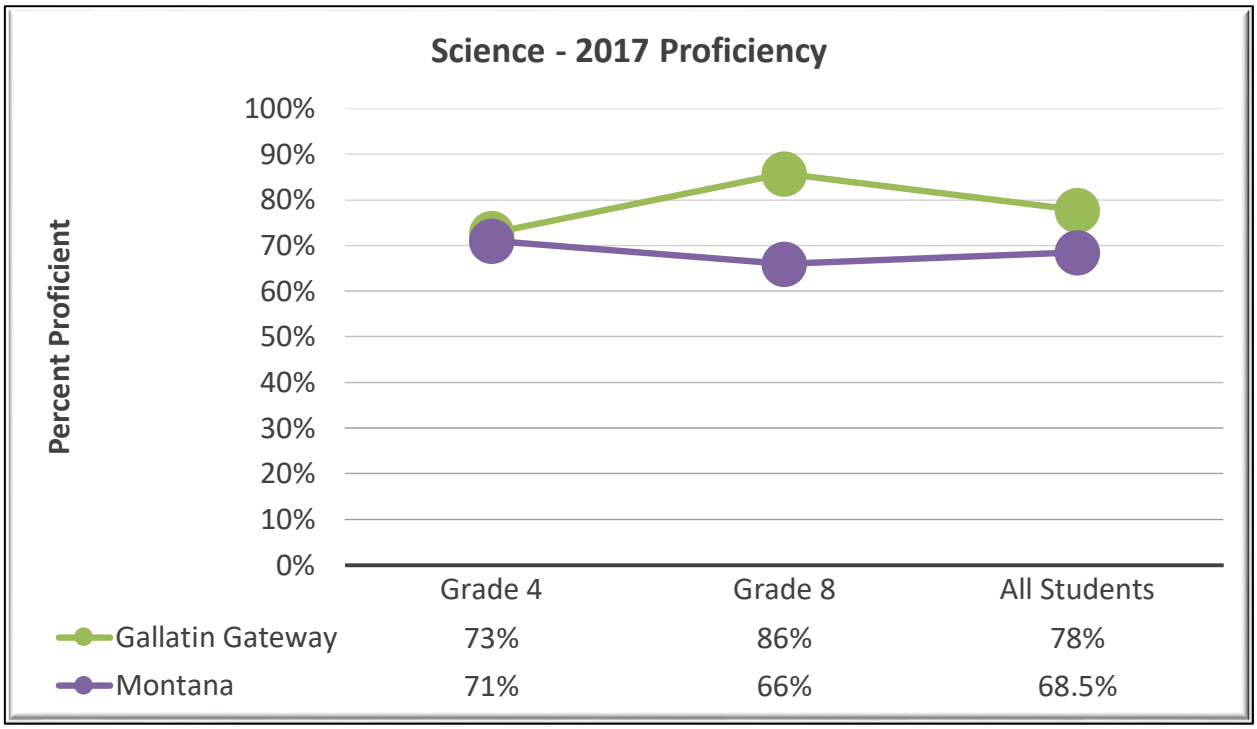
Student results compared to the Montana Standards for Science shows that standard 3 *(Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment)* was the highest scoring in science for 2017 with 72.5% of all answers correct. The lowest scoring science standard for 2017 was standard 2 (*Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate the results and form reasonable conclusions of scientific investigations)* with 66.1% of all answers correct. Student scores on open response type questions were up in 2017 with 52.5% (the state was 40%) of the total points in science compared to 38.8% in 2016. The all student group scored the highest on standard 5 open response items in science with 55% of the points and the lowest on standard 2 with 50%. Females scored 47.5% (state females 41.7%) on science open response questions in 2017 up from 35% in 2016 compared to males at 55% (state males 39.2%) up from 41.3% in 2016.

Overall conclusions show that district students scored 78% proficient on the 2017 CRT test which was well above the overall state score of 68.5%. District proficiency in science has averaged 80% over the life of the test. Results of the analysis indicate that students find standard 2 type questions the most difficult and scored the highest on standard 3 type questions in 2017 for science.

CRT Test Results

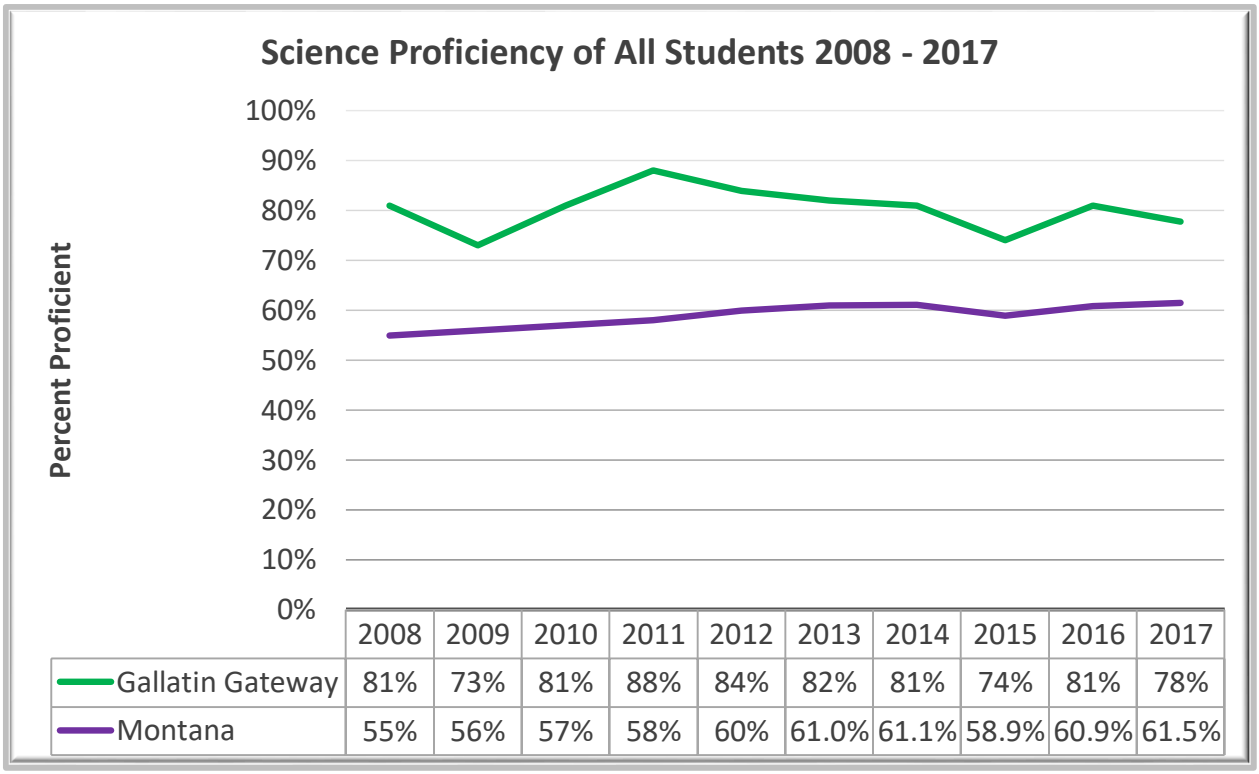
District Science Proficiency Compared to Montana

The following chart shows the percent of proficient/advanced students in the district in 2017 compared to the same group in Montana. The results indicate that Gallatin Gateway was at or higher than the state profile for science in grades 4 and 8. Grade 8 scored the highest with 86% proficient in 2017. Science results for the district were well above the state in 2017.



Proficiency of All Students Tested Each Year

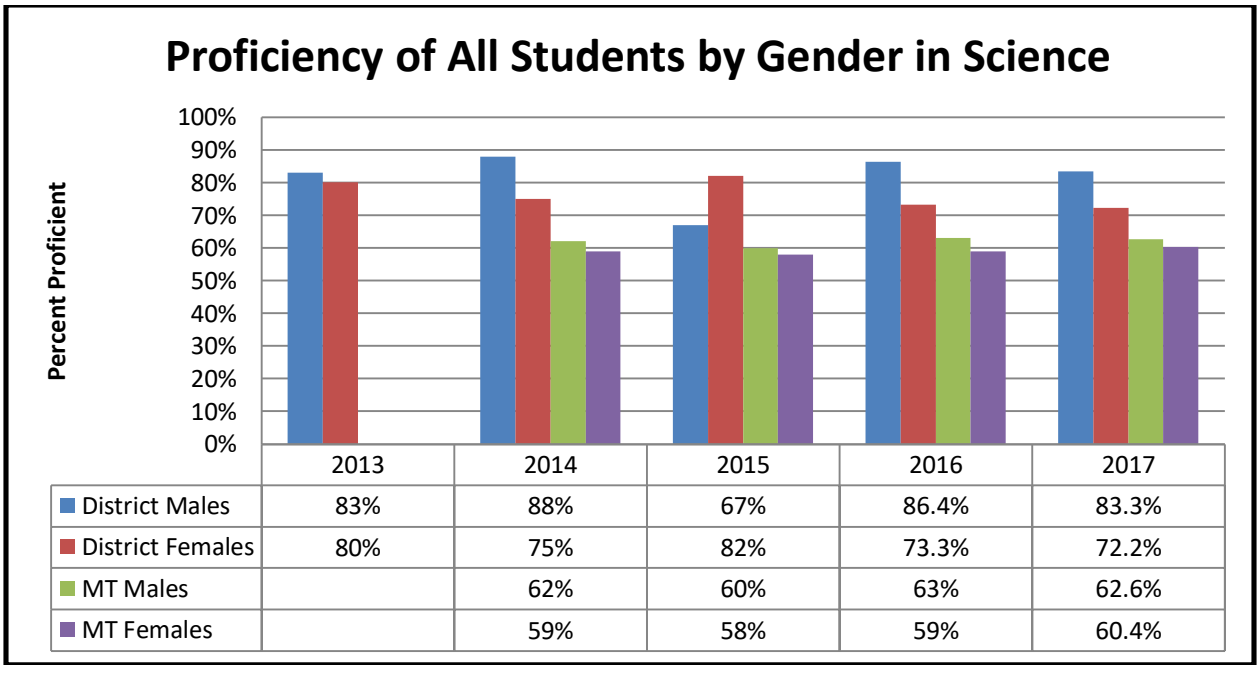
The following chart shows the proficiency of all students tested in science from 2008 through 2017 compared to the state. Science proficiency has averaged 80% over the 11 years of the test.



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Gallatin Gateway	81%	73%	81%	88%	84%	82%	81%	74%	81%	78%
Montana	55%	56%	57%	58%	60%	61.0%	61.1%	58.9%	60.9%	61.5%

Gender Proficiency in 2013 - 2017

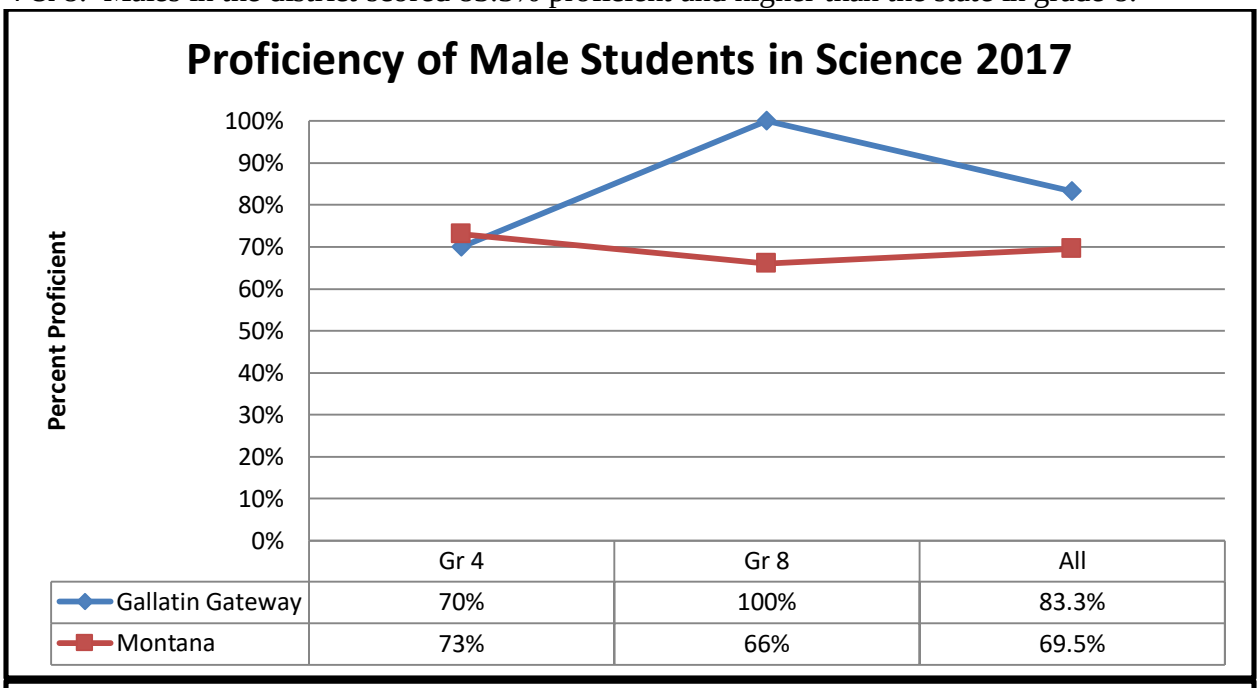
The following chart shows the proficiency of males and females from 2013 to 2017 on the CRT test. In the district, males scored higher than females in science and both scored higher than the state in 2017.



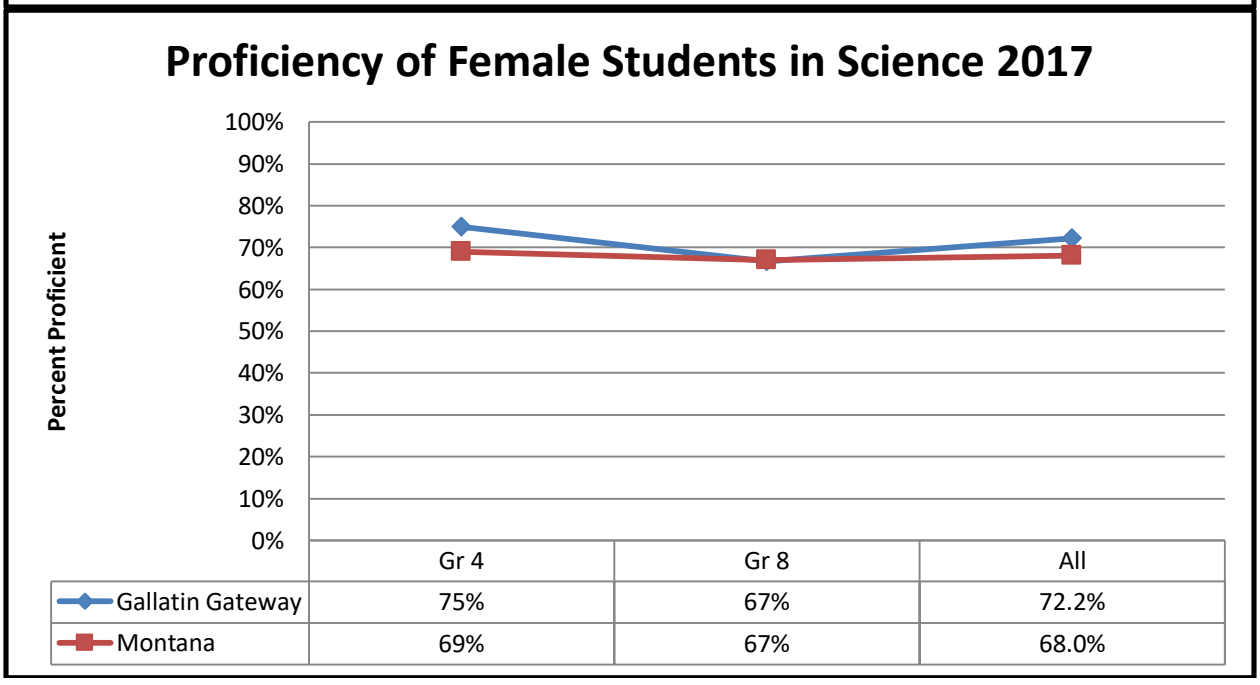
	2013	2014	2015	2016	2017
District Males	83%	88%	67%	86.4%	83.3%
District Females	80%	75%	82%	73.3%	72.2%
MT Males		62%	60%	63%	62.6%
MT Females		59%	58%	59%	60.4%

Male and Female Proficiency Compared to Montana by Grade

The following charts show male and female proficiency compared to Montana by grade in 2017. District females scored 72.2% proficient in 2017 and scored at or higher than the state in grades 4 & 8. Males in the district scored 83.3% proficient and higher than the state in grade 8.



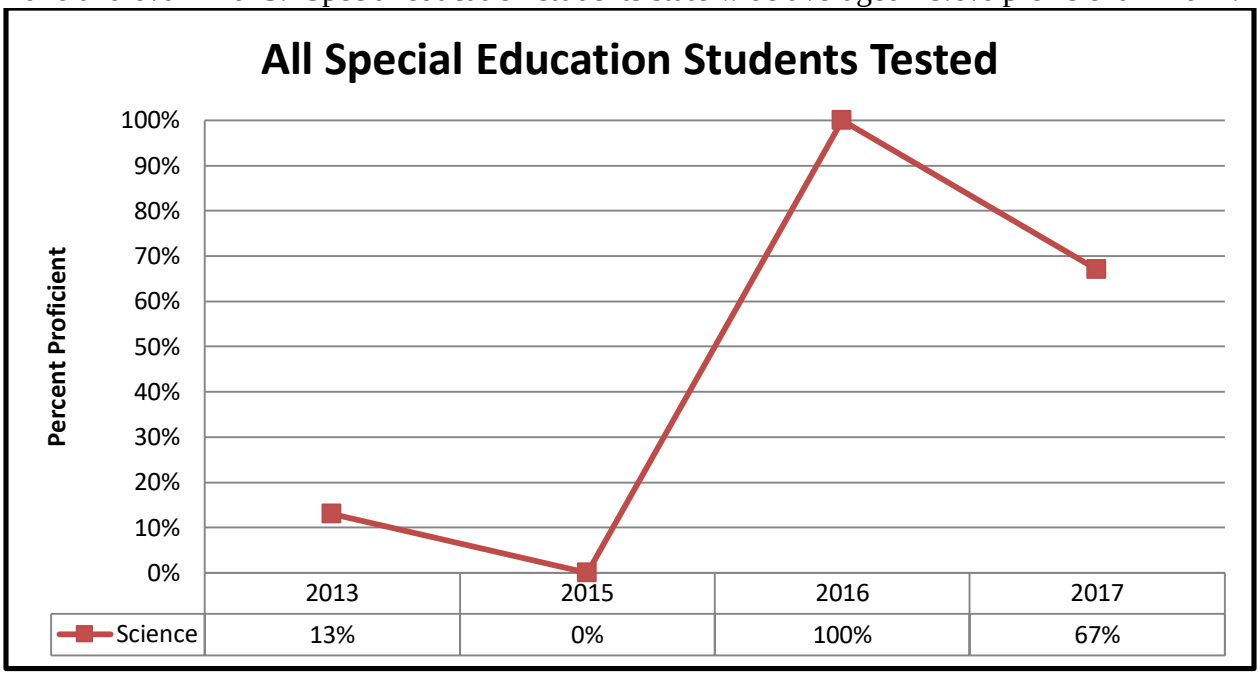
	Gr 4	Gr 8	All
Gallatin Gateway	70%	100%	83.3%
Montana	73%	66%	69.5%



	Gr 4	Gr 8	All
Gallatin Gateway	75%	67%	72.2%
Montana	69%	67%	68.0%

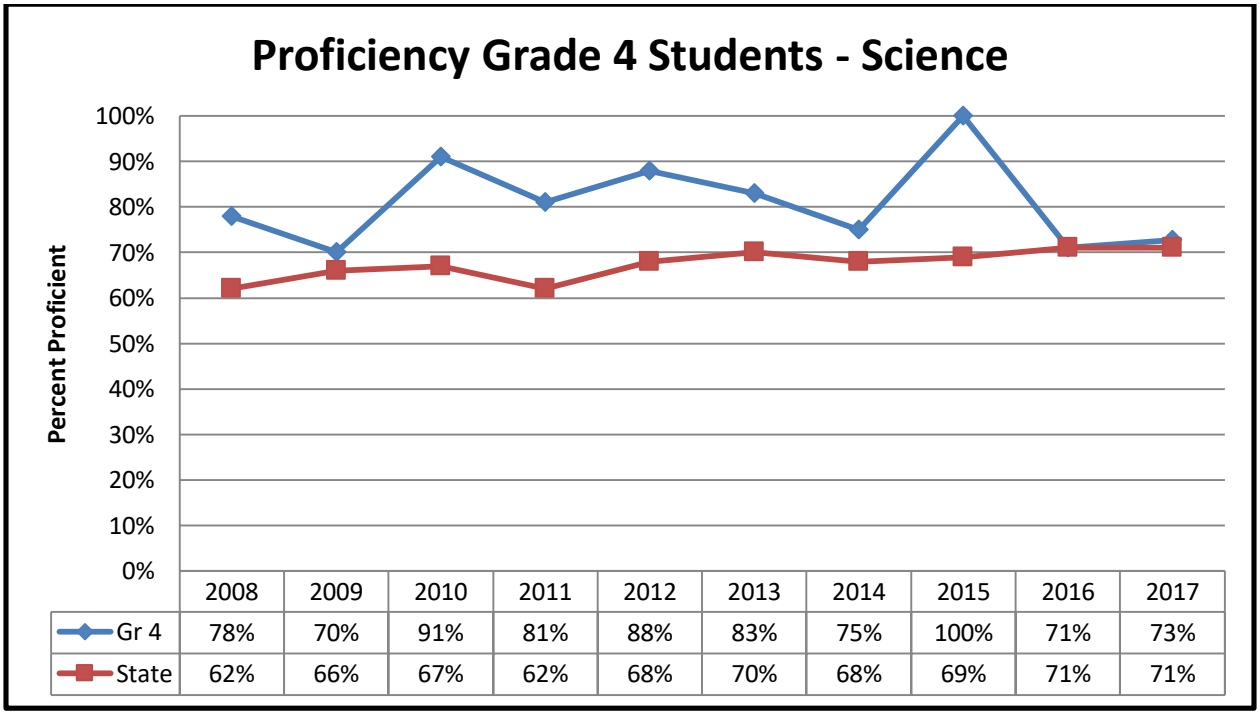
Special Education Proficiency

Special education students in the district scored 67% proficient in 2017 down from 100% in 2016 and 0% in 2015. Special education students state wide averaged 28.6% proficient in 2017.



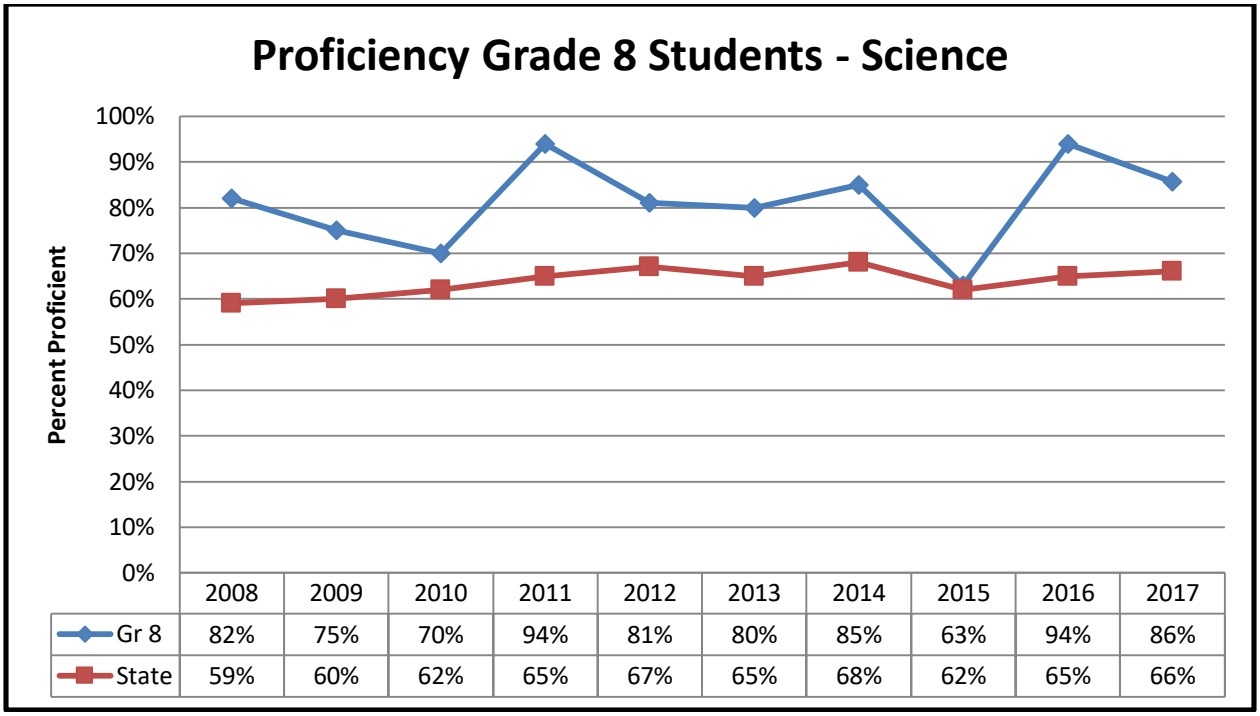
4th Grade CRT Results

Fourth grade students in the district scored well in 2017 with 73% proficient up from 71% in 2016 and 100% in 2015. Fourth grade students in the district scored 2% higher than the state in 2017.



8th Grade CRT Results

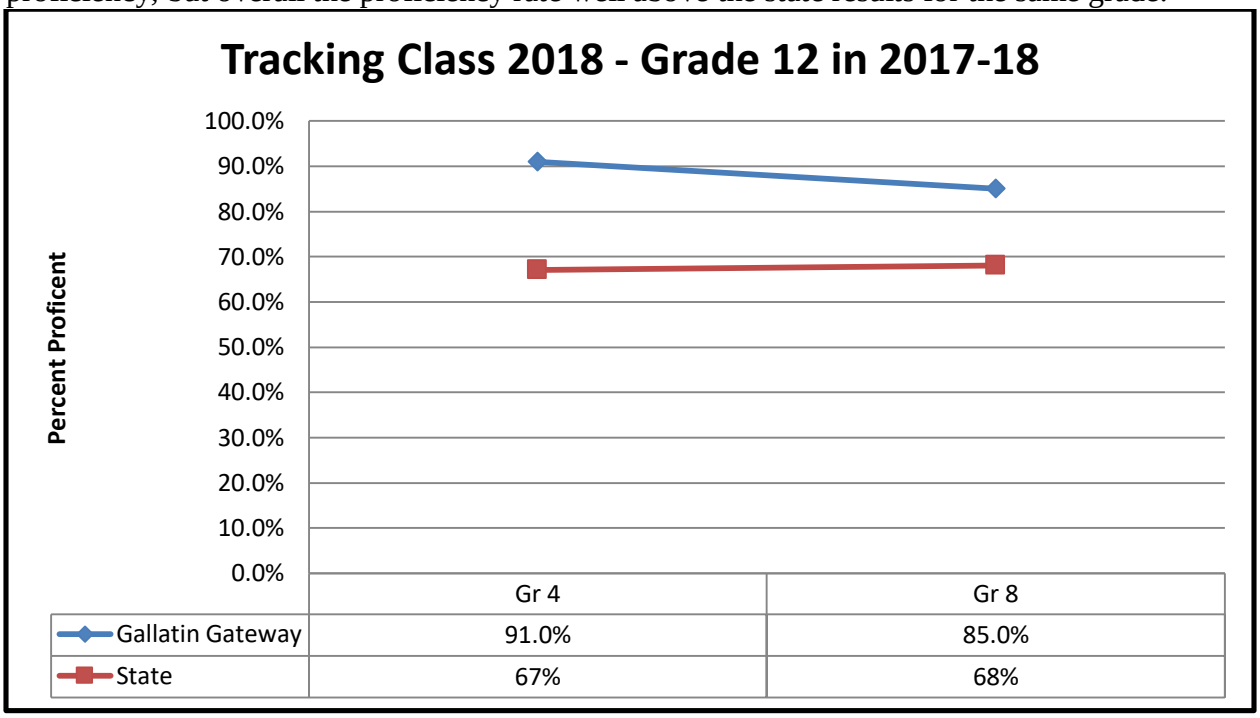
The following chart shows 8th grade science CRT results from 2008 through 2017. The 2017 results decreased to 86% down from 94% in 2016 and were 20% above the state results.



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Gr 8	82%	75%	70%	94%	81%	80%	85%	63%	94%	86%
State	59%	60%	62%	65%	67%	65%	68%	62%	65%	66%

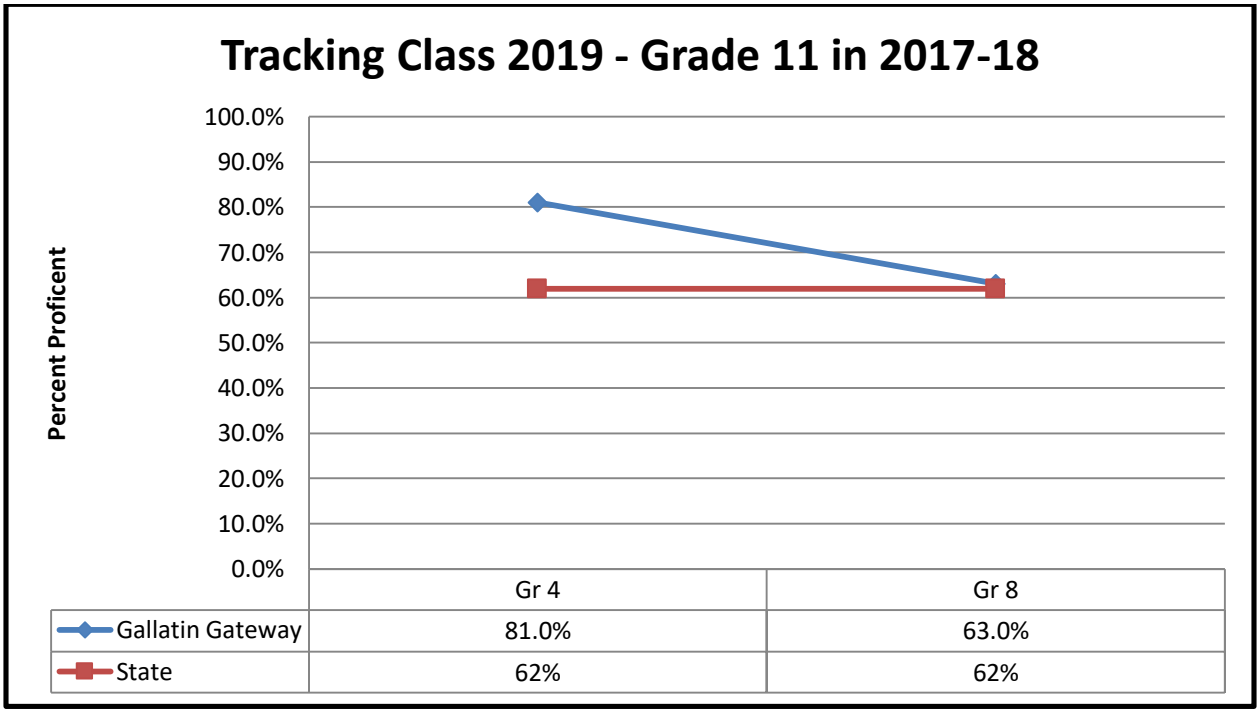
Class of 2018 - Tracking Results Each Year on the CRT

The following chart shows the results of the class of 2018 on the CRT Science test when they were in grades 4 & 8. The class shows a slight decrease from 4th grade to 10th grade in science proficiency, but overall the proficiency rate well above the state results for the same grade.



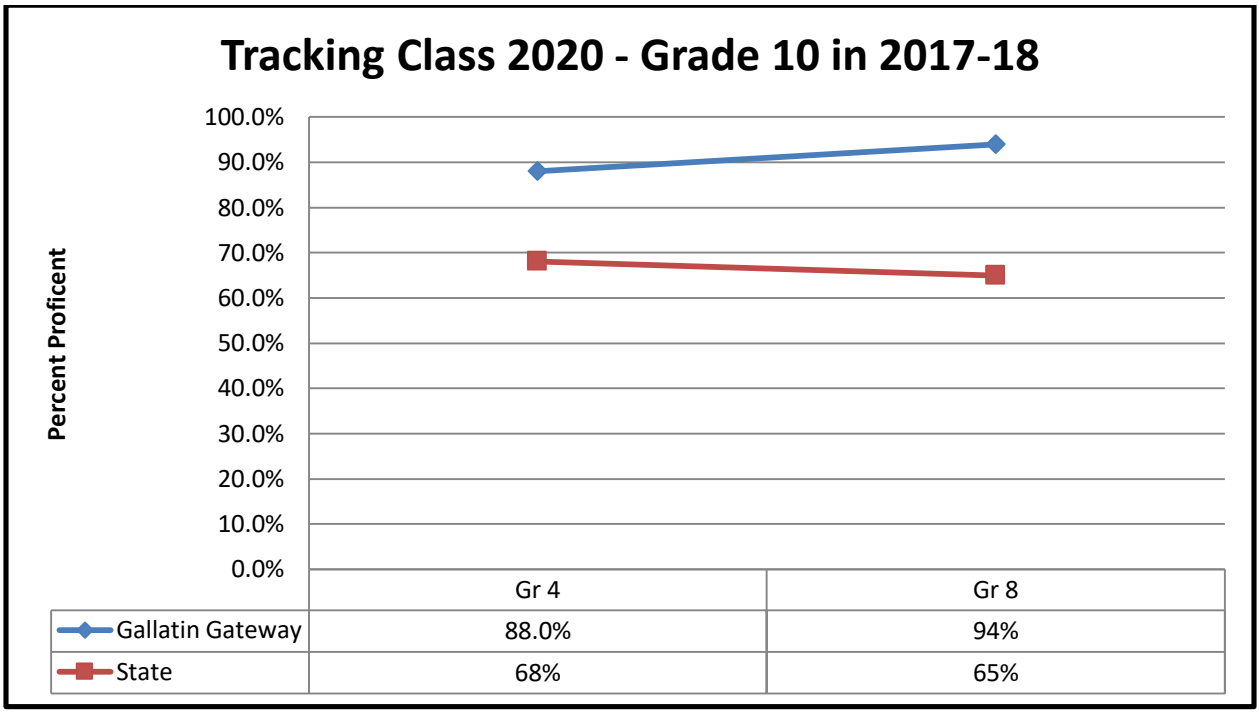
Class of 2019 - Tracking Results Each Year on the CRT

The following chart shows the results of the class of 2019 on the CRT Science test when they were in grades 4 & 8. The percentage proficient was down for the class in 2015, but was still above the state.



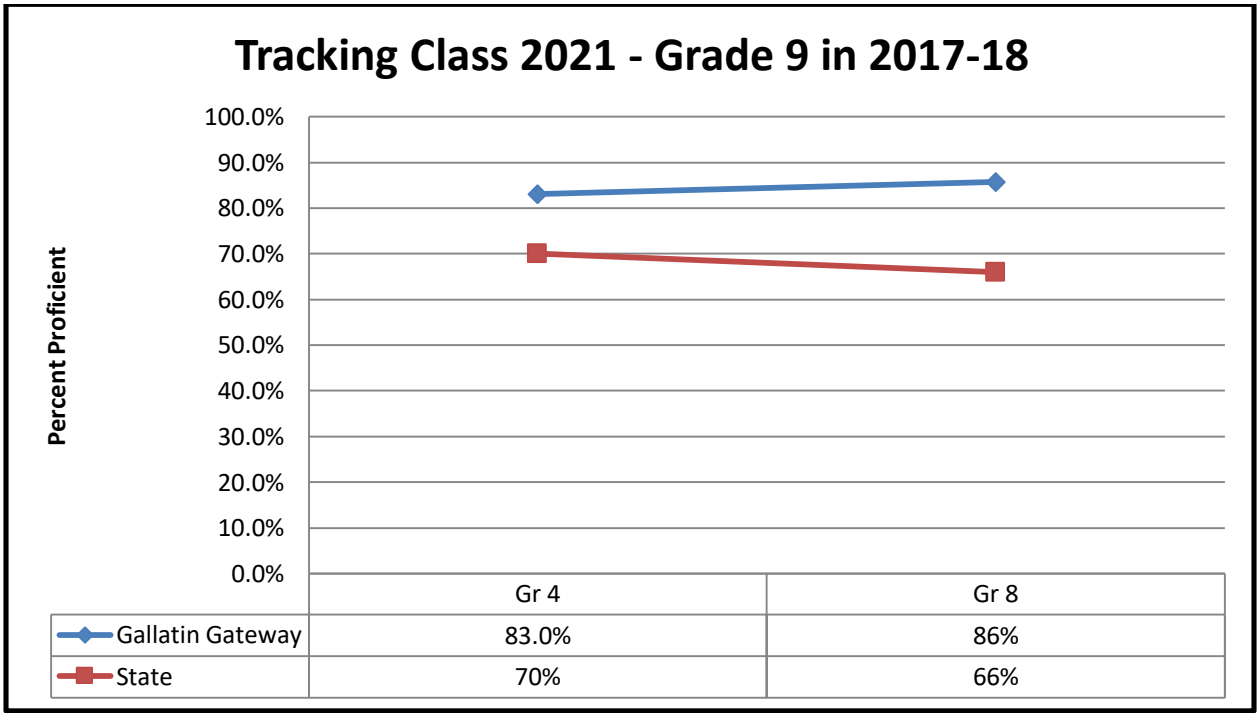
Class of 2020 - Tracking Results Each Year on the CRT

The following chart shows the results of the class of 2020 on the CRT Science test when they were in grades 4 & 8. These students increased the rate of proficiency from grade 4 to 8 and were well above the state results.



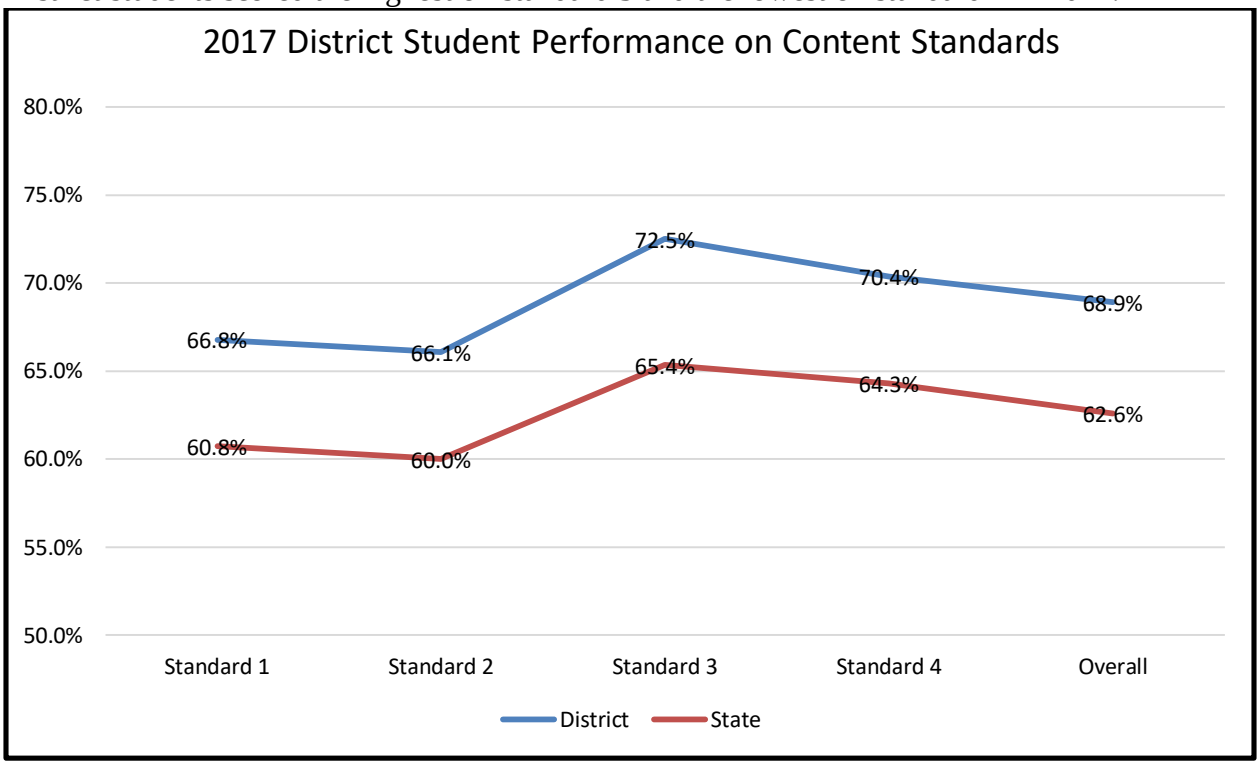
Class of 2021 - Tracking Results Each Year on the CRT

The following chart shows the results of the class of 2021 on the CRT Science test when they were in grades 4 & 8. The results show an increase in proficiency from grade 4 to grade 8 and the class was 20% above the state results.



Student Scoring on the Standards in 2017 Compared to the State

The chart below shows all district students compared to the state results on each standard. District students scored the highest on standard 3 and the lowest on standard 2 in 2017.



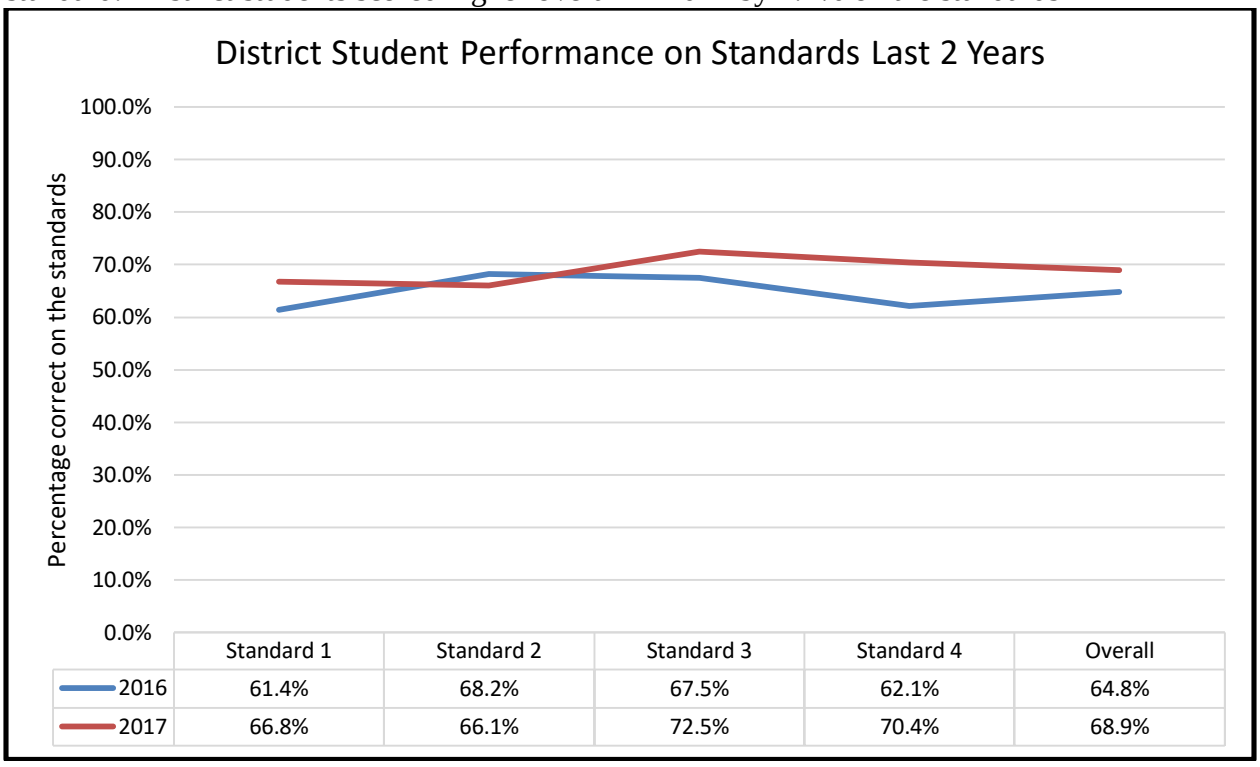
Results of All CRT Questions on each Montana Standard

The following chart shows district student results by each Montana Standard in science compared to the state wide results on each standard in 2017. The percentage of correct responses by all students on all questions related to that specific standard is represented in the chart.

Science Standard	Grade 4		Grade 8		Grade 10		All Grades	
	District	State	District	State	District	State	Total % District	Total % State
1	65.0%	62.9%	68.6%	58.6%	0.0%	57.9%	66.8%	60.8%
2	62.1%	60.7%	70.0%	59.3%	0.0%	47.7%	66.1%	60.0%
3	65.7%	59.3%	79.3%	71.4%	0.0%	57.9%	72.5%	65.4%
4	72.1%	65.7%	68.6%	62.9%	0.0%	59.3%	70.4%	64.3%

Student Scoring on the Standards Over the Last Two Years

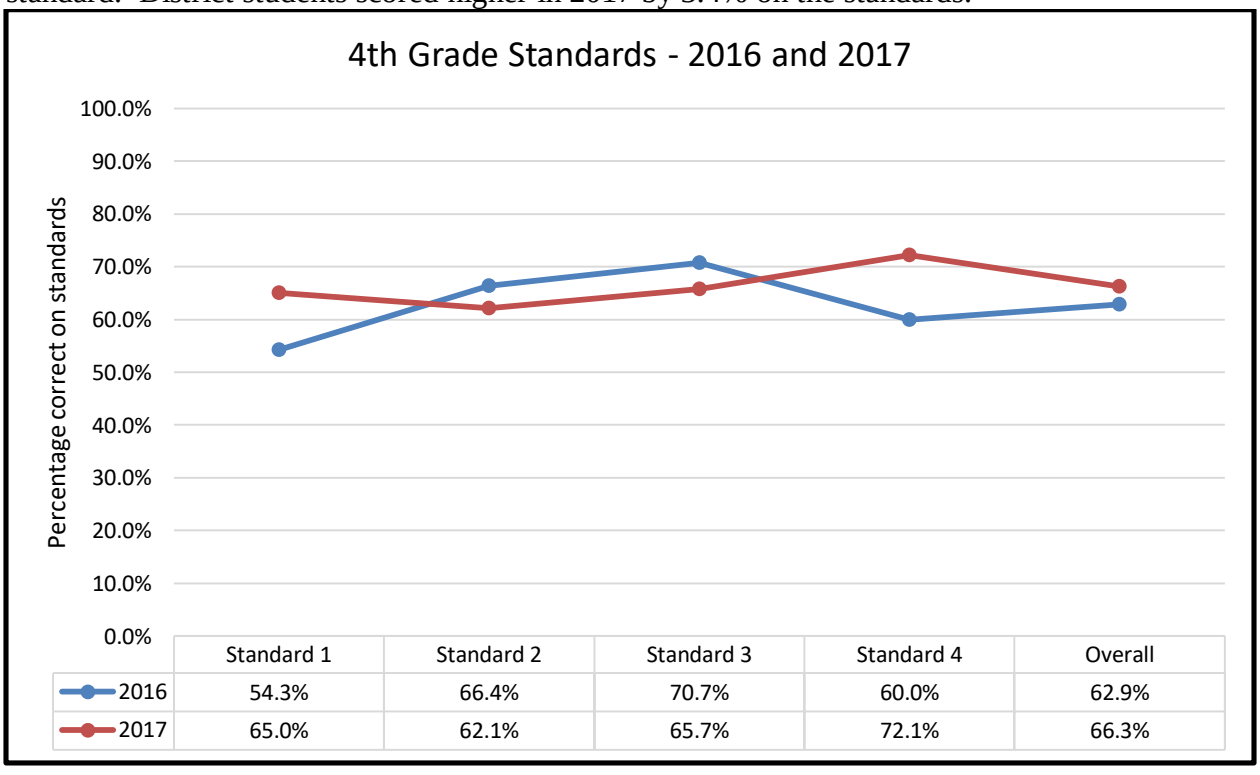
The chart below shows student scoring over the last two years on the science standards by standard. District students scored higher overall in 2017 by 4.1% on the standards



	Standard 1	Standard 2	Standard 3	Standard 4	Overall
2016	61.4%	68.2%	67.5%	62.1%	64.8%
2017	66.8%	66.1%	72.5%	70.4%	68.9%

Grade 4 Student Scoring on the Standards Over the Last Two Years

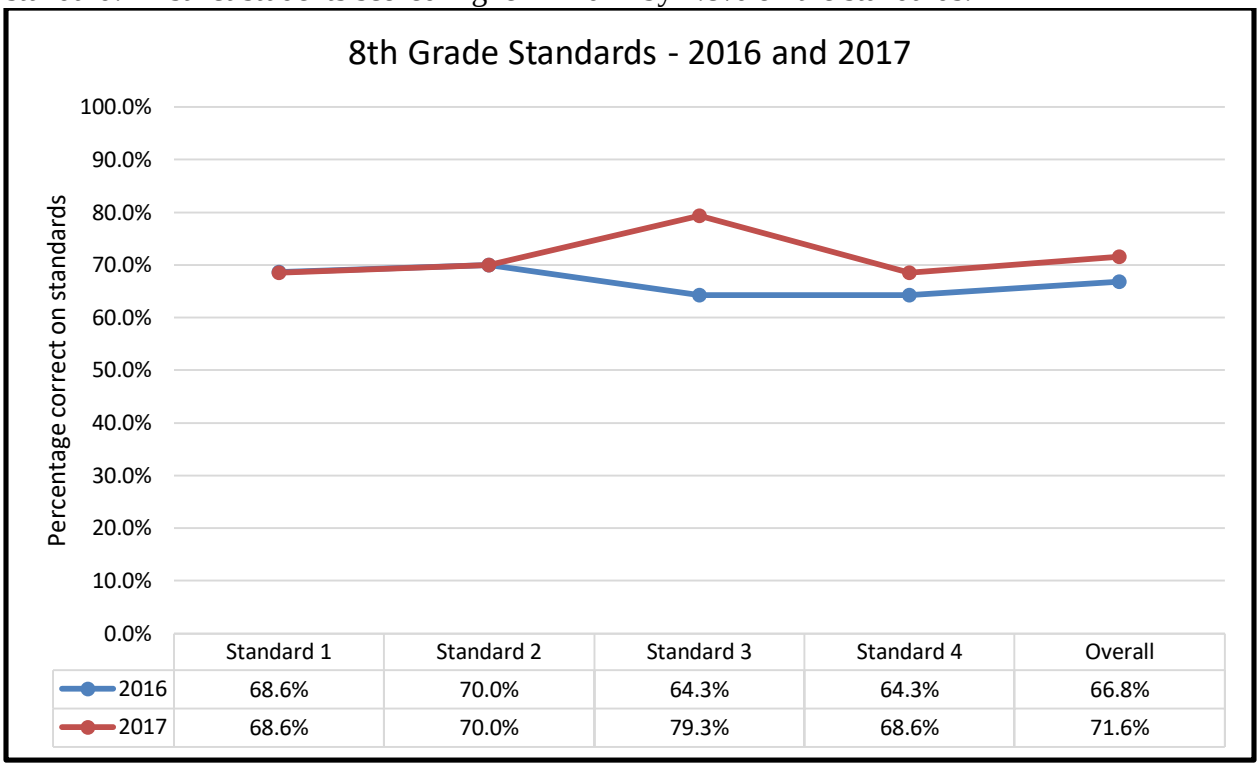
The chart below shows student scoring over the last two years on the science standards by standard. District students scored higher in 2017 by 3.4% on the standards.



	Standard 1	Standard 2	Standard 3	Standard 4	Overall
2016	54.3%	66.4%	70.7%	60.0%	62.9%
2017	65.0%	62.1%	65.7%	72.1%	66.3%

Grade 8 Student Scoring on the Standards Over the Last Two Years

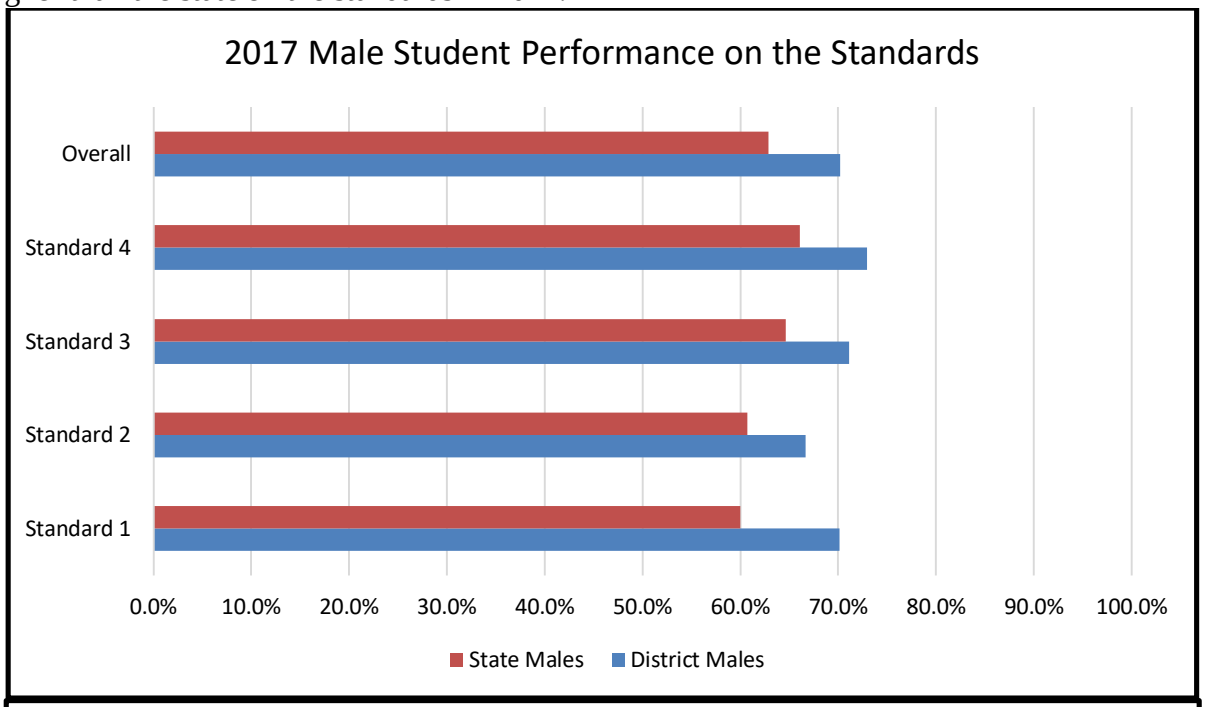
The chart below shows student scoring over the last two years on the science standards by standard. District students scored higher in 2017 by 4.8% on the standards.

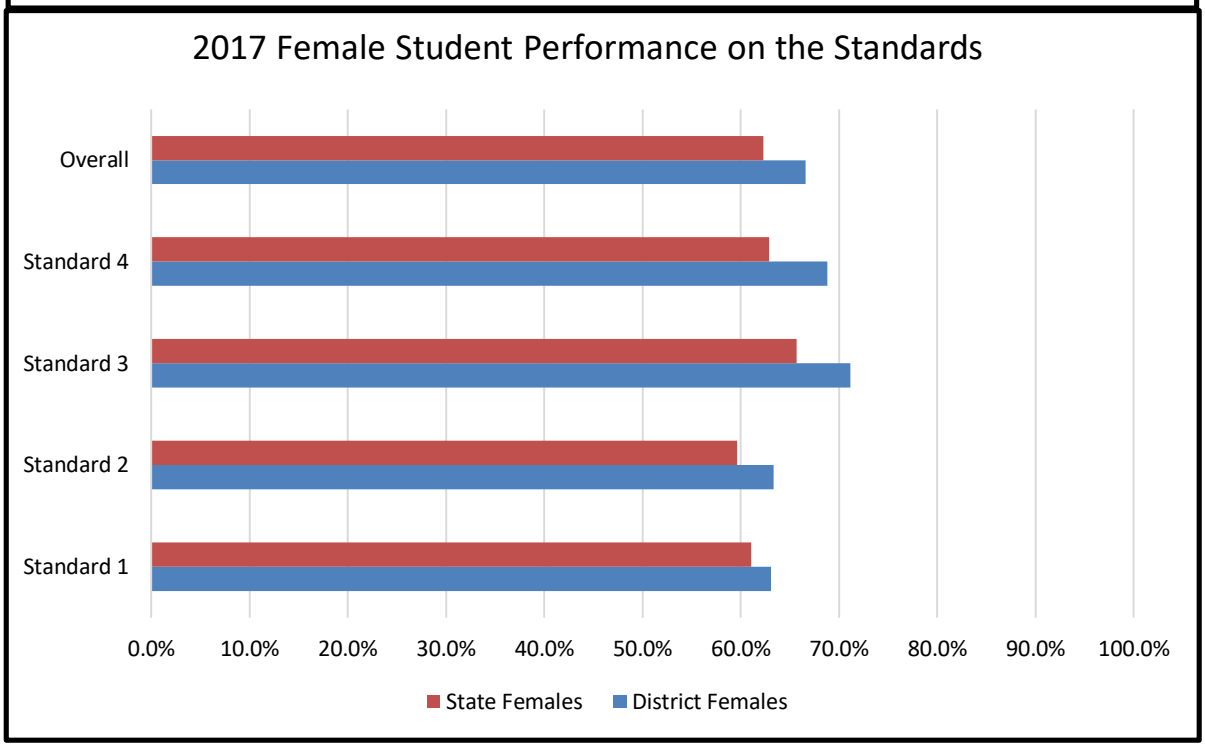


	Standard 1	Standard 2	Standard 3	Standard 4	Overall
2016	68.6%	70.0%	64.3%	64.3%	66.8%
2017	68.6%	70.0%	79.3%	68.6%	71.6%

Student Scoring on the Standards in 2017 by Gender

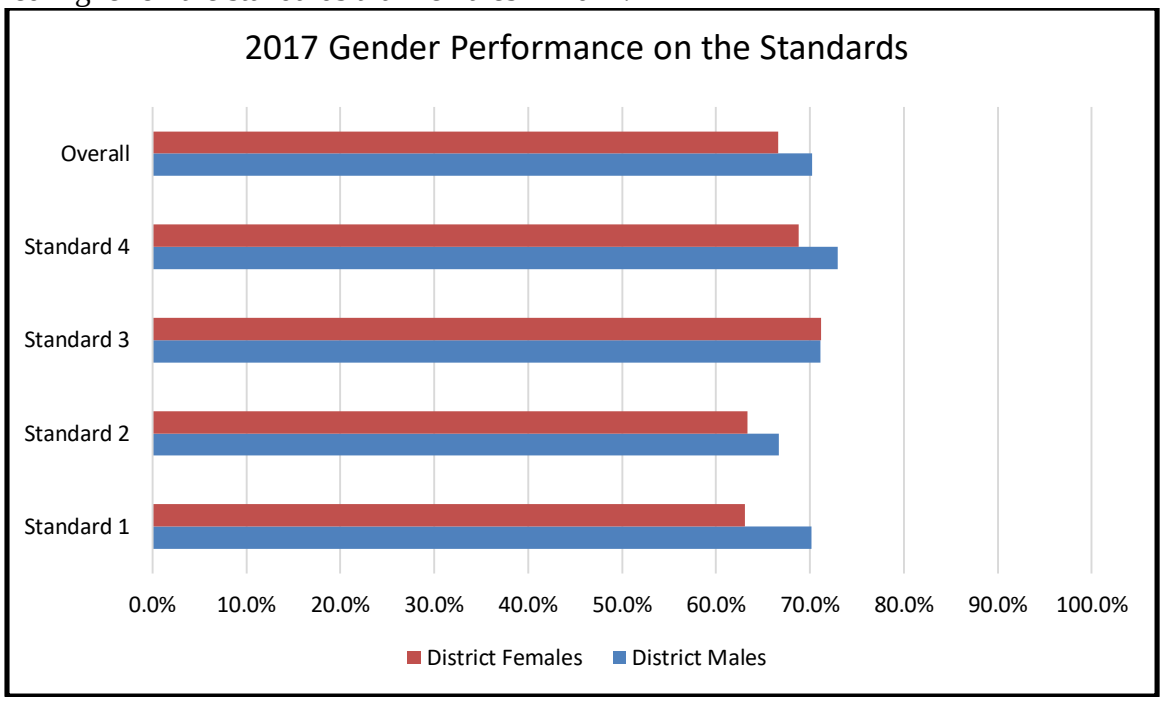
The charts below show all district students results on the standards by gender compared to the state. District males scored higher than the state in 2017 on the standards. Females scored higher than the state on the standards in 2017.





Student Scoring on the Standards in 2017 by Gender

The chart below shows all district students results on the standards compared by gender. Males scored higher on the standards than females in 2017.



All Student Results on Open Response Questions

The following charts show the percentage of the total points that students scored on open response questions for science in 2017 compared to the state results.

Standard Content Science Open Response Questions		All Grades 2017	
		District	State
Standard 2	*Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems.*	50.0%	41.3%
Standard 5	*Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.*	55.0%	37.5%
	Total results on all standards for science	52.5%	40.0%

Gender Results on Open Response Questions

The following charts show the percentage of the total points that students scored on open response questions for science in 2017 based on gender.

Standard Content Science Open Response Questions		All Grades 2017	
		Males	State
Standard 2	*Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems.*	47.5%	40.0%
Standard 5	*Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.*	62.5%	37.5%
	Total results on all standards for science	55.0%	39.2%

Standard Content Science Open Response Questions		All Grades 2017	
		Females	State
Standard 2	*Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems.*	50.0%	42.5%
Standard 5	*Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.*	45.0%	40.0%
	Total results on all standards for science	47.5%	41.7%

CRT Test Item Analysis

Measured Progress did not release any questions from the 2017 CRT Science test. Therefore, no highest and lowest questions on the standards can be listed this year.