

***Gallatin Gateway
School
District***

***Montana Criterion
Reference Test
Analysis***

June 2012

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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 3 – 8 for reading and math. In addition, the CRT Science test is given to grades 4 & 8.

The first section of this report provides a summary of analysis results obtained from the data listed throughout this document. In addition, the first section compares and lists the conclusions from the data analysis. The report then documents reading, math, and science CRT results for 2012 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. The next section provides the district with a year by year comparison of proficiency district wide in reading, math, and science along with an overall view of results on the CRT test over time. The next step in the analysis compares results for each grade level over the years that the test has been administered and follows that by tracking results for a class through each grade level where they took the test. The percentage of students achieving proficient and advanced is used as a base line when comparing trends in each grade level. Gallatin Gateway School District CRT results for 2012 are compiled for each Montana Reading, Math, and 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. The report analyzes open response questions for reading, math, and science for the all student groups in the district and subgroups of sufficient size to analyze the data. In addition, the report analyzes student results on individual questions from the CRT test comparing areas of district strength and weakness for reading, math, and science.

In addition, this year samples of Common Core questions were released and are included in the last section of this report. The questions related to the Common Core standards for Reading and Math were not used in the scoring this year, but will be used next year.

Summary of CRT Data Analysis Results

Reading

District students scored well above the state & district goal of 89.6% proficiency for reading with 95% of district student's proficient. The district proficiency was up 1% in 2012 from 2011. The elementary (grades 3-6) were up 1.5% from 93.2% in 2011 to 94.7% in 2012. The 7-8 school was down 1% proficient from 97.2% in 2011 to 96.2% in 2012. The district, elementary school, and 7-8 school met the state and district goal for proficiency in reading. It should be noted that the district has a fairly small enrollment and a change in the results for a couple of students can have an effect on the overall percentage of proficiency.

The district sub group of Title 1 students (all tested in the district) did meet the target of 89.6% proficient by scoring 91.6% proficient in reading in 2012. The district sub group of students with disabilities (all tested in the district) did not reach the goal by scoring 55.5% proficient in reading, which was the same as in 2011.

The data analysis results indicate that the district was 8% above the state profile in 2012 for reading with 95% proficiency compared to the state at 87%. The district scored higher than the state in all grades except 5th for reading. When all tested students in grades 3-8 are combined each year for the district from 2004 to 2012 the results show reading scores have increased 19% over the nine years and were up 1% this past year. Reading proficiency of Title 1 students is 91.6% compared to the all student group at 95%.

Student results compared to the Montana Standards for Reading shows that standard 4 was the highest scoring in reading for 2012 with 76.4% of all answers correct. The lowest scoring reading standard for 2012 was standard 1 with 71.5% of all answers correct. Measured progress did not release any open response questions in 2012 for reading which did not allow an analysis of these questions this year.

Overall conclusions show that district students are well above the adjusted state target of 89.6% proficiency and the state profile for reading. All tested students in the district were 95% proficient in reading up 1% from 2011 and 8% above the state profile. In addition, Title 1 students scored 91.6% proficient in reading. Results of the analysis showing the standards scoring the lowest for reading indicate that students find standard 1 type questions the most difficult and scored the highest on standard 4 questions in 2012.

The data analysis listed above shows that the district plan of action is demonstrating progress toward meeting the reading goal. The data analysis shows that the district is making progress in reading proficiency as shown by the 19% increase in student proficiency over the last nine years and the extremely high reading proficiency in the district.

Math

District students scored above the state & district goal of 80% proficiency for math with 81% of district student's proficient. The district proficiency was up 1% in 2012 from 2011. The elementary (grades 3-6) were up 3.2% from 79.5% in 2011 to 82.7% in 2012. The 7-8 school was down 3.7% proficient from 80.6% in 2011 to 76.9% in 2012. The district and elementary school met the state and district goal for proficiency in math. It should be noted that the district has a fairly small enrollment and a change in the results for a couple of students can have a dramatic effect on the overall percentage of proficiency.

The district sub group of Title 1 students (all tested in the district) did not meet the target of 80% proficient by scoring 56.2% proficient in math in 2012. The district sub group of students with disabilities (all tested in the district) did not reach the goal by scoring 22.2% proficient in math which was up 11% in 2012.

The data analysis results indicate that the district was 13% above the state profile in 2012 for math with 81% proficiency compared to the state at 68%. The district did score higher than the state in all grades for math. When all tested students in grades 3-8 are combined each year for the district from 2004 to 2012 the results show math scores have increased 5% over the nine years and were up 1% this past year. Math proficiency of Title 1 students is 56.2% compared to the all student group at 81%.

Student results compared to the Montana Standards for Math shows that standard 3 was the highest scoring in math for 2012 with 71.4% of all answers correct. The lowest scoring math standard for 2012 was standard 2 with 63.7% of all answers correct. Students improved their scores on open response type questions in 2012 scoring 63.3% of the total points in math compared to 59.7% in 2011. The all student group scored the highest on standard 2 open response items in math with 70% of the points and the lowest on standard 4 with 52.5%. Title 1 students scored lower than the all student group on open response questions with 52.2% in math. Title 1 students scored the highest on standard 3 in math with 57.1% of the points and the lowest on standard 7 at 45.7%.

Overall conclusions show that district students are above the adjusted state target of 80% proficiency and well above the state profile for math. All tested students in the district were 81% proficient in math up 1% from 2011 and 13% above the state profile. In addition, Title 1 students scored 56.2% proficient in math. Results of the analysis showing the standards scoring the lowest for math indicate that students find standard 2 type questions the most difficult and scored the highest on standard 3 questions in 2012.

The data analysis listed above shows that the district plan of action is demonstrating progress toward meeting the math goal. The data analysis shows that the district is making progress in math proficiency as shown by the 5% increase in student proficiency over the last nine years and the high math proficiency in the district.

Science

The district scored 84% proficient in science (all tested students in grades 4 & 8) on the CRT test in 2012 compared to 88% proficient in 2011. Grade 4 district students scored 88% proficient compared to 68% state wide. Grade 8 students scored 81% proficient compared to 67% state wide. Overall the district was 16% above the state wide proficiency rate of 68% in 2012.

The district sub group of students with disabilities (all tested in the district) scored 50% proficient in science which was up 50% in 2012.

The data analysis results indicate that the district was 16% above the state profile in 2012 for science with 84% proficiency compared to the state at 68%. The district scored higher than the state in grades 4 & 8 for science. When all tested students in grades 3-8 are combined each year for the district from 2008 to 2012 the results show science scores were 3% higher in 2012.

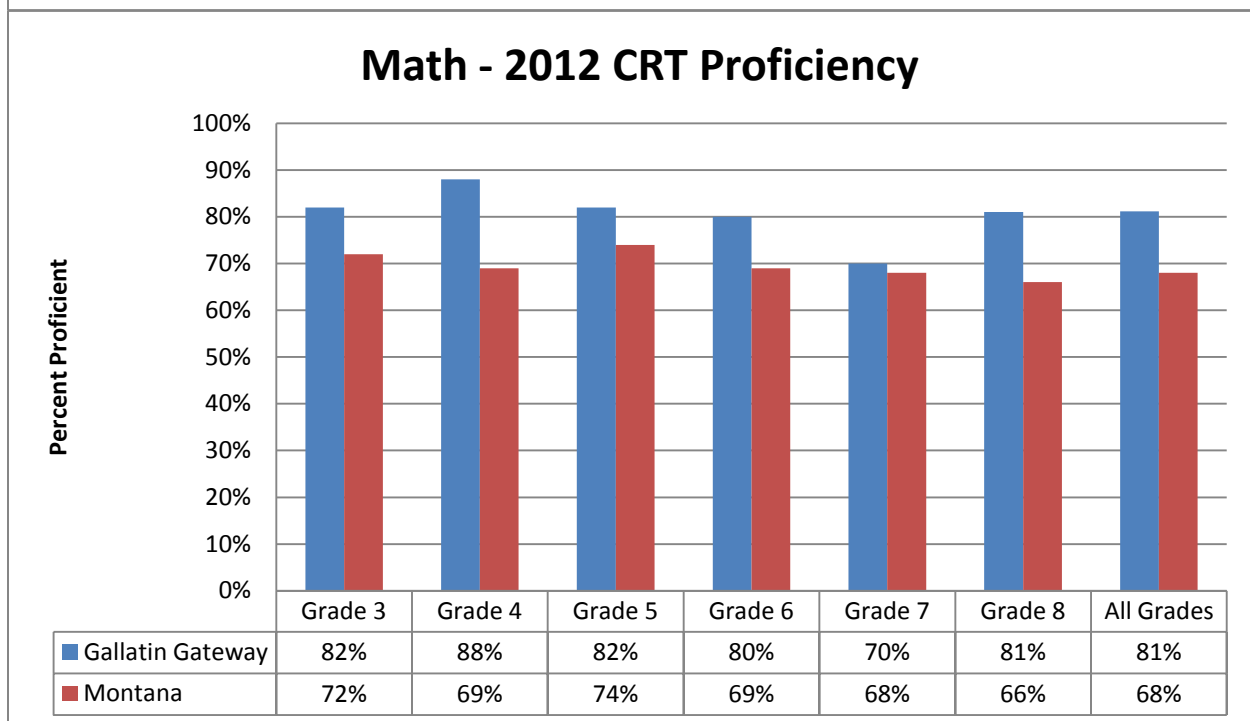
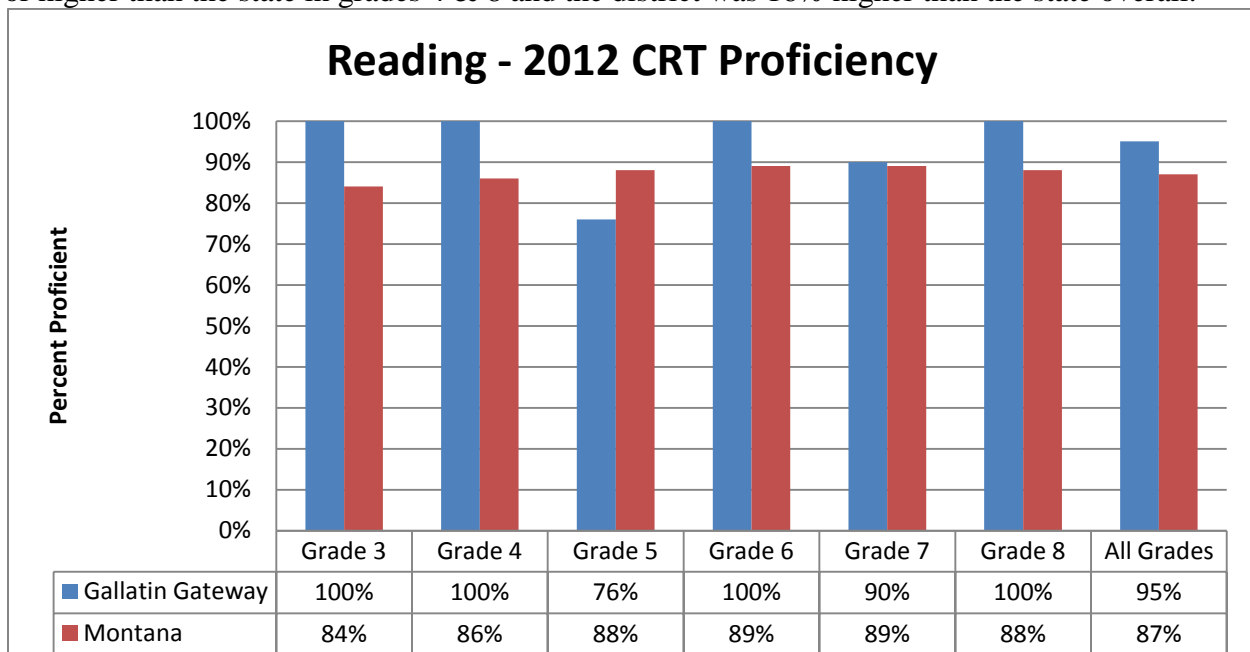
Student results compared to the Montana Standards for Science shows that standard 2 was the highest scoring in science for 2012 with 80% of all answers correct. The lowest scoring science standard for 2012 was standard 4 with 60.4% of all answers correct. Student scores on open response type questions in 2012 dropped from 68.8% of the total points in science for 2011 compared to 58.8% in 2012. The all student group scored the highest on standard 3 open response items in science with 58.8%.

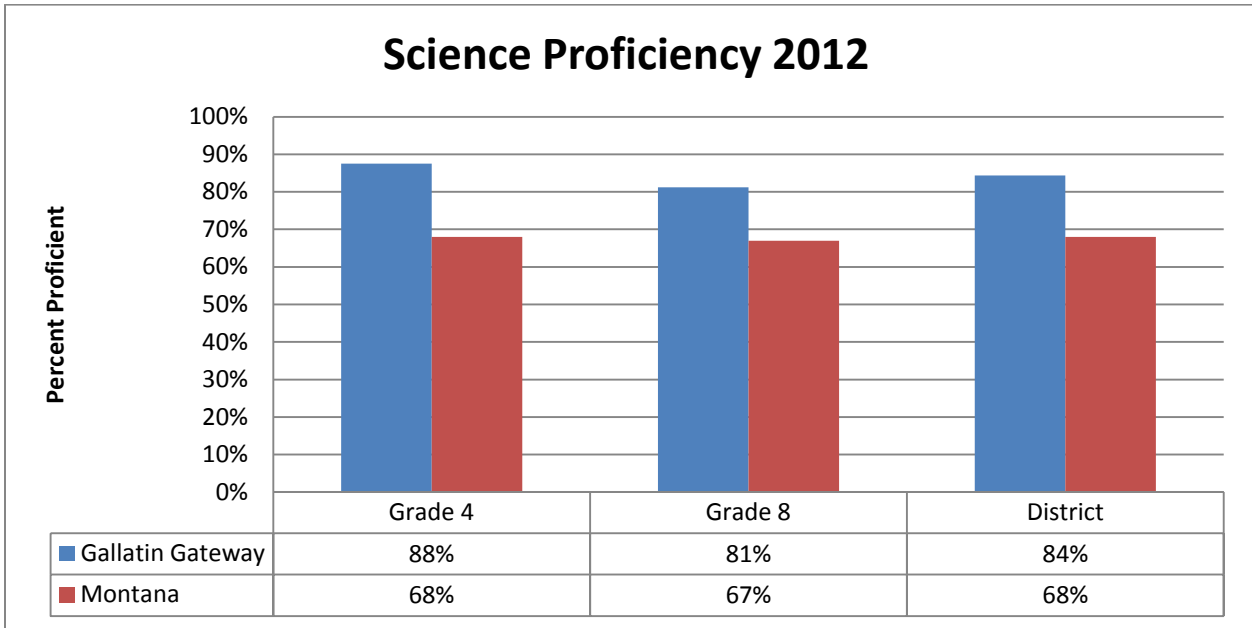
Overall conclusions show that district students are well above the state profile for science. All tested students in the district were 84% proficient in science down 4% from 2011 and 16% above the state profile. Results of the analysis showing the standards scoring the lowest for science indicate that students find standard 4 type questions the most difficult and scored the highest on standard 2 questions in 2012.

CRT Test Results

Reading, Math, and Science Proficiency Compared to Montana

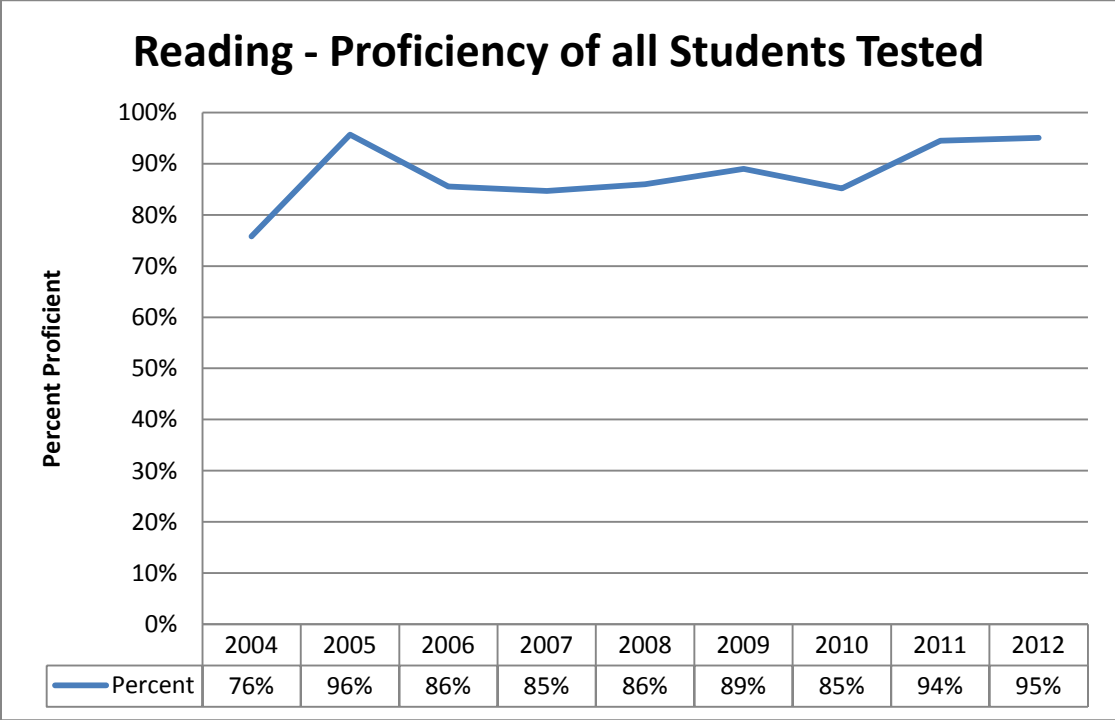
The following charts show the percent of proficient and advanced students in the district in 2012 compared to the same group in Montana. The results indicate that Gallatin Gateway was at or higher than the state profile in 2012 for reading in all grades except 5th. The district was well above the overall state profile by 8% in reading. Math results were at or higher than the state in all grades. The district was well above the state overall by 13% in math. Science results were at or higher than the state in grades 4 & 8 and the district was 16% higher than the state overall.



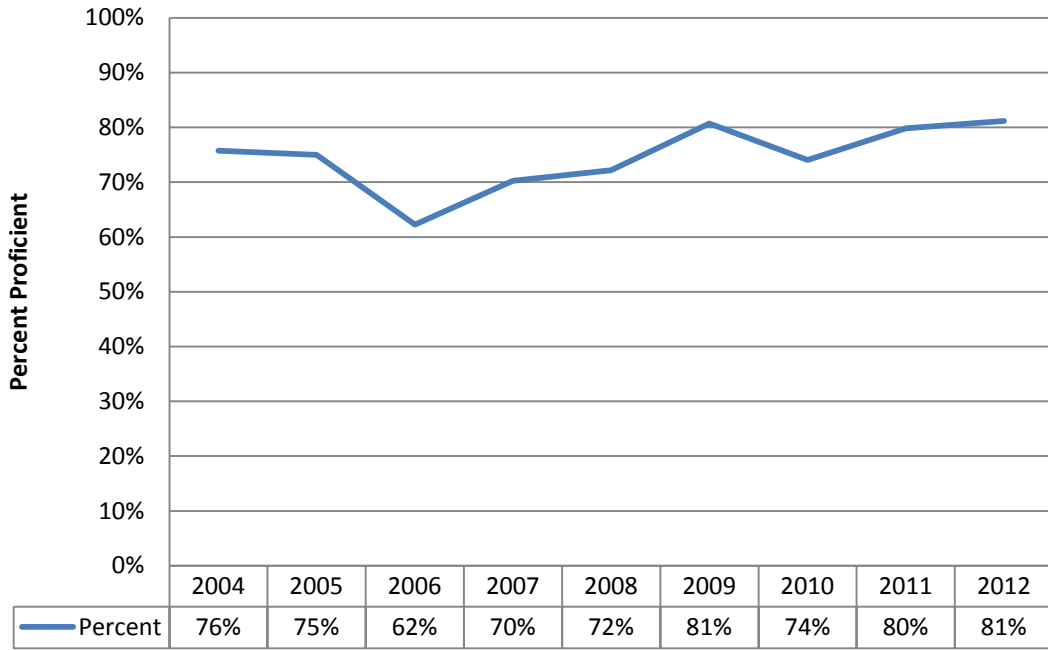


Proficiency of All Students Tested Each Year

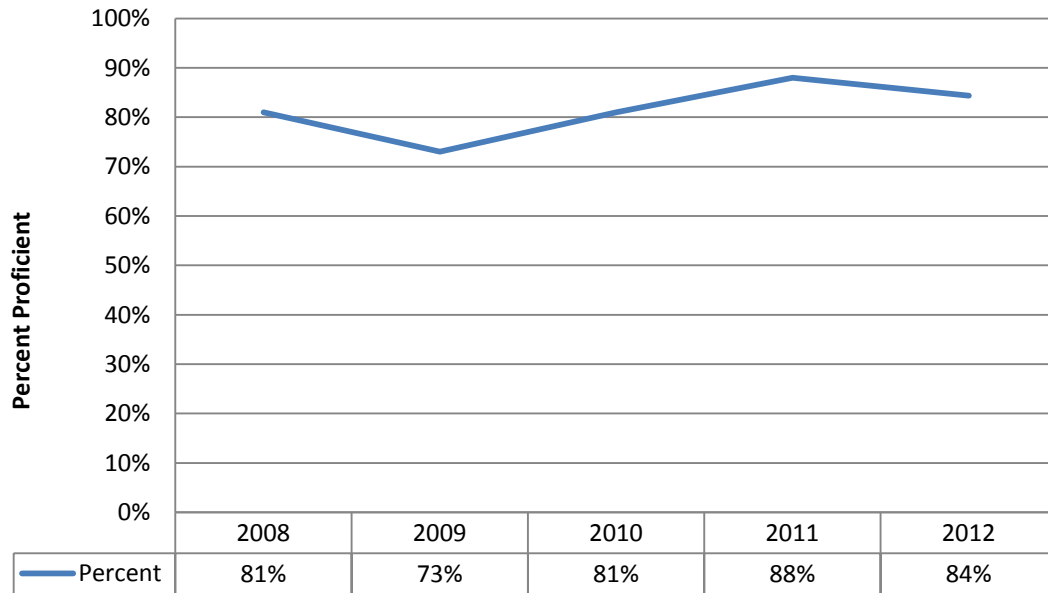
The following charts show the proficiency of all students tested each year from 2004 through 2012 in the district. Reading proficiency has shown very good improvement over the last nine years (up 19%). Reading proficiency was up 1% in 2012 from 2011. Math proficiency has risen 5% the last nine years and was up 1% in 2012. Science proficiency was down 4% in 2012.



Math - Proficiency of all Students Tested

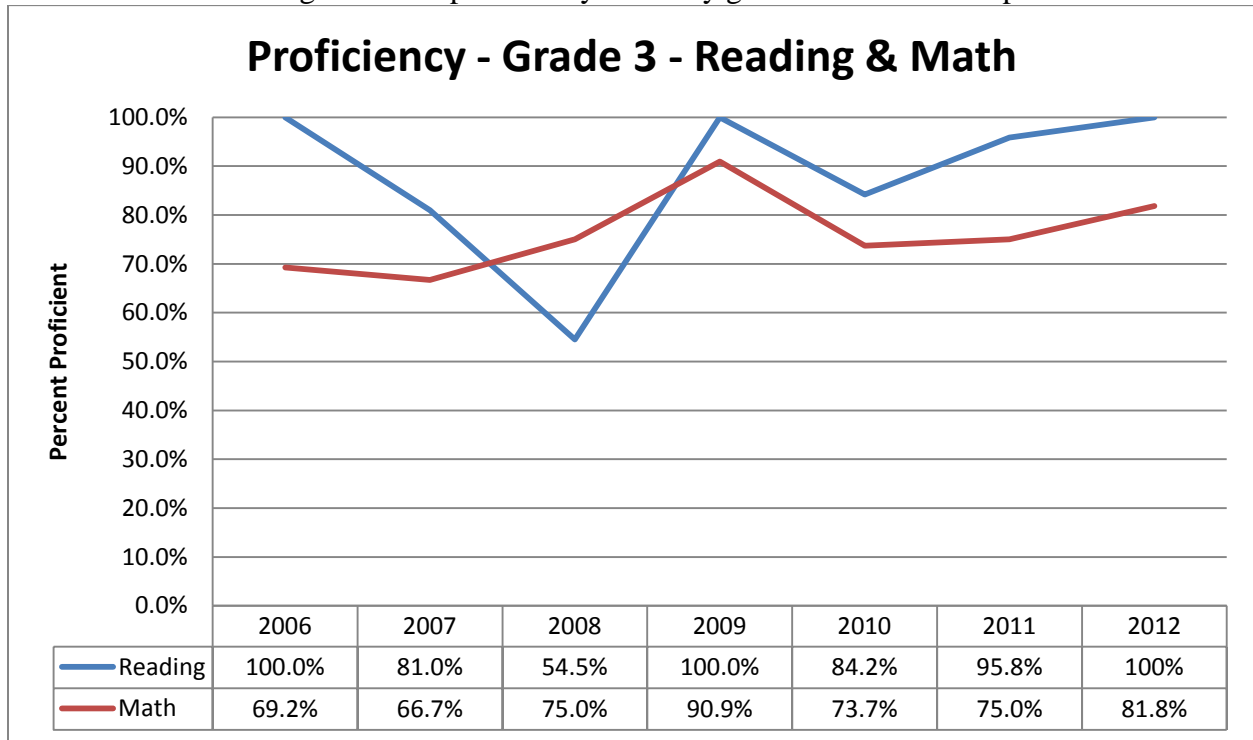


Science - Proficiency of all Students Tested



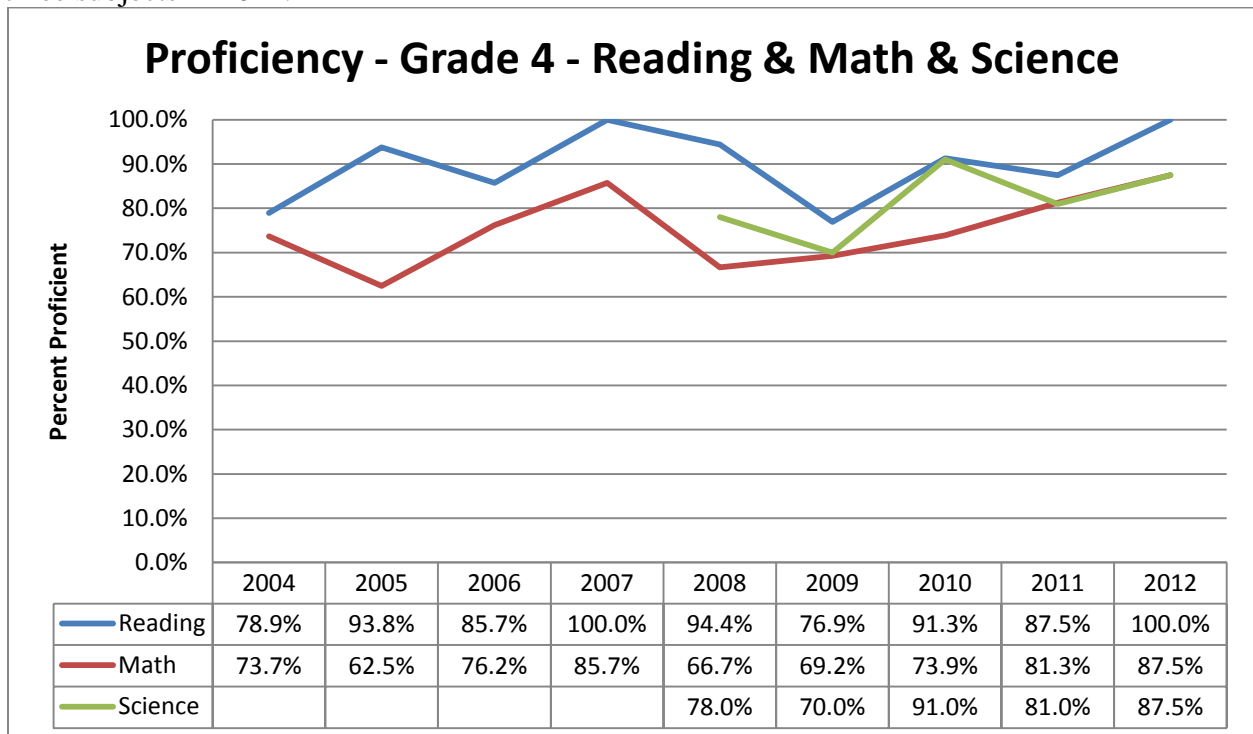
3rd Grade CRT Results

The following chart shows 3rd grade reading and math CRT results from 2006 to 2012. The chart shows that reading and math proficiency was very good and continued up in 2012.



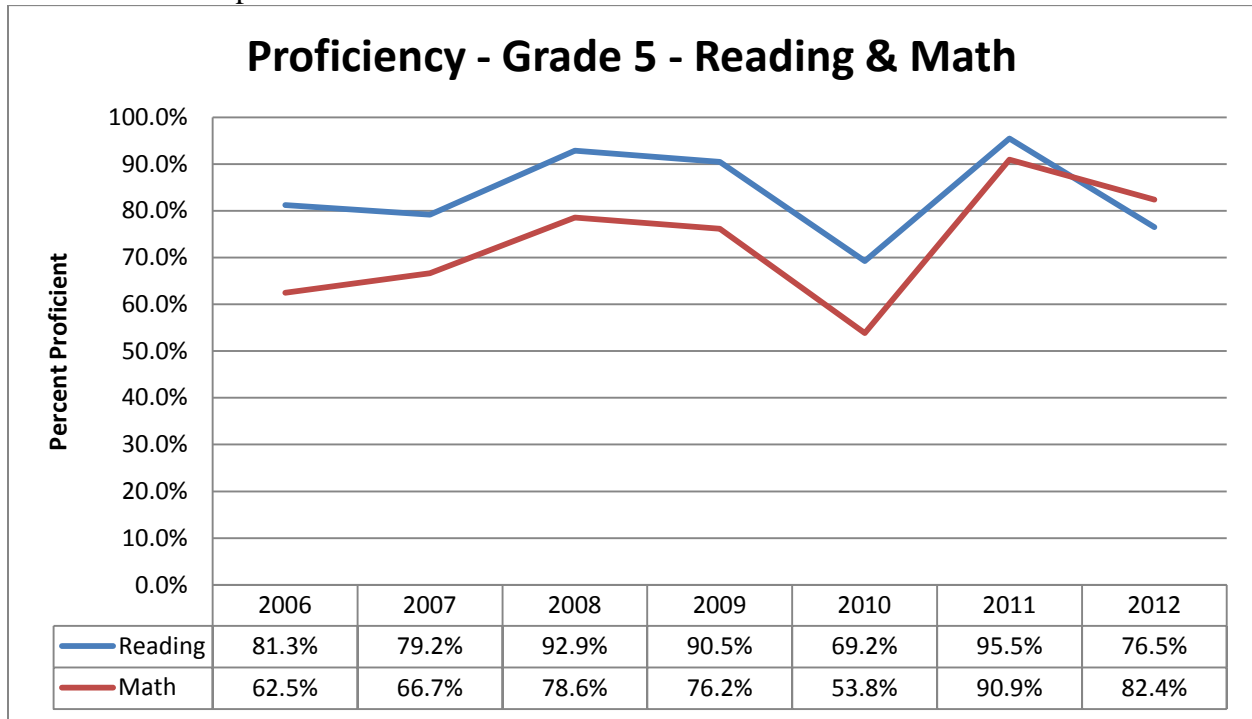
4th Grade CRT Results

Gallatin Gateway 4th grade students demonstrated a significant increase in proficiency for all three subjects in 2012.



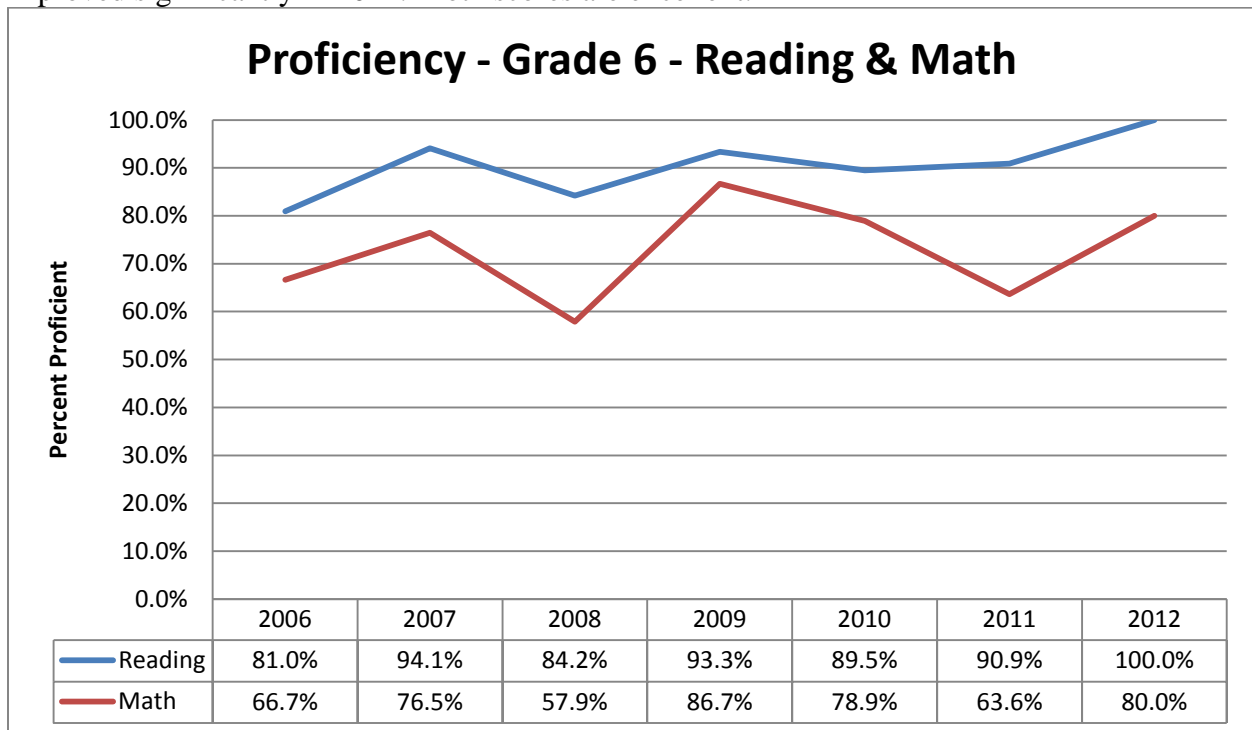
5th Grade CRT Results

The following chart shows 5th grade reading and math CRT results from 2006 to 2012. The results show a drop in scores in 2012.



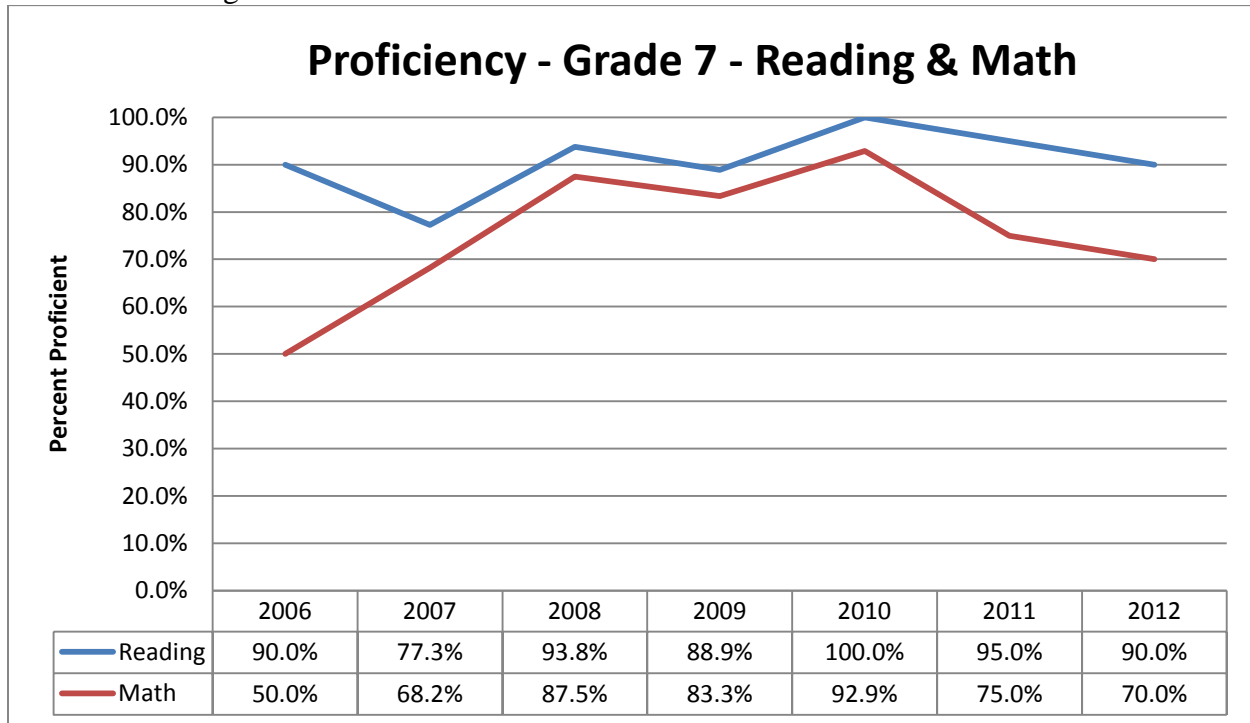
6th Grade CRT Results

The following chart shows 6th grade scores in reading and math. The results for math have improved significantly in 2012. Both scores are excellent.



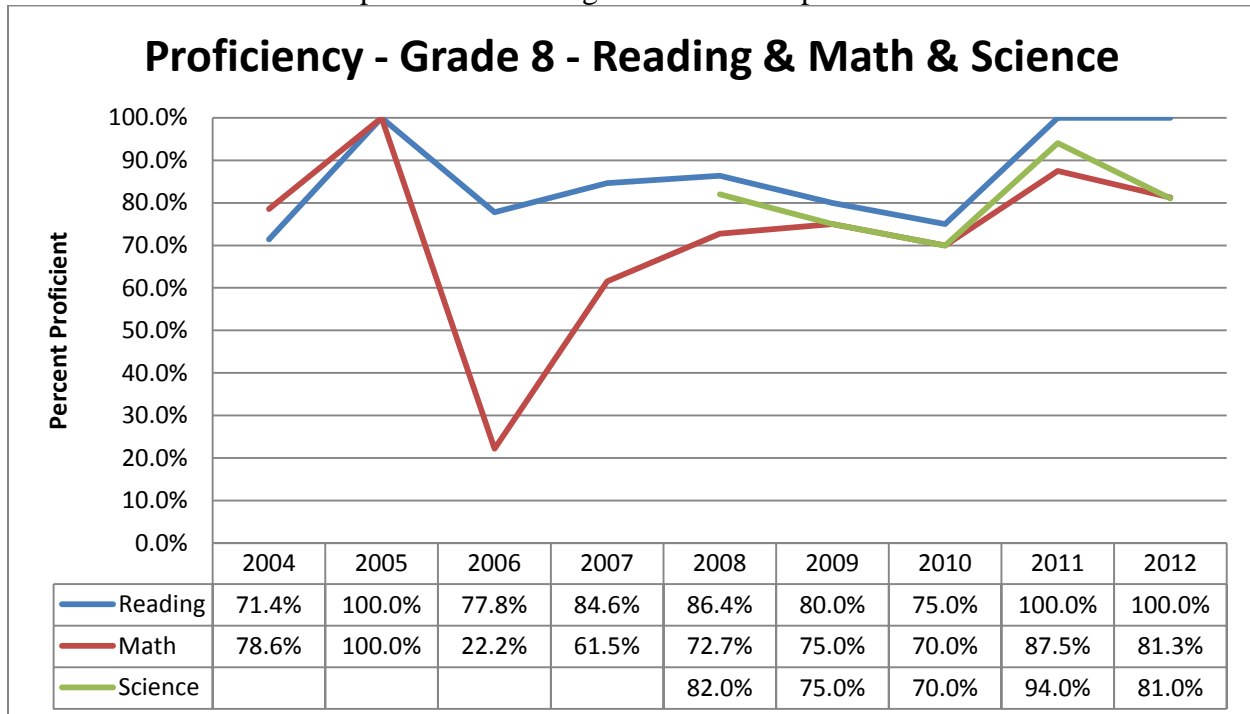
7th Grade CRT Results

The following chart shows 7th grade reading and math CRT results from 2006 to 2012. The results show a slight decrease in scores in 2012.



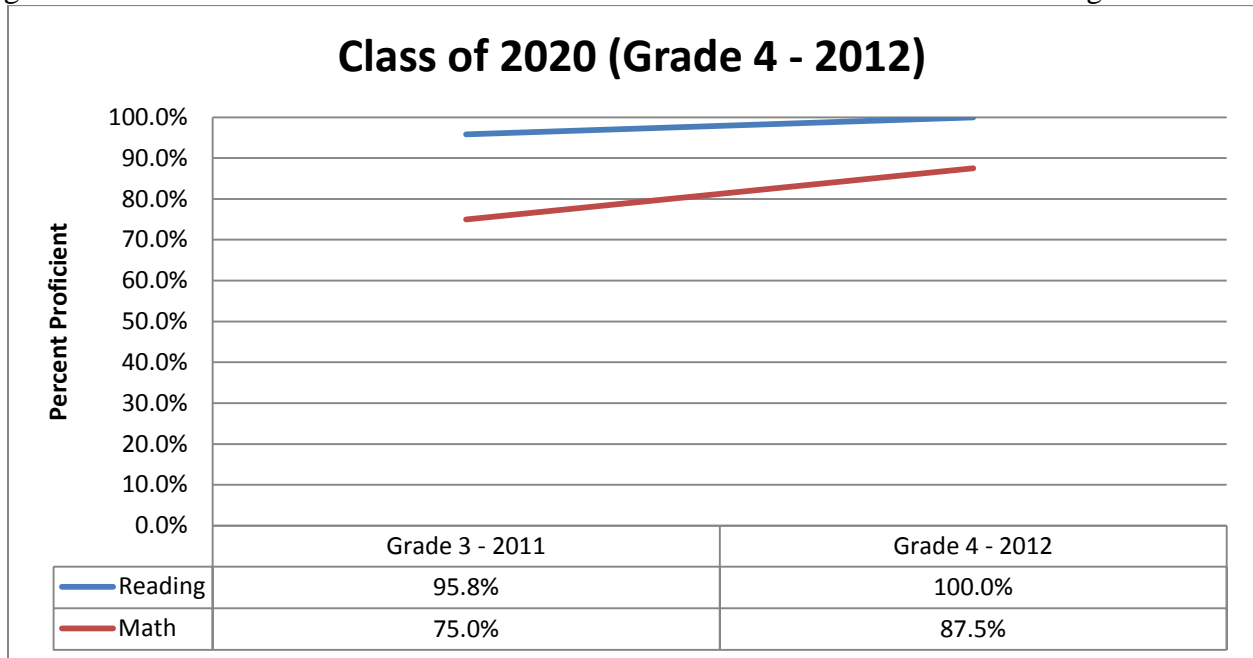
8th Grade CRT Results

The following chart shows 8th grade reading, math, and science CRT results from 2004 through 2012. The 2012 results are perfect for reading and show a drop in math and science in 2012.



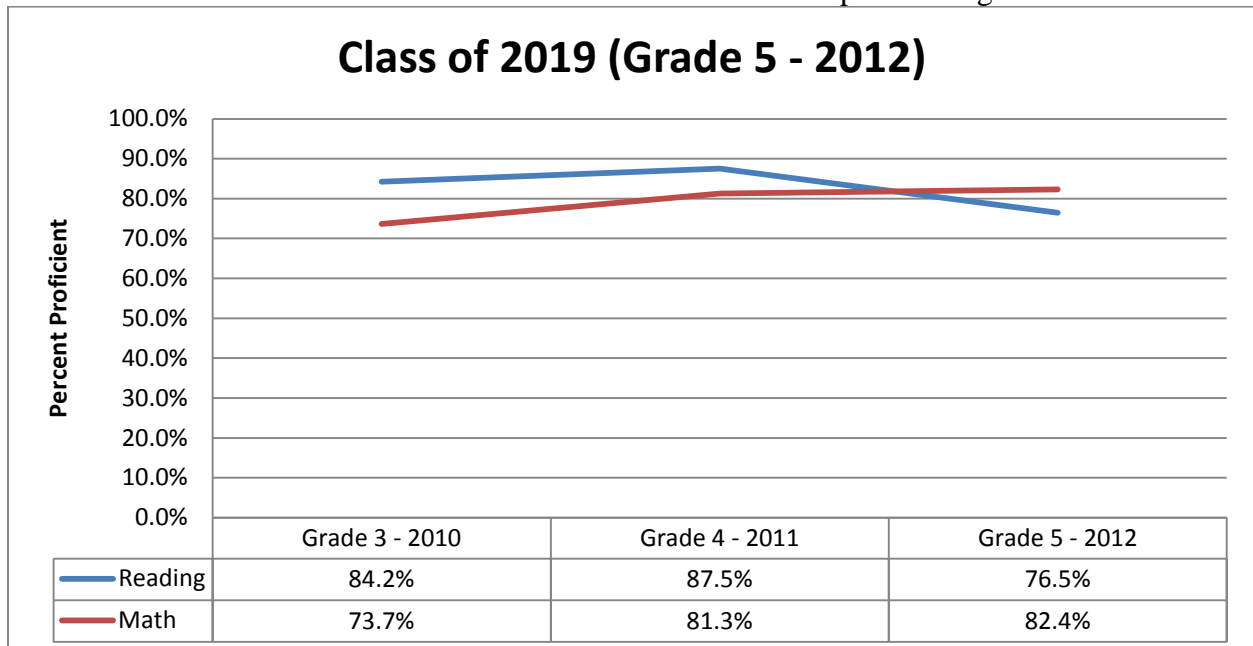
Fourth Grade - Tracking Results Each Year on the CRT

The following chart shows the results of the 4th grade class in 2012 and when they were in 3rd grade in 2011. The results show excellent increases for this class in math and reading.



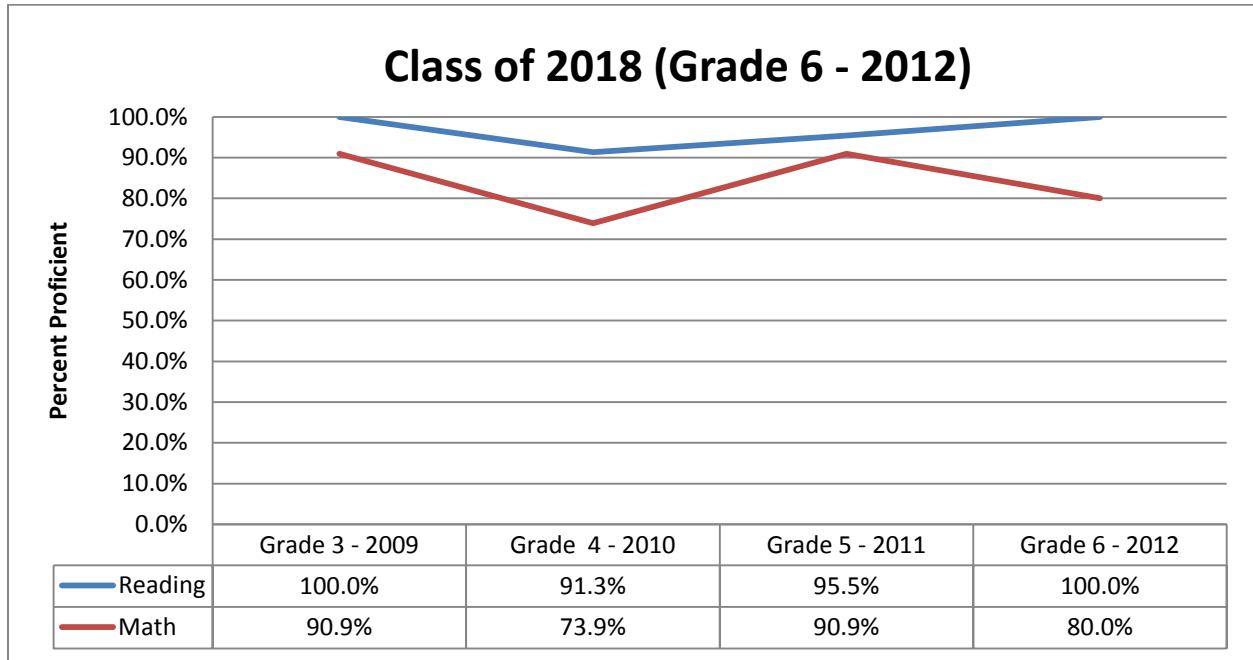
Fifth Grade - Tracking Results Each Year on the CRT

The following chart shows the results of the 5th grade class in 2012 and when they were in grades 3 and 4. The results show a continued increase in math and a drop in reading.



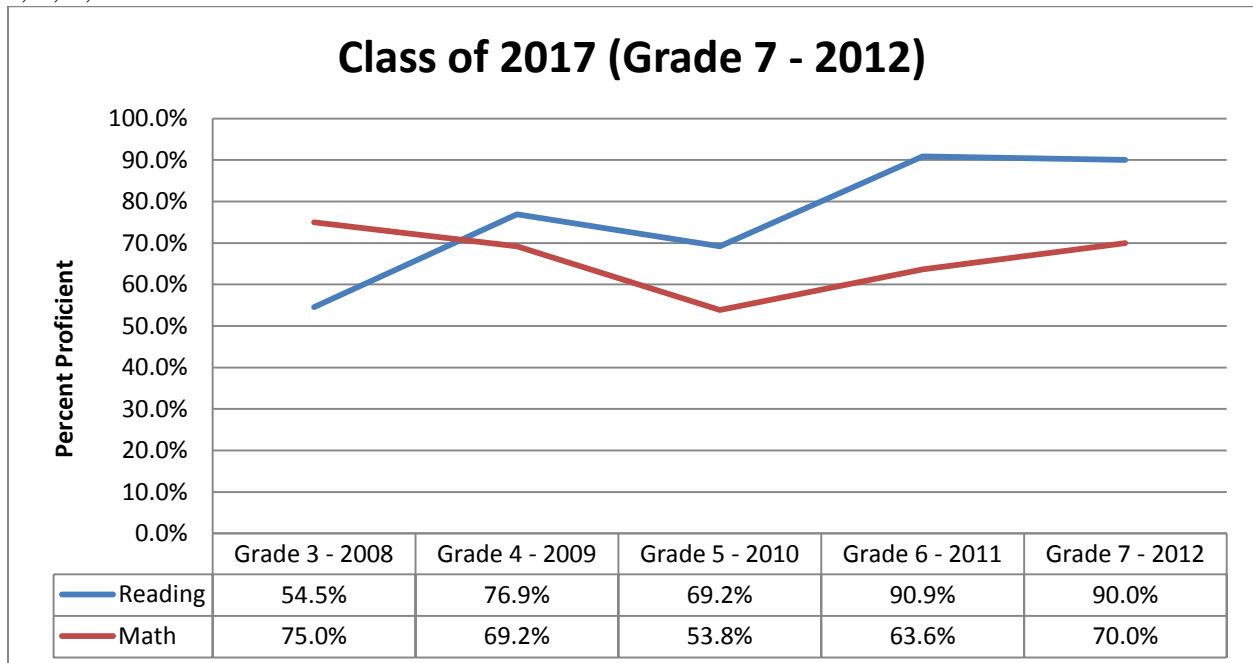
Sixth Grade - Tracking Results Each Year on the CRT

The following chart shows the results of the 6th grade class in 2012 and when they were in grades 3, 4, and 5. The results show this class has shown improvement in reading proficiency on the CRT test over the last three years. Math scores dropped slightly in 2012, but remain good for this class.



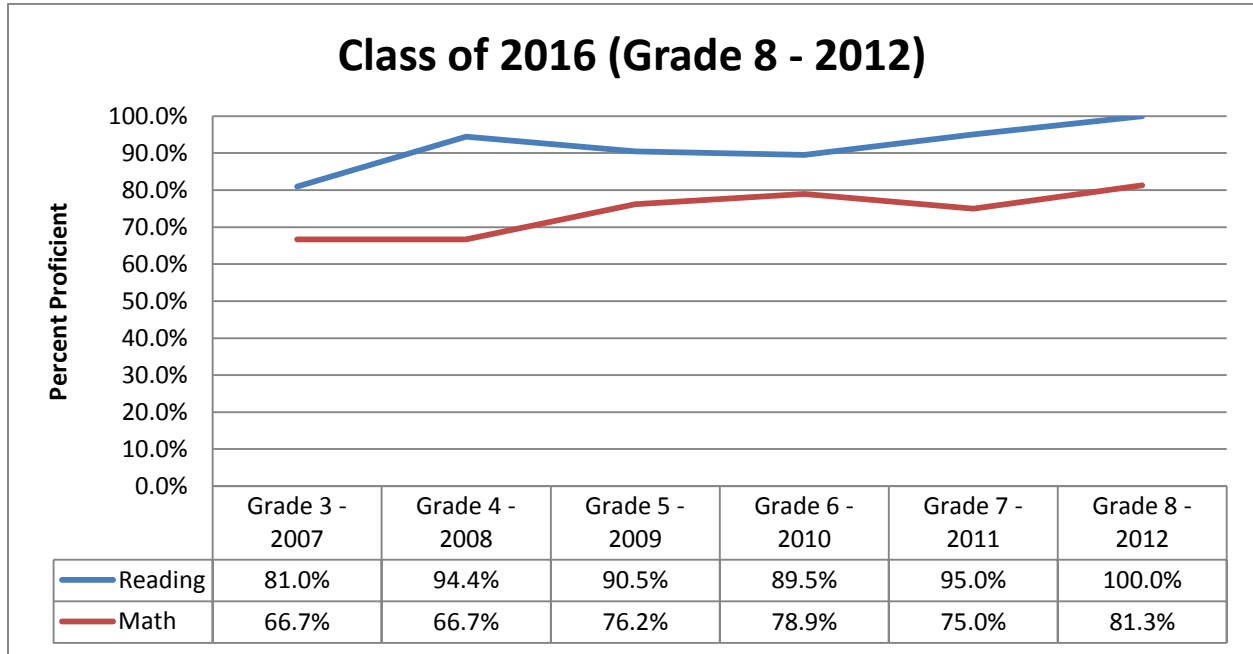
Seventh Grade - Tracking Results Each Year on the CRT

The following charts show the results of the 7th grade class in 2012 and when they were in grades 3, 4, 5, and 6. The results show an increase for math in 2012.



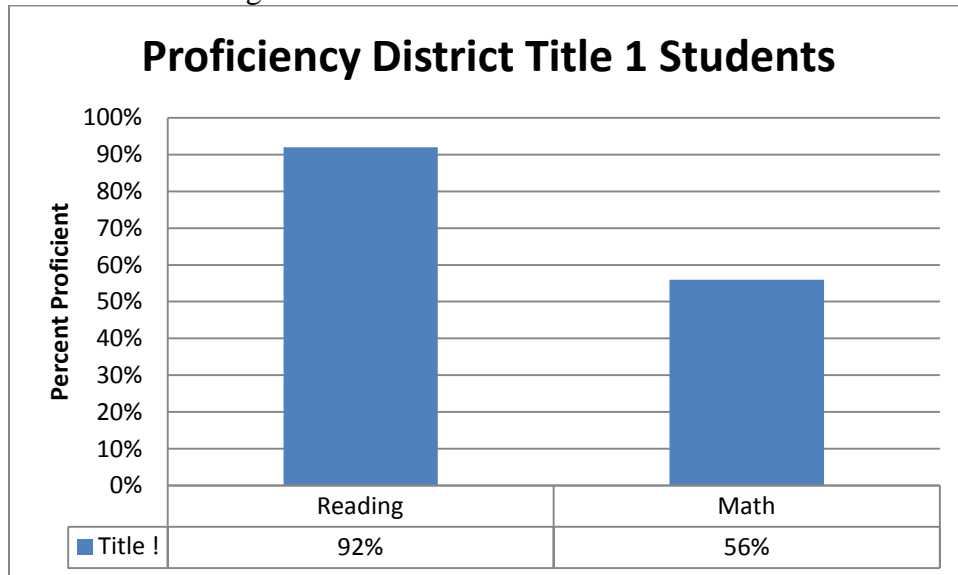
Eighth Grade - Tracking Results Each Year on the CRT

The following chart shows the results of the 8th grade class in 2012 and when they were in grades 3, 4, 5, 6, and 7. The results show an increase for both reading and math in 2012 for these students.



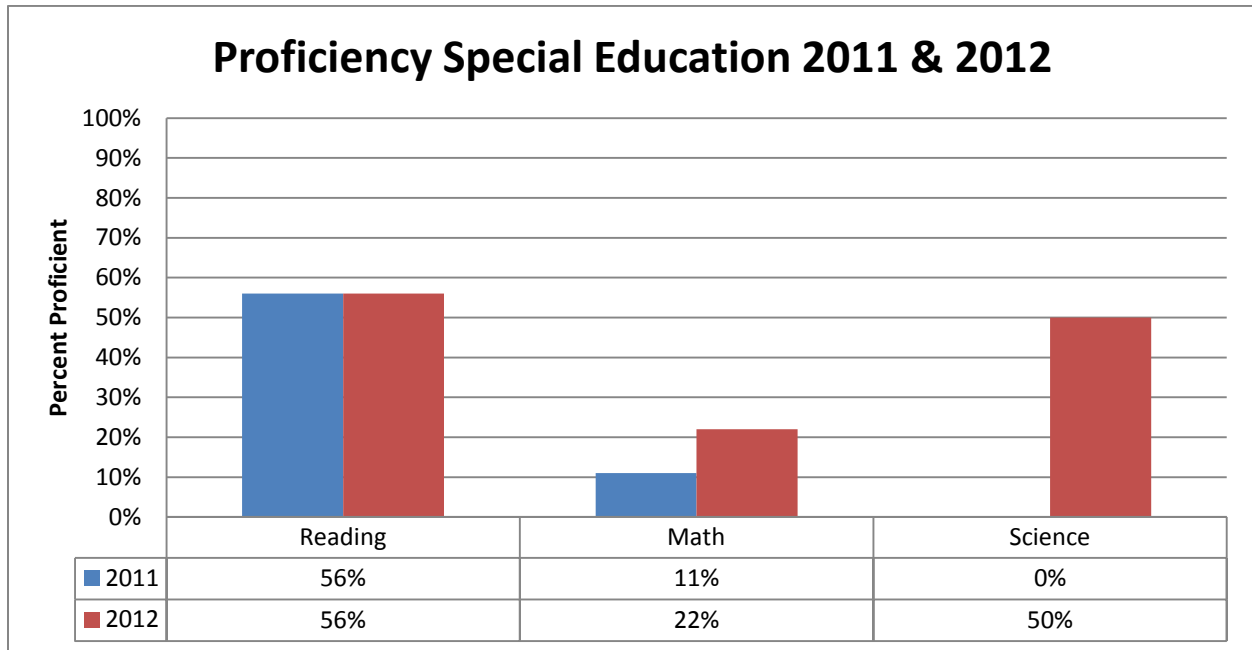
Title One Student Results for 2012

The following chart shows the result of Title 1 students for reading, math, and science. Title 1 students scored 92% proficient in reading and math proficiency was 56% in 2012. These results are for all Title 1 students' in grades 3-8.



Special Education Proficiency in 2011 & 2012

The following chart shows the result of special education students for reading, math, and science in 2011 & 2012 on the CRT test. Special education students improved proficiency in math and science from 2011 to 2012.



Overall District Comparisons for Standards

The chart below shows the specific grade levels and the highest and lowest performing standards by district students in reading, math, and science.

| District CRT Test Results Compared to the Montana Standards | | | | | | |
|---|-------------------------------|------------------------------|----------------------------|---------------------------|-------------------------------|------------------------------|
| | Reading | | Math | | Science | |
| Grade | Highest Reading Standard 2012 | Lowest Reading Standard 2012 | Highest Math Standard 2012 | Lowest Math Standard 2012 | Highest Science Standard 2012 | Lowest Science Standard 2012 |
| 3 | 1 | 4 | 7 | 4 | NA | |
| 4 | 2 | 5 | 6 | 5 | 2 | 4 |
| 5 | 4 | 5 | 4 | 7 | NA | |
| 6 | 4 | 1 | 7 | 2 | NA | |
| 7 | 4 | 5 | 7 | 6 | NA | |
| 8 | 5 | 1 | 3 | 6 | 2 | 4 |
| All Grades | 4 | 1 | 3 | 2 | 2 | 4 |

Results of All CRT Questions on each Montana Standard

The following charts show district student results by each Montana Standard in reading, math, and science compared to the state wide results on each standard in 2012. The percentage of correct responses by all students on all questions related to that specific standard is represented in the chart.

| Reading Standard | Grade 3 | | Grade 4 | | Grade 5 | | Grade 6 | |
|------------------|----------|-------|----------|-------|----------|-------|----------|-------|
| | District | State | District | State | District | State | District | State |
| 1 | 74.1% | 58.3% | 72.6% | 63.1% | 70.0% | 70.0% | 71.4% | 61.9% |
| 2 | 72.5% | 68.8% | 80.0% | 72.2% | 71.9% | 66.6% | 78.9% | 68.4% |
| 4 | 66.2% | 61.5% | 75.5% | 63.6% | 73.3% | 77.7% | 83.3% | 77.7% |
| 5 | 71.1% | 66.6% | 69.2% | 58.3% | 67.0% | 70.0% | 80.9% | 72.7% |

| Reading Standard | Grade 7 | | Grade 8 | | All Grades |
|------------------|----------|-------|----------|-------|------------------|
| | District | State | District | State | Total Percentage |
| 1 | 75.8% | 68.4% | 64.8% | 61.9% | 71.5% |
| 2 | 76.7% | 66.6% | 75.6% | 68.7% | 75.9% |
| 4 | 82.2% | 77.7% | 78.0% | 70.0% | 76.4% |
| 5 | 68.6% | 64.2% | 79.2% | 76.9% | 72.7% |

| Math Standard | Grade 3 | | Grade 4 | | Grade 5 | | Grade 6 | |
|---------------|----------|-------|----------|-------|----------|-------|----------|-------|
| | District | State | District | State | District | State | District | State |
| 2 | 75.5% | 67.2% | 71.4% | 64.0% | 61.4% | 58.0% | 59.5% | 55.5% |
| 3 | 68.8% | 61.2% | 80.0% | 67.5% | 73.8% | 65.0% | 71.1% | 56.6% |
| 4 | 62.0% | 56.0% | 80.0% | 72.0% | 77.3% | 69.0% | 60.9% | 58.1% |
| 5 | 76.0% | 75.0% | 66.0% | 65.0% | 68.8% | 58.7% | 63.8% | 52.5% |
| 6 | 78.8% | 71.2% | 81.3% | 67.5% | 68.0% | 60.0% | 70.0% | 66.0% |
| 7 | 81.3% | 73.7% | 70.0% | 63.7% | 58.8% | 57.5% | 75.0% | 67.5% |

| Math Standard | Grade 7 | | Grade 8 | | All Grades |
|---------------|----------|-------|----------|-------|------------------|
| | District | State | District | State | Total Percentage |
| 2 | 54.4% | 54.4% | 60.0% | 54.4% | 63.7% |
| 3 | 61.3% | 58.7% | 73.8% | 62.5% | 71.4% |
| 4 | 64.2% | 59.1% | 65.8% | 75.0% | 68.4% |
| 5 | 57.5% | 50.0% | 61.3% | 56.2% | 65.5% |
| 6 | 49.2% | 56.6% | 55.5% | 50.9% | 67.1% |
| 7 | 66.3% | 75.0% | 68.8% | 58.7% | 70.0% |

| Science Standard | Grade 4 | | Grade 8 | | All Grades |
|------------------|----------|-------|----------|-------|------------------|
| | District | State | District | State | Total Percentage |
| 1 | 75.7% | 65.0% | 65.7% | 61.4% | 70.7% |
| 2 | 86.4% | 74.2% | 73.6% | 65.7% | 80.0% |
| 3 | 70.0% | 65.0% | 67.1% | 62.1% | 68.6% |
| 4 | 60.0% | 53.5% | 60.7% | 54.2% | 60.4% |

Student Results on Open Response Questions

The following charts show the percentage of the total points that students scored on open response questions for math and science in 2012 compared to the state results.

| Standard Content Math Open Response Questions | | All Grades 2012 | |
|--|--|------------------------|--------------|
| | | District | State |
| Standard 2 | Students demonstrate understanding of and an ability to use numbers and operations. | 70.0% | 58.2% |
| Standard 3 | Students use algebraic concepts, processes, and language to model and solve a variety of real-world and mathematical problems. | 68.6% | 52.5% |
| Standard 4 | Students demonstrate understanding of shape and an ability to use geometry. | NA | NA |
| Standard 5 | Students demonstrate understanding of measurable attributes and an ability to use measurement processes. | 52.5% | 52.5% |
| Standard 6 | The students demonstrate understanding of an ability to use data analysis, probability, and statistics. | 53.8% | 51.3% |
| Standard 7 | Students demonstrate understanding of and an ability to use patterns, relations and functions. | 65.7% | 60.0% |
| Total results on all standards for math. | | 63.3% | 55.0% |

| Standard Content Science Open Response Questions | | All Grades 2012 | |
|---|--|------------------------|--------------|
| | | District | State |
| Standard 1 | Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate results and reasonable conclusions of scientific investigations. | NA | NA |
| Standard 2 | Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems. | NA | NA |
| 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. | 58.8% | 62.5% |
| Standard 4 | Students, through the inquiry process, demonstrate knowledge of the composition, structures, processes and interactions of Earth's systems and other objects in space. | NA | 25.0% |
| Total results on all standards for science | | 58.8% | 50.0% |

Title 1 Student Results on Open Response Questions

The following charts show the percentage of the total points that Title 1 students scored on open response questions for math and science in 2012.

| Standard Content Math - 2012 Open Response Questions | | All Grades |
|---|--|-------------------|
| Standard 2 | Students demonstrate understanding of and an ability to use numbers and operations. | 51.0% |
| Standard 3 | Students use algebraic concepts, processes, and language to model and solve a variety of real-world and mathematical problems. | 57.1% |
| Standard 4 | Students demonstrate understanding of shape and an ability to use geometry. | NA |
| Standard 5 | Students demonstrate understanding of measurable attributes and an ability to use measurement processes. | 50.0% |
| Standard 6 | The students demonstrate understanding of an ability to use data analysis, probability, and statistics. | 56.3% |
| Standard 7 | Students demonstrate understanding of and an ability to use patterns, relations and functions. | 45.7% |
| | Total results on all standards for math. | 52.2% |

CRT Test Item Analysis

Measured Progress did not release any of the reading questions used for scoring; however, they did release field test questions that will be used for scoring against the Montana Common Core Standards in future years. The lowest scoring question from each form of the MCCS is listed below for reading and math. Fifty percent of the Math & Science questions used for scoring were released and the lowest and highest scoring questions are listed for each grade. Due to the release policy, for some grades the lowest and highest scoring questions may not have been released. In that situation, the lowest scoring released question is listed.

3rd Grade Reading – Montana Common Core Standards – Field Test Items

Form 1:

18. Which sentence **best** describes the main idea of the passage?

- A. Sea otters make good pets.
- B. There are two kinds of sea otters.
- C. Sea otters are unusual animals.
- D. There are many ways to care for sea otters.

The correct answer is C with 20% of the students correct. 60% chose B for the answer.

Form 2:

7. Based on the passage, which statement is **most likely** true?

- A. People eat less fruit today than they did long ago.
- B. Fruit trees today are shorter, but they are stronger than in the past.
- C. There are fewer orchards today, but they are bigger than in the past.
- D. Farmers grow different kinds of fruit today than they did long ago.

The correct answer is C with 29% of the students correct. 43% chose A for the answer.

Form 3:

4. Which lines from the poem make a comparison using a simile?

- A. "Like a bird in the sky / I soar down the slope"
- B. "faster and faster, I hope / I get wings and can fly!"
- C. "Scratching white snow, / trees flying by,"
- D. "down the white slope, / wind in my ears sings / of flying,"

The correct answer is A with 20% of the students correct. 40% chose B for the answer.

Form 4:

4. What would be the **best** caption for the photograph in the passage?
- A. Before they can be eaten, apples are sorted and washed.
 - B. Apples are stored in a cool place to prevent rotting.
 - C. Apples are grown on large fruit farms called orchards.
 - D. After the harvest, apples wait to be loaded onto trucks.

The correct answer is D with 0% of the students correct. 60% chose C for the answer.

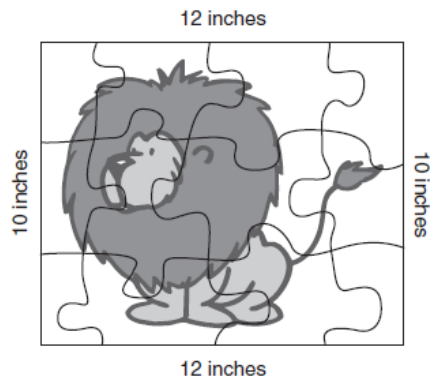
3rd Grade Math – Current Standards

Analysis of all 3rd grade student responses for math on the 2012 CRT by each specific question showed the following results. The lowest scoring question was related to standard 3. The highest scoring question was related to standards 5 & 7.

3. Mr. McWilliams bought 2 quarts of milk.
How many pints of milk did he buy?
- A. 2 pints
 - B. 4 pints
 - C. 6 pints
 - D. 8 pints

The correct answer is B with 50% of the students correct.

8. Look at the puzzle shown below.



What is the perimeter of the puzzle?

- A. 40 inches
- B. 44 inches
- C. 100 inches
- D. 120 inches

The correct answer is B with 100% of the students correct.

Open Response Summary for 3rd Grade Math

| View Item | Released Item | Standard | Point Value | Avg Score |
|---------------------------|-------------------------------|--------------------------|-----------------------------|---------------------------|
| | 1 | 3 | 1 | 0.8 |
| | 2 | 2 | 4 | 3.4 |
| | 6 | 2 | 1 | 0.7 |

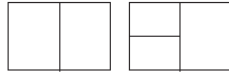
The open response summary for 3rd graders is listed above and shows that students scored the best on number 2.

1. Look at the number sentence below.

$$90 + \square = 117$$

What number belongs in the box?

2. Ms. Jackson's class is making fraction flags. Here are two flags made by her students.



Antoine's
flag

Jessica's
flag

a. Does Antoine's flag show thirds? If not, tell why it does not.

b. Does Jessica's flag show thirds? If not, tell why it does not.

c. Draw lines on the flag below to show fourths.



d. Draw lines on the flag below to show fourths in a different way.



6. Subtract:

$$\begin{array}{r} 300 \\ - 96 \\ \hline \end{array}$$

3rd Grade Math – Montana Common Core Standards – Field Test Items

Form 1:

5. Marissa had 23 stickers. She gave 5 stickers to her brother. Then Marissa bought 8 more stickers. How many stickers does Marissa have now?

- A. 10
- B. 20
- C. 26
- D. 36

The correct answer is C with 60% of the students correct. 40% chose A for the answer.

Form 2:

4. Kevin made two different shapes. He wrote the clues below to describe the shapes.

- Each shape is a parallelogram.
- Each shape has sides that are all the same length.





Which two shapes could Kevin have made?

- A. a kite and a rectangle
- B. a kite and a trapezoid
- C. a square and a triangle
- D. a square and a rhombus

The correct answer is D with 43% of the students correct. 29% chose A or C for the answer.

Form 3:

2. Which shape is both a rectangle and a rhombus?

- A. 
- B. 
- C. 
- D. 

The correct answer is A with 0% of the students correct. 100% chose B for the answer.

Form 4:

1. Look at the clock shown below.



What time does the clock show?

- A. 4:07
- B. 4:35
- C. 5:35
- D. 7:23

The correct answer is C with 20% of the students correct. 40% chose B or A for the answer.

4th Grade Reading – Montana Common Core Standards – Field Test Items

Form 1:

27. From what point of view is the story told?

- A. Melia in first person
- B. Melia in third person
- C. the mother in first person
- D. the mother in third person

The correct answer is B with 0% of the students correct. 50% chose C for the answer.

Form 2:

26. Which sentence describes the passage's point of view?

- A. It is written in the first person.
- B. It is written in the third person.
- C. It is told by a narrator to a certain reader.
- D. It is told in the voice of one of the characters.

The correct answer is B with 0% of the students correct. 75% chose A for the answer.

Form 3:

16. What do the two pictures **most** clearly show?

- A. the type of ski hill on which snowboarders like to ride
- B. the speed of snowboarding compared to the speed of skiing
- C. the different kinds of materials used to make the two boards
- D. the differences in equipment and style between the two sports

The correct answer is D with 20% of the students correct. 80% chose C for the answer.

Form 4:

9. Based on paragraph 10, Ethan Allen's humming **most likely** shows that he is

- A. hungry.
- B. lonely.
- C. nervous.
- D. tired.

The correct answer is C with 0% of the students correct. 67% chose B for the answer.

4th Grade Math – Current Standards

Analysis of all 4th grade student responses for math on the 2012 CRT by each specific question showed the following results. The lowest scoring question was related to standard 3. The highest scoring questions were related to standard 2.

9. Kelly wrote the number sentence shown below.

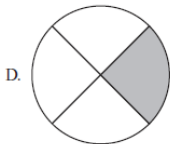
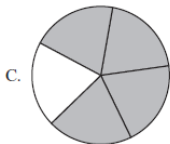
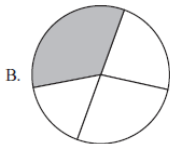
$$2871 - \square = 980$$

What number belongs in the box?

- A. 3851
- B. 2991
- C. 2111
- D. 1891




The correct answer is D with 75% of the students correct.

10. Mary shaded $\frac{1}{4}$ of a circle. Which circle could Mary have shaded?



The correct answer is D with 100% of the students correct.

Open Response Summary for 4th Grade Math

| View Item | Released Item | Standard | Point Value | Avg Score |
|---|-------------------------------|--------------------------|-----------------------------|---------------------------|
|  | 5 | 7 | 1 | 0.8 |
|  | 6 | 2 | 1 | 0.8 |
|  | 7 | 5 | 4 | 2.1 |

The open response summary for 4th graders is listed above and shows that students scored the highest on numbers 5 & 6 and the lowest on number 7.

5. The numbers below follow a pattern.

7, 14, 13, 20, 19, 26, 25

What is the rule for this pattern?

6. Multiply:

$$625 \times 4 =$$

7. Franklin is taking a train to New City. The clock below shows the time his train leaves.



- What time does Franklin's train leave?
- Franklin's train ride is 91 minutes long. How long is his train ride in hours and minutes? Show or explain how you found your answer.
- What time will Franklin's train arrive in New City?

4th Grade Math – Montana Common Core Standards – Field Test Items

Form 1:

1. Look at the shape below.



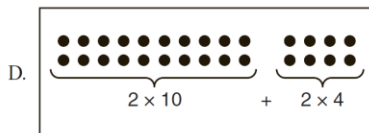
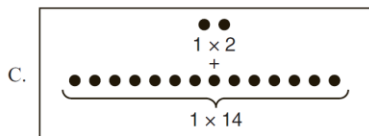
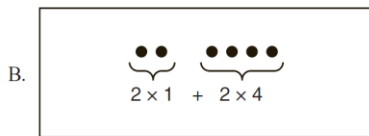
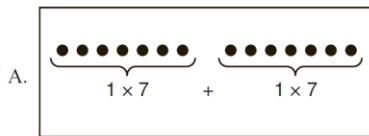
How many lines of symmetry does this shape have?

- 0
- 1
- 2
- 4

The correct answer is A with 25% of the students correct.

Form 2:

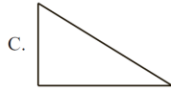
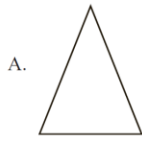
4. Which model shows a way to multiply 2 by 14?



The correct answer is D with 25% of the students correct. 75% chose A for the answer.

Form 3:

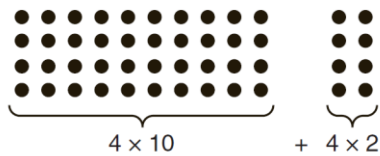
2. Which shape has a pair of perpendicular sides?



The correct answer is C with 0% of the students correct. 60% chose A for the answer.

Form 4:

4. Jack made the model below to solve a problem.



Which problem did Jack solve?

A. $4 + 20 = \square$

B. $4 + 12 = \square$

C. $4 \times 20 = \square$

D. $4 \times 12 = \square$

The correct answer is D with 0% of the students correct. 100% chose C for the answer.

4th Grade Science

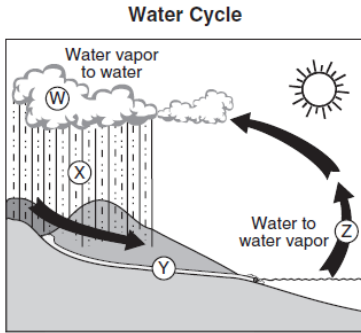
Analysis of all 4th grade student responses for science on the 2012 CRT by each specific question showed the following results. The lowest scoring questions were related to standards 2 and 4. The highest scoring questions were related to standard 3.

27. A student played a note on his horn very softly. Then he played the same note very loudly. What caused the notes to be soft or loud?

- A. The soft note lasted longer.
- B. The soft note sounded better.
- C. The loud note traveled faster.
- D. The loud note had more energy.

The correct answer is D with 44% of the students correct. 50% of the students chose C for the answer.

22. The picture below shows the water cycle.



At which location in the picture is precipitation happening?

- A. location W
- B. location X
- C. location Y
- D. location Z

The correct answer is B with 31% of the students correct. 38% chose D for the answer.

25. A class of fourth-grade students wants to measure how plant food increases bean plant growth.

A different amount of plant food was used for each test. Which table shows the best test of the plant food?

Experiment 1

A.

| Bean Plant | Temperature (°C) | Water (mL) | Light per Day (hours) | Growth after Two Weeks (cm) |
|------------|------------------|------------|-----------------------|-----------------------------|
| 1 | 24 | 10 | 7 | 5 |
| 2 | 24 | 15 | 8 | 6 |
| 3 | 24 | 20 | 9 | 8 |
| 4 | 24 | 30 | 10 | 8 |

Experiment 2

B.

| Bean Plant | Temperature (°C) | Water (mL) | Light per Day (hours) | Growth after Two Weeks (cm) |
|------------|------------------|------------|-----------------------|-----------------------------|
| 1 | 20 | 10 | 8 | 4 |
| 2 | 24 | 15 | 7 | 4 |
| 3 | 28 | 20 | 6 | 3 |
| 4 | 32 | 30 | 5 | 2 |

Experiment 3

C.

| Bean Plant | Temperature (°C) | Water (mL) | Light per Day (hours) | Growth after Two Weeks (cm) |
|------------|------------------|------------|-----------------------|-----------------------------|
| 1 | 24 | 10 | 8 | 6 |
| 2 | 24 | 10 | 8 | 7 |
| 3 | 24 | 10 | 8 | 8 |
| 4 | 24 | 10 | 8 | 10 |

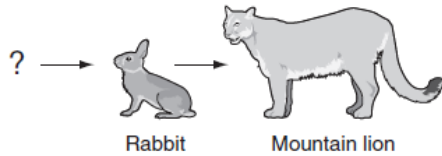
Experiment 4

D.

| Bean Plant | Temperature (°C) | Water (mL) | Light per Day (hours) | Growth after Two Weeks (cm) |
|------------|------------------|------------|-----------------------|-----------------------------|
| 1 | 24 | 5 | 8 | 4 |
| 2 | 24 | 10 | 8 | 4 |
| 3 | 24 | 15 | 8 | 4 |
| 4 | 24 | 20 | 8 | 4 |

The correct answer is C with 25% of the students correct. 38% chose A for the answer.

12. An incomplete food chain is shown below.



Which source of energy and nutrition for the rabbit is missing in this food chain?

- A. air
- B. freshwater
- C. plants
- D. squirrels

The correct answer is C with 100% of the students correct.

Open Response Summary for 4th Grade Science

| View Item | Released Item | Standard | Point Value | Avg Score |
|---|---------------|----------|-------------|-----------|
|  | 10 | 3 | 4 | 2.1 |

10. Read the list of animals below.

- beaver
- bison
- black bear
- chicken
- cow
- duck
- fox
- frog
- horse
- mouse
- owl

- a. Sort the animals on the list into two groups.
- b. Explain a common feature you used to sort the animals into the two groups.
- c. Give each group a title that describes the animals in the group.

The open response summary for 4th graders is listed above and shows that students about average.

5th Grade Reading – Montana Common Core Standards – Field Test Items

Form 1:

Use the dictionary entry below to answer question 4.

snaps *v* **1.** to make a sudden, sharp sound: *The dry wood snapped and crackled as it burned.* **2.** to break: *The twig snapped when I stepped on it.* **3.** to give way suddenly with one's emotions: *The flat tire made him snap; he began to shout.* **4.** to move into place with a swift movement: *The lid snapped tightly onto the bowl.*

4. Which definition of the word snaps is used in line 8?
 - A. definition 1
 - B. definition 2
 - C. definition 3
 - D. definition 4

The correct answer is D with 0% of the students correct. 50% chose A or C for the answer.

Form 2:

6. What is the **main** lesson to be learned from this story?
- A. Treating others with kindness is important.
 - B. Avoiding dangerous situations is necessary.
 - C. Wanting too much can lead to trouble.
 - D. Trying hard can lead to success.

The correct answer is C with 25% of the students correct. 50% chose A for the answer.

Form 3:

13. In paragraph 23, why do the authors use the sentence, “They must be quiet as church mice”?
- A. to show the importance of silence
 - B. to describe the mice near the corral
 - C. to explain how nervous Nina feels
 - D. to compare the mice to Roan

The correct answer is A with 40% of the students correct. 40% chose C for the answer.

Form 4:

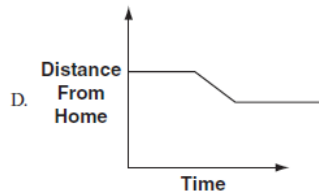
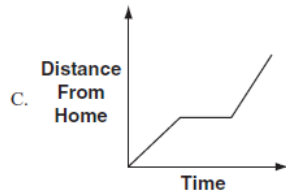
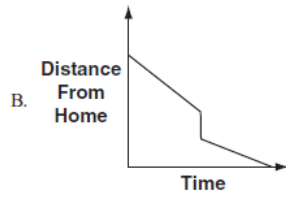
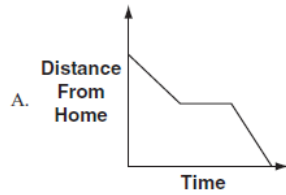
8. What do all burrows have in common?
- A. They are located in trees.
 - B. They are located underground.
 - C. They are used only for sleeping.
 - D. They are used only to raise young.

The correct answer is B with 50% of the students correct. 50% chose D for the answer.

5th Grade Math – Current Standards

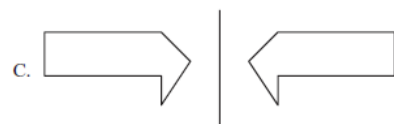
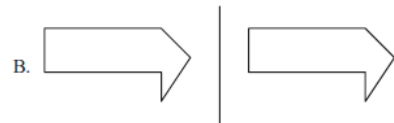
Analysis of all 5th grade student responses for math on the 2012 CRT by each specific question showed the following results. The lowest scoring questions were related to standard 2. The highest scoring questions were related to standard 4.

8. Paul started to ride his bike home from school. He stopped halfway to talk to a friend. Then he rode his bike the rest of the way home. Which graph shows the relationship between the amount of time since Paul left school and his distance from home?






The correct answer is A with 41% of the students correct. 24% of the students chose C for the answer.

6. Which design shows a figure that has been only reflected (flipped) across a vertical line?



The correct answer is C with 88% of the students correct.

Open Response Summary for 5th Grade Math

| View Item | Released Item | Standard | Point Value | Avg Score |
|---|---------------|----------|-------------|-----------|
|  | 4 | 7 | 1 | 0.5 |
|  | 5 | 2 | 1 | 0.4 |
|  | 10 | 6 | 4 | 2.9 |

The open response summary for 5th graders is listed above and shows that students scored the highest on #10.

4. What is the next number in the pattern below?

432, 440, 438, 446, 444, 452, ?

5. Compute:

143.9 – 71.39

10. The table below shows the number of boys and girls in each level of swimming lessons at a local community center.

Students in Swimming Lessons

| Level | Number of Boys | Number of Girls |
|-------|----------------|-----------------|
| 1 | 38 | 42 |
| 2 | 38 | 37 |
| 3 | 28 | 27 |
| 4 | 34 | 46 |
| 5 | 24 | 16 |

- a. What is the total number of students in Level 1 swimming lessons?
 b. On the grid in your Answer Booklet, make a bar graph showing the total number of students in each swimming level. Be sure to include a title and labels on both axes.

5th Grade Math – Montana Common Core Standards – Field Test Items

Form 1:

2. Bailee is making a bracelet using three beads.

The first bead has a length of $\frac{3}{4}$ inch, the second bead has a length of $\frac{1}{8}$ inch, and the third bead has a length of $\frac{1}{2}$ inch. What is the combined length, in inches, of the three beads?

- A. $\frac{5}{14}$
 B. $\frac{5}{8}$
 C. $1\frac{1}{14}$
 D. $1\frac{3}{8}$

The correct answer is D with 75% of the students correct.

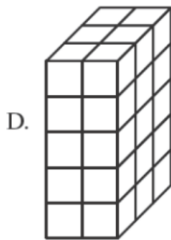
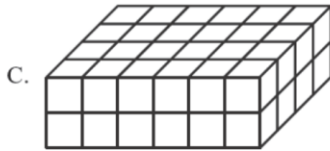
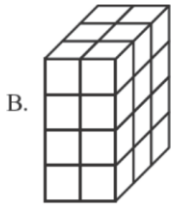
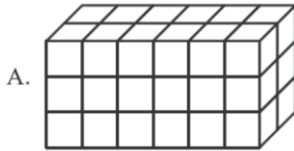
Form 2:

2. The students at Shapley School raised a total of \$505 at their Fun Night. The money is divided equally among 6 grades. How much money, to the nearest dollar, will each grade receive?
- A. \$72
 - B. \$74
 - C. \$82
 - D. \$84

The correct answer is D with 50% of the students correct. 50% chose C for the answer.

Form 3:

2. Which prism has a volume of 24 cubic units?



The correct answer is B with 20% of the students correct. 40% chose C or D for the answer.

Form 4:

3. A school bought 426 desks. Each desk cost \$89. How much money did the desks cost altogether?
- A. \$37,514
 - B. \$37,714
 - C. \$37,814
 - D. \$37,914

The correct answer is D with 50% of the students correct. 25% chose A or C for the answer.

6th Grade Reading – Montana Common Core Standards – Field Test Items

Form 1:

2. Which lines contain a simile?
- A. “I was walking / down / a sizzling road”
 - B. “the sun popped like / a field of glazing maize”
 - C. “the earth / was hot”
 - D. “an infinite circle / with an empty / blue sky overhead”

The correct answer is B with 25% of the students correct. 75% chose D for the answer.

Form 2:

6. Which phrase **best** shows that the information in the passage appears to be trustworthy?
- A. “In the mid 1990s” (paragraph 3)
 - B. “During my research” (paragraph 4)
 - C. “At the start of the growing season” (paragraph 6)
 - D. “When the corn is about six inches tall” (paragraph 6)

The correct answer is B with 50% of the students correct. 50% chose A for the answer.

Form 3:

5. What is the **most likely** reason the poet uses short lines in “Ode to Bicycles”?
- A. to make the poem seem thin like the air
 - B. to make the poem seem short like the corn
 - C. to make the poem seem narrow like a road
 - D. to make the poem seem quick like a bicycle

The correct answer is D with 60% of the students correct. 40% chose C for the answer.

Form 4:

7. What is the **most likely** reason the author wrote the passage?
- A. to encourage interest in corn mazes
 - B. to entertain the reader with a funny story
 - C. to show the best way to grow great-tasting corn
 - D. to share the history of corn throughout the world

The correct answer is A with 57% of the students correct. 43% chose D for the answer.

6th Grade Math – Current Standards

Analysis of all 6th grade student responses for math on the 2012 CRT by each specific question showed the following results. The lowest scoring questions were related to standards 2 and 6. The highest scoring questions were related to standards 4 and 5.

9. The stem-and-leaf plot below shows the number of trout caught by some people.

Number of Trout Caught

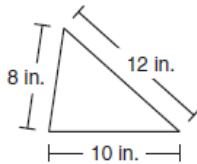
| Stem | Leaf |
|------|-------|
| 2 | 6 7 8 |
| 3 | 1 1 2 |
| 4 | 0 2 4 |
| 5 | 1 3 |
| 6 | 5 |

Which statement is true of these data?

- A. The mode is greater than the mean.
- B. The mode is greater than the median.
- C. The median is greater than the mean.
- D. The mean is greater than the median.

The correct answer is D with 35% of the students correct. 35% chose C for the answer.

6. Calvin drew the triangle shown below.



What type of triangle did Calvin draw?

- A. equilateral
- B. isosceles
- C. right
- D. scalene

The correct answer is D with 90% of the students correct.

Open Response Summary for 6th Grade Math

| View Item | Released Item | Standard | Point Value | Avg Score |
|-----------|---------------|----------|-------------|-----------|
| | 3 | 2 | 1 | 0.6 |
| | 4 | 7 | 1 | 0.6 |
| | 10 | 3 | 4 | 2.5 |

The open response summary for 6th graders is listed above and shows that students scored the best on #10.

3. Compute:

$$0.075 \times 0.03$$

4. What is the next number in the pattern below?

$$1\frac{1}{3}, 2, 2\frac{2}{3}, 3\frac{1}{3}, 4, 4\frac{2}{3}, ?$$

10. The players on a soccer team sell coupon booklets to raise money. They earn the same amount of profit for each coupon booklet they sell. The table below shows the amount of profit, in dollars, the players earn for selling different numbers of coupon booklets.

**Coupon Booklet
Sales**

| Number of Booklets Sold | Profit |
|-------------------------|--------|
| 10 | \$ 60 |
| 20 | \$120 |
| 30 | \$180 |
| 40 | \$240 |

- What is the profit earned from selling 55 coupon booklets? Show or explain how you found your answer.
- Write an equation to calculate the amount of profit, p , earned from selling c coupon booklets. The players on the soccer team have a goal to earn a profit of \$750 selling coupon booklets.
- Calculate the least number of coupon booklets the players need to sell to reach their goal. Show or explain how you found your answer.

6th Grade Math – Montana Common Core Standards – Field Test Items

Form 1:

4. Jerry will serve mugs of apple cider at the Harvest festival.
- He bought 1200 ounces of apple cider.
 - Each mug holds 2 cups of apple cider.

What is the total number of mugs that can be filled with the apple cider?

- 75
- 150
- 300
- 600

The correct answer is A with 50% of the students correct. 50% chose B for the answer.

Form 2:

5. Brandon took 5 math tests last semester. His scores on the first 4 tests are listed below.

100 98 100 82

The mean of Brandon's 5 test scores was exactly 92. What score did he receive on the 5th test?

- 76
- 80
- 95
- 100

The correct answer is B with 50% of the students correct. 25% chose C or A for the answer.

Form 3:

2. Lola bought a bookcase and some extra shelves.

- The bookcase cost \$52.
- Each extra shelf cost \$3.

Which expression represents the total cost of Lola's bookcase and s extra shelves?

- A. $52 + s$
- B. $52s$
- C. $52 + 3s$
- D. $52 + 3 + s$

The correct answer is C with 40% of the students correct. 60% chose A for the answer.

Form 4:

3. A triangle has an area of 18 square centimeters.

The base of the triangle has a length of 4.5 centimeters. What is the height of the triangle?

- A. 2 centimeters
- B. 4 centimeters
- C. 6 centimeters
- D. 8 centimeters

The correct answer is D with 57% of the students correct. 29% chose B for the answer.

7th Grade Reading – Montana Common Core Standards – Field Test Items

Form 1:

15. In paragraph 12, what does the sugar bowl crashing to the floor **most likely** represent?

- A. missed opportunities
- B. a lack of material possessions
- C. disagreement among relatives
- D. the separation of family members

The correct answer is D with 0% of the students correct. 67% chose A for the answer.

Form 2:

4. In the last paragraph, why is the word *wanted* in *italics*?

- A. to explain that Nate's feelings are unusual
- B. to emphasize that Nate has changed his mind
- C. to show how strongly Nate feels about football
- D. to highlight how Nate differs from most athletes

The correct answer is C with 33% of the students correct. 33% chose A or D for the answer.

Form 3:

25. The author of the passage relies **most** on which source?
- A. elephant records
 - B. first-person observations
 - C. magazine articles
 - D. well-known books

The correct answer is B with 0% of the students correct. 100% chose A for the answer.

Form 4:

7. What is the **main** message of the passage?
- A. Preparation helps achieve success.
 - B. Belief in oneself will overcome any odds.
 - C. Teamwork means every player is important.
 - D. Practice helps some players more than others.

The correct answer is A with 0% of the students correct. 50% chose C or D for the answer.

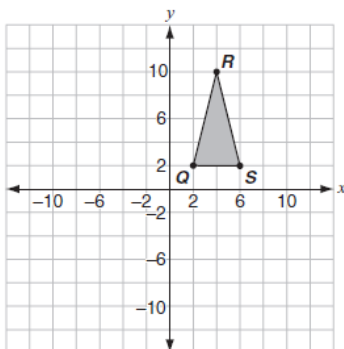
7th Grade Math – Current Standards

Analysis of all 7th grade student responses for math on the 2012 CRT by each specific question showed the following results. The lowest scoring questions were related to standards 2, 4 and 5. The highest scoring questions were related to standards 4 & 7.

6. A circular raft in a ride at a water park has a radius of 6 feet. One child for every 2 feet of raft circumference can ride on the raft at a time. What is the greatest number of children that can ride on the raft at a time?
- A. 3
 - B. 9
 - C. 18
 - D. 54

The correct answer is C with 50% of the students correct. 20% chose C for the answer.

10. Triangle QRS is graphed below.






Which transformation would result in the image of angle R at $(-4, 10)$?

- A. reflection over the x -axis
- B. reflection over the y -axis
- C. translation 10 units down
- D. translation 20 units up

The correct answer is B with 90% of the students correct.

Open Response Summary for 7th Grade Math

| View Item | Released Item | Standard | Point Value | Avg Score |
|---|---------------|----------|-------------|-----------|
|  | 3 | 2 | 1 | 0.7 |
|  | 4 | 3 | 1 | 0.9 |
|  | 5 | 6 | 4 | 1.4 |

The open response summary for 7th graders is listed above and shows that students scored the best on #4 and the lowest on #5.

3. Compute and give the answer in simplest form:

$$6\frac{3}{4} + 3\frac{2}{5}$$

4. Solve for x :

$$6x + 3 = 15$$

5. Anne, Ben, and Callie are giving speeches in Mr. Cottrell's class. Mr. Cottrell writes the names of each student on a card, places the three cards in a hat, and randomly draws the cards one at a time to determine the order in which the students will give their speeches.
- How many different orders can result from drawing the names from the hat? Show your work or explain how you know.
 - What is the probability that Anne will give her speech before Ben? Show your work or explain how you know.

7th Grade Math – Montana Common Core Standards – Field Test Items

Form 1:

3. The unit price for a brand of shampoo is \$0.19 per ounce. A bottle of this shampoo costs \$3.99. Which proportion can be used to find x , the number of ounces of shampoo in this bottle?

A. $\frac{0.19}{1} = \frac{x}{3.99}$

B. $\frac{0.19}{1} = \frac{3.99}{x}$

C. $\frac{0.19}{x} = \frac{1}{3.99}$

D. $\frac{0.19}{x} = \frac{3.99}{1}$

The correct answer is B with 0% of the students correct. 67% chose A for the answer.

Form 2:

1. A recipe calls for the following dry ingredients:

- $\frac{1}{3}$ cup brown sugar
- $1\frac{1}{2}$ cups flour
- $2\frac{1}{4}$ cups rolled oats

What is the total number of cups of dry ingredients in this recipe?

- A. $3\frac{1}{12}$
- B. $3\frac{3}{9}$
- C. $4\frac{1}{12}$
- D. $4\frac{3}{9}$

The correct answer is C with 67% of the students correct.

Form 3:

2. The marching band has 28 rows of students. Each row has 9 students. Martha wants to use the distributive property to mentally calculate 9×28 . Which expression could she use?
- A. $9 \times 20 + 8$
 - B. $9 \times 30 - 2$
 - C. $9 \times 20 + 9 \times 8$
 - D. $9 \times 30 + 9 \times 2$

The correct answer is C with 0% of the students correct. 100% chose A for the answer.

Form 4:

3. Which inequality has the same solution set as $3x \geq 9$?
- A. $x \leq 3$
 - B. $x \geq 3$
 - C. $x \geq 6$
 - D. $x \leq 6$

The correct answer is B with 0% of the students correct. 100% chose C for the answer.

8th Grade Reading – Montana Common Core Standards – Field Test Items

Form 1:

11. Read this sentence from paragraph 3.

Behind her in a rocker is her husband, older than she is, ancient.

What is the **most likely** purpose of the word ancient?

- A. It highlights the narrator's youthful point of view.
- B. It calls attention to the grandfather's actual age.
- C. It suggests the inaccuracy of the narrator's memory.
- D. It explains the difference between the grandparents' ages.

The correct answer is A with 0% of the students correct. 75% chose B for the answer.

Form 2:

21. Read this sentence from paragraph 3.

The carvings had been done on the large sandstone rock about 700 to 900 years ago.

Which words would be the **most** accurate replacement for the phrase done on in the sentence?

- A. copied on
- B. cut into
- C. made on
- D. created from

The correct answer is B with 0% of the students correct. 100% chose C for the answer.

Form 3:

7. How are “How to Eat a Poem” and “Poetry” similar?

- A. Both explain how to write poetry.
- B. Both use metaphor to describe poetry.
- C. Both explain how to understand poetry.
- D. Both use a casual tone to describe poetry.

The correct answer is B with 0% of the students correct. 60% chose C for the answer.

Form 4:

3. Which word from paragraph 2 is the **best** context clue to discover the meaning of the word inquisitive?

- A. unnatural
- B. deliberately
- C. investigate
- D. remarkable

The correct answer is C with 33% of the students correct. 33% chose A or D for the answer.

8th Grade Math – Current Standards

Analysis of all 8th grade student responses for math on the 2012 CRT by each specific question showed the following results. The lowest scoring questions were related to standards 5 and 6. The highest scoring questions were related to standard 4.

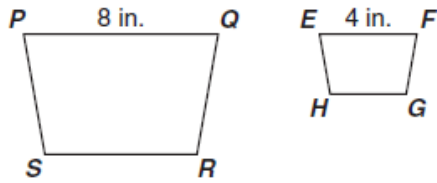
2. Hank has played 10 basketball games.
- His mean number of points per game is 25.
 - His median number of points per game is 28.5.

He scores 27 points in his 11th game. Which statement describes how his mean and median number of points per game will change?

- A. The mean will increase and the median will decrease.
- B. The mean will decrease and the median will increase.
- C. The mean will increase and the median will increase.
- D. The mean will decrease and the median will decrease.

The correct answer is A with 56% of the students correct. 25% chose C for the answer.

6. Trapezoids $PQRS$ and $EFGH$ are similar.



Which angle must be congruent to $\angle Q$?

- A. $\angle E$
- B. $\angle F$
- C. $\angle G$
- D. $\angle H$

The correct answer is B with 94% of the students correct.

Open Response Summary for 8th Grade Math

| View Item | Released Item | Standard | Point Value | Avg Score |
|-----------|---------------|----------|-------------|-----------|
| | 3 | 3 | 1 | 0.6 |
| | 4 | 2 | 1 | 0.4 |
| | 10 | 7 | 4 | 2.7 |

The open response summary for 8th graders is listed above and shows that students scored the best on #10 and the lowest on #4.

3. Solve for n :

$$2(n + 5) = -4$$

4. Simplify:

$$5 + 2 \cdot 3 - 4^2$$

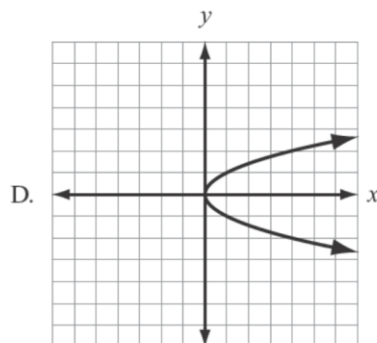
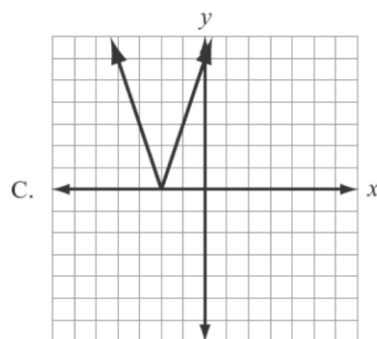
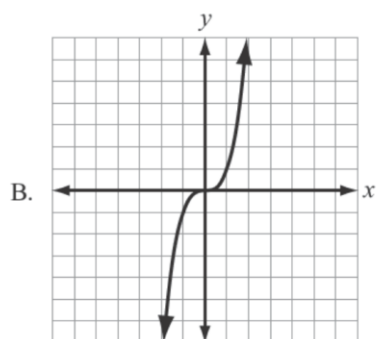
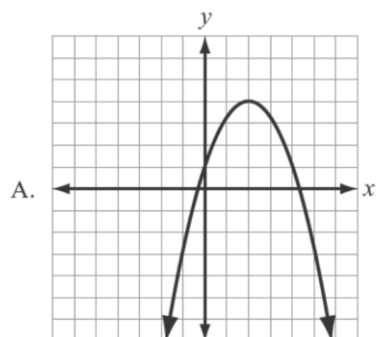
10. A computer repair company charges \$50 for a home visit and \$25 per hour of work.

- a. What is the total cost of a computer repair at home if it takes $3\frac{1}{2}$ hours to complete the work?
- b. Mr. Bowen had the company come to his home to work on his computer. The total cost of the repair was estimated to be \$175. Write an equation that could be used to determine the number of hours, h , estimated to complete this repair.
- c. Solve the equation you wrote for part b to determine the total time estimated to complete Mr. Bowen's repair. Show or explain how you found your answer.

8th Grade Math – Montana Common Core Standards – Field Test Items

Form 1:

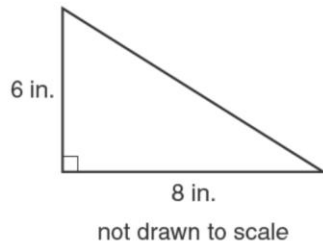
6. Which graph does **not** represent a function?



The correct answer is D with 0% of the students correct. 100% chose B for the answer.

Form 2:

3. A right triangle is shown below.



What is the perimeter of the triangle?

- A. 28 inches
- B. 24 inches
- C. 20 inches
- D. 10 inches

The correct answer is B with 75% of the students correct. 25% chose D for the answer.

Form 3:

6. The table below shows the dollar amounts for one to four exemptions that can be taken on a federal tax return.

| Number of Exemptions (n) | Exemption Amount (d) |
|---------------------------------|-----------------------------|
| 1 | \$ 3,500 |
| 2 | \$ 7,000 |
| 3 | \$10,500 |
| 4 | \$14,000 |

Which equation represents the information in this table?

- A. $d = 3,500n$
- B. $d = 3,500n + 3,500$
- C. $n = 3,500d$
- D. $n = 3,500d + 3,500$

The correct answer is A with 60% of the students correct.

Form 4:

1. Which list of ordered pairs represents a function?

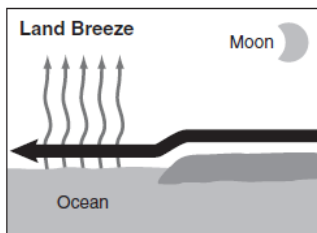
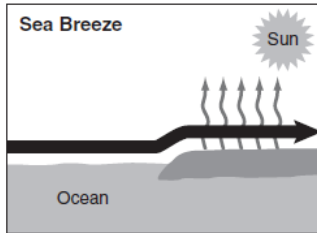
- A. $(-1, -1), (0, -2), (2, -2), (3, 1)$
- B. $(-1, -3), (-1, 3), (-2, -6), (-2, 6)$
- C. $(-3, 4), (-1, -5), (-1, 1), (2, 0)$
- D. $(-4, -2), (-2, -2), (3, 1), (3, 4)$

The correct answer is A with 0% of the students correct. 67% chose B for the answer.

8th Grade Science

Analysis of all 8th grade student responses for science on the 2012 CRT by each specific question showed the following results. The lowest scoring questions were related to standard 4. The highest scoring questions were related to standards 1 & 3.

3. The diagrams below show the formation of a sea breeze and a land breeze.



The arrows in the diagrams represent the movement of air. What would be an appropriate description of the large, horizontal arrow?

- A. Warm air is heating up the water or land surface.
- B. Cool air is moving to take the place of warm air.
- C. Warm air is pushing cool air up from the water or land surface.
- D. Cool air is mixing with warm air to decrease the air temperature.

The correct answer is B with 13% of the students correct. 38% chose C or D for the answer.

16. How do trace fossils such as tracks or burrows help scientists fill in the fossil record?

- A. Trace fossils provide the best clues about the anatomy of ancient organisms.
- B. Trace fossils are usually found in rocks that do not contain any other fossils.
- C. Trace fossils provide the most accurate information about the age of rock layers.
- D. Trace fossils are sometimes left by organisms that do not leave fossils of their body parts.

The correct answer is D with 31% of the students correct. 44% chose C for the answer.

21. Fossils show that ancient horses had shorter legs than modern horses. What is **most likely** responsible for the evolution of longer legs in the horse species?
- A. The horses' legs stretched because humans started to ride on horses.
 - B. The horses born with longer legs were more likely to survive and reproduce.
 - C. The horses' legs stretched because the horses started to run faster than ancient horses.
 - D. The horses began to eat different foods, which made their leg bones grow longer.

The correct answer is B with 38% of the students correct. 56% chose D for the answer.

18. Students in a science class design an experiment to measure the length of the shadow made by a flagpole. They decide to measure the flagpole's shadow on the twentieth day of each month during the school year. Which of the following is **most important** to do in the experiment?
- A. Make multiple measurements each time and average the results.
 - B. Have the same person make the measurements each time.
 - C. Use the same tape measure to make the measurements each time.
 - D. Make all the measurements at the same time of the day.

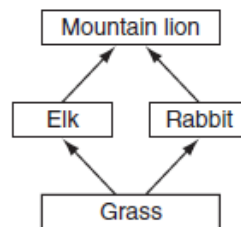
The correct answer is D with 100% of the students correct.

Open Response Summary for 8th Grade Science

| View Item | Released Item | Standard | Point Value | Avg Score |
|---|---------------|----------|-------------|-----------|
|  | 9 | 3 | 4 | 2.6 |

Students scored well on #9 in science.

9. The diagram below shows a typical Montana food web.



- a. Describe how each population in the food web obtains energy.
- b. Suppose that a large forest fire occurred where these organisms live. Describe how **two** consumer populations in the food web could be affected by this fire over the course of a year.