

SCHOOL IMPROVEMENT PLAN

Mathematics

Student Performance Goal:

Student performance at the Minuteman Regional Vocational High School, on the MCAS grade 10 Math test, will show an increase in its Composite Performance Index (CPI) from the present level of 77.8 to 79.8 in 2007 and 81.8 in 2008. This will be accomplished by raising the percentage of students scoring in the Proficient/Advanced level from 58% in 2006 to 62% in 2007 finally to 67% in 2008 as well as lowering the students in the failure level from 12% in 2006 to 19% in 2007 and 8% in 2008.

The average performance on open response questions in the math subtest will improve from an average of 2.1 points per question in 2006 to 2.2 points in 2007 and to 2.3 points in 2008.

Math Data Analysis:

The Math MCAS results from 2003 to 2006 have shown a steady increase in the percentage of students reported in the proficient and advanced categories (240 or better), from 36% in 2003 to 58% in 2006.

The Math Department continues to be concerned with lowering the percentage of students in the failing category. After three years of lowering the rate, from 27% in 2002 to 10% in 2004, the rate has remained steady the last three years.

Upon further review of MCAS scores, classroom assessments and teacher feedback The Math Department has determined that students have specific weaknesses in:

- using equations and formulas to solve multi-step problems
- using measures of central tendency when data is presented in non-traditional forms (frequency charts)

Generic, Test Taking Data Analysis:

Since 2002 the scores on short answer questions have shown steady improvement with the exception of 2006. In 2002 36% answered correctly, 47% in 2003, 51% in 2004, 60% in 2005 and 45% in 2006.

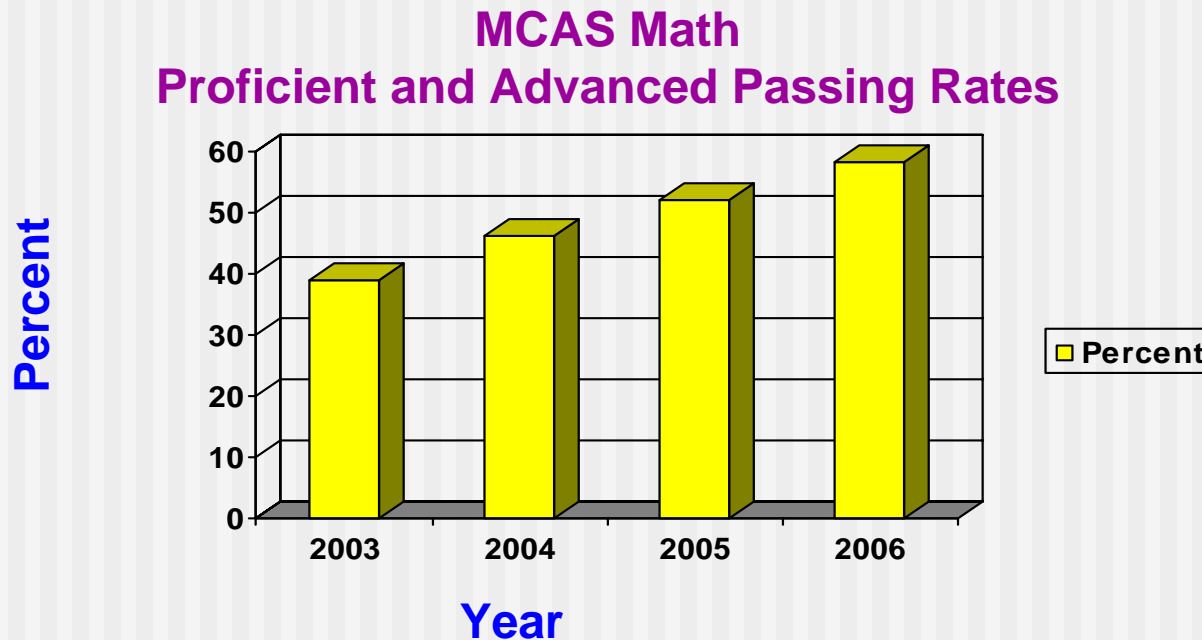
Over the past four years student performance has shown no real improvement on open response questions. Based upon MCAS results, classroom assessment and teacher feedback there appears to be a need to increase student work on the open response questions and improving feedback to students on these questions.

Two areas the Math Department will address in open-response questions are:

- Identify the question
- Assess what information is given

Math MCAS Improvement Plan

Positive: Percentage of students scoring in the proficient/Advanced categories has increased steadily from 2003 to 2006.

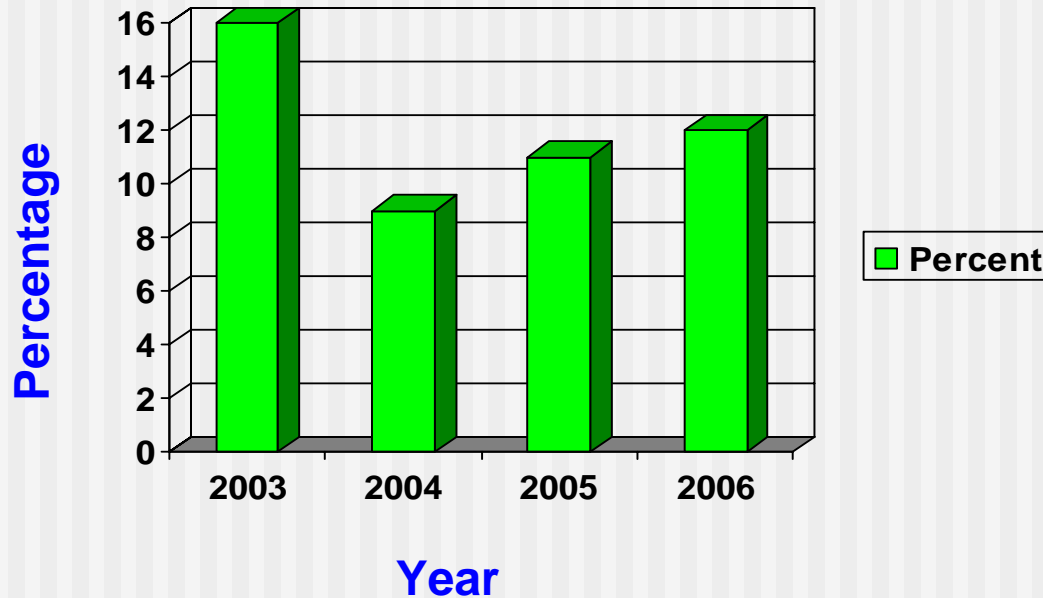


Importance: D.O.E. has raised the bar to 240 from 220 for the class 2010.

Math MCAS Improvement Plan

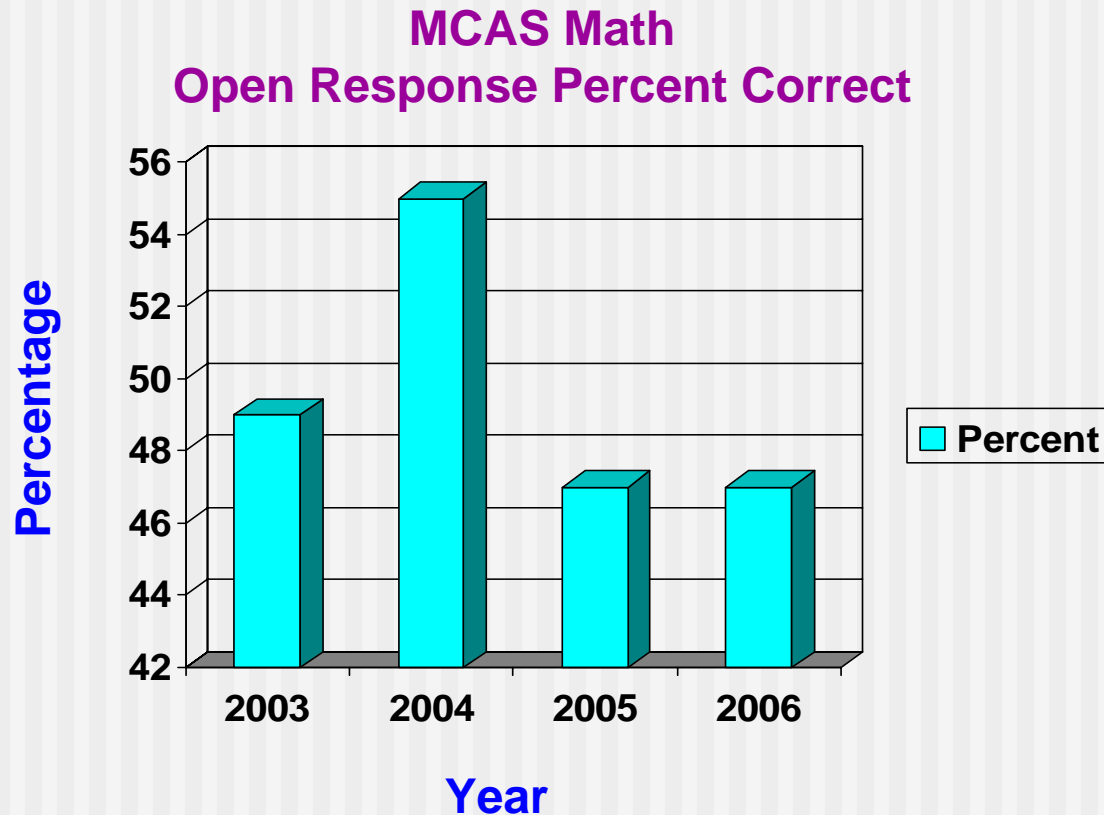
Failure rate has very little change from 2003 to 2006.

MCAS Math
Failure Rates



Math MCAS Improvement Plan

This Is a Major Area of Focus



Math MCAS Improvement Plan

Math Department Focus Areas:

1. Measures of Central Tendency when data is presented in a non-standard form and “What if” questions.
2. Using formulas and equations in multi-step problems.
3. Open Response questions: Continually a weak area, especially for lower students. This appears to be linked to general difficulty with multi-step problems.

The Math Department will address these areas throughout the year In particular, the shop week assignments will focus on open response questions from now on as well as more use of the multi-step problems .

Math MCAS Improvement Plan

School Wide:

1. The Math Department would ask all teachers to find subject related math topics to apply graphs, charts, statistics etc. .
2. The Math Department will distribute open response samples to the English Department and ask for their input in student reading and comprehension.
3. Students will be asked to find examples of formulas and multi-step problems used in their vocational areas. This will require some help from their vocational instructors.

It is hoped that this will provide Math teachers with authentic problems as well as indirectly involve vocational instructors in the math of students.

Math MCAS Improvement Plan

Thank You!!
The
Math Department