

Needham Public Schools 2011 MCAS Results

The Massachusetts Comprehensive Assessment System (MCAS) tests are part of the Commonwealth's Education Reform initiative to improve the achievement of every child. These tests are based on state curriculum frameworks which set high standards for what students are expected to know and be able to do. Last spring, the MCAS tests were administered for the thirteenth time since they were introduced in 1998. The school system recently received results for the 2011 MCAS tests, and this report provides a general overview.

What tests were administered?

A total of twenty MCAS tests in English Language Arts, Mathematics, and Science and Technology were administered to students across eight grade levels. The table below shows the 2011 tests administered at each grade level.

| | |
|------------|---|
| Grade 3 | English Language Arts (ELA) Reading Comprehension Mathematics |
| Grade 4 | ELA Composition and Reading Comprehension Mathematics |
| Grade 5 | ELA Reading Comprehension Mathematics Science and Technology/Engineering |
| Grade 6 | ELA Reading Comprehension Mathematics |
| Grade 7 | ELA Composition and Reading Comprehension Mathematics |
| Grade 8 | ELA Reading Comprehension Mathematics Science and Technology/Engineering |
| Grade 9/10 | Biology Chemistry Introduction to Physics High School Science and Technology/Engineering |
| Grade 10 | ELA Composition and Reading Comprehension Mathematics |

How are the results reported?

At grades 3 through 10, MCAS results are reported according to four performance levels:

- Advanced (A)** Students at this level demonstrate a comprehensive understanding of challenging subject matter and provide sophisticated solutions to complex problems.
- Proficient (P)** Students at this level demonstrate a solid understanding of challenging subject matter and solve a wide variety of problems.
- Needs Improvement (NI)** Students at this level demonstrate a partial understanding of subject matter and solve simple problems.
- Warning/Failing (W)** Students at this level demonstrate a minimal understanding of subject matter and do not solve simple problems.

Individual student scores are reported as scale scores ranging from 200-280 using the following ranges:

| | |
|--------------------------|---------|
| <i>Advanced</i> | 260-280 |
| <i>Proficient</i> | 240-258 |
| <i>Needs Improvement</i> | 220-238 |
| <i>Warning/Failing</i> | 200-218 |

The Department of Education provides schools with comparative data using average *Proficiency Index Results*. Proficiency points are awarded to a school or district for each student in the MCAS test group using the following scale:

| MCAS Performance Level | Scale Score | Proficient Index Points per Student |
|--------------------------|-------------|-------------------------------------|
| Proficient or Advanced | 240-280 | 100 |
| Needs Improvement (High) | 230-238 | 75 |
| Needs Improvement (Low) | 220-228 | 50 |
| Warning/Failing (High) | 210-218 | 25 |
| Warning/Failing (Low) | 200-208 | 0 |

The **No Child Left Behind** law has a goal that all students be *Proficient* by 2014. The **Composite Proficiency Index (CPI)** average is designed to give schools a means to measure their progress. A score of 100 would indicate that all students had scored Advanced or Proficient. The average CPI scores are used to rate schools using the following scale:

Performance Ratings

| Rating | Proficiency Index Average (CPI) |
|----------------|---------------------------------|
| Very High | 90 – 100 |
| High | 80 – 89.9 |
| Moderate | 70 – 79.9 |
| Low | 60 – 69.9 |
| Very Low | 40 – 59.9 |
| Critically Low | 0 – 39.9 |

Student Growth Report

The Department of Elementary and Secondary Education publishes MCAS growth data for parents, schools and communities. This data, for students in grades 4 through 10, provides a snapshot of an individual student’s growth on MCAS performance, as compared with all other students in the state who have a similar performance history. For a school or district, the growth percentiles for all students are aggregated to create a median student growth percentile for the school or district. The median student growth percentile is a representation of "typical" growth for students in the school or district.

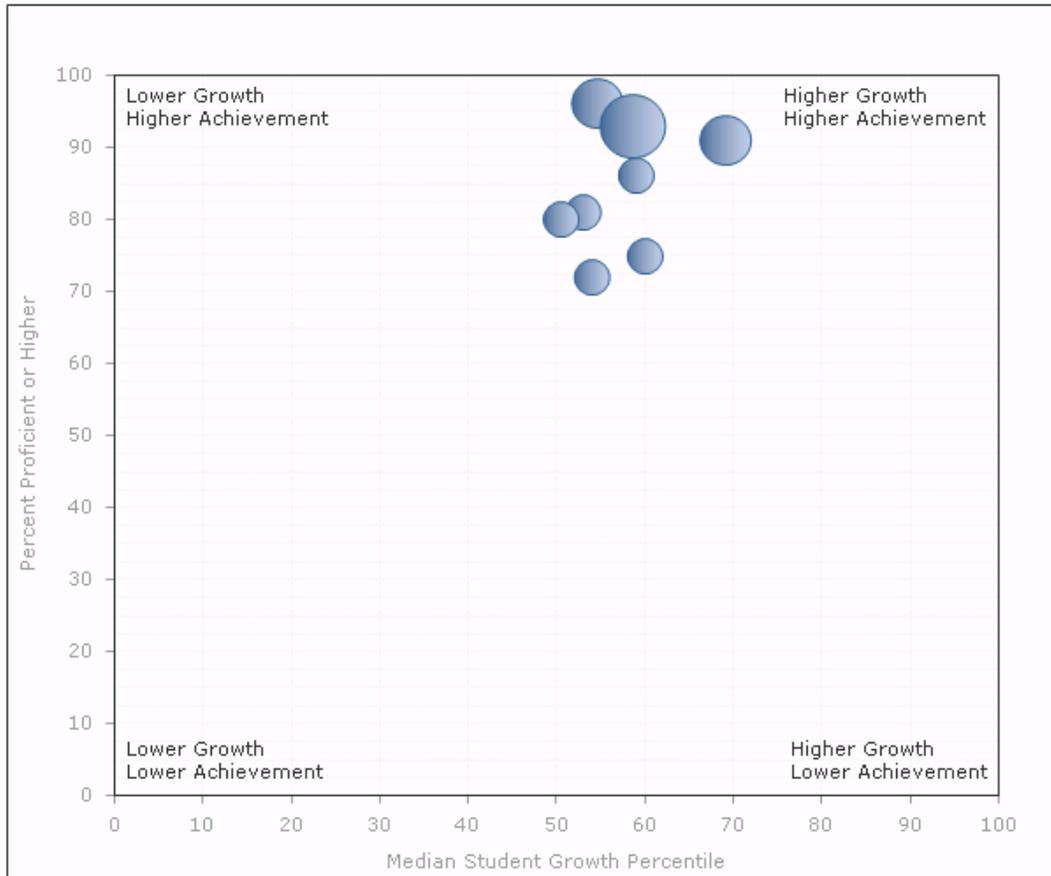
Here are Needham’s Student Growth Reports, available for all schools and districts at <http://profiles.doe.mass.edu/> These two charts illustrate the Student Growth percentiles of all students on MCAS, with each circle representing a different school population. As in the individual Student Growth Reports, the percentiles represent the following “growth” perspective:

| Student Growth Percentile | Description |
|---------------------------|-----------------|
| 1-39 | Lower Growth |
| 40-60 | Moderate Growth |
| 61-99 | Higher Growth |

MCAS Student Growth Report - Needham



Subject: Year: Grade:

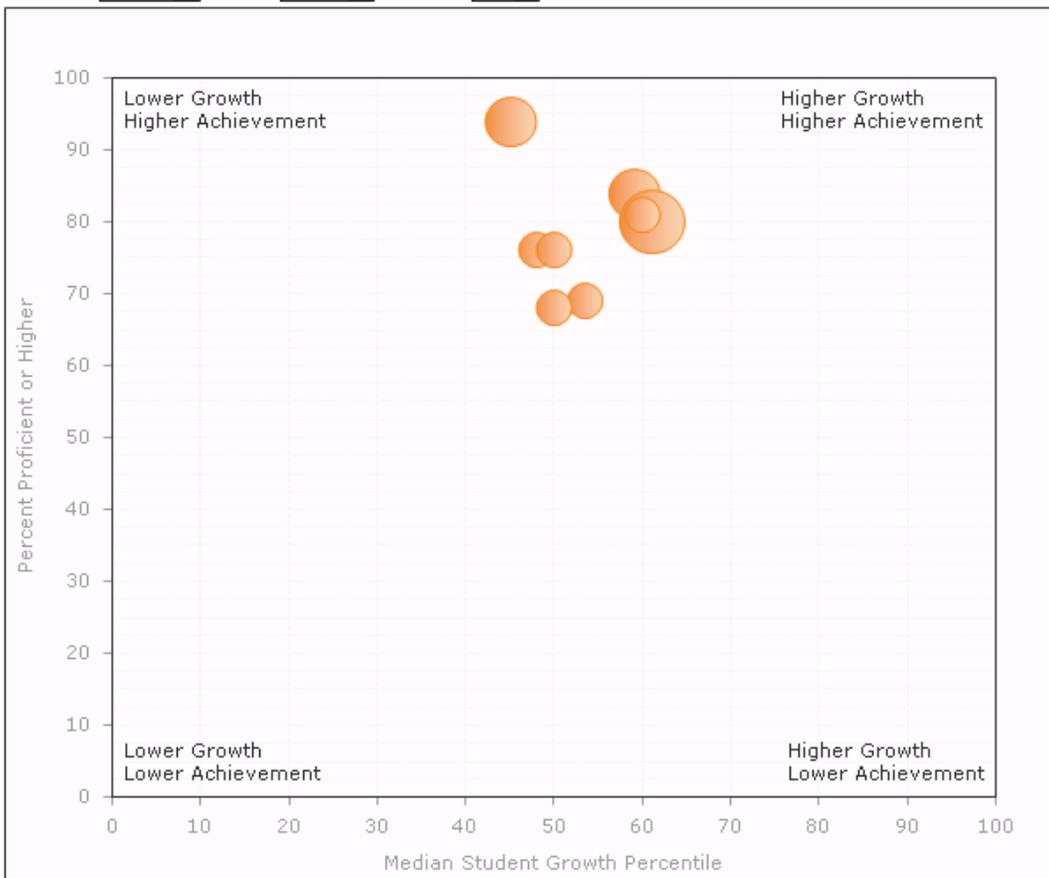


| School | Median SGP | % Proficient or Higher | Included in SGP |
|---------------------|------------|------------------------|-----------------|
| Broadmeadow | 53.0 | 81 | 218 |
| High Rock School | 69.0 | 91 | 425 |
| Hillside Elementary | 60.0 | 75 | 150 |
| John Eliot | 54.0 | 72 | 134 |
| Needham High | 54.5 | 96 | 320 |
| Newman Elem | 50.5 | 80 | 232 |
| Pollard Middle | 58.5 | 93 | 798 |
| William Mitchell | 59.0 | 86 | 151 |

MCAS Student Growth Report - Needham



Subject: **MATH** Year: **2011** Grade: **All**



| School | Median SGP | % Proficient or Higher | Included in SGP |
|---------------------|------------|------------------------|-----------------|
| Broadmeadow | 48.0 | 76 | 218 |
| High Rock School | 59.0 | 84 | 423 |
| Hillside Elementary | 53.5 | 69 | 150 |
| John Eliot | 50.0 | 68 | 134 |
| Needham High | 45.0 | 94 | 322 |
| Newman Elem | 50.0 | 76 | 232 |
| Pollard Middle | 61.0 | 80 | 792 |
| William Mitchell | 60.0 | 81 | 151 |

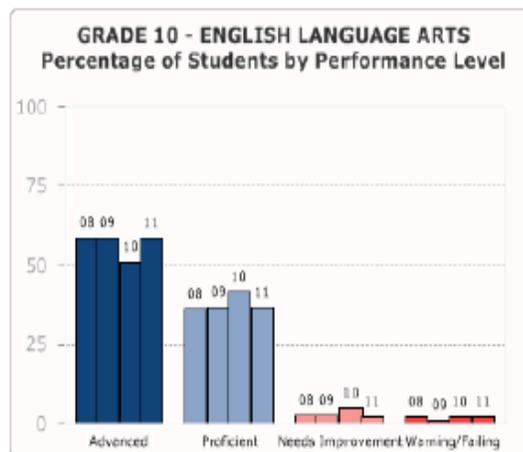
All schools in Needham are clustered in the upper half of this graph, indicating Higher Growth and Higher or Moderate Achievement. These School-based student growth percentiles represent the aggregate growth of those students who are enrolled in the schools, and who have been tested with MCAS at least once before, thus resulting in the growth model data. The median Student Growth Percentile for each school indicates that all of our schools are achieving at a moderate or high growth level.

How Did Our Students Do?

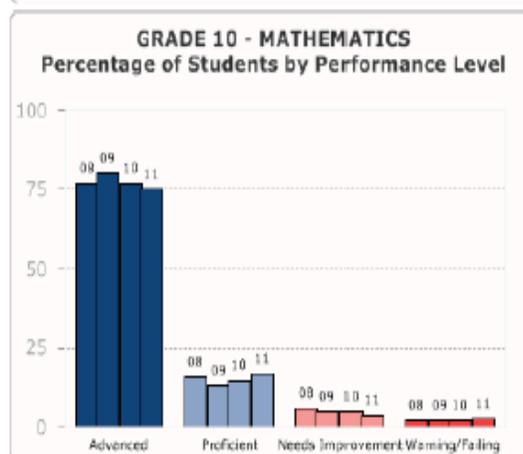
The following graphs illustrate the district's performance at each grade level, in the subjects tested at that grade level. A brief narrative follows each grade's report.

GRADE 10, 4 - YEAR COMPARISON

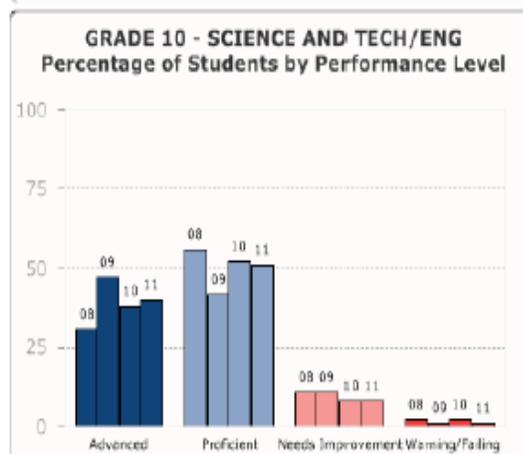
| GRADE 10 - ENGLISH LANGUAGE ARTS | | | | |
|----------------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 59 | 59 | 51 | 59 |
| PROFICIENT | 36 | 37 | 42 | 37 |
| NEEDS IMPROVEMENT | 3 | 3 | 5 | 2 |
| FAILING | 2 | 1 | 2 | 2 |



| GRADE 10 - MATHEMATICS | | | | |
|------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 77 | 80 | 77 | 75 |
| PROFICIENT | 16 | 13 | 15 | 17 |
| NEEDS IMPROVEMENT | 6 | 5 | 5 | 4 |
| FAILING | 2 | 2 | 2 | 3 |



| GRADE 10 - SCIENCE AND TECH/ENG | | | | |
|---------------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 31 | 47 | 38 | 40 |
| PROFICIENT | 56 | 42 | 52 | 51 |
| NEEDS IMPROVEMENT | 11 | 11 | 8 | 8 |
| FAILING | 2 | 1 | 2 | 1 |

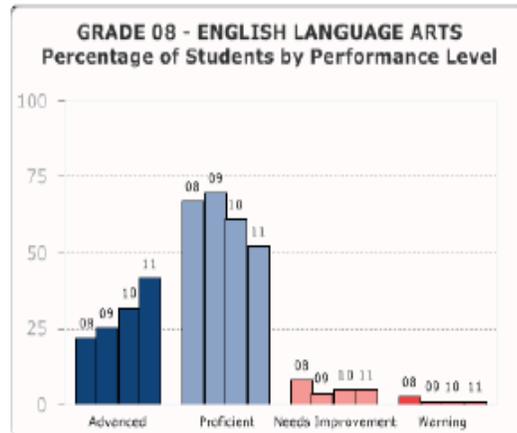


Our students continue to do well on the MCAS tests in grade 10. Passing MCAS with a score of 240 (Proficient) or higher in ELA and Mathematics is one way to earn a high school diploma. Alternatively, a student can earn a score of 220-238 (Needs Improvement) and successfully complete an Educational Proficiency Plan (EPP) for ELA or Math in order to earn the diploma. Students must also earn a score of 220 or higher on a Science test to meet the graduation requirements. Currently there are 21 students who will be working on an EPP or who will be retaking an MCAS test, the goal of which is to fulfill this graduation

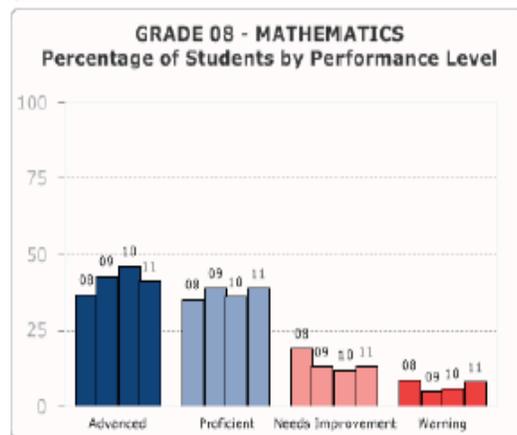
requirement. Of those 21, 10 must address both ELA and Math, 9 must address Math only, and 2 must address ELA only.

GRADE 8, 4 - YEAR COMPARISON

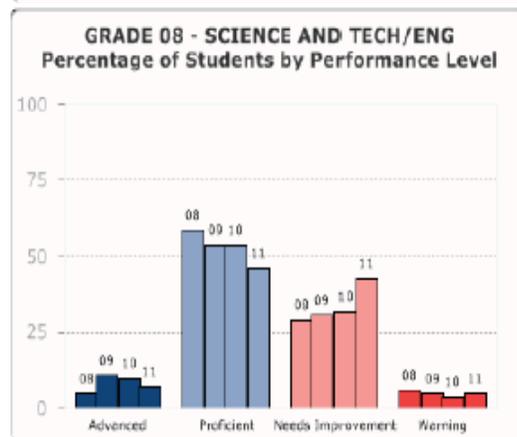
| GRADE 08 - ENGLISH LANGUAGE ARTS | | | | |
|----------------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 22 | 25 | 32 | 42 |
| PROFICIENT | 67 | 70 | 61 | 52 |
| NEEDS IMPROVEMENT | 8 | 4 | 5 | 5 |
| WARNING | 3 | 1 | 1 | 1 |



| GRADE 08 - MATHEMATICS | | | | |
|------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 37 | 43 | 46 | 41 |
| PROFICIENT | 35 | 39 | 36 | 39 |
| NEEDS IMPROVEMENT | 19 | 13 | 12 | 13 |
| WARNING | 9 | 5 | 6 | 8 |



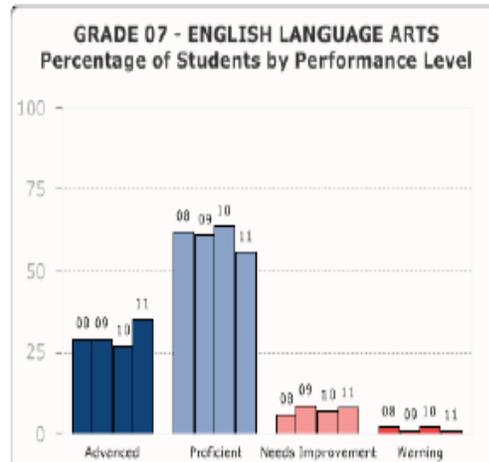
| GRADE 08 - SCIENCE AND TECH/ENG | | | | |
|---------------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 5 | 11 | 10 | 7 |
| PROFICIENT | 59 | 54 | 54 | 46 |
| NEEDS IMPROVEMENT | 29 | 31 | 32 | 43 |
| WARNING | 6 | 5 | 4 | 5 |



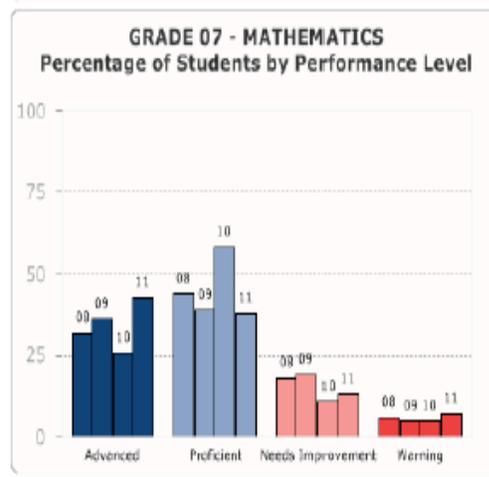
Grade 8 students continue to perform well on the ELA and Math MCAS tests, performing similarly this year to last year. This year the Grade 8 scores in Science and Technology dropped from 64% in Proficient and Advanced to 53% in those categories.

GRADE 7, 4 - YEAR COMPARISON

| GRADE 07 - ENGLISH LANGUAGE ARTS | | | | |
|----------------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 29 | 29 | 27 | 35 |
| PROFICIENT | 62 | 61 | 64 | 56 |
| NEEDS IMPROVEMENT | 6 | 9 | 7 | 8 |
| WARNING | 2 | 1 | 2 | 1 |



| GRADE 07 - MATHEMATICS | | | | |
|------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 32 | 36 | 26 | 43 |
| PROFICIENT | 44 | 39 | 58 | 38 |
| NEEDS IMPROVEMENT | 18 | 19 | 11 | 13 |
| WARNING | 6 | 5 | 5 | 7 |



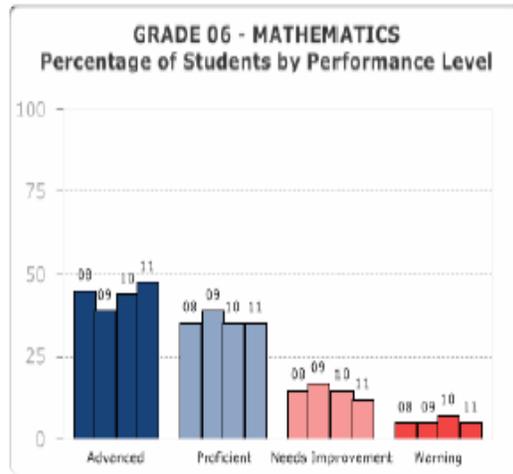
More Grade 7 students scored in the Advanced range in ELA this year (35%) compared to 27% in 2010. This same improvement can be seen in the Math results, too, with 43% of students scoring Advanced compared to 26% last year.

Comparison of Grade 7 Mathematics Performance Levels (% of students)

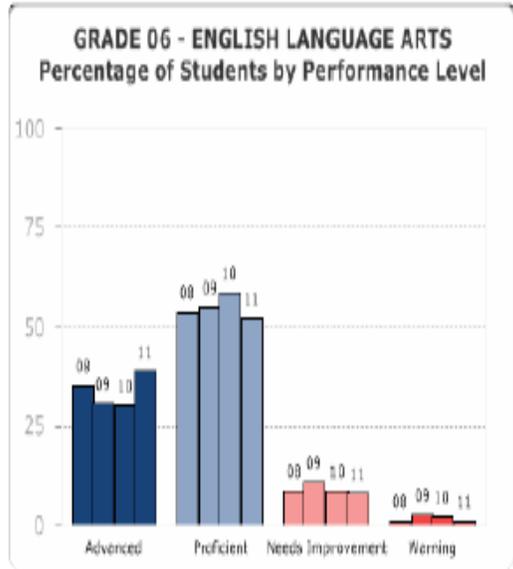
| | Advanced | Proficient | Needs Improvement | Warning | CPI |
|------------------|----------|------------|-------------------|---------|------|
| 2008 Mathematics | 32 | 45 | 18 | 4 | 90.8 |
| 2009 Mathematics | 36 | 39 | 19 | 5 | 88.8 |
| 2010 Mathematics | 26 | 58 | 11 | 5 | 92.7 |
| 2011 Mathematics | 43 | 38 | 13 | 7 | 88.7 |

GRADE 6, 4 - YEAR COMPARISON

| GRADE 06 - MATHEMATICS | | | | |
|------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 45 | 39 | 44 | 48 |
| PROFICIENT | 35 | 39 | 35 | 35 |
| NEEDS IMPROVEMENT | 15 | 17 | 15 | 12 |
| WARNING | 5 | 5 | 7 | 5 |



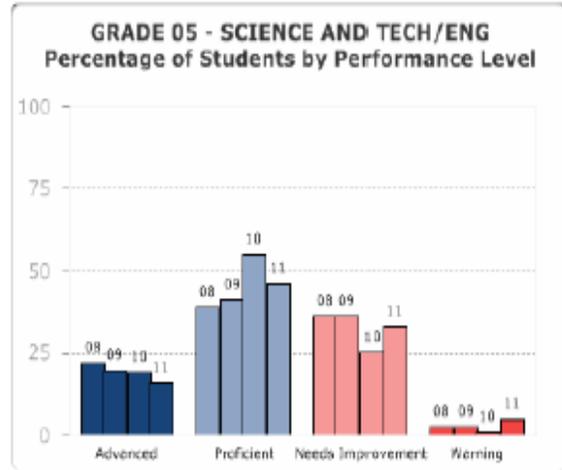
| GRADE 06 - ENGLISH LANGUAGE ARTS | | | | |
|----------------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 35 | 31 | 30 | 39 |
| PROFICIENT | 54 | 55 | 59 | 52 |
| NEEDS IMPROVEMENT | 9 | 11 | 9 | 8 |
| WARNING | 1 | 3 | 2 | 1 |



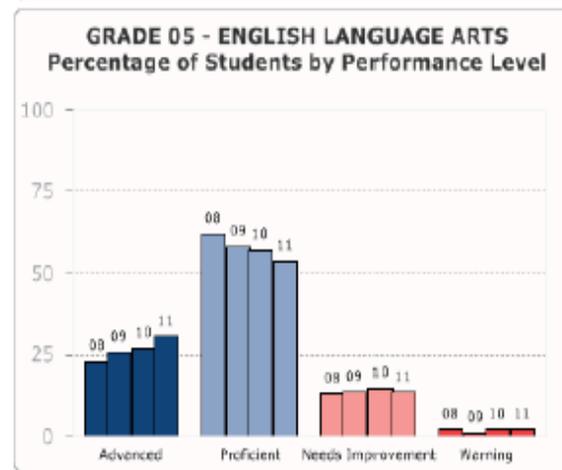
Grade 6 performance shows an increase in the students scoring Advanced in 2011 (39%) compared to 2010 (30%) in ELA. The Math performance has improved slightly this year, with 83% of students scoring in the Advanced/Proficient range.

GRADE 5, 4 - YEAR COMPARISON

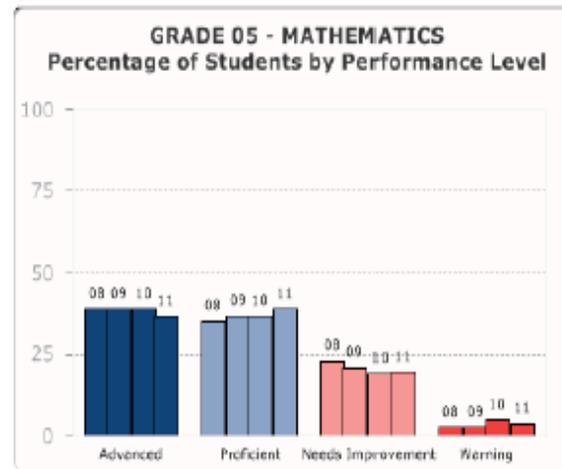
| GRADE 05 - SCIENCE AND TECH/ENG | | | | |
|---------------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 22 | 20 | 19 | 16 |
| PROFICIENT | 39 | 41 | 55 | 46 |
| NEEDS IMPROVEMENT | 36 | 38 | 25 | 33 |
| WARNING | 3 | 3 | 1 | 5 |



| GRADE 05 - ENGLISH LANGUAGE ARTS | | | | |
|----------------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 23 | 28 | 27 | 31 |
| PROFICIENT | 62 | 58 | 57 | 54 |
| NEEDS IMPROVEMENT | 13 | 14 | 15 | 14 |
| WARNING | 2 | 1 | 2 | 2 |



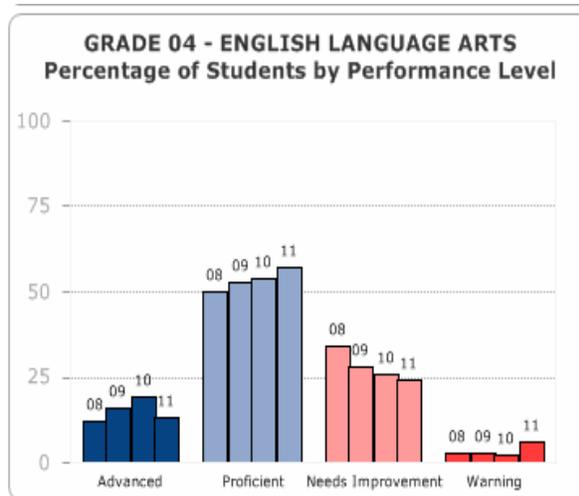
| GRADE 05 - MATHEMATICS | | | | |
|------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 39 | 39 | 39 | 37 |
| PROFICIENT | 35 | 37 | 37 | 39 |
| NEEDS IMPROVEMENT | 23 | 21 | 19 | 20 |
| WARNING | 3 | 3 | 5 | 4 |



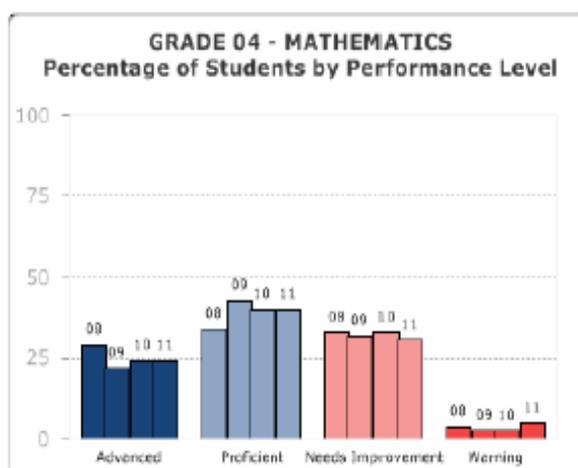
Grade 5 results indicate continued high performance in Math, ELA and Science and Technology/Engineering, with virtually no change in the percentages of students scoring at the Advanced and Proficient levels.

GRADE 4, 4 - YEAR COMPARISONS

| GRADE 04 - ENGLISH LANGUAGE ARTS | | | | |
|----------------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 12 | 16 | 19 | 13 |
| PROFICIENT | 50 | 53 | 54 | 57 |
| NEEDS IMPROVEMENT | 34 | 28 | 26 | 24 |
| WARNING | 3 | 3 | 2 | 6 |



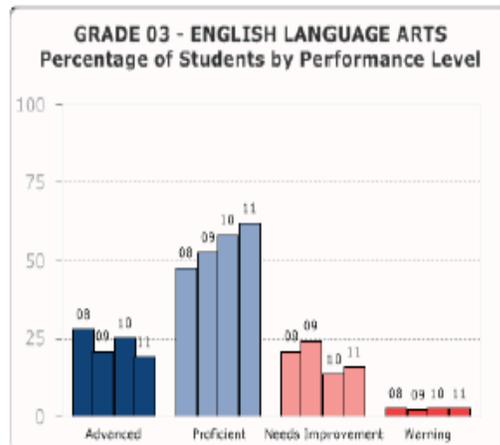
| GRADE 04 - MATHEMATICS | | | | |
|------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 29 | 22 | 24 | 24 |
| PROFICIENT | 34 | 43 | 40 | 40 |
| NEEDS IMPROVEMENT | 33 | 32 | 33 | 31 |
| WARNING | 4 | 3 | 3 | 5 |



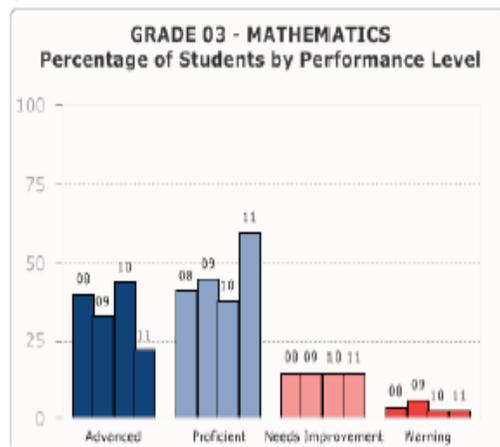
The grade 4 students performed similarly in 2011 and 2010. In fact, the comparison over the four years indicates that students at this grade level perform consistently at a high level, with an average of 64% of students scoring Advanced and Proficient in Math and 68.5% in ELA.

GRADE 3, 4 - YEAR COMPARISONS

| GRADE 03 - ENGLISH LANGUAGE ARTS | | | | |
|----------------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 28 | 21 | 25 | 19 |
| PROFICIENT | 48 | 53 | 58 | 62 |
| NEEDS IMPROVEMENT | 21 | 24 | 14 | 16 |
| WARNING | 3 | 2 | 3 | 3 |



| GRADE 03 - MATHEMATICS | | | | |
|------------------------|------|------|------|------|
| PERFORMANCE LEVEL | 2008 | 2009 | 2010 | 2011 |
| ADVANCED | 40 | 33 | 44 | 22 |
| PROFICIENT | 41 | 45 | 38 | 60 |
| NEEDS IMPROVEMENT | 15 | 15 | 15 | 15 |
| WARNING | 4 | 6 | 3 | 3 |



Both Grade 3 ELA and Math remained quite stable over the four years of testing reported. In Math, the percentage of students scoring in Warning has remained lower since 2009. The ELA scores reflect consistently higher scores in Advanced and Proficient in the last two years of testing.

Adequate Yearly Progress (AYP)

The *No Child Left Behind Act (NCLB)* has set a requirement that all students attain proficiency on the MCAS by 2014. Each year the Department of Education issues AYP determinations for each school and district. AYP determinations are made separately for English Language Arts (ELA) and Mathematics. For each subject, there are multiple AYP determinations for students in the aggregate as well as for student subgroups. Student groups for whom AYP determinations are made include special education students, students with limited English proficiency, economically disadvantaged students (eligible for free or reduced school lunch), and African American, Hispanic, Asian, White, and Native American students. Students are counted in *each* group to which they belong. Subgroups that do not make up at least 5% of the overall population are reported, but Performance Targets are not listed because the data are not considered statistically significant.

AYP determinations for districts, schools, and student subgroups are based on answering “Yes” to three of four questions:

A. Are at least 95% of students taking part in MCAS?

In Needham 100% of our students participate.

B. Has the district/school/subgroup met the state’s target Composite Performance Index for the current review period?

This year, the state’s target CPI is 95.1 in English Language Arts and 92.2 in Mathematics.

C. Is the rate of improvement on target to reach 100% proficiency by 2014?

(See the charts below.)

D. Does the attendance meet the state’s 92% attendance rate?

The attendance rate in Needham is 96.3%.

Adequate Yearly Progress for District, School and Subgroups

Because the standard for proficiency was again raised this year, many schools (63.6% of 1,714 schools) and districts (38.7% of 390 districts) in the Commonwealth did not make AYP, either in the aggregate or in subgroups. Here is the Needham 2011 Accountability Status chart for the district and the grade spans.

Needham - 2011 Accountability Data

District: Needham (01990000)
 Title I District: Yes
 Accountability & Assistance Level: Level 2

| | NCLB Accountability Status | Improvement Rating |
|-----------------------|----------------------------|--------------------|
| ENGLISH LANGUAGE ARTS | No Status | No Change |
| MATHEMATICS | No Status | No Change |

A district is newly identified for improvement if it fails to make AYP in the same subject area and all grade-spans, for students in the aggregate or any subgroup, for two consecutive years. A district will have no accountability status if it makes AYP in the same subject area for at least one grade-span for two consecutive years.

| ENGLISH LANGUAGE ARTS | | | | | |
|-----------------------|---------------|------|------|------|--|
| Grade Spans | | 2009 | 2010 | 2011 | 2011 Subgroups Not Making AYP |
| Grades 3-5 | Aggregate | Yes | Yes | No | Asian/Pac Islander -White -Special Education -Low Income - |
| | All Subgroups | No | No | No | |
| Grades 6-8 | Aggregate | Yes | Yes | Yes | |
| | All Subgroups | Yes | No | Yes | |
| Grades 9-12 | Aggregate | Yes | Yes | Yes | |
| | All Subgroups | Yes | Yes | Yes | |

| MATHEMATICS | | | | | |
|-------------|---------------|------|------|------|-------------------------------|
| Grade Spans | | 2009 | 2010 | 2011 | 2011 Subgroups Not Making AYP |
| Grades 3-5 | Aggregate | Yes | Yes | No | White -Special Education - |
| | All Subgroups | No | No | No | |
| Grades 6-8 | Aggregate | Yes | Yes | No | White -Special Education - |
| | All Subgroups | No | No | No | |
| Grades 9-12 | Aggregate | Yes | Yes | Yes | Special Education - |
| | All Subgroups | Yes | Yes | No | |

| Adequate Yearly Progress History | | | | | | | | | | NCLB Accountability Status | |
|----------------------------------|---------------|------|------|------|------|------|------|------|------|----------------------------|--|
| | | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | | |
| ELA | Aggregate | Yes | No Status | |
| | All Subgroups | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | | |
| MATH | Aggregate | Yes | No Status | |
| | All Subgroups | Yes | No | | |

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As a district, Needham continued to make AYP targets in both ELA and Math. As can be seen in the “subgroup” list, Needham failed to make AYP in subgroups, in several grade spans. This AYP status is further detailed below, by school.

| SCHOOL | ACCOUNTABILITY STATUS | MCAS subject area |
|-----------------------|---|---------------------|
| Broadmeadow School | Improvement Year I for subgroups | ELA and Mathematics |
| Hillside School | Improvement Year I for subgroups | ELA and Mathematics |
| Newman School | Improvement Year II for subgroups Improvement Year I for subgroups | Mathematics ELA |
| Pollard Middle School | Corrective Action for subgroups | Mathematics |

The Principals and leadership teams in each of these schools has completed an analysis of grade level and individual student’s strengths and weaknesses on the MCAS tests. Focused instruction, curriculum adjustments, individual success plans for students and extra tutoring sessions are some of the interventions being designed and implemented at the schools. Principals have or will be sharing the MCAS results with their School Improvement Councils and will be considering whether the School Improvement Plan should be amended to include focused goals around curriculum and instruction.

What Do These Results Tell Us?

The performance of Needham students on this one measure continues to be very good. Indeed, the district CPI measures above 90 for both ELA and Mathematics, indicating a Very High performance rating on MCAS as a district. While subgroup scores provide data for teachers and principals to consider when evaluating their curriculum and instruction practices, ultimately most students in Needham reach proficiency in MCAS. By 10th grade, 98% of our students meet Competency Determination by meeting ELA, Math and Science MCAS standards. The remaining 11th and 12th grade students reach Competency through repeat MCAS testing or Educational Proficiency Plans, thus attaining their high school diploma.

Despite the NCLB Accountability Status for subgroups in four of our schools, our students continue to perform well on MCAS at all levels. The Improvement and Performance Targets this year represent a standard that is elevated in order to reach the 2014 proficiency levels specified in NCLB. While it is important for the district to determine the effectiveness of its curriculum and instruction for those students who did not meet that target, it is also important that we realize almost every single Needham student attains her or his high school diploma at the expected time and goes on to higher education.

The 2011 MCAS scores remain similar to previous years. While many of the charts in this report look at the district’s MCAS results over the last four years, comparing test scores from year to year requires caution. Different students took the tests, and our experience tells us that different classes can vary greatly in ability and achievement. In addition, the tests change from year to year, thus making direct comparisons less reliable. While some changes in student performance may be a result of curriculum and instruction implementation it takes several years to determine if a higher performance trend is seen.

The new Student Growth Model provides a new way of looking at MCAS data for individual students and for schools as a whole. However, one must be cautious with this calibration, too. Ultimately the student’s proficiency at the 10th grade level will determine the achievement of the high school diploma. There appears to be variability, particularly at the elementary level, in the scores of individual students from year to year, resulting in “lower” or “higher” growth, depending on the direction of the variability.

The Needham community has understood the high-stakes nature of MCAS at the same time that they believe it is just one measure of curriculum effectiveness and student learning. It is hoped that parents, community members and students will continue to appreciate the value and the limitations of the MCAS assessment.