# MCAS: An Indicator of Student Achievement An Overview of 2023 State Assessment Results 

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## I. Introduction

The Massachusetts Comprehensive Assessment System -the test we know as MCAS - came into being with the passage of the Education Reform Act in $1993{ }^{1}$. This legislation was instrumental in raising academic expectations for students across the state. The effort to highlight the importance of equitable opportunities was particularly important for student groups that had been historically low performing and/or underserved. In the years since, the sustained attention on student growth as well as academic outcomes resulted in a renewed focus on achievement opportunity gaps. The continued use of common metrics across districts continues to guide our actions as we examine academic performance gaps between student groups in Shrewsbury.

In addition, while a single assessment is but one data point, the Department of Elementary and Secondary Education continues to affirm the importance of using MCAS results as a useful snapshot of the district as a whole. In Shrewsbury we use state testing results to determine where additional student support may be warranted. As we contemplate the extent to which our students have recovered from the academic impact of the pandemic, MCAS performance is one indicator to consider. In particular, the analysis of student subgroup scores gives us a full picture of current strengths and future needs.

## II. Overview

As we review the latest MCAS results, it's important to note that, due to adjustments made by the Department of Elementary and Secondary Education (DESE) during the pandemic, 2023 results are best compared with 2022 and 2019, not 2021. This is because the 2020 exam was canceled and the 2021 exam was shortened and administered differently, with some students taking it remotely from home.

It's also important to recall that due to the COVID-19 pandemic, most districts did not receive an accountability determination in 2022. However, full accountability measures resumed this year.
More information about the components of accountability

| Recent History of Accountability Measures |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Reported Measure | 2019 | 2020 | 2021 | 2022 | 2023 |
| Accountability Percentile | $\checkmark$ | X | X |  |  |
| $\underset{\substack{\text { Tragets }}}{\substack{\text { Progess } \\ \text { Towards }}}$ |  | X | , |  |  |

[^0]The section that follows will provide an overview of student achievement by grade and subject area. A link to Shrewsbury's district profile, including detailed information about student performance reports, can be found here: MCAS Tests of Spring 2023 Percent of Students at Each Achievement Level - Shrewsbury

Test results prompt us to tell a "data story". The story of the 2023 MCAS results is a book with different chapters. From the start, we can see that it will take time to fully regain the progress the district achieved in previous years. However, we also see from signs of recovery that the ending is a hopeful one. Moreover, it's evident that academic achievement in some areas is rebounding faster than others. This makes sense, because cohorts of students experienced the impact of the disruption differently. For example, this year's fourth graders were impacted more than our current third graders. For this reason it's helpful to look at achievement testing by grade span.

## III. Achievement Data Analysis

This part of the report details achievement scores by subject area and grade level.

A student is considered "Proficient" having earned a score of "Meeting" or "Exceeding". The graphs below depict 2023 student proficiency scores by subject area compared to the state average. A quick glance at the charts below makes it plain that student scores were higher in Math than in English Language Arts for most students in Grades 3-8. This is the second year in a row we've noted that trend.


## 2023 MCAS: District vs. State Comparison Data

As you know, the district has shifted practice to focus on the importance of teaching foundational reading skills in Grades K-6. This data affirms Shrewsbury's emphasis on literacy. Our new K-6 English Language Arts curriculum is better aligned with state standards, the criteria used for success on the MCAS exam.

Amongst students in the upper grades, English Language Arts and Math achievement scores were more similar, an indication that
 achievement outcomes for students at this level are less tied to curriculum experiences.


English Language Arts (ELA) achievement scores for all students continue to reflect the impact of lost instructional time on reading and writing, with the most significant differences between preand post-pandemic performance seen in our younger students. The number of students in Grades $3-4$ scoring in the "Proficient" range in English Language Arts in 2023 is about 20\% percent lower than in 2019. For students in Grades 5-8, the gap between current scores and 2019 scores is closer to $10 \%$. Again, ELA scores are likely to increase with the addition of consistent foundational literacy learning and more opportunities for extended writing.

## Student Achievement Data: Overall Trends

Just as achievement results vary across grade spans, it's evident that there are differences in student scores within grade spans as well. Another important way we can understand assessment data is by monitoring groups of children. These cohorts are called "subgroups." These results make plain that the disruption caused by COVID-19 had a disproportionate impact on students in need. Looking at trends for student subgroups suggests that significant achievement and opportunity gaps remain for students with disabilities, English language learners and economically disadvantaged students in English Language Arts, underscoring the importance of our literacy initiative.

## SPS Student Subgroup Analysis for English Language Arts \& Math





Aggregate and Subgroup Proficiency by Grade Span
A Comparison of Exceeding/Meeting Scores for Grade 10


As we review Shrewsbury's MCAS scores, it's important to consider the data in context, and helpful to compare local trends to patterns across the state. For this reason, information about how our results compare with area districts is included for each grade span.

## SPS English Language Arts Scores By Grade Level

Grade 3 Student Achievement Scores in English Language Arts

| \% by level | 2019 | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | 80 | 74 | 64 | 64 |
| Exceeding | 28 | 19 | 19 | 15 |
| Meeting | 52 | 55 | 45 | 49 |
| Partially Meeting | 16 | 22 | 31 | 28 |
| Not Meeting | 3 | 4 | 5 | 8 |



As shown in the table above, English Language Arts scores for third graders dropped by $16 \%$ post-pandemic, with fewer students scoring in the "Exceeding" range. In 2023, only 64\% of Grade 3 students met the state benchmark for proficiency in English Language Arts. With the addition of new curriculum materials for teaching decoding, educators in Shrewsbury are confident that we can help students accelerate their progress this year.



Comparisons with other districts in our area provide perspective on how our data compares within the region. The chart below depicts results for Grade 3 as compared with area districts. The Department of Secondary and Elementary education (DESE) also provides a wealth of comparative statistics. One helpful resource is District Analysis and Review Tools (DART), a district analysis and review tool that identifies districts most similar in terms of grade spans, total enrollment and special populations. The chart below shows how Shrewsbury's scores for Grade 3 compare to DART districts.

Percentage of students Meeting or Exceeding Expectations Next-Gen MCAS ELA / Grade 3 DART District Comparisons


## SPS ELA Grade 3 Subgroup Achievement Scores

A closer look at scores for third graders in various subgroups illustrates differences in rates of achievement. The Department of Elementary and Secondary Education calculates achievement level percentages for subgroups with ten or more students. Shrewsbury's subrgoups include English Learners (ELs) and Former English Learners (FELs), for example. Only subgroups that have available information are included.

| Accountability <br> Subgroups |  | \% Proficient by Category |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | E/M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| All Grade 3 Students | $\mathbf{6 4}$ | $\mathbf{1 5}$ | $\mathbf{4 9}$ | $\mathbf{2 8}$ |  |
| Students w/ Disabilities | 26 | 3 | 23 | 41 | $\mathbf{8}$ |
| EL and Former EL | 44 | 4 | 40 | 37 | 33 |
| Low Income | 38 | 5 | 33 | 46 | 19 |
| High Needs* | 42 | 6 | 36 | 41 | 16 |

Note: Per DESE, a student is considered "High Needs" if s/he is designated as either low income (prior to 2015 and from 2022 to the present) economically disadvantaged (from 2015 to 2021) English Learner (EL) or Former English Learner (FEL) or a student with disabilities.

| Race \& Ethnicity Subgroups | \% Proficient by Category |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | E/M | Exceeding | Meeting | Partially Meeting | Not Meeting |
| African American / Black | 57 | 0 | 57 | 36 | 7 |
| Asian | 72 | 18 | 54 | 21 | 7 |
| Hispanic / Latinx | 36 | 3 | 33 | 48 | 18 |
| Multi-Race, Non-Hispanic / Latinx | 58 | 5 | 53 | 32 | 11 |
| White | 65 | 18 | 47 | 29 | 5 |



## Grade 4 Student Achievement Scores in English Language Arts

Student scores for students in Grade 4 dropped slightly in 2023, with $58 \%$ of students scoring in the proficient range or better.

| \% by level | 2019 | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | 75 | 72 | 60 | 58 |
| Exceeding | 21 | 11 | 11 | 11 |
| Meeting | 54 | 61 | 49 | 47 |
| Partially Meeting | 20 | 25 | 34 | 35 |
| Not Meeting | 4 | 4 | 6 | 7 |



This graph shows how our Grade 4 students compare with fourth-grade readers in nearby districts.


Grade 4 student scores in English Language Arts are similar to those in DART districts as well.

## Percentage of students Meeting or Exceeding Expectations Next-Gen MCAS ELA / Grade 4 DART District Comparisons



## SPS ELAA Grade 4 Subgroup Achievement Scores

| Accountability Subgroups | \% Proficient by Category |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | E/M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| All Grade 4 Students | 58 | 11 | 47 | 35 | 7 |
| Students w/ Disabilities | 15 | 3 | 12 | 52 | 34 |
| EL and Former EL | 41 | 6 | 35 | 59 | 0 |
| Low Income | 22 | 2 | 20 | 58 | 19 |
| High Needs | 24 | 3 | 21 | 57 | 19 |


|  | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Race \& Ethnicity Subgroups | Partially <br> Meeting |  |  |  |  |
|  | E / M | Exceeding | Meeting Meeting |  |  |
| African American / Black | 22 | 0 | 22 | 67 | 11 |
| Asian | 74 | 19 | 55 | 21 | 4 |
| Hispanic / Latinx | 46 | 3 | 43 | 48 | 8 |
| Multi-Race, <br> Non-Hispanic / Latinx | 52 | 14 | 38 | 34 | 14 |
| White | 51 | 6 | 45 | 41 | 9 |



## Grade 5 Student Achievement Scores in English Language Arts

| \% by level | 2019 | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | 70 | 62 | 59 | 61 |
| Exceeding | 13 | 13 | 7 | 2 |
| Meeting | 57 | 49 | 52 | 59 |
| Partially Meeting | 27 | 34 | 35 | 32 |
| Not Meeting | 3 | 5 | 5 | 7 |

In Grade 5, 61\% of students reached proficiency benchmarks in 2023, a slight gain over 2022. Since 2021, the percentage of Shrewsbury students meeting or exceeding state benchmarks has remained about 10\% below pre-pandemic scores. The decrease in the number of students scoring in the "Exceeding" range over time is concerning. At the same time, the chart below demonstrates that only three districts in the area had a higher number of proficient scores in this grade band.



While Shrewsbury students continued to outperform the state average, the percentage of students in Shrewsbury that met or exceeded achievement goals in English Language Arts in fifth grade remains lower than pre-pandemic scores.

## Percentage of students Meeting or Exceeding Expectations Next-Gen MCAS ELA / Grade 5 DART District Comparisons



## SPS ELAA Grade 5 Subgroup Achievement Scores

| Accountability <br> Subgroups | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| All Grade 5 Students | $\mathbf{6 1}$ | $\mathbf{2}$ | $\mathbf{5 9}$ | $\mathbf{3 2}$ |  |
| Students w/ Disabilities | 19 | 2 | 17 | 44 | $\mathbf{7}$ |
| EL and Former EL | 43 | 0 | 43 | 43 | 38 |
| Low Income | 33 | 0 | 33 | 48 | 14 |
| High Needs | 35 | 1 | 34 | 46 | 19 |


| Race \& Ethnicity <br> Subgroups | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| African American / Black | 50 | 0 | 50 | 33 | 17 |
| Asian | 72 | 3 | 69 | 25 | 3 |
| Hispanic / Latinx | 43 | 0 | 43 | 35 | 22 |
| Multi-Race, <br> Non-Hispanic / Latinx | 74 | 4 | 74 | 15 | 7 |
| White | 55 | 1 | 54 | 38 | 7 |

## Grade 6 Student Achievement Scores in English Language Arts

64\% of students in Grade 6 met or exceeded state benchmarks in English Language Arts in 2023, up 3\% from last year's scores.

| \% by level | 2019 | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | 73 | 67 | 61 | 64 |
| Exceeding | 27 | 22 | 17 | 14 |
| Meeting | 46 | 45 | 44 | 50 |
| Partially Meeting | 20 | 22 | 32 | 26 |
| Not Meeting | 7 | 11 | 8 | 10 |

As shown below, students at the middle level scored well above the state average.


Shrewsbury's sixth graders achieved at similar rates to those of their peers in DART districts.

Percentage of students Meeting or Exceeding Expectations
Next-Gen MCAS ELA / Grade 6

## DART District Comparisons



## SPS Grade 6 ELA Subgroup Achievement Scores

| Accountability <br> Subgroups | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | E/M | Exceeding | Meeting | Partially <br> Meeting | Not <br> Meeting |
| All Grade 6 Students | $\mathbf{6 4}$ | $\mathbf{1 4}$ | $\mathbf{5 0}$ | $\mathbf{2 6}$ | $\mathbf{1 0}$ |
| Students w/ Disabilities | 12 | 0 | 12 | 46 | 43 |
| EL and Former EL | 39 | 2 | 37 | 46 | 15 |
| Low Income | 32 | 3 | 30 | 39 | 28 |
| High Needs | 30 | $\mathbf{2}$ | 28 | 43 | 27 |


| Race \& Ethnicity <br> Subgroups | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | E / M | Exceeding | Meeting | Partially Meeting | Not Meeting |
| African American/Black | 39 | 8 | 31 | 46 | 15 |
| Asian | 79 | 23 | 56 | 18 | 3 |
| Hispanic/Latinx | 45 | 8 | 37 | 35 | 20 |
| Multi-Race, <br> Non-Hispanic/Latinx | 60 | 4 | 56 | 30 | 11 |
| White | 58 | 9 | 49 | 29 | 13 |

## Grade 7 Student Achievement Scores in English Language Arts

Only 51\% of students in Grade 7 met the state benchmark in English Language Arts in 2023. Scores in ELA continue to decline for this grade, signaling the need for ongoing analysis and action.
Fortunately, the new schedule put into place this year at Oak allows for consistent student support. Classroom-based practice can be matched to specific student needs and adjusted over time.

| \% by level | 2019 | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | 62 | 59 | 59 | $51^{*}$ |
| Exceeding | 14 | 8 | 6 | 12 |
| Meeting | 48 | 51 | 52 | 40 |
| Partially Meeting | 31 | 32 | 32 | 39 |
| Not Meeting | 7 | 9 | 9 | 10 |

* Please Note: Achievement score percentiles are rounded up, so for some grade spans there is a difference in the number of students reported for each scoring category and the total number of students earning "Exceeding / Meeting". For example, if 7.4\% of students earned a score in the "Exceeding" range and $52.4 \%$ of students earned a "Meeting" score, those numbers would be rounded to 7 and 52 respectively. However the total number of students scoring "Meeting" or better will total 60 to reflect the additional $.8 \%$ adjustment by the Department of Elementary and Secondary Education. This is the case for Grade 7 and Grade 10.



SPS ELA Grade 7 Subgroup Achievement Scores

| Accountability <br> Subgroups | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | E/M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| All Grade 7 Students | $\mathbf{5 1 *}$ | $\mathbf{1 2}$ | $\mathbf{4 0}$ | $\mathbf{3 9}$ | $\mathbf{1 0}$ |
| Students w/ Disabilities | 7 | 1 | 6 | 42 | 51 |
| EL and Former EL | 21 | 3 | 18 | 53 | 26 |
| Low Income | 23 | 5 | 18 | 54 | 23 |
| High Needs | 21 | 5 | 16 | 48 | 31 |

[^1]| Race \& Ethnicity <br> Subgroups | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| African American/Black | 24 | 10 | 14 | 67 | 10 |
| Asian | 69 | 22 | 47 | 25 | 6 |
| Hispanic/Latinx | 33 | 4 | 29 | 44 | 22 |
| Multi-Race, <br> Non-Hispanic/Latinx | 55 | 20 | 35 | 35 | 10 |
| White | 44 | 5 | 39 | 45 | 11 |

## Grade 8 Student Achievement Scores in English Language Arts

$62 \%$ of Shrewsbury students in Grade 8 scored in the "Meeting" or "Exceeding" range last spring. As shown below, this result represents a drop in achievement scores from 2022.

| \% by level | 2019 | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | 72 | 62 | 66 | 62 |
| Exceeding | 26 | 16 | 19 | 16 |
| Meeting | 46 | 46 | 47 | 46 |
| Partially Meeting | 20 | 30 | 27 | 26 |
| Not Meeting | 7 | 8 | 7 | 12 |

Shrewsbury's scores for this grade span continue to align with results seen in several area districts.


The graph below shows how Shrewsbury's eighth graders compare with students from districts with similar demographics.

Percentage of students Meeting or Exceeding Expectations
Next-Gen MCAS ELA / Grade 8
DART District Comparisons


## SPS ELA Grade 8 Subgroup Achievement Scores

| Accountability <br> Subgroups | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| All Grade 8 Students | $\mathbf{6 2}$ | $\mathbf{1 6}$ | $\mathbf{4 6}$ | $\mathbf{2 6}$ | $\mathbf{1 2}$ |
| Students w/ Disabilities | 9 | 4 | 5 | 37 | 54 |
| EL and Former EL | 20 | 0 | 20 | 33 | 47 |
| Low Income | 37 | 5 | 32 | 33 | 30 |
| High Needs | 27 | 5 | 22 | 36 | 36 |


| Race \& Ethnicity <br> Subgroups | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| African American/Black | 40 | 0 | 40 | 40 | 20 |
| Asian | 76 | 26 | 50 | 16 | 8 |
| Hispanic/Latinx | 34 | 6 | 28 | 34 | 32 |
| Multi-Race, <br> Non-Hispanic/Latinx | 77 | 19 | 58 | 15 | 8 |
| White | 58 | 13 | 45 | 31 | 10 |



## Grade 10 Student Achievement Scores in English Language Arts

Once again, 77\% of students earned a score of "Meeting" or "Exceeding" in Grade 10. While the number of students considered proficient in 2023 is similar to 2019, the significant increase in the number of students scoring in the "Exceeding" range over last year is a positive sign.

| \% by level | 2019 | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | 79 | 83 | 77 | $77 *$ |
| Exceeding | 25 | 35 | 14 | 30 |
| Meeting | 54 | 48 | 64 | 46 |
| Partially Meeting | 18 | 12 | 19 | 19 |
| Not Meeting | 3 | 4 | 3 | 4 |

* Please Note: As mentioned previously, achievement score percentiles differ due to rounding.


Looking at assessment information from area districts provides additional perspective on our results.

Percentage of Students Meeting or Exceeding Expectations Next-Gen MCAS ELA / Grade 10
Assabet Valley Collaborative District Comparisons


Percentage of students Meeting or Exceeding Expectations
Next-Gen MCAS ELA / Grade 10
DART District Comparisons


## SPS ELA Grade 10 Subgroup Achievement Scores

| Accountability <br> Subgroups | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | E/M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| All Grade 10 Students | $\mathbf{7 7 *}$ | $\mathbf{3 0}$ | $\mathbf{4 6}$ | $\mathbf{1 9}$ |  |
| Students w/ Disabilities | 18 | 0 | 18 | 59 | $\mathbf{4}$ |
| EL and Former EL | 31 | 0 | 31 | 42 | 27 |
| Low Income | 42 | 8 | 34 | 45 | 13 |
| High Needs | 41 | 6 | 35 | 45 | 14 |


| Race \& Ethnicity <br> Subgroups | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| African American./Black | 65 | 5 | 60 | 25 | 10 |
| Asian | 90 | 51 | 39 | 9 | 1 |
| Hispanic/Latinx | 51 | 15 | 36 | 35 | 15 |
| Multi-Race, <br> Non-Hisp./Latinx | 63 | 21 | 42 | 26 | 11 |
| White | 78 | 24 | 54 | 21 | 2 |

[^2]
## Trends Over Time in English Language Arts

As shown below, it's clear that the disruption caused by the pandemic continues to impact achievement scores in English Language Arts, especially for students in key transition years. At the same time, we see that Shrewsbury's results reflect small gains in Grades 5, 6 and 10, suggesting that many students in the district are beginning to recover lost ground.

Shrewsbury's scores have been consistently higher than state averages, and that trend held true for 2023. Finally, it's important to remember that aggregate scores for most grade spans in Shrewsbury were comparable with other districts that have similar demographics.

Percentage of Students Meeting or Exceeding Expectations

| Grade and <br> Subject | Gr. 3 Gr. 4 | Gr. 5 | Gr. 6 | Gr. 7 | Gr. 8 | Gr. 10 |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Shrewsbury \% <br> E M 2019 | $81 \%$ | $76 \%$ | $71 \%$ | $73 \%$ | $62 \%$ | $72 \%$ | $79 \%$ |
| State Results 2019 | $56 \%$ | $52 \%$ | $52 \%$ | $53 \%$ | $48 \%$ | $52 \%$ | $61 \%$ |
| Shrewsbury \% | $74 \%$ | $72 \%$ | $61 \%$ | $67 \%$ | $59 \%$ | $62 \%$ | $84 \%$ |
| E / M 2021 |  |  |  |  |  |  |  |
| State Results 2021 | $51 \%$ | $49 \%$ | $47 \%$ | $47 \%$ | $43 \%$ | $41 \%$ | $64 \%$ |
| Shrewsbury \% / M 2022 | $64 \%$ | $60 \%$ | $59 \%$ | $61 \%$ | $58 \%$ | $66 \%$ | $78 \%$ |
| State Results 2022 | $44 \%$ | $38 \%$ | $41 \%$ | $41 \%$ | $41 \%$ | $42 \%$ | $58 \%$ |
| Shrewsbury \% | $64 \%$ | $58 \%$ | $61 \%$ | $64 \%$ | $51 \%$ | $62 \%$ | $77 \%$ |
| E / M 2023 |  |  |  |  |  |  |  |

## Mathematics Scores By Grade Level

## Grade 3 Student Achievement Scores in Mathematics

Prior to the pandemic, Shrewsbury's students were making steady gains in Math - especially in the younger grades. In 2023, 67\% of third grade students met or exceeded state benchmarks- a very similar result to last year. However, more students scored in the Exceeding range in 2023 than in 2022.

| \% by level | 2019 | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | 75 | 62 | 68 | 67 |
| Exceeding | 22 | 14 | 16 | 20 |
| Meeting | 53 | 48 | 52 | 47 |
| Partially Meeting | 19 | 31 | 24 | 24 |
| Not Meeting | 5 | 7 | 8 | 9 |



Across the Commonwealth, Math achievement scores are recovering faster than English Language Arts. This is true for Shrewsbury's students as well. The graphs that follow illustrate how Shrewsbury's student scores in Grade 3 compare to student achievement scores in nearby districts.


Percentage of Students Meeting or Exceeding Expectations Next-Gen MCAS Math / Grade 3
Assabet Valley Collaborative District Comparisons


Last spring, Grade 3 student scores were among the highest among area districts. Shrewsbury's scores for Grade 3 also compare well among districts with similar demographics.

Percentage of students Meeting or Exceeding Expectations Next-Gen MCAS Math / Grade 3

## DART District Comparisons



## SPS Math Grade 3 Subgroup Achievement Scores

Looking at subgroup trends provides another perspective on Math achievement scores.

|  | \% Proficient by Category |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Accountability <br> Subgroups | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |  |
|  |  | $\mathbf{2 0}$ | $\mathbf{4 7}$ | $\mathbf{2 4}$ |  |  |
| All Grade 3 Students | $\mathbf{6 7}$ | $\mathbf{5 1}$ | $\mathbf{9}$ |  |  |  |
| Students w/ Disabilities | 28 | 5 | 23 | 37 | 35 |  |
| EL and Former EL | 51 | 10 | 41 | 30 | 19 |  |
| Low Income | 43 | 5 | 38 | 38 | 18 |  |
| High Needs | 45 | 8 | 37 | 35 | 19 |  |


|  | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Race \& Ethnicity <br> Subgroups | E/M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| African American/Black | 36 | 0 | 36 | 50 | 14 |
| Asian | 78 | 28 | 50 | 15 | 7 |
| Hispanic/Latinx | 46 | 3 | 43 | 38 | 18 |
| Multi-Race, <br> Non-Hispanic/Latinx | 58 | 11 | 47 | 26 | 16 |
| White | 65 | 18 | 47 | 27 | 7 |



## Grade 4 Student Achievement Scores in Mathematics

74\% of Grade 4 students scored in the "Meeting" or "Exceeding" category in 2023, reflecting incremental gains over last year.

| \% by level | 2019 | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | 79 | 64 | 70 | 73 |
| Exceeding | 28 | 14 | 21 | 22 |
| Meeting | 51 | 50 | 49 | 51 |
| Partially Meeting | 16 | 29 | 25 | 22 |
| Not Meeting | 5 | 7 | 4 | 5 |

Shrewsbury's Grade 4 Math scores are among the highest in the Assabet Valley Collaborative. District scores for Grade 4 compare well with results from DART districts, too.


Percentage of Students Meeting or Exceeding Expectations Next-Gen MCAS Math / Grade 4
Assabet Valley Collaborative District Comparisons


Percentage of students Meeting or Exceeding Expectations
Next-Gen MCAS Math / Grade 4

## DART District Comparisons



## SPS Math Grade 4 Subgroup Achievement Scores

|  | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Accountability <br> Subgroups | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| All Grade 4 Students | $\mathbf{7 3}$ | $\mathbf{2 2}$ | $\mathbf{5 1}$ | $\mathbf{2 2}$ |  |
| Students w/ Disabilities | 27 | 4 | 23 | 47 | $\mathbf{5}$ |
| EL and Former EL | 65 | 18 | 47 | 35 | 0 |
| Low Income | 43 | 2 | 41 | 41 | 16 |
| High Needs | 47 | 7 | 40 | 39 | 14 |


|  | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Race \& Ethnic <br> Subgroups | E/M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| African American/Black | 50 | 0 | 50 | 39 | 11 |
| Asian | 86 | 35 | 51 | 12 | 2 |
| Hispanic/Latinx | 63 | 12 | 51 | 32 | 5 |


| Multi-Race, <br> Non-Hispanic/Latinx | 73 | 14 | 59 | 21 | 7 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| White | 66 | 15 | 51 | 28 | 6 |



## Grade 5 Student Achievement Scores in Mathematics

In 2023 61\% of students in Grade 5 met grade-level benchmarks in math, up 11 percentage points over last year. However, in 2019, $72 \%$ of Grade 5 students met or exceeded the state grade-level benchmark, suggesting that student achievement at this level shows signs of recovery.

| \% by level | 2019 | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | 72 | 54 | 50 | $61^{*}$ |
| Exceeding | 14 | 10 | 8 | 11 |
| Meeting | 58 | 44 | 42 | 51 |
| Partially Meeting | 25 | 38 | 43 | 32 |
| Not Meeting | 2 | 7 | 8 | 6 |

[^3]

Shrewsbury's scores for this grade level rank among the highest among area districts. However, our Grade 5 Math scores do not compare as well with DART districts.

## Percentage of students Meeting or Exceeding Expectations Next-Gen MCAS Math / Grade 5 <br> DART District Comparisons



Lower Math scores in the aggregate for Grade 5 students are also reflected in the differences seen between the average achievement scores and subgroup scores for the grade.

## SPS Math Grade 5 Su.bgroup Achievement Scores

|  | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Accountability <br> Subgroups | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| All Grade 5 Students | $\mathbf{6 1 *}$ | $\mathbf{1 1}$ | $\mathbf{5 1}$ | $\mathbf{3 2}$ |  |
| Students w/ Disabilities | 21 | 5 | 16 | 41 | $\mathbf{6}$ |
| EL and Former EL | 37 | 0 | 37 | 51 | 12 |
| Low Income | 25 | 0 | 25 | 59 | 16 |
| High Needs | 30 | 2 | 28 | 51 | 18 |


|  | \% Proficient by Category |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Race \& Ethnicity <br> Subgroups | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |  |
| African American/Black | 28 | 0 | 28 | 61 | 11 |  |
| Asian | 83 | 18 | 65 | 15 | 2 |  |
| Hispanic/Latinx | 27 | 0 | 27 | 51 | 22 |  |
| Multi-Race, <br> Non-Hispanic/Latinx | 71 | 15 | 56 | 19 | 11 |  |
| White | 53 | 7 | 46 | 41 | 6 |  |

[^4]
## Grade 6 Student Achievement Scores in Mathematics

In 2023, 67\% of students at this level scored in the "Meeting" or "Exceeding" range, reflecting a slight decrease in the number of students meeting state benchmarks from last year. This result aligns with pre-pandemic scores.

| \% by level | 2019 | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | 69 | 57 | 70 | 67 |
| Exceeding | 22 | 12 | 17 | 19 |
| Meeting | 47 | 45 | 53 | 48 |
| Partially Meeting | 24 | 32 | 23 | 27 |
| Not Meeting | 7 | 11 | 7 | 6 |



Percentage of Students Meeting or Exceeding Expectations
Next-Gen MCAS Math / Grade 6
Assabet Valley Collaborative District Comparisons


Percentage of students Meeting or Exceeding Expectations
Next-Gen MCAS Math / Grade 6
DART District Comparisons


## SPS Math Grade 6 Subgroup Achievement Scores

|  | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Accountability <br> Subgroups | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| All Grade 6 Students | $\mathbf{6 7}$ | $\mathbf{1 9}$ | $\mathbf{4 8}$ | $\mathbf{2 7}$ |  |
| Students w/ Disabilities | 23 | 4 | 19 | 49 | $\mathbf{6}$ |
| EL and Former EL | 55 | 6 | 49 | 36 | 9 |
| Low Income | 28 | 4 | 24 | 58 | 13 |
| High Needs | 36 | 5 | 31 | 47 | 17 |


|  | \% Proficient by Category |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Race \& Ethnicity <br> Subgroups | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |  |
| African American/Black | 27 | 4 | 23 | 69 | 4 |  |
| Asian | 92 | 39 | 53 | 6 | 2 |  |
| Hispanic/Latinx | 35 | 4 | 31 | 54 | 12 |  |
| Multi-Race, <br> Non-Hispanic/Latinx | 67 | 11 | 56 | 30 | 4 |  |
| White | 57 | 6 | 51 | 34 | 9 |  |

## Grade 7 Student Achievement Scores in Mathematics

$59 \%$ of students at this grade span scored in the "Meeting" or "Exceeding" range in 2023, compared to $56 \%$ in 2022.

| $\%$ by level | 2019 | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | 62 | 59 | 56 | $59 *$ |
| Exceeding | 17 | 17 | 14 | 16 |
| Meeting | 45 | 42 | 42 | 44 |
| Partially Meeting | 32 | 35 | 33 | 32 |
| Not Meeting | 6 | 7 | 10 | 9 |



* Please Note: As mentioned previously, achievement score percentiles differ due to rounding.

Although results for this grade span are lower overall, Shrewsbury's scores remain significantly higher than the state average.


Percentage of students Meeting or Exceeding Expectations Next-Gen MCAS Math / Grade 7

## DART District Comparisons



## SPS Math Grade 7 Subgroup Achievement Scores

|  | \% Proficient by Category |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Accountability <br> Subgroups | E/M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |  |
|  |  |  |  |  |  |  |
| All Grade 7 Students | $\mathbf{5 9 *}$ | $\mathbf{1 6}$ | $\mathbf{4 4}$ | $\mathbf{3 2}$ | $\mathbf{9}$ |  |
| Students w/ Disabilities | 11 | 0 | 11 | 44 | 45 |  |
| EL and Former EL | 35 | 3 | 32 | 47 | 18 |  |
| Low Income | 22 | 1 | 21 | 57 | 21 |  |
| High Needs | 25 | 2 | 23 | 48 | 27 |  |

* Please Note: As mentioned previously, achievement score percentiles differ due to rounding.

|  | \% Proficient by Category |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Race \& Ethnicity <br> Subgroups | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |  |
| African American/Black | 38 | 14 | 24 | 52 | 10 |  |
| Asian | 83 | 34 | 49 | 13 | 5 |  |
| Hispanic/Latinx | 28 | 4 | 24 | 49 | 22 |  |
| Multi-Race, <br> Non-Hispanic/Latinx | 50 | 20 | 30 | 45 | 5 |  |
| White | 52 | 5 | 47 | 39 | 9 |  |

## Grade 8 Student Achievement Scores in Mathematics

Math scores for students in Grade 8 decreased slightly over last year. 64\% of students met state benchmarks in 2023.

| \% by level | 2019 | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | 68 | 61 | 65 | 64 |
| Exceeding | 26 | 14 | 21 | 21 |
| Meeting | 42 | 47 | 44 | 43 |
| Partially Meeting | 27 | 29 | 28 | 27 |
| Not Meeting | 5 | 9 | 7 | 9 |




Notably, Shrewsbury's scores for this grade span are among the highest in the area. Our achievement scores compare well to DART districts as well.

Percentage of students Meeting or Exceeding Expectations Next-Gen MCAS Math / Grade 8
DART District Comparisons


## SPS Math Grade 8 Subgroup Achievement Scores

|  | \% Proficient by Category |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Accountability <br> Subgroups | E/M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |  |
| All Grade 8 Students | $\mathbf{6 4}$ | $\mathbf{2 1}$ | $\mathbf{4 3}$ | $\mathbf{2 7}$ |  |  |
| Students w/ Disabilities | 12 | 0 | 12 | 44 | $\mathbf{9}$ |  |
| EL and Former EL | 37 | 10 | 27 | 43 | 20 |  |
| Low Income | 35 | 6 | 29 | 38 | 27 |  |
| High Needs | 30 | 5 | 25 | 41 | 29 |  |


|  | \% Proficient by Category |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Race \& Ethnicity <br> Subgroups | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |  |
| African American/Black | 47 | 0 | 47 | 40 | 13 |  |
| Asian | 86 | 46 | 40 | 7 | 6 |  |
| Hispanic/Latinx | 28 | 2 | 26 | 52 | 20 |  |
| Multi-Race, <br> Non-Hispanic/Latinx | 89 | 31 | 58 | 12 | 0 |  |
| White | 55 | 8 | 47 | 35 | 10 |  |

## Grade 10 Student Achievement Scores in Mathematics

In 2019, high school students across the state took the "next generation" test in Mathematics for the first time. Scores for the old "legacy" test cannot be compared with scores on this exam, so comparisons for this grade span are limited. 75\% of students in Grade 10 met or exceeded state benchmarks in 2023.

| \% by level | 2019 | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | 80 | 77 | 74 | 75 |
| Exceeding | 29 | 32 | 27 | 31 |
| Meeting | 51 | 45 | 47 | 44 |
| Partially Meeting | 17 | 19 | 22 | 23 |
| Not Meeting | 3 | 4 | 4 | 2 |



Percentage of Students Meeting or Exceeding Expectations
Next-Gen MCAS Math / Grade 10
Assabet Valley Collaborative District Comparisons


Percentage of students Meeting or Exceeding Expectations
Next-Gen MCAS Math / Grade 10
DART District Comparisons


## SPS Math Grade 10 Subgroup Achievement Scores

|  | \% Proficient by Category |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Accountability <br> Subgroups | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |  |
|  |  |  |  |  |  |  |
| All Grade 10 Students | $\mathbf{7 5}$ | $\mathbf{3 1}$ | $\mathbf{4 4}$ | $\mathbf{2 3}$ | $\mathbf{2}$ |  |
| Students w/ Disabilities | 20 | 4 | 16 | 63 | 16 |  |
| EL and Former EL | 31 | 0 | 31 | 58 | 12 |  |
| Low Income | 31 | 7 | 24 | 61 | 8 |  |
| High Needs | 36 | 7 | 29 | 55 | 9 |  |


|  | \% Proficient by Category |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Race \& Ethnicity <br> Subgroups | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |  |
| African American/Black | 45 | 0 | 45 | 45 | 10 |  |
| Asian | 92 | 62 | 30 | 7 | 0 |  |
| Hispanic/Latinx | 40 | 13 | 27 | 53 | 7 |  |
| Multi-Race, <br> Non-Hispanic/Latinx | 74 | 32 | 42 | 21 | 5 |  |
| White | 75 | 17 | 58 | 23 | 2 |  |



All students should have the opportunity and the support necessary to learn significant mathematics with depth and understanding. There is no conflict between equity and excellence.

National Council of Teachers of Mathematics

## Trends Over Time in Mathematics

In Shrewsbury and comparison districts, signs of recovery are best seen in this subject area. For most grade spans, achievement scores in Math for 2023 were similar to last year's results. Scores for students in Grade 5 were up significantly from 2022, representing a bright spot in our overall results.

Percentage of Students Meeting or Exceeding Expectations

| Grade and Subject | Gr 3 | Gr 4 | Gr 5 | Gr 6 | Gr 7 | Gr 8 | Gr. 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Shrewsbury <br> \% E / M 2019 | 75\% | 79\% | 73\% | 69\% | 63\% | 68\% | 80\% |
| State Results 2019 | 49\% | 50\% | 48\% | 52\% | 48\% | 46\% | 59\% |
| Shrewsbury <br> \% E / M 2021 | 62\% | 64\% | 54\% | 57\% | 59\% | 62\% | 77\% |
| State Results 2021 | 33\% | 33\% | 33\% | 33\% | 35\% | 32\% | 52\% |
| Shrewsbury \% E / M 2022 | 68\% | 70\% | 50\% | 70\% | 56\% | 65\% | 74\% |
| State Results 2022 | 41\% | 42\% | 36\% | 42\% | 38\% | 36\% | 49\% |
| Shrewsbury <br> \% E / M 2023 | 67\% | 73\% | 61\% | 67\% | 59\% | 64\% | 75\% |
| State Results 2023 | 41\% | 45\% | 41\% | 41\% | 39\% | 37\% | 50\% |

## Science \& Technology Scores by Grade Level

## Grade 5 Student Achievement Scores in Science

Students at this level took a new exam in 2019, thereby establishing a new baseline for the grade span. In 2023, only 55\% of students in Grade 5 met or exceeded state benchmarks in Science, a drop from 64\% of students reaching proficiency in 2022.

| \% by level | 2019 | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | 63 | 59 | 64 | 55 |
| Exceeding | 12 | 13 | 12 | 12 |
| Meeting | 51 | 46 | 52 | 43 |
| Partially Meeting | 31 | 34 | 30 | 37 |
| Not Meeting | 5 | 6 | 6 | 8 |



Here's how our Grade 5 results compared to nearby districts in 2023.

## Percentage of students Meeting or Exceeding Expectations

Next Gen MCAS Sci/Tech / Grade 5


## Percentage of students Meeting or Exceeding Expectations

## Next Gen MCAS Sci/Tech / Grade 5



As mentioned in previous reports, the timing of curriculum units in Shrewsbury has an impact on student performance. For example, our Grade 5 students are tested cumulatively on content that is taught in earlier grades. During remote learning, much of the Science content was adjusted for safety and in consideration of curriculum priorities, which means students may need additional time to build prerequisite knowledge in some Science subjects.

## SPS Science Grade 5 Subgroup Achievement Scores

| Accountability <br> Subgroups |  | \% Proficient by Category |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| All Grade 5 Students | $\mathbf{5 5}$ | $\mathbf{1 2}$ | $\mathbf{4 3}$ | $\mathbf{3 7}$ |  |
| Students w/ Disabilities | 13 | 3 | 10 | 44 | $\mathbf{8}$ |
| EL and Former EL | 40 | 5 | 35 | 42 | 19 |
| Low Income | 33 | 3 | 30 | 48 | 20 |
| High Needs | 31 | 4 | 27 | 45 | 24 |


| Race \& Ethnicity Subgroups | \% Proficient by Category |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | E / M | Exceeding | Meeting | Partially Meeting | Not Meeting |
| African American/Black | 23 | 6 | 17 | 61 | 17 |
| Asian | 69 | 15 | 54 | 29 | 2 |
| Hispanic / Latinx | 42 | 3 | 39 | 33 | 25 |
| Multi-Race, <br> Non-Hispanic / Latinx | 66 | 22 | 44 | 26 | 7 |
| White | 46 | 10 | 36 | 44 | 10 |

## Grade 8 Student Achievement Scores in Science

In 2019, students in Grade 8 took the "next generation" Science test for the first time as well. Student scores have remained relatively flat in the time since, with $60 \%$ of students scoring in the "Meeting" range or better in 2023.

| \% by level | 2019 | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | 62 | 61 | 62 | 60 |
| Exceeding | 16 | 17 | 9 | 13 |
| Meeting | 46 | 44 | 53 | 48 |
| Partially Meeting | 33 | 33 | 31 | 30 |
| Not Meeting | 5 | 7 | 7 | 10 |

Shrewsbury Public Schools

## Grade 8 Science \& Technology

2023 Next Gen MCAS Test Results
SPS 2023 State 2023


Shrewsbury students continue to outperform state averages. However, scores in Science for this grade band don't compare as favorably as scores in Grade 5.

## Percentage of students Meeting or Exceeding Expectations

Next Gen MCAS Sci/Tech / Grade 8



## Percentage of students Meeting or Exceeding Expectations

## Next Gen MCAS Sci/Tech / Grade 8

DART District Comparisons


| Accountability <br> Subgroups |  | \% Proficient by Category |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | E/M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| All Gr 8 Students | $\mathbf{6 0}$ | $\mathbf{1 3}$ | $\mathbf{4 8}$ | $\mathbf{3 0}$ | $\mathbf{1 0}$ |
| Students w/ Disabilities | 13 | 3 | 10 | 40 | 47 |
| EL and Former EL | 27 | 0 | 27 | 43 | 30 |
| Low Income | 33 | 2 | 31 | 42 | 25 |
| High Needs | 29 | 3 | 26 | 41 | 30 |

## SPS Science Grade 8 Subgroup Achievement Scores

| Race \& Ethnicity <br> Subgroups | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| African American / Black | 40 | 0 | 40 | 47 | 13 |
| Asian | 75 | 23 | 52 | 20 | 5 |
| Hispanic / Latinx | 35 | 2 | 33 | 43 | 22 |
| Multi-Race, <br> Non-Hispanic / Latinx | 84 | 19 | 65 | 12 | 4 |
| White | 55 | 8 | 47 | 34 | 11 |

## Grade 10 Student Achievement Scores in Science

2019 was the last year that students in this grade span took the older ("legacy") version of MCAS Science and Technology exam. As you know, the MCAS test was canceled in 2020. High school students were not required to take the Science exam in 2021. In 2022, 59\% of Grade 10 students scored proficient or higher on the "next generation" version of the exam, completing the transition from the "legacy" version for all grade spans and subjects.

| \% by level | 2021 | 2022 | 2023 |
| :--- | :---: | :---: | :---: |
| Proficient <br> (Exceeding + Meeting) | NA | 59 | 72 |
| Exceeding | NA | 18 | 22 |
| Meeting | NA | 41 | 50 |
| Partially Meeting | NA | 36 | 25 |
| Not Meeting | NA | 4 | 3 |



## Percentage of students Meeting or Exceeding Expectations

Next Gen MCAS Sci/Tech / Grade 10

## Assabet Valley Collaborative District Comparisons



These charts illustrate how Shrewsbury scores on the Science, Technology and Engineering (STE) exam compare to other districts.

Percentage of students Meeting or Exceeding Expectations
Next Gen MCAS Sci/Tech / Grade 10


## SPS Science Grade 10 Subgroup Achievement Scores

| Accountability <br> Subgroups |  | \% Proficient by Category |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | E/M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| All Grade 10 Students | $\mathbf{7 2}$ | $\mathbf{2 2}$ | $\mathbf{5 0}$ | $\mathbf{2 5}$ | $\mathbf{3}$ |
| Students w/ Disabilities | 17 | 2 | 15 | 62 | 21 |
| EL and Former EL | 30 | 0 | 30 | 60 | 10 |
| Low Income | 35 | 6 | 29 | 56 | 8 |
| High Needs | 37 | 6 | 31 | 52 | 11 |


| Race \& Ethnicity <br> Subgroups | \% Proficient by Category |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | E / M | Exceeding | Meeting | Partially <br> Meeting | Not Meeting |
| African American / Black | 44 | 0 | 44 | 50 | 6 |
| Asian | 89 | 43 | 46 | 10 | 1 |
| Hispanic / Latinx | 37 | 9 | 28 | 54 | 9 |
| Multi-Race, <br> Non-Hispanic / Latinx | 65 | 24 | 41 | 29 | 6 |
| White | 72 | 13 | 59 | 26 | 2 |

## Trends Over Time in Science, Technology \& Engineering (STE)

Science achievement scores for Grades 5 and 8 show signs of recovery for most students. Scores for students in Grade 10 remain well below pre-pandemic achievement scores.

## Percentage of Students Meeting or Exceeding Expectations

| Grade and <br> Subject | Gr 5 | Gr 8 | Gr. 10 |
| :--- | :--- | :--- | :--- |
| Shrewsbury <br> \% E / M 2019 | 63 | 62 | 88 |
| State Results <br> 2019 | 49 | 46 | 74 |
| Shrewsbury <br> \% E / M 2021 | 60 | 60 | $N / A^{*}$ |
| State Results <br> 2021 | 42 | 41 | $N / A^{*}$ |
| Shrewsbury <br> $\% ~ E ~ / ~ M ~ 2022 ~$ | 63 | 62 | 59 |
| State Results <br> 2022 | 43 | 42 | 47 |
| Shrewsbury <br> \% E / M 2023 | 55 | 41 | 47 |
| State Results <br> 2023 | 41 | 60 |  |

Note: Grade 10 results for spring 2021 STE are not provided because students in the class of 2023 were not required to take the STE test. Additional information about competency determination requirements is available at https://www.doe.mass.edu/mcas/graduation.html.

## IV. Student Growth Percentile Scores (SGPs)

Assessment levels indicate how each student is achieving, relative to the state standards for that grade level and content area. Growth scores represent change in an individual student's MCAS performance from one exam to the next. By utilizing a growth measure, the state is attempting to answer the question, "How much academic progress did a student or group of students make in one year, as measured by MCAS?"

Massachusetts measures growth for individual students by comparing the change in their achievement on statewide assessments to that of their "academic peers" (all other students in the state who previously had similar historical assessment results). The comparison is expressed as a percentile, and represents how many students showed greater or lesser improvement on this year's test as compared to the performance of the cohort of students

## Student Growth Percentiles (SGP)


$\checkmark$ Massachusetts measures growth by comparing the change in a student's achievement scores on statewide assessments with all other students with similar test score histories.
$\checkmark$ The rate of change is expressed as a percentile.

- How much did Rishi improve in mathematics from $4^{\text {th }}$ and $5^{\text {th }}$ grade to $6^{\text {th }}$ grade, relative to her academic peers?
- If Rishi improved more than 65 percent of her academic peers, then her Student Growth Percentile (SGP) would be 65. with the same achievement score history.

The state defines moderate (or expected) growth to be between the $40-60^{\text {th }}$ percentile, with low growth below the $40^{\text {th }}$ percentile and high growth above the $60^{\text {th }}$ percentile. In reviewing an individual student's result, teachers and parents might wonder, "How much did Rishi improve her math score on MCAS in $6^{\text {th }}$ grade, relative to students who had the same math scores on the $4^{\text {th }}$ and $5^{\text {th }}$ grade math tests?" SGP scores help to answer that question: if Rishi had a higher score than 65 percent of her academic peers with the same score history, then her Student Growth Percentile (SGP) would be 65.

The growth model method operates independently of MCAS performance levels. As a result, all students may demonstrate growth. Growth percentiles are typically calculated in ELA and Mathematics for students in Grades 4 through 8 and 10, because the model requires at least two years of MCAS results to calculate growth percentiles. Therefore, no growth scores are available for Grade 3. This year the Department of Elementary and Secondary Education emphasized that districts should return to a pre-pandemic approach to calibrating student growth percentiles. For this reason, SGP results for 2022 are best compared with statistics from 2019. Finally, because the Science and Technology test is only administered in grades five, eight, and nine/ten, there is no growth data produced for this test.

Analyzing student test scores over time provides us with additional information; this data helps us
monitor individual students and subgroups within the district. Importantly, it may also help us identify "bright spots," instructional models, or grade level practices that yield exceptional outcomes for students.

## Aggregate Growth Percentiles

While student growth percentiles enable educators to chart the growth of an individual student compared to that of academic peers, student growth percentiles may also be aggregated to understand growth at the subgroup, school, or district level.

Initially, the Department of Elementary and Secondary Education reported growth as a median percentile (the middle score if one ranks the individual student growth percentiles from highest to lowest). A typical school or district in the Commonwealth would have a median student growth percentile of 50 . Beginning in 2018, the DESE moved to a growth model where the average student growth percentile replaces median SGP for school and district metrics. Although there are areas to target for improvement that will take more time to achieve, our collective goal remains accelerating student growth.

## Why measure growth?

- A way to measure progress for students at all performance levels
- A student can achieve at a low level but still improve relative to his academic peers
Another could achieve well but not improve much from year to year
- Provides evidence of improvement even among those with low achievement
- Gives high achieving students and schools something to strive for beyond proficiency

ELEMENTARY \& SECONDARY
EDUCATION

## Shrewsbury Public Schools Average SGP by Grade Span

Results for the English Language Arts Assessment 2019-2023

Again, ELA growth percentile scores are expected to fall within the 40-60 range. In 2023, growth scores dropped from 2022. However, students in most grade spans met or surpassed the state's benchmark for "moderate growth".

As a reminder, student growth scores for 2023 are best compared with scores in 2019 and/or 2022.

| ELA | 2019 | 2021 | 2022 | 2023 |
| :---: | :---: | :---: | :---: | :---: |
| Gr 4 | 56 | N/A | 54 | 49 |
| Gr 5 | 47 | 30 | 52 | 39 |
| Gr 6 |  | 39 | 53 | 53 |
| Gr 7 8 | 43 | 34 | 47 | 45 |
| Gr 10 | 55 | 38 | 62 | 53 |

Shrewsbury Public Schools Average SGP by Grade:
Results for the Mathematics Assessment 2019-2023
At every grade span Shrewsbury's 2023 Math growth percentile scores met or exceeded the 40-60 range for "moderate growth". Note the higher rates of growth for students in Grades 6 and 8.

| Math | 2019 | 2021 | 2022 | 2023 |
| :--- | :--- | :--- | :--- | :--- |
| Gr 4 | 64 | N/A | 58 | 58 |
| Gr 5 | 51 | 34 | 37 | 42 |
| Gr 6 | 42 | 28 | 61 | 63 |
| Gr 7 | 43 | 37 | 42 | 48 |
| Gr 8 | 61 | 40 | 57 | 61 |
| Gr 10 | 63 | 53 | 68 | 59 |

## V. District Subgroup Performance Trends

Comparing subgroup results to aggregate data helps educators to identify and close achievement opportunity gaps. As we review this data, it's important to keep in mind that students may belong to multiple subgroups and therefore are counted more than once in terms of total numbers. Finally, it should be mentioned that the data we have relies on how families self-report when they register.

The table below was prepared as a helpful summary of "the big picture": it shows how Shrewsbury's results for most students compare to students with disabilities, students that are considered low income, and students that are English learners. Why focus on these specific subgroups? Briefly, while we are resolved to monitor progress for all student subgroups, we see persistent gaps between achievement scores for students in these subgroups and aggregate scores across grade spans and administration years. Moreover, for some subgroups we see lower rates of growth.

Growth scores shaded in red in the chart below highlight places where we see growth at a rate that's lower than 50, the rate of growth that is more typical for students in Shrewsbury.

| Grade Level <br> \& Subject | SPS All <br> Students |  | SPS Students <br> with Disabilities |  | SPS Low <br> Income |  | SPS English <br> Learners and <br> Former English <br> Learners |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | E/M | SGP | E/M | SGP | E/M | SGP | E/M | SGP |
| Gr 3 ELA | 64 | N/A | 26 | NA | 38 | NA | 44 | NA |
| Gr 3 Math | 67 | N/A | 28 | NA | 43 | NA | 51 | NA |
| Gr 4 ELA | 58 | 49 | 15 | 43 | 22 | 46 | 41 | 49 |
| Gr 4 Math | 73 | 50 | 27 | 44 | 43 | 46 | 65 | 46 |
| Gr 5 ELA | 61 | 50 | 19 | 43 | 33 | 48 | 43 | 52 |
| Gr 5 Math | 62 | 50 | 21 | 45 | 25 | 48 | 37 | 51 |
| Gr 5 Sci | 55 | N/A | 13 | NA | 33 | NA | 40 | NA |
| Gr 6 ELA | 64 | 50 | 12 | 44 | 33 | 47 | 39 | 49 |
| Gr 6 Math | 67 | 50 | 23 | 44 | 28 | 48 | 55 | 51 |
| Gr 7 ELA | 52 | 50 | 7 | 45 | 23 | 47 | 21 | 49 |
| Gr 7 Math | 60 | 50 | 11 | 47 | 22 | 47 | 35 | 49 |
| Gr 8 ELA | 62 | 50 | 9 | 45 | 37 | 47 | 20 | 48 |
| Gr 8 Math | 64 | 50 | 12 | 45 | 35 | 48 | 37 | 49 |
| Gr 8 Sci | 61 | N/A | 13 | NA | 33 | NA | 27 | NA |
| Gr 10 ELA | 76 | 49 | 18 | 40 | 42 | 45 | 31 | 42 |
| Gr 10 Math | 75 | 50 | 20 | 42 | 31 | 40 | 31 | 40 |
| Gr 10 STE | 72 | N/A | 17 | NA | 35 | NA | 30 | NA |

*Red cells denote growth rates below 50, the mid-moderate range per DESE guidelines.

Internally, Geoffrey Thayer, a district Data Specialist, conducted a more detailed analysis for all subgroups with the goal of identifying how student results in Shrewsbury compare with those of DART districts. His findings show that Shrewsbury is on par with neighboring districts with regards to closing educational opportunity and achievement gaps. However, in some cases the performance of subgroups only compares well because results went down in the aggregate, so it's important to look at trends over time.

Looking across a comparison with DART districts, we can also see opportunities to improve our outcomes by learning from districts with similar enrollments. Scores for English Learners in Shrewsbury drop from Grade 3 to Grade 10, with fewer students receiving passing grades on the MCAS in the upper grades. There are some districts that do not experience this, including Acton-Boxborough and Westborough.

A closer look at Shrewsbury's achievement results across accountability subgroups is warranted. While $58 \%$ of Shrewsbury's fourth graders met or exceeded state benchmarks, in 2023, only $15 \%$ of Students with Disabilities in Shrewsbury (a portion of our "High Needs" group) met or exceeded expectations for the Grade 4 MCAS test in ELA. In contrast, $30 \%$ of Grade 4 Students with Disabilities in Melrose met the state benchmark in English Language Arts in 2023. The comparison data for other DART districts across grade spans is illustrated in the charts below.

## Average Percentage of Students Meeting or Exceeding Expectations in ELA Across Grades \& Subgroups

DART districts
__ Trendline for Average

DART District Comparisons


Most districts in the Assabet Valley Collaborative did not have sufficient numbers to compare results for all student subgroups. However, comparing Grade 4 achievement scores in English Language


Student data is useful only to the extent that it helps educators reflect on our practice. With the purchase of the Star screener tools, we are better able to triangulate assessment information. Most importantly, we are able to monitor students in Grades K-8 between MCAS administrations.

Staff look closely at the achievement gap between student subgroups as compared to the "All Students" group in various ways. As children work towards content mastery, students that struggle to achieve proficiency may still demonstrate high growth. For example, the growth percentiles in English Language Arts for students within the "High Needs" accountability subgroup is similar to those for most Grade 4 students. This suggests that students in both groups are growing at a similar rate.

Significantly, if students within our subgroups don't exceed typical growth, achievement gaps between students with disabilities and typical students will widen over time. When we analyze the performance of students in subgroups, there is a wide range of performance scores. It's important to consider both achievement and growth percentiles, which signals attention to both content mastery and closing gaps. In Shrewsbury, the rate of achievement among students in this group has increased gradually over time. However, higher rates of growth will be needed for students in subgroups to achieve parity with same-age peers.

Shrewsbury's average percentage of students meeting proficiency benchmarks across subgroups is depicted in comparison to DART districts below.

## Average Percentage of Students Meeting or Exceeding Expectations in Math Across Grades \& Subgroups

DART District Comparisons


## VI. Data-Informed Decision Making

Staff analyze MCAS data from the DESE portal to review student performance, identify strengths and weaknesses in specific standards, and to examine released questions to determine how instructional planning might shift. The DESE district profile portal allows anyone to access data about standards, question types, and even to compare item scores across districts. Click here to see how it works.

Scrutinizing student results by question helps educators to align their practice with the expectations inherent in the assessment. Educators look at student work related to questions like the one depicted above/right to see which concepts they should revisit in class. Looking at the results in this way allows

This question has four parts.
These circle graphs represent the number of sixth-grade and seventh-grade students on academic teams at two middle schools.

South
Middle School Students on Academic Teams


Jefferson
Middle School Students on Academic Teams


Total Students: 80

## Part A

Based on the data in the circle graph for South Middle School, what percent of students on academic teams are sixth-grade students? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.
teacher teams to refine instructional plans together.

## VII. Next Steps

## Using Data to Adjust Instruction

The achievement our students experience is the result of a number of systems working together. In a typical year, partnerships between home and school, coupled with an engaging and rigorous curriculum, help students to meet rising expectations over time. Yet the past three years have been anything but typical. While educators put a great deal of effort into advancing students' academic proficiency, high rates of student absenteeism and the need to address student behavioral and mental health needs also required significant time and attention. Increasingly, we are using data to focus specifically on academic goals and creating systems to monitor student progress.

## Monitoring Student Progress

The adoption of a universal screening tool for students in Grades K-8 has made it easier to follow student progress in both English Language Arts and Mathematics in real time. Moreover, in addition to common assessment opportunities, the Star platform provides reports that empower educators to make decisions informed by recent assessment results. For example, classroom teachers can see which skills are most important for mastery, and adjust instruction accordingly. Forecasting reports enable district leaders and teacher teams alike to see which students are at the highest risk for not meeting state benchmarks. In this way we can identify individual students in need of extra support early and intervene accordingly.

For the third year in a row we noted that actual MCAS scores were within $10 \%$ of the scores predicted by the Star assessment. As depicted in the charts below, overall projections from last year aligned well with 2023 achievement results in each subject for most grade spans.

| Grade | \% Predicted to be Proficient <br> in 2023 in Reading | Actual \% Met / Exceeding in <br> 2023 in ELA | \% Difference |
| :--- | :--- | :--- | :--- |
| 3 | 55 | 64 | +9 |
| 4 | 57 | 58 | +1 |
| 5 | 56 | 61 | +5 |
| 6 | 62 | 64 | +2 |
| 7 | 54 | 52 | -2 |
| 8 | 54 | 62 | +8 |


| Grade | \% Predicted to be <br> Proficient in 2023 in Math | Actual \% Met / Exceeding <br> in 2023 in Math | \% Difference |
| :--- | :--- | :--- | :--- |
| 3 | 73 | 67 | -6 |
| 4 | 72 | 73 | +1 |
| 5 | 59 | 62 | +3 |
| 6 | 57 | 67 | +10 |
| 7 | 53 | 60 | +7 |
| 8 | 62 | 64 | +2 |

Results from the first Star assessment screeners, given three times each year, enable us to address student needs in advance of the MCAS administration window. Looking at student data compels us to action. With additional assessment information in hand, we can anticipate and respond to students in need sooner than we were able to do in the past.

## Triangulating Student Data

The next administration of the Star assessment is scheduled to conclude on January 12, 2024. In the interim, students that scored below benchmark in September are being supported individually. At all levels, educators are using the information they gain from common assessments to adjust instruction and to provide tiered support.

## VIII. Conclusion

While state assessment results reveal that student achievement scores are not back to pre-pandemic levels, the district as a whole is better able to respond to student needs because of the data systems and tiered intervention systems we have put in place. Our districtwide commitment to using universal screening software means we need not wait to know how our students are faring. Within our assessment tools, we have the means to measure individual student growth and the performance of accountability subgroups in anticipation of and after receiving MCAS results. Responding effectively to students' academic needs as indicated by assessment data is the key to realizing the aspirations manifested within the Education Reform Act. I'm confident our educators will continue to work tirelessly to close opportunity and performance gaps with the goal of empowering all our children to meet high expectations.


[^0]:    ${ }^{1}$ Building on 20 Years of Massachusetts Education Reform Massachusetts Board of Elementary and Secondary Education Report M. D. Chester, Ed. D. Commissioner November 2014

[^1]:    * Please Note: As mentioned previously, achievement score percentiles differ due to rounding.

[^2]:    * Please Note: As mentioned previously, achievement score percentiles differ due to rounding.

[^3]:    * Please Note: As mentioned previously, achievement score percentiles differ due to rounding.

[^4]:    * Please Note: As mentioned previously, achievement score percentiles differ due to rounding.

