# 2014 Delaware Comprehensive Assessment System (DCAS)

# State Summaries of the Reading, Mathematics, Science, and Social Studies Assessments

2014 Administration Grades 3 through 10

**July 2014** 

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# 2014 Delaware Comprehensive Assessment System State Summaries

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Attachment 2: 2014 DCAS State Summary – District Performance Attachment 3: 2014 DCAS State Summary – School Performance

Attachment 4: 2014 DCAS-Alt1 State Summary

#### I. GENERAL OVERVIEW

Delaware's student assessment system includes two primary assessments—the Delaware Comprehensive Assessment System (DCAS) and the Delaware Comprehensive Assessment System – Alternate 1 (DCAS-Alt1). This report summarizes the results of the 2014 DCAS and the DCAS-Alt1 in reading, mathematics, science, and social studies.

The DCAS is a series of assessments designed to measure the progress of Delaware students in prioritized content standards in reading and mathematics in grades 3–10; science in grades 5, 8, and 10; and social studies in grades 4 and 7.

The DCAS-Alt1 is an assessment designed to measure what students with the most significant cognitive disabilities know and are able to do in reading and mathematics in grades 3–10; science in grades 5, 8, and 10; and social studies in grades 4, 7, and 9 as they progress toward meeting the standards.

The DCAS and the DCAS-Alt1 satisfy the assessment requirements of Title I of the United States Elementary and Secondary Education Act.

#### **DCAS Overview**

The DCAS reading and mathematics assessments were administered during a fall test window and a spring test window during the 2013–2014 school year for grades 3–10— please refer to Appendix A, <u>Table A-1 – DCAS Assessment Window Dates</u>. Each test was administered once during the fall window and up to two times during the spring window. The purpose of the second testing opportunity in the spring window was to allow students an additional opportunity to demonstrate what they have learned. This report includes only the higher spring score for each student who took a reading or mathematics assessment twice during the spring window.

The administration of the DCAS for science in grades 5, 8, and 10 and social studies in grades 4 and 7 occurred during the spring 2014.

Grade 2 took DCAS practice assessments in reading and mathematics with one opportunity for each student during the spring window.

The DCAS scores reported in this summary are based on the accountability scores and the performance levels for the state, the districts, and the schools. The accountability scores for DCAS reading and mathematics are reported on a developmental scale for grades 3–10, ranging from approximately 200 to 1200. Student achievement for DCAS is reported in four performance levels:

- Well below standard
- Below standard
- Meets standard
- Advanced

The performance level, or proficiency level, is reported as the percentage of students who are proficient, that is, the percentage of students in meets standard and advanced performance levels combined.

It is important to note that the participation rate and the percent proficient are generated differently in this report than those for the Adequate Yearly Progress (AYP) and School Accountability reports.

Located in Appendix A, <u>Tables A-3 to A-6</u> show the DCAS cut scores and performance levels for all grades and contents.

The preliminary standard setting for the DCAS took place in August 2010 using the Bookmark Method. Panelists were representative of Delaware educators in terms of gender, ethnicity, and geographic location. Community members and parents were also represented among the panelists. More information about the standard setting can be found in the *Standard Setting Technical Report: Setting Performance Standards for the Computer-Adaptive Delaware Comprehensive Assessment System (DCAS)*.

A confirmatory standard setting for the DCAS was performed in June 2011. The purpose of the confirmatory standard setting was to review the performance standards set in August 2010 in light of the first year of operational data. Following the panel review of the 2010–2011 DCAS operational results, panelists recommended that the interim performance standards be confirmed. The Delaware State Board of Education approved this recommendation at its July 2011 public meeting.

Information about the testing conditions under which the DCAS was administered is available in the test administration manuals that are available on the DCAS Portal (http://de.portal.airast.org/).

All students with disabilities (SWDs) and English language learners (ELLs) are required to be included in the statewide assessment program. The *DCAS Guidelines for Inclusion of Students with Disabilities and English Language Learners*, available on the DCAS Portal, describes the conditions under which such students are included in the DCAS, including descriptions of permissible test accommodations. There are a small number of accommodations that may change the construct of the test, for example, reading the passages of a reading test to a student. Such accommodations cause a student's score to be considered "nonstandard," meaning that the scores do not have the same meaning as scores obtained under standard conditions and, therefore, cannot be compared meaningfully with standard scores. Nonstandard scores are only included in tables of participation rates and the summary of performance.

To preserve student confidentiality, any group reported in this document that has an n count of less than 15 has been suppressed. Due to Delaware's small size, some state-level subgroup performance data are suppressed. Suppressed data is represented by a "-". Percentages that are greater than 95% and less than 5% are also suppressed. In tables that show change from spring 2013 to spring 2014, the change is suppressed if statistics from either spring 2013 or spring 2014, or both, are suppressed.

The Achievement Gap Analysis in Attachment 5 consists of charts, tables, and graphs displaying data about the differences in average DCAS performance between the majority, or historically dominant group, and the minority, or historically non-dominant group. Achievement gap

<sup>&</sup>lt;sup>1</sup> American Institutes for Research. (2010) "Standard Setting Technical Report: Setting Performance Standards for the Computer-Adaptive Delaware Comprehensive Assessment System (DCAS)." Washington, D.C.

analysis for the state, district, and school helps educators and the public to evaluate the degree to which these efforts are succeeding.

Four sections are provided within Attachment 5:

- Section 1 Statewide Achievement Gap by Grade and Content Area
- Section 2 Two-Year Comparison by District, Grade, Content Area, and Subgroup
- Section 3 Two-Year Comparison by Charter Schools, Grade, Content Area, and Subgroup
- Section 4 Statewide Changes in the Achievement Gap From 2013 to 2014 by Grade and Content Area

#### **DCAS-Alt1 Overview**

The DCAS-Alt1 reading and mathematics assessments were administered one time each in the fall and spring of the 2013–2014 school year in grades 3–10—refer to Appendix B, Table B-1 – DCAS-Alt1 Assessment Window Dates. There was one opportunity for the DCAS-Alt1 during the spring 2014 administration for science in grades 5, 8, and 10 and social studies in grades 4, 7, and 9. Grade 2 students also took short practice assessments in reading and mathematics one time in the spring window.

The DCAS-Alt1 scores reported in this summary are the accountability scores and the performance levels (percent proficient) for the state and the districts. DCAS-Alt1 scores are not summarized at the school level due to prohibitively small n counts. The accountability scores for DCAS-Alt1 reading and mathematics are reported on a developmental scale for grade 2 through grade 10, ranging from approximately 100 to 1000. Student achievement for DCAS-Alt1 is also reported in performance levels. There are four DCAS performance levels:

- Well below standard
- Below standard
- Meets standard
- Advanced

The preliminary standard setting for the DCAS-Alt1 reading and mathematics took place in July 2011. There were 47 panelists working with data from the reading and mathematics DCAS-Alt1 field test of spring 2011. The panelists were selected by DOE and represented a broad cross-section of special education and general education teachers, parents, and higher education leaders. Gender and race/ethnicity were also considered to ensure a representative selection within the panel.

A confirmatory standard setting took place July 9–11, 2012. More information about the standard setting can be found in the *Standard Setting Technical Report: Setting Performance Standards for the Delaware Comprehensive Assessment System – Alternate Assessment (DCAS-Alt1)*. The reading and mathematics cut scores developed from the DCAS-Alt1 standard setting are located in Appendix B, Tables B-3 and B-4.

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<sup>&</sup>lt;sup>2</sup> American Institutes for Research. (2011) "Standard Setting Technical Report: Setting Performance Standards for the Computer-Adaptive Delaware Comprehensive Assessment System-Alternate Assessment (DCAS-ALT1)." Washington, D.C.



Information about the typical conditions under which the DCAS-Alt1 is administered is available in the test administration manuals located on the DCAS Portal (http://de.portal.airast.org/).

All SWDs and ELLs are required to be included in the statewide assessment program, to the extent possible. The *DCAS Guidelines for Inclusion of Students with Disabilities and English Language Learners*, available on the DCAS Portal, describes the participation criteria for students who are included in the DCAS-Alt1. The Individualized Education Program (IEP) team signs off on the participation criteria and identifies each student in a DOE database. There are no accommodations permitted on the DCAS-Alt1 that would violate the construct and cause a student's score to be classified as nonstandard.

To preserve student confidentiality, any group reported in this document that has an n count of less than 15 has been suppressed. Due to Delaware's small size, there are some state-level data regarding subgroup performance that are suppressed. Suppressed data is represented by a "—". Percentages that are greater than 95% and less than 5% are also suppressed. In tables that show change from fall to spring, the change is suppressed if either or both of the fall and spring statistics are suppressed.

#### II. 2014 DCAS PARTICIPATION RATE

In this section, the participation rate is reported by content area and grade level for DCAS. The participation rate is also reported by subgroups.

#### **Participation Rate – Definitions and Calculations**

Because of the aggregation rules, the following definitions are used in the participation tables of this report. The rates calculated in this report may not be calculated in the same way as rates that will be reported later for State Accountability purposes.

- **Eligible N** Referred to as "Eligible N", this is the denominator of the participation rate calculation for a particular content area and is equal to the sum of Tested N and Invalid.
  - All students enrolled in a public school for ten days or more during the spring 2014 test window are counted as eligible to take the DCAS reading unless they (1) participated in the DCAS-Alt1 for these content areas, (2) were granted a Special Exemption, or (3) were granted an ELL Exemption.
  - All students enrolled in a public school for ten days or more during the spring 2014 test window were counted as eligible to take the DCAS mathematics, science, and social studies unless they (1) participated in the DCAS-Alt1 for these content areas, or (2) were granted a Special Exemption.
- **Tested N** "Tested N" (referred to as "Number of Participants") is the numerator of the participation calculation. It is the number of students who received a valid test score on the DCAS in a particular content area. A small number of student scores may have been forced to a Performance Level 1 without a valid test score due to submission of an incomplete test. See below for more information about invalid scores.
- Nonstandard Accommodations A nonstandard accommodation is a test accommodation
  that may change the construct of the test. For example, if the reading passages on the DCAS
  reading test are read aloud to the student, the test score is no longer considered a measure of
  the intended construct of reading. The U.S. Department of Education (USED) guidance
  indicates that scores obtained under such conditions must be counted as invalid scores.
- **Invalid Scores** Students with invalid scores are counted as nonparticipants in the calculation of participation rates. The following reasons result in invalid scores:
  - A student received a nonstandard test accommodation in a given content area. A
    nonstandard accommodation changes the construct of the test, making the student's score
    not comparable to scores obtained under standard testing conditions; or
  - A student attempted to test but did not complete the entire test; or
  - Improper departures from testing procedure took place during the administration of a student's test.
- **Not Tested** Students were counted in this column if they met the requirements to be counted as "eligible" to take the DCAS but failed to test at any time during the spring test window in a given content area. Students counted in this column are counted as nonparticipants in the calculation of participation rates.
- Exempt N (Special Exemption and ELL Exemptions) Students who received a special exemption from any content area test or who received an ELL exemption from the reading

test are counted in the Exempt N column for the relevant content area. An exemption causes the student scores to be excluded from performance calculations and from participation rate calculations.

- **Special Exemption** Some students were granted a "special" exemption from the DCAS due to physical or mental conditions or due to other circumstances that were beyond the control of the student and school staff.
- ELL Reading Exemption ELLs who were enrolled in United States schools less than one year and who met the criteria set forth in the 2013–2014 DCAS Guidelines for Inclusion are not required to participate in the reading assessment, per guidance from the USED.
- **% Tested** The percent tested is calculated by dividing "Tested N" by "Eligible N".
- **Not Tested** The percent not tested is calculated by dividing the sum of ("Not Tested N" + the *n* count of "Invalid Scores") by the "Eligible N".

Participation rates were calculated for all grade levels and content areas, and can be reviewed in Attachment 1. The DCAS subgroup participation rates for all grade levels and content areas were calculated based on the following subgroups:

- English language learners (ELLs)
- Students with disabilities (SWDs)
- Low-socioeconomic status (SES)
- African Americans
- Hispanics
- Whites
- Other minorities

#### **Reading Participation Rate**

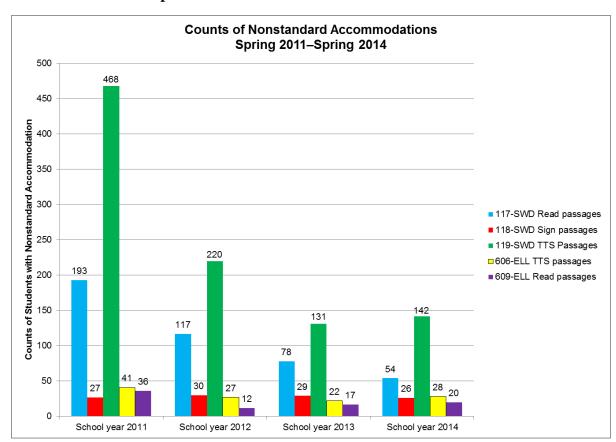
All grade levels met the goal of 95% participation at the statewide level in reading. Grades 3–8 well exceeded the goal with 98% or above in reading. Grades 9 and 10 also met the goal with 96% and 95% respectively, which is an improvement from the 2012–2013 administration when they did not—both were slightly above 94%.

#### Participation Rate by Subgroup

At grade levels 3–8, students in all subgroups met the participation rate. At grade levels 9 and 10, five subgroups failed to meet the participation rate goal in reading. They are:

- SWDs 91% for grade 9 and 90% for grade 10
- ELLs 88% for grade 9 and 89% for grade 10
- Low-SES 93% for grade 9 and 92% for grade 10
- Hispanics 94% for grade 9 and 93% for grade 10
- African Americans 94% for grade 9 and 93% for grade 10

There were 270 individual test administrations for SWDs and ELLs with a nonstandard readaloud accommodation in reading. As a result, these students are considered nonparticipants. The number of students receiving this nonstandard accommodation on DCAS in reading has declined from a high of 765 students in spring 2011 to a low of 270 students for spring 2014. In the spring 2014, 54 SWDs and 20 ELLs were read reading passages by a human reader. Text-tospeech accommodations for reading passages were provided for 142 SWDs and 28 ELLs, and 26 SWDs had passages signed. This decline is the result of districts working with DOE to gain a better understanding of accommodation guidelines. Nonstandard accommodations only impact the reading participation rates. There are other factors, such as truancy, that also negatively impact participation rates.



**Graph 1 – Counts of Nonstandard Accommodations** 

#### **Mathematics Participation Rate**

All grade levels met the goal of 95% participation at the statewide level in mathematics. Grades 3 through 8 well exceeded the goal of 99% or above in mathematics. Both grades 9 and 10 also exceeded the goal of 96%.

#### Participation Rates by Subgroup

At grade levels 3–8, students in all subgroups met the participation rate goal of 95% in mathematics. At grade levels 9 and 10, five subgroups failed to meet the participation rate goal in mathematics. They are:

- SWDs 93% for grade 9 and 92% for grade 10
- ELLs 92% for grade 9 and 91% for grade 10
- Low-SESs 93% for grades 9 and 10
- Hispanics 94% for grade 9 and 93% for grade 10
- African Americans 94% for grade 9 and 93% for grade 10

#### **Science Participation Rate**

Participation rates were calculated for 24 grade level/content area/subgroups in science. Of these, 9 do not meet the 95% target. The subgroup participation rates that are lower than the target ranged from 88% to 94%.

- The subgroup grade levels that had the lowest participation rates are grades 8 and 10.
- The subgroups in grade 8 with the greatest number of low participation rates are SWDs at 93%, ELLs at 93%, low-SES at 94%, and African Americans at 94%.
- The subgroups in grade 10 with the greatest number of low participation rates are SWDs at 88%, ELLs at 88%, low-SES at 89%, African Americans at 90%, and Hispanics at 92%.

#### **Social Studies Participation Rate**

Of all the subgroup participation rates that were calculated for the assessments, only 2 do not meet the 95% target. Subgroup participation rates in social studies range from nearly 100% to 93%. The subgroup grade level that has the lowest overall participation rate is in grade 7. All subgroups met the 95% goal in grade 4, while the ELL subgroup at 93% does not meet the goal in grade 7.

#### **Nonstandard DCAS Scores**

Below is a summary of the DCAS scores that are flagged as nonstandard. Nonstandard scores are excluded from calculations of percent meets the standard and average scale scores but are included in calculations of participation rates as nonparticipants (they lower the participation rate).

Nonstandard scores are the scores of students whose highest score on a test in a given test window is an incomplete attempt at a reading, math, science, or social studies test or scores of students who took the reading test with nonstandard accommodations. Students whose attempt on a test was incomplete do not receive a scale score, are marked as nonparticipants, and do not contribute to the percent proficient reported for a subgroup, school, district, charter, or the state.

The nonstandard score summary table is one way that DOE reporting can be transparent regarding the numbers of students who receive nonstandard scores.

Table 1 – Nonstandard Score Summary – Spring 2014

		Scale	Percent
	Number	Score	Meet
	Tested	Mean	Standard
Mathematics	71	0	0
Grade 3	2	-	-
Grade 4	2	-	-
Grade 5	1	-	-
Grade 6	10	-	-
Grade 7	8	-	-
Grade 8	8	-	-
Grade 9	26	-	-
Grade 10	14	-	-
Reading	337	518.6	10.7
Grade 3	40	620.2	25.0
Grade 4	39	635.2	15.4
Grade 5	33	652.5	15.2
Grade 6	39	529.2	15.4
Grade 7	34	392.0	2.9
Grade 8	30	370.3	3.3
Grade 9	73	433.0	1.4
Grade 10	49	550.1	12.2
Science	175	-	-
Grade 5	2	-	-
Grade 8	141	-	-
Grade 10	32	-	-
Social Studies	84	-	-
Grade 4	11	-	-
Grade 7	73	-	-

#### III. 2014 DCAS-ALT1 PARTICIPATION RATE

In this section, the participation rate is reported by content area and grade level for DCAS-Alt1. The participation rate is also reported by subgroups. Please refer to the <u>Participation Rates – Definitions and Calculations</u> on page 4 for clarification of the participation information.

The DCAS-Alt1 subgroup participation rates for all grade levels and content areas were calculated for the following subgroups:

- English language learners (ELLs)
- Low-socioeconomic status (SES)
- African American
- Hispanic
- White
- Other minorities

#### **Reading Participation Rate**

All grade levels except for grades 3 and 10 met the goal of 95% participation at the statewide level in reading. Grade 7, at 99%, well exceeded the reading goal.

#### Subgroup Participation Rates - Reading

Statistics for DCAS-Alt1 reading include:

- Grade 3 five subgroups failed to meet the participation goal in reading, low-SES at 89%, white at 94%, Hispanic at 93%, African American at 91%, and Other Minorities at 92%.
- Grade 4 two subgroups failed to meet the participation goal in reading, Hispanics at 94% and other minorities at 75%.
- Grade 5 three subgroups failed to meet the participation rate goal in reading, ELL at 85%, low-SES at 94%, and Hispanics at 92%.
- Grade 6 one subgroup failed to meet the participation rate goal in reading, Hispanics at 92%.
- Grade 7 met the participation rate goal of 95% in reading for all subgroups.
- Grade 8 two subgroups failed to meet the participation goal in reading, low-SES at 94% and whites at 92%.
- Grade 9 one subgroup failed to meet the participation rate goal in reading, African Americans at 94%.
- Grade 10 three subgroups failed to meet the participation goal in reading, ELLs at 83%, whites at 94%, and Hispanics at 90%.

#### **Mathematics Participation Rate**

All grade levels except grades 3 and 10 met the goal of 95% participation at the statewide level in mathematics. Grade 7 well exceeded the goal (99%) in mathematics.

#### Subgroup Participation Rate – Mathematics

Statistics for DCAS-Alt1 mathematics include:

- Grade 3 three subgroups failed to meet the participation rate goal in mathematics, low-SES at 90%, Hispanic 93%, and African American at 93%.
- Grade 4 one subgroup failed to meet the participation rate goal in mathematics, Hispanic at 94%.
- Grade 5 one subgroup failed to meet the participation rate goal in mathematics, ELLs at 92%.
- Grade 6 one subgroup failed to meet the participation rate goal in mathematics, Hispanic 92%.
- Grade 7 met the participation rate goal of 95% in mathematics for all subgroups.
- Grade 8 two subgroups failed to meet the participation rate goal in mathematics, low-SES and white at 94% and 92% respectively.
- Grade 9 two subgroups failed to meet the participation rate goal in mathematics, low-SES and African American, 93% and 92% respectively.
- Grade 10 all subgroups failed to meet the participation rate goal in mathematics, ELLs at 83%, low-SES at 95%, white at 94%, Hispanic at 90%, and African American at 95%.

#### **Science Participation Rate**

Only grade 5 met 95% participation, and in grades 8 and 10 were under 95%. The following subgroups did not meet the participation rate of 95%:

- Grade 5 one subgroup, ELL at 92%
- Grade 8 one subgroup, low-SES at 92%
- Grade 10 four subgroups, ELL at 92%, low-SES at 93%, white at 93%, and Hispanic at 85%

#### **Social Studies Participation Rate**

In social studies, the participation rates for grades 4 and 7 were 99% and 97% respectively. The following subgroups did not meet the participation rate of 95%:

Grade 4 – two subgroups, ELL at 88% and Hispanic at 81%

#### IV. 2014 DCAS RESULTS

The statewide DCAS summary data, with subgroups, is presented in Attachment 1.

In this section, the 2014 DCAS results are summarized at the state level with the number of students tested, the mean score, and the percent proficient by content and grade. The state-level results are also summarized by subgroups. The results of the 2014 DCAS are also compared with the 2013 results in terms of mean scores and percent proficient for each content area.

To examine the difference between the mean scores across two years, DCAS reading and mathematics, a t-test is applied. A brief interpretation is provided for the result of t-test with cautions. A brief description about statistical procedure for the t-test is below.

The t-test referenced below is a statistical procedure that is commonly used in education to examine the difference of the mean scores on two occasions. In this report, the t-test is applied based on two non-matched samples (or populations) from the 2013 and the 2014 assessments with unequal variances in reading and mathematics by grade. The statistical significance level is set as  $\alpha=0.01$  for a two-tailed test (positive or negative difference) of the hypothesis of no difference between the two means. If the result of the t-test shows statistically significant (p < 0.01), it indicates, if the assessment is repeated 100 times under the same conditions, only 1 time would show no difference between the two means; if the result of the t-test is not significant (p > 0.01), there is no sufficient statistical evidence to support the difference between the two means. It is important to note that the results of the statistical analysis must be interpreted with caution. Additional evidence is needed to supplement the statistical results to support the significant increase of average student scores from year to year.

#### Reading Summary - Spring 2014

The average reading scores by grade for spring 2014 can be found in Graphs 3 and 4. The percent of proficiency ranges from 70% to 76% at grades 3–5; from 71% to 73% at grades 6–8; and from 66% to 75% at grades 9–10.

#### Reading Results – 2012-2013 School Year to the 2013-2014 School Year

In spring 2014, the average reading score shows statistically significantly higher by 3 score points (t = 2.7619, p < .01) than in 2013 at grade 3 and by 4 score points (t = 3.8193, p < .0001) at grade 10, while there is a slight increase of the average score found at grade 9. For grades 5–7, the average scores remain nearly the same between 2013 and 2014; whereas, the average score drops in 2013 from 835 vs. 833 in 2014. (T-Test chart is located at <u>Table 1</u>, page 40)

The percent proficient remains stable across grades in 2014 without significant changes when comparing the results from the previous year, except in grade 10. The percent proficient increases nearly 2%, from 73% in 2013 to 75% in 2014 for grade 10 reading. Across grades, it is observed that the percent proficient in grade 9 is consistently lower than the rest of the grades over time. In 2014, the percentage in grade 9 is lower by 4%–10% when compared to the other grades.



# **Mathematics Summary – Spring 2014**

The average mathematics scores by grade for spring 2014 can be found in Graphs 6 and 7. The percent of proficiency ranges from 71% to 74% at grades 3–5, from 66% to 69% at grades 6–8, and from 67% to 68% at grades 9–10.

#### Mathematics Results - 2012-2013 School Year to 2013-2014 School Year

In spring 2014, the average mathematics score shows statistically significantly higher by 3 score points (t = 3.3489, p < .001) than in 2013 at grade 4 and by more than 1 score point (t = 1.4352, p < .01) at grade 10. For grades 3, 5, and 6, a slight variation in average score is found in 2014 from the previous year (704 vs. 705 for grade 3; 772 vs. 771 for grade 5; 792 vs. 791 for grade 6). A statistically significantly lower average score is observed at grade 8 (t = -2.8341, p < .000) and grade 9 (t = -2.6834, p < .000) than in 2013 (834 vs. 837 for grade 8 and 843 vs. 846 for grade 9). (T-Test chart is located at Table 1, page 40)

The percent proficient remains nearly the same at grades 4–6 in 2014 when compared with results in 2013. However, the percentage drops by 1% at grades 3, 7, and 10 as well as by 3% at grades 8 and 9.

#### Science Summary – Spring 2014

In spring 2014, the average science score on the within-grade scale shows 400 at grades 5 and 8, and 394 at grade 10, which are slightly lower than the previous year.

The percent proficient, however, shows a small increase of 1% for grade 8 and 4% for grade 10.

#### Social Studies Summary – Spring 2014

In spring 2014, the average social studies score on the within-grade scale shows 411 at grade 4, which dropped by 3 score points from 2013, and 415 at grade 7, which remains the same as in the previous year. Similarly, the percent proficient decreased by 4% and 1%, respectively, for both tested grades in 2014.

#### V. 2014 DCAS-ALT1 RESULTS

The 2013–2014 school year was the third year for the DCAS-Alt1. Students were selected to participate in the DCAS-Alt1 according to the participation criteria in the DCAS Guidelines for Inclusion of Students with Disabilities and English Language Learners. The participation rate in the DCAS-Alt1 assessments includes:

- 1,102 students participated in the DCAS-Alt1 reading
- 1,065 students participated in the DCAS-Alt1 mathematics
- 412 students participated in the DCAS-Alt1 science
- 407 students participated in the DCAS-Alt1 social studies

#### **Reading: State-Level Results – Spring 2014**

In the spring 2014 window, the percent proficient in reading ranges from a low of 51% proficient in grades 3 and 6 to a high of 67% proficient in grade 5. There is an incremental increase from grades 3 to 5—51%, 60%, and 67% respectively—and an incremental decline from grades 7 to 10—66%, 64%, 61%, and 55% respectively.

Contrary to expectation with a vertical scale, the mean scale scores in the spring 2014 window does not reflect increases across the grade levels. While the lowest mean score is 668 at grade 3, the highest is 749 at grade 9. In addition, there are dips at grades 6 and 8 of 3 and 4 scale score points respectively, with an increase at grade 10 of 4 scale score points.

#### Reading Results: Spring 2012-2013 to Spring 2013-2014

The mean scale score at each grade level show changes from spring 2013 to spring 2014. Grades 7, 9, and 10 show increases of 19, 13, and 5 scale score points respectively. Grades 4, 6, and 8 show decreases of 6, 3, and 4 scale score points respectively. Grades 3 and 5 show no change.

The percentage of students proficient in reading show an increase in most grades, with a range of 2% at grade 4 and 7% at grade 10, from spring 2013 to spring 2014. Grade 3, 4, 7, and 9 show increases of 4%, 2%, 4%, and 5% respectively. Grades 6 and 9 show decreases of 9% and 4% respectively. Grade 5 shows no change.

It is important to be cautious in the interpretation of cross-year comparisons due to small sample size and the differences in proportions of subtypes from year to year.

#### **Mathematics: State-Level Results – Spring 2014**

In the spring 2014, grades 4–10 had a 50% or more proficiency level, 50%, 58%, 50%, 67%, 67%, 59%, and 52% respectively.

Grades 3 had a proficiency level under 50%. At 43%, this showed an increase in proficiency of 10% from spring 2013.

#### Mathematics Results: Spring 2012–2013 to Spring 2013–2014

The mean scale scores for grades 4 and 5 were relatively flat. However, grades 6, 7, and 10 had a noticeable change in their scale scores from spring 2013.

- Grade 6 showed a gain of 8 scale score points
- Grade 7 showed a large increase with a gain of 33 scale score points
- Grade 10 showed a decrease of 9 scale score points

In spring 2014, the percent of students proficient in mathematics show increases in most grades with a range of almost 3% (grade 10) to 10% (grade 9).

- Grade 3 had an increase of 10% from spring 2013
- Grade 4 had an increase of 3% from spring 2013
- Grade 5 had an increase of 5% from spring 2013
- Grade 7 had an increase of 6% from spring 2013
- Grade 9 had an increase of 10% from spring 2013
- Grade 10 had an increase of 3% from spring 2013

There were two grades, 6 and 8, that had a decrease in their proficiency levels.

- Grade 6 had a decrease of 3% from spring 2013
- Grade 8 had a slight decrease of 1% from spring 2013

#### Science: State-Level Results – Spring 2014

The spring DCAS-Alt1 science scale scores show increases of 13 scale score points for grade 5 and 4 scale score points for grade 10. The scores range from 384 in grade 10 to 406 in grade 5. The fall DCAS-Alt1 science percent proficient has no apparent trend and range from 50 in grade 10 to 57 in grade 8.

**Spring 2012–2013 to Spring 2013–2014.** The spring-to-spring change in DCAS-Alt1 science scale scores show increases in grades 5 and 10. The spring-to-spring change in DCAS-Alt1 science percent proficient range from a 10% gain in grade 10 to a 13% gain in grade 5.

#### Social Studies: State-Level Results – Spring 2014

The spring DCAS-Alt1 social studies scale scores fluctuate with grade level. The scores range from 386 in grade 7 to 415 in grade 9. The spring DCAS-Alt1 social studies percent proficient range from 42% in grade 7 to 64% in grade 9.

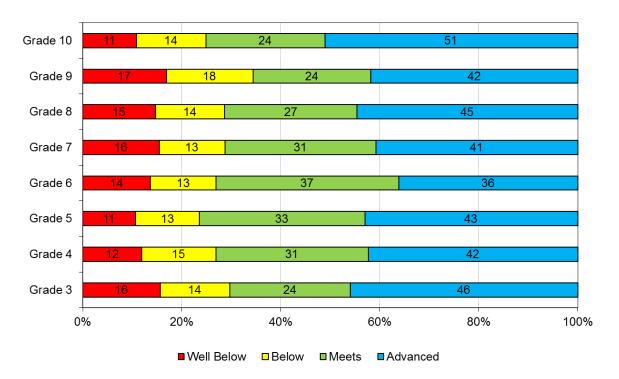
**Spring 2012–2013 to Spring 2013–2014.** The spring-to-spring change in DCAS-Alt1 social studies scale scores show an increase of 10 points in grade 7 to an increase of 7 points in grade 9. The spring-to-spring change in DCAS-Alt1 social studies percent proficient range from 2% in grade 7 to 7% in grade 9.

#### VI. DCAS PERFORMANCE RESULTS

In this section, student achievement on DCAS is summarized by each performance level and demonstrated with graphs by content area and grade levels. Please note that, due to rounding for percentage, the total may be above or below 100%.

Longitudinal comparison from spring 2011 through spring 2014 is provided using graphs depicting the mean scale scores and percentage proficient by content area and grade levels.

#### **Reading Performance Graphs**

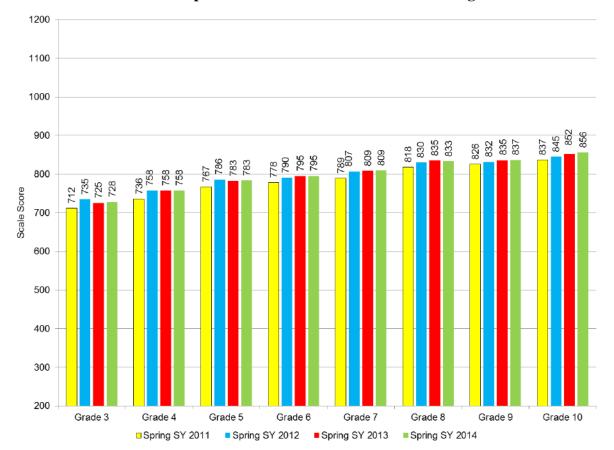


**Graph 2 – DCAS Reading Performance Levels, 2014** 

This graph shows the percentage of students in each performance level for reading, by grade, for the spring 2014 DCAS administration.

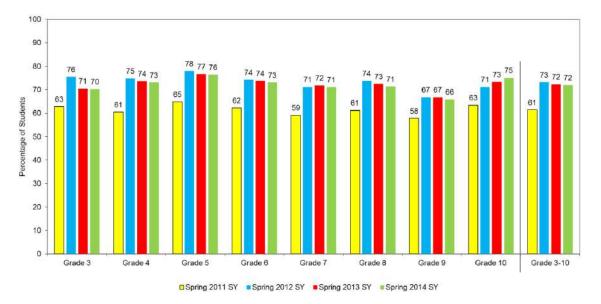
At 37%, grade 6 has the highest percentage of students who are in the meets performance level, while grade 9 has the lowest at 24%. Grade 10 has the highest percentage of students in the advanced performance level, 51%, while grade 6 has the lowest at 36%. Overall, the percent of students proficient (combined meets and advanced levels) range from a low of 66% proficient in grade 9 to a high of 76% proficient in grade 5 with the remaining grades in the 70% to 73% range—the exception being grade 10 with 75% proficient.

Grade 9 has the highest percentage of students in both the well below and below proficient performance levels, 17% and 18% respectively. Grade 5 has the lowest percentage of students in both the well below and below proficient performance levels, 11% and 13% respectively.



**Graph 3 – Mean Scale Scores DCAS Reading** 

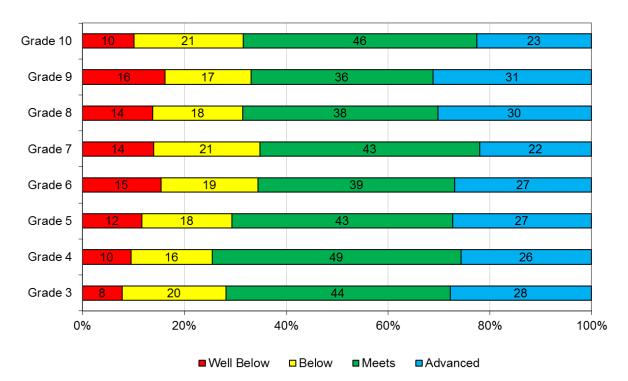
This graph shows the statewide mean scale score for DCAS reading by grade from spring 2011 through spring 2014. The mean scale score for students in all grades in spring 2014 is above the baseline established in spring 2011. Grades 3, 9, and 10 show an increase in the mean scale score from spring 2013 to spring 2014—3, 2, and 4 scale score points respectively. Two grades, 9 and 10, attained the highest mean scale score over the four years of DCAS administration in spring 2014—837 and 856 scale score points respectively.



**Graph 4 – Percentage of Students Proficient in DCAS Reading** 

The percentage of proficient students in all grades in spring 2014 is above the baseline established in spring 2011; however, with the exception of grade 10 with a 2% increase, all grade levels experienced a slight dip—except for grade 8 where the percent proficient dropped 2% from spring 2013. Overall, in grades 3–10, there has been an 11% increase in the percent proficient students from the spring 2011 baseline but a drop of 1% from its highest percent proficient in spring 2012.

## **Mathematics Performance Graphs**

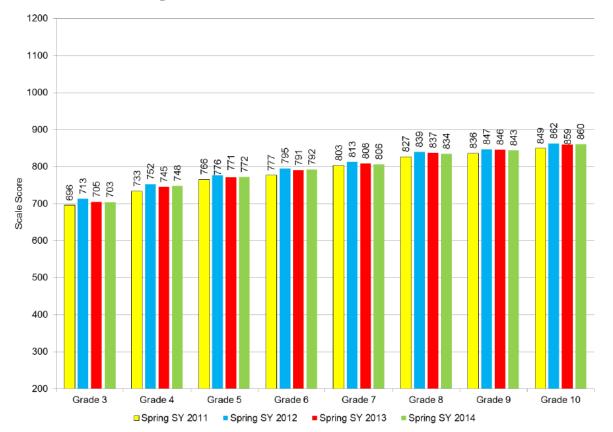


**Graph 5 – DCAS Mathematics Performance Levels, 2014** 

This graph shows the percentage of students in each performance level for math, by grade, for the spring 2014 DCAS administration.

The graph shows that for each grade, the largest proportion of students in each grade performed at meets standard, with a range from 36% for grade 9 to 49% for grade 4. The proportion of students performing at the advanced level had a range of 22% in grade 7 to 31% in grade 9.

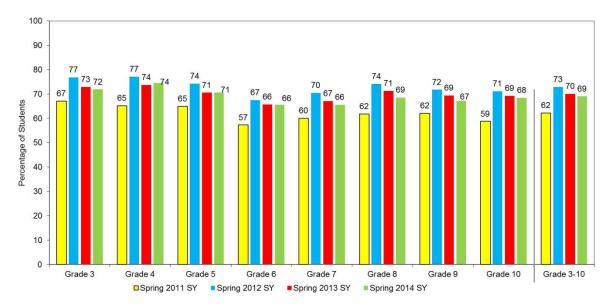
The percentage of students performing at well below standard has a range from 8% in grade 3 to 16% in grade 9. At below standard, the smallest percentage is seen at grade 4 with 16%, and the largest is seen at grades 7 and 10 with 21%.



**Graph 6 – Mean Scale Scores DCAS Mathematics** 

Average scale scores, statewide, for the spring DCAS mathematics test, by grade, are displayed in the graph above. As with reading, these average scale scores increase with grade level, consistent with expectations for a developmental scale.

In grades 4, 5, 6, and 10, the increase is from spring 2013 to spring 2014 is 3, 1,1, and 1 scale score points respectively. Grades 3, 7, 8, and 9 show a decrease of 1 to 3 scale score points from spring 2013 to spring 2014.

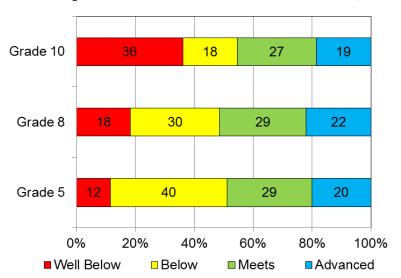


**Graph 7 – Percentage of Students Proficient in DCAS Mathematics** 

The percent proficient remain the same from spring 2013 to spring 2014 for grades 4, 5, and 6, while grades 3, 7, 8, 9, and 10 show a decrease of up to 2%.

Some analysis would be necessary to determine the reasons for these stagnant results. This year's inclusion of new items could be considered but may not necessarily explain the phenomena.

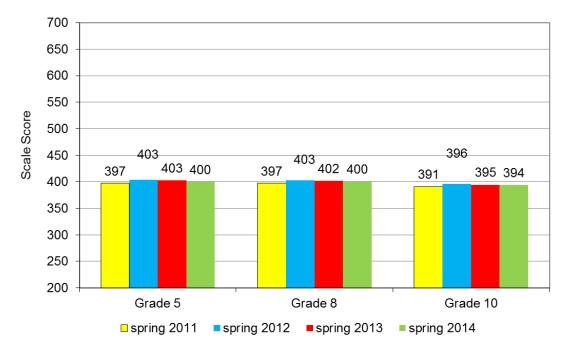
# **Science Performance Graphs**



**Graph 8 – DCAS Science Performance Levels, 2014** 

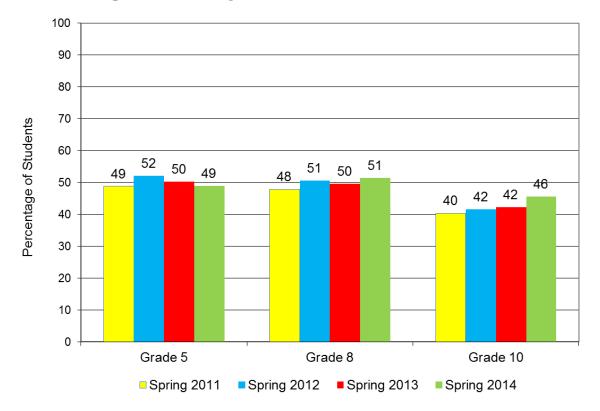
The above graph shows the percentage of students in each performance level on the spring 2014 DCAS science test in grades 5, 8, and 10.

The proportion of students performing at meets standard and advanced is similar from grade to grade. The proportion of students at well below standard is larger in grade 10 than in grades 8 and 5. In contrast, a greater proportion of students performed at below standard in grades 5 and 8 than in grade 10.



**Graph 9 – Mean Scale Scores DCAS Science** 

As seen in the graph above, average scale scores for the spring 2014 DCAS science test are lower in grade 10 than in grades 8 and 5, which are nearly the same. Mean scale scores dropped 3 scale score points in grade 5 and 1 scale score point in grade 8 and grade 10 compared with last year's scores. As the science scale is not a developmental scale but a horizontal scale, there is no reason to expect mean scores to increase with increasing grade level.



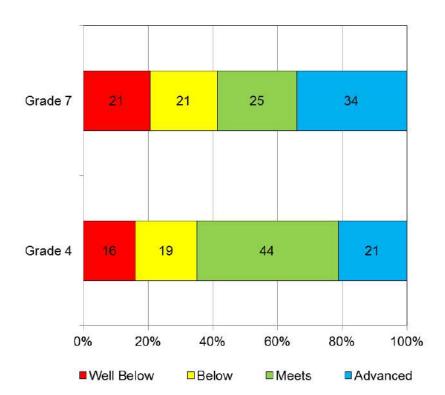
**Graph 10 – Percentage of Students Proficient in DCAS Science** 

The percentage of students at proficiency (meets standard and advanced performance levels combined) for the spring 2014 DCAS science assessment show a similar but less dramatic pattern to the scale scores for this test.

Grade 10 scores show the most profound change with an increase of more than 4% of students meeting or exceeding the standard. While proficiency shows an increase of 1% in grade 8, grade 5 scores show a 1% drop of students meeting proficiency.

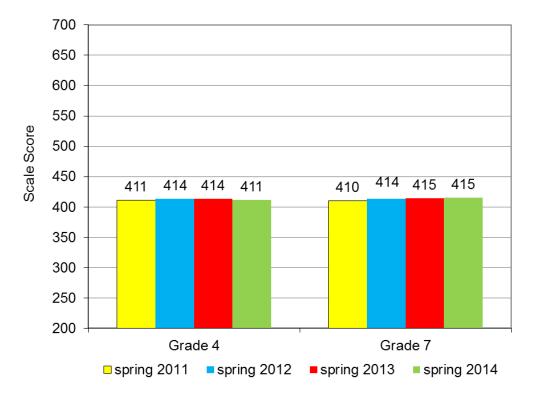


# **Social Studies Performance Graphs**



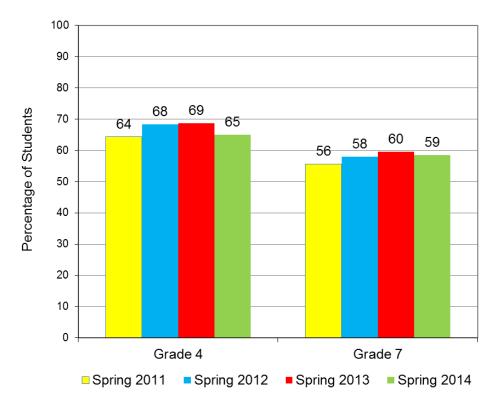
**Graph 11 – DCAS Social Studies Performance Levels, 2014** 

The above graph shows the percentage of students in each performance level on the spring 2014 DCAS social studies test in grades 4 and 7. Grade 4 has a higher percentage of students performing at meets standard, 44%, than at advanced, 21%, while grade 7 has a higher percentage of students performed at the advanced level, 34%, than at the meets standard, 25%. In both tested grades, the percentage of students at the well below and below performance levels is about the same.



**Graph 12 – Mean Scale Scores DCAS Social Studies** 

The above graph shows mean scale scores for the spring 2011–2014 DCAS social studies test. From spring 2013 to spring 2014, grade 7 mean scale scores remain the same, while grade 4 scores show a decrease of 3 scale score points. As the social studies scale is not a developmental scale but a horizontal scale, there is no reason to expect scores to increase with increasing grade level.



**Graph 13 – Percentage of Students Proficient in DCAS Social Studies** 

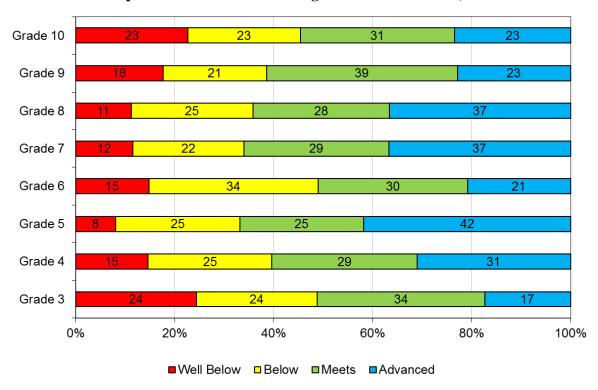
The above graph shows the statewide percentage of students meeting the standard for the 2011–2014 DCAS social studies assessment. Grade 4 shows consistently higher performance than grade 7. However, from spring 2013 to spring 2014 both show a decrease in percent proficient of up to 4%.

#### VII. DCAS-ALT1 PERFORMANCE RESULTS

In this section, student achievement on DCAS-Alt1 is summarized by each performance level and demonstrated with graphs by content area and grade levels. Please note that, due to rounding for percentage, the total may be above or below 100%.

Longitudinal comparison from spring 2012 through spring 2014 is provided using graphs depicting the mean scale scores and percentage proficient by content area and grade levels.

#### **Reading Performance Graphs**

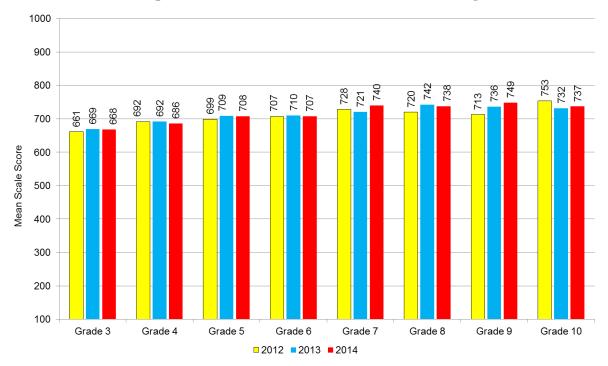


**Graph 14 – DCAS-Alt1 Reading Performance Levels, 2014** 

This graph shows the percentage of students in each performance level for reading, by grade, for the spring, 2014 DCAS-Alt1 administration.

Grade 5 has the highest percentage of students who are in the advanced performance level in reading at 42%, while grade 3 has the lowest at 17%. This is consistent with the proficiency rates (meets and advanced levels combined), with grade 5 having the highest percentage of students who are proficient in reading at 67% and grade 3 having the lowest percentage of students who are proficient in reading at 51%.

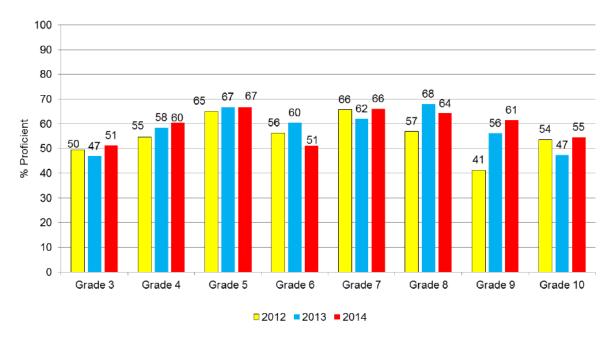
Grade 3 has the highest percentage of students in the well below and below proficient performance level at 24% each, with a similar pattern at grade 10—at 23% each. Grade 5 has the lowest percentage of students in well below proficient performance level as well as the lowest combined scores for well below and below proficient performance levels for reading at 8% and 33% respectively.



**Graph 15 – Mean Scale Scores DCAS-Alt1 Reading** 

This graph shows the statewide mean scale score for DCAS-Alt1 reading by grade from spring 2012 through spring 2014.

- Grades, 3, 5, 7, 8, and 9, show an increase in the mean scale score from the baseline in spring 2012—7, 9, 12, 18, and 36 scale score points respectively.
- Grade 4 and grade 10 show a decline in mean scale scores from the baseline with a decrease of 6 and 16 scale score points respectively.
- Grade 6 shows the same mean scale score as the baseline.
- Grades 7 and 9 attained the highest mean scale score over the three years of DCAS-Alt1 administration in spring 2014 at 740 and 749 respectively.
- Grades 3, 7, 9, and 10 show an increase in the mean scale score from spring 2013—1, 19, 13, and 5 scale score points respectively.
- Mean scale scores show a decrease in grades 4, 6, and 8 from spring by 6, 3, and 4 scale score points respectively.
- Mean scale score for grade 5 remains the same as spring 2013.

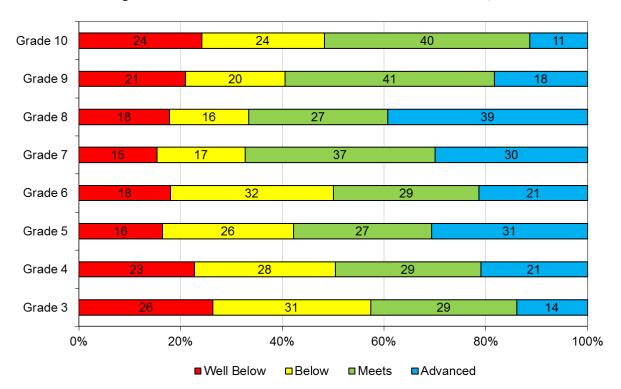


**Graph 16 – Percentage of Students Proficient in DCAS-Alt1 Reading** 

The percent proficient in all grades in spring 2014 is above the baseline established in spring 2011 with one exception, grade 6 which dipped 9%. The range of increase varies dramatically from grade 4 with 2% to grade 10 with a gain of 8%.

From spring 2013 to spring 2014, the percent proficient in reading shows an increase in most grades, with a range of 2% at grade 4 and 7% at grade 10. Grades 3, 4, 7, and 9 show increases of 4%, 2%, 4%, and 5% respectively. Grades 6 and 9 show decreases of 9% and 4% respectively, while grade 5 shows no change.

### **Mathematics Performance Graphs**

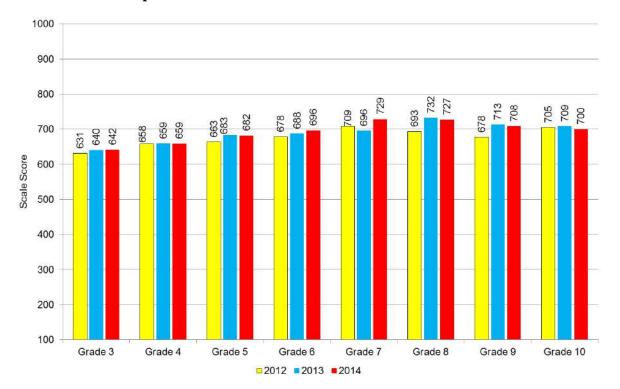


**Graph 17 – DCAS-Alt1 Mathematics Performance Levels, 2014** 

This graph displays the percentage of students in each performance level, by grade, for the spring 2014 DCAS-Alt1 mathematics.

The proportion of students performing at meets standard has a range of 27% at grades 5 and 8 to 41% at grade 9. The proportion of students performing at advanced level has a range of 11% in grade 10 to 39% in grade 8.

The percentage of students performing at well below standard has a range of 15% in grade 7 to 26% in grade 3. At below standard, the smallest percentage is seen at grade 8 with 16%, and the largest is seen at grade 6 with 32%.



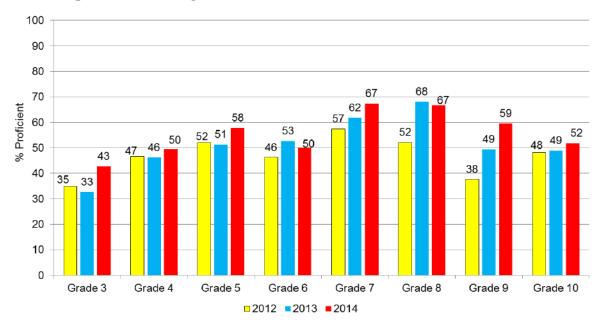
**Graph 18 – Mean Scale Scores DCAS-Alt1 Mathematics** 

Overall, there is a continued increase in spring 2014 DCAS-Alt1 mathematics scale scores over the years for grades 3 through 7. These grades show an increase from spring 2013 with a range of 642 to 729 scale score points.

There is an increase in mean scale score points for grades 6 and 7.

- Grade 6 8 scale score points
- Grade 7 33 scale score points

However, there is a decrease in scale scores for grades 8, 9, and 10 from spring 2013, ranging from 5 scale score points for grades 8 and 9 to 9 scale score points for grade 10. These scale scores are still much higher than spring 2012 scores.



**Graph 19 – Percentage of Students Proficient in DCAS-Alt1 Mathematics** 

Overall, DCAS-Alt1 mathematics percentages for proficiency show an increase from spring 2013 to spring 2014 for all grade levels except for grades 6 and 8, each with a dip of 3% and 1% respectively. The percent proficient ranges from 43% in grade 3 to 67% in grade 7. It is worth noting that grade 3 shows an increase of 10%. Grades 5 and 7 also show an increase of 4% and 6% respectively.

### **Science Performance Graphs**

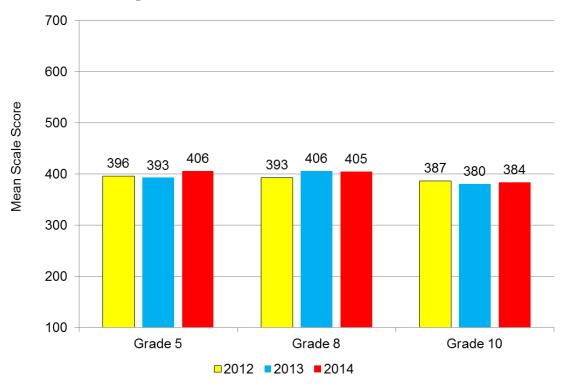
33 Grade 10 17 39 12 Grade 8 14 29 34 22 Grade 5 11 37 21 32 0% 20% 40% 60% 80% 100% ■ Well Below ■ Below ■Meets Advanced

Graph 20 – DCAS-Alt1 Science Performance Levels, 2014

The above graph shows the percentage of students in each performance level in the spring 2014 DCAS-Alt1 science test in grades 5, 8, and 10.

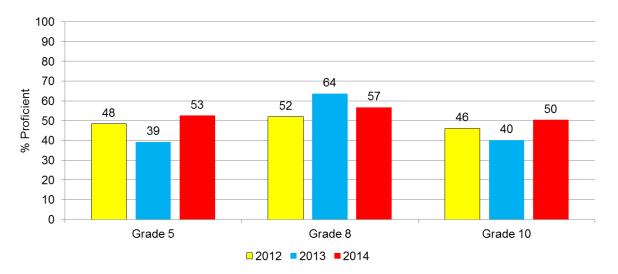
The proportion of students performing at meets standard is greatest at grade 10, 39%, and least at grade 5 at 21%. A greater proportion of students performed at advanced in grade 5 at 32%, than in grade 10 at 12%, and in grade 8 at 22%.

The proportion of students at well below standard is larger in grade 10 than in grades 8 and 5. In contrast, a greater proportion of students performed at below standard in grades 5 and 8 than in grade 10.



**Graph 21 – Mean Scale Scores DCAS-Alt1 Science** 

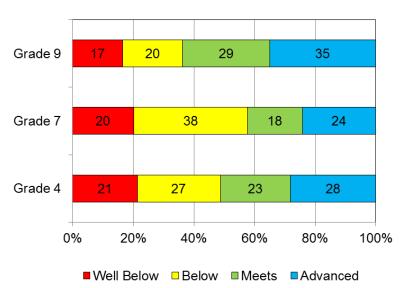
The spring DCAS-Alt1 science scale scores show increases of 13 scale score points for grade 5 and 4 scale score points for grade 10. The scale scores range from 384 in grade 10 to 406 in grade 5.



**Graph 22 – Percentage of Students Proficient in DCAS-Alt1 Science** 

The spring 2014 DCAS-Alt1 science percent proficient shows an increase from spring 2014 of 14% in grade 5 and 10% in grade 10, while grade 8 shows a decrease of 7%.

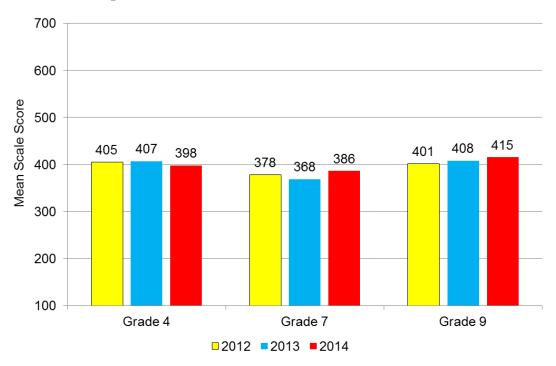
## **Social Studies Performance Graphs**



**Graph 23 – DCAS-Alt1 Social Studies Performance Levels, 2014** 

The graph above shows that, statewide, in grade 9, fairly equal proportions of students performed at well below and below, while the greatest proportion of grade 9 students performed at advanced, 35%.

In grade 4, the greatest proportion of students performed well above standard, 28%, and the smallest proportion of students performed at well below, 21%. Grade 7 students were as likely to perform at well below as at advanced, while a greater proportion of students were below standard than meets standard.



**Graph 24 – Mean Scale Scores DCAS-Alt1 Social Studies** 

The spring 2014 DCAS-Alt1 social studies scale scores change with grade level. The scores range from 386 in grade 7 to 415 in grade 9. From spring 2013 to spring 2014, grade 4 shows a decrease of 9 scale score points, while grades 7 and 9 show an increase of 18 and 7 scale score points respectively.

% Proficient Grade 4 Grade 7 Grade 9 **□**2012 **■**2013 **■**2014

**Graph 25 – Percentage of Students Proficient in DCAS-Alt1 Social Studies** 

The spring 2014 DCAS-Alt1 social studies percent proficient ranges from 42% in grade 7 to 64% in grade 9. All grades levels show slight increases over 2013.



**Table 1 – Results of t-test** 

Dooding		2014 DCAS		2013 DCAS			+ value	p-value	
Reading -	N	Mean	S.D.	N	Mean	S.D.	t-value	p-value	
Grade									
3	10092	728.3088	77.5584	9935	725.3754	72.6985	2.7619	0.01	
4	9994	758.0164	64.6671	10031	757.8819	63.6118	0.1484	0.88	
5	10184	783.3158	66.8118	9842	782.8245	66.1125	0.5230	0.60	
6	9858	795.0752	65.4507	9800	795.1798	65.0002	-0.1125	0.91	
7	9909	809.3285	77.5558	9898	808.6065	64.7013	0.7114	0.43	
8	9905	833.2609	67.7121	9664	835.0984	66.1822	-1.9198	0.06	
9	10937	836.7397	71.4221	10535	835.0287	65.2138	1.8343	0.07	
10	9070	855.7880	63.4693	9160	852.169	64.4685	3.8193	0.00	
Math -		2014 DCAS		2013 DCAS			t-value	n value	
iviatii	N	Mean	S.D.	N	Mean	S.D.	t-value	p-value	
Grade									
3	10158	703.4799	79.3949	10009	704.7965	74.1663	-1.2171	0.26	
4	9965	748.1442	78.3996	10088	744.6241	70.1704	3.3489	0.00	
5	10219	771.8380	74.3734	9908	771.1335	69.1546	0.6962	0.48	
6	9812	791.7485	76.5201	9863	790.5944	72.3321	1.0870	0.30	
7	9955	805.8925	79.3164	9938	807.85	63.8392	-1.9176	0.03	
8	9997	834.4153	68.1788	9729	837.0667	63.1775	-2.8341	0.00	
9	11093	843.3867	71.2810	10644	845.8587	64.4805	-2.6834	0.00	
10	9148	859.7915	60.6418	9223	858.5647	55.0637	1.4352	0.00	
*p<0.01									



# Appendix A DCAS Tables

**Table A-1 – DCAS Assessment Window Dates** 

Dates of Window	Tests Administered		
Fall Window:			
August 19–October 18, 2013	Reading/Mathematics Grades 3–10		
Spring Window:			
January 20–June 6, 2014	Reading/Mathematics Grades 2–10		
April 14–June 6, 2014	Science Grades 5, 8, and 10		
May 19–June 6, 2014	Social Studies Grades 4 and 7		

Table A-2 - DCAS Subject Areas Test Administrations by Grade Level

Contont	Conde	Number of Times in Window Test May Be Administered		
Content	Grades	Fall	Spring	
Reading	3–10	1	Up to 2	
Mathematics	3–10	1	Up to 2	
Reading and Mathematics	2	0	1	
Science	5, 8, and 10	0	1	
Social Studies	4 and 7	0	1	

## DCAS Cut Scores

**Table A-3 – Reading Performance Standards** 

Grade	Well Below Standard	Below Standard	Meets Standard	Advanced
3	650 or less	651-689	690-736	737 or more
4	681 or less	682-720	721-771	772 or more
5	699 or less	700-738	739-797	798 or more
6	724 or less	725-757	758-817	818 or more
7	743 or less	744-775	776-826	827 or more
8	763 or less	764-799	800-843	844 or more
9	766 or less	767-810	811-852	853 or more
10	774 or less	775-819	820-858	859 or more

**Table A-4 – Mathematics Performance Standards** 

Grade	Well Below Standard	Below Standard	Meets Standard	Advanced
3	592 or less	593-658	659-749	750 or more
4	648 or less	649-699	700-792	793 or more
5	689 or less	690-731	732-810	811 or more
6	715 or less	716-756	757-835	836 or more
7	739 or less	740-778	779-849	850 or more
8	766 or less	767-799	800-861	862 or more
9	774 or less	775-811	812-871	872 or more
10	791 or less	792-829	830-896	897 or more

**Table A-5 – Performance Standards** 

Grade	Well Below Standard	Below Standard	Meets Standard	Advanced
5	351 or less	352-399	400-434	435 or more
8	359 or less	360-399	400-434	435 or more
10	380 or less	381-399	400-434	435 or more

**Table A-6 – Performance Standards** 

Grade	Well Below Standard	Below Standard	Meets Standard	Advanced
4	382 or less	383-399	400-434	435 or more
7	370 or less	371-399	400-434	435 or more



# Appendix B DCAS-Alt1 Tables



**Table B-1 – DCAS-Alt1 Assessment Window Dates** 

Dates of Window	Tests Administered		
Fall Window:			
September 23–November 7, 2013	Reading/Mathematics Grades 3–10		
Spring Window:			
	Reading/Mathematics Grades 3–10		
March 31–June 6, 2014	Science Grades 5, 8, and 10		
	Social Studies Grades 4, 7, and 9		

Table B-2 – DCAS-Alt1 Subject Areas Test Administrations by Grade Level

Content	Cuadas	Number of Times in Window Test is Administered	
Content	Grades	Fall	Spring
Reading	3–10	1	1
Mathematics	3–10	1	1
Science	5, 8, and 10	0	1
Social Studies	4, 7, and 9	0	1

## DCAS-Alt1 Cut Scores

**Table B-3 – DCAS-Alt1 Reading Performance Standards** 

Grade	Well Below Standard	Below Standard	Meets Standard	Advanced
3–5	629 or less	630	673	725
6–8	639 or less	640	700	779
9–10	649 or less	650	740	817

**Table B-4 – DCAS-Alt1 Mathematics Performance Standards** 

Grade	Well Below Standard	Below Standard	Meets Standard	Advanced
3–5	624 or less	625	676	724
6–8	641 or less	642	700	773
9–10	656 or less	657	724	802