



THE SCHOOL DISTRICT OF
PHILADELPHIA

K-12 Student Participation and Performance on aimswebPlus and Star Assessments, Fall 2019 and Fall 2020

Key Findings for Fall 2019 and Fall 2020:

- Changes in required tests, scoring, and required grade levels had an effect on both participation and performance.
- For first grade, where the aimswebPlus reading test required for participation in Fall 2020 was also required in Fall 2019, participation levels were similar; however, the percentage of students that placed in Tier 1 (at target) was lower and in Tier 3 (intensive intervention) was higher by about 10 percentage points.
- For fourth and fifth grades, where aimswebPlus reading test requirements did not change, participation and performance levels were similar in Fall 2019 and Fall 2020, indicating that online administration did not affect participation rates for these grades.
- Star assessment requirements did not change in grades 6-8, and participation and tier performance on Star assessments in Fall 2020, administered under online learning conditions, were similar to Fall 2019 levels.
- Making Star assessments required for grades 11 and 12 increased participation and higher participation was related to changes in tier performance. However, twelfth-grade students overall had low participation and performance outcomes compared to other grade levels in the 6-12 band, especially in math.

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Corrections: For clarity, the following revisions were made on the initially posted version of the report.

p.1: Key findings, second bullet: “For first grade, where aimswebPlus reading test **requirements did not change,...**” was changed to “For first grade, where the aimswebPlus reading test **required for participation in Fall 2020 was also required in Fall 2019,...**”

p.4: Deleted **Silent Reading Fluency** as a component to second grade aimswebPlus Reading composite score.

p. 6: “As of Fall 2020, there are a set of **available** tests...” was changed to “As of Fall 2020, there are a set of **required** tests...”

About this Study

Required Formative Assessments in SDP

Formative assessments administered throughout the school year allow for monitoring student progress and growth as well as developing and targeting interventions where necessary in a timely manner. Beginning in the 2020-21 school year, the School District of Philadelphia (SDP) required that formative assessments in literacy and math be administered in all schools. The aimswebPlus assessment is required for grades K-5 and the Star assessment is required for grades 6-12. In addition, aimswebPlus is being administered to eligible special education students in grades K-8 and Star is being administered to eligible special education students in grades 6-12.¹

Assessing Student Learning During Online Learning

The schedule of planned formative assessments during the 2019-20 school year was disrupted by the switch to digital learning in Spring 2020. In line with Covid-19 containment efforts in Philadelphia, all SDP school buildings closed on March 13, 2020. By that point, Fall and Winter aimswebPlus assessments and Terms 1,2, and 3 Star assessments were completed (Table 1). Although SDP implemented online instruction for the remainder of the school year, no formative assessments were administered for Spring/Term 4, and all state-required standardized tests were also cancelled.²

Table 1. SDP testing window dates for aimswebPlus and Star, 2019-20 and 2020-21

Window Abbreviation	Window/Term by Grade	Testing Dates
aimswebPlus		
Sept 2019	Fall window for grades K-5	September 3 - 27, 2019
Jan 2020	Winter window for grades K-5	January 2 - 31, 2020
May 2020 *	Spring window for grades K-5	May 4 - 29, 2020
Sept/Oct 2020	Fall window for grades K-5	Sept 14 - October 23, 2020
Star		
Sept/Oct 2019	Term 1 for grades 6-12	September 19 - October 4, 2019
Dec 2019	Term 2 for grades 6-8	December 9 - December 20, 2019
Dec 2019	Term 2 for grades 9-12	February 5 - February 21, 2020
Feb/Mar 2020	Term 3 for grades 6-8	March 2 - March 12, 2020
May/June 2020 *	Term 3 for grades 9-12	May 26 - June 9, 2020
May/June 2020 *	Term 4 for grades 6-8	May 11 - May 29, 2020
Sept/Oct 2020	Term 1 for grades 6-12	September 14 - October 23, 2020

Note: Please see [Assessment Calendar for 2020-21](#) for details.

* Assessments were not administered for these windows due to Covid-19 related school closures.

¹ SDP had been using AIMSweb reading as a required early literacy assessment for K-3 since Spring 2015 and switched to aimswebPlus in 2018-19 school year. Starting in Fall 2019, aimswebPlus Reading became required for K-5 and AimswebPlus Math became available but was not a required assessment for grades K-5. Star was introduced in grades 6-10 during the 2019-20 school year and became required for grades 6-12 starting Fall 2020.

² See [Evaluation of the Spring 2020 Covid-19 Continuity of Education Plan](#) for details

Research Questions

The 2020-21 school year started on September 2, 2020 and instruction has been fully virtual. As a result, there are significant differences between the instructional experiences of students and teachers in Fall 2020 compared to Fall 2019. This report examines one aspect of the differences between Fall 2020 and Fall 2019: participation and performance on formative assessments in reading and math. The following research questions guided our analyses:

1. What were the rates of student participation in required assessments in Fall 2019 and Fall 2020? Are there specific grade levels where participation was notably lower or higher than the Fall 2019 cohort at that grade level?
2. During the Fall 2020 assessment window, what were the grade-level trends of student participation in required assessments?
3. Is there a difference in student performance in required assessments between Fall 2019 and Fall 2020? Are there specific grade levels that performed better or worse than the Fall 2019 cohort at that grade level?

Limitations of the Data

There are three key limitations to keep in mind when comparing Fall 2019 and Fall 2020 assessment outcomes. First, while Fall 2019 is the most appropriate historical comparison to Fall 2020, it also was the term Star was introduced to most SDP middle and high schools as an available reading and math assessment for the first time. During this inaugural year, Star was not a required assessment. Therefore, we expect that Star participation rates in Fall 2019 are lower than what could be expected if it had a history as a required assessment in the District like AIMSweb/aimswebPlus tests in literacy.

Second, although administering aimswebPlus assessments has a longer history at the District, especially in literacy, requirements for participation and included tests for aimswebPlus assessments changed beginning in Fall 2020. More specifically, in an effort to transition aimswebPlus from an early literacy assessment to a standard reading and math assessment for students in grades K-5 districtwide, focus of aimswebPlus administration shifted from specific tests to a composite score with different required component tests for each grade level. For example, in Fall 2019, the only required aimswebPlus test for second-grade students was the Oral Reading Fluency test. In Fall 2020, the second-grade aimswebPlus literacy assessment is a combination (or composite score) of the Oral Reading Fluency, Reading Comprehension, and Vocabulary tests. (See Table 2 below for details on which tests are administered and which tests are included in the composite score for each grade level).

Finally, online learning and assessment conditions are a third caveat to keep in mind when thinking about the administration of the Star and aimswebPlus assessments in Fall 2019 and Fall 2020. In in-person settings, both assessments would normally be administered at school, under the guidance of a teacher and in the case of some aimswebPlus tests, administered individually by the teacher. Under online learning conditions, all assessments were administered online, with different levels of parent or guardian guidance and/or intervention. Tests that were administered by the teacher were administered over individual online meetings with the teacher. Typical challenges

experienced by families and students throughout online learning, such as technological challenges, impacted assessment administration as well.

Despite these caveats, comparing Fall 2019 and Fall 2020 aimswebPlus and Star participation rates and performance levels provides valuable insights about student performance during the unprecedented conditions of online learning because of COVID-19.

Findings

This report is organized in two main parts. The first part focuses on the aimswebPlus Reading and Math assessments and answers the three research questions on participation and performance using aimswebPlus test outcomes. The second part is on the Star Reading and Math assessments, addressing the research questions for sixth to twelfth-grade students' participation and performance in the Star assessments.

aimswebPlus

About the Administration of aimswebPlus Assessments in SDP

In Spring 2015, the School District of Philadelphia (SDP) adopted Pearson's AIMSweb (now aimswebPlus³), a universal early literacy screening, benchmarking, and progress-monitoring tool, as its major instrument to assess and progress-monitor literacy proficiency for all students in kindergarten through third grade. In Fall 2019, SDP extended the requirement of administering aimswebPlus literacy assessments to include fourth- and fifth-grade students. In Fall 2020, aimswebPlus Reading and aimswebPlus Math assessment administration became required for all K-5 students and K-8 Special Education students.⁴

The aimswebPlus Reading assessments students take vary by grade level and begin in kindergarten by assessing pre-literacy skills such as letter recognition, letter sounds, and blending. Later, these assessments progress to include identification of common words, oral and silent reading fluency, and reading comprehension. All of these skills contribute to the development of proficient readers and allow teachers to pinpoint skills that need additional work in order to improve overall reading achievement.

AimswebPlus Math assessments focus on emerging numeracy skills for kindergarten, where students assess number recognition and quantity conceptualization, and for first grade, where number pair comparisons and math facts are introduced. For all grades 2-8, aimswebPlus Math assessments test grade appropriate skills in mental computation, triad number comparisons and math concepts.

³ SDP transitioned from AIMSweb to aimswebPlus for grades K-3 starting Fall 2018-19 and aimswebPlus Reading became required for K-5 a year later. As part of the aimswebPlus assessment package, math assessments were made available to K-5 teachers for the purposes of progress monitoring students but teachers were not required to administer the math assessments. From Fall 2020 on, aimswebPlus math assessments are required for K-5.

⁴ Reflecting the reorientation of aimswebPlus from an early literacy assessment to a part of a district-wide standard reading assessment in conjunction with Star Reading, aimswebPlus literacy tests are referred to as "aimswebPlus Reading" throughout this report, except when Fall 2019 business rules are discussed.

Core Tests, Required Tests, and Composite Scores for Each Grade

AimswebPlus assessments are administered during set testing windows in the fall, winter, and spring. For literacy, prior to Fall 2020, each grade level had one “core” assessment that was used for District-level accountability and “required” assessments used for additional monitoring purposes. Participation was reported for core and required assessments separately. As of Fall 2020, there are a set of required tests that vary by grade level. Some of these tests contribute to the composite score (Table 2) and as of Fall 2020, participation and performance metrics are based on students receiving a composite score. Tests that were administered in Fall 2020 but are not included in the composite score are used for instructional and screening purposes.

Kindergarten students took Letter Naming Fluency (LNF) and Letter Word Sounds Fluency (LWSF) in Fall 2020. Initial Sounds (IS) and Auditory Vocabulary (AV) tests were not available through remote administration to kindergarten students. First-grade students took Oral Reading Fluency (ORF), Phonemic Segmentation (PS), Letter Word Sounds Fluency (LWSF), Word Reading Fluency (WRF), and Nonsense Word Fluency (NWF); only Oral Reading Fluency (ORF) was a composite score component. Auditory Vocabulary was not administered to the first-graders either. Second- and third-grade students took Oral reading Fluency (ORF), Reading Comprehension (RC), and Vocabulary (VOC) and all of these tests were components of the composite score. Grades 4 to 8 were administered Reading Comprehension (RC), Vocabulary (VOC), Silent Reading Fluency (SRF) and Oral Reading Fluency (ORF) and all but Oral Reading Fluency were composite score components.

Table 2. AimswebPlus literacy/reading assessments for grades K-5 in Fall 2019 and Fall 2020

Grade Level	Core Literacy Assessments Fall 2019	Required Literacy Assessments Fall 2019	All Administered Reading Assessments Fall 2020	Composite Score Component for Reading Fall 2020 **
K*	LNF	IS, PS, NWF	LNF, LWSF	LNF, LWSF
1*	NWF	ORF	ORF, PS, LWSF, WRF, NWF	ORF
2	ORF	-	ORF, RC, VOC	ORF, RC, VOC
3	ORF	-	ORF, RC, VOC	ORF, RC, VOC
4	ORF	RC, SRF, VOC	RC, VOC, SRF, ORF	RC, VOC, SRF
5	ORF	RC, SRF, VOC	RC, VOC, SRF, ORF	RC, VOC, SRF

* Kindergarten students were not administered the required IS and AV tests and first-grade students were not administered AV because they are not available through remote administration. These tests are not included in participation or performance metrics in Fall 2020 but will be included next year.

** Students have to complete the tests listed in “Composite Score Component” column for their grade level in order to be counted as participants in the Fall 2020 assessment.

Similar to the reading assessments, aimswebPlus Math tests differ for grades K and 1, but are the same for grades 2-8. Each grade level takes a battery of three tests that make up the composite score in all testing windows. For Kindergarten, composite score components are Number Naming Fluency (NNF), Quantity Total Fluency (QTF), and Concepts and Applications-Grades K-1 (CA). For first grade, Concepts and Applications, Grades K-1 (CA), Number Comparison Fluency -Pairs (NCF), and Math Facts Fluency -1Digit (MFF-1D) make up the composite score. For grades 2 to 8, Concepts and Applications, Grades 2-12 (CA), Number Comparison Fluency-Triads (NCF-T) and Mental Computation Fluency (MCF) are the components of the composite score (Table 3).

Table 3. AimswebPlus math assessments for grades K-5 in Fall 2020

Grade Level	All Administered Math Assessments Fall 2020	Composite Score Component for Math Fall 2020
K	NNF, QTF, CA	NNF, QTF, CA
1	CA, NCF, MFF-1D	CA, NCF, MFF-1D
2	CA, NCF-T, MCF	CA, NCF-T, MCF
3	CA, NCF-T, MCF	CA, NCF-T, MCF
4	CA, NCF-T, MCF	CA, NCF-T, MCF
5	CA, NCF-T, MCF	CA, NCF-T, MCF

Note: aimswebPlus Math tests were available but not required in Fall 2019

Measuring Student Progress

The aimswebPlus platform provides several different, interrelated data points that can be used to analyze student performance. These include:

- **Number Correct (NC):** The number of cues correctly identified during the timed test.
- **Rate of Improvement (ROI):** The number of points a student or group of students increased per week between assessment periods (i.e., the difference between the number correct in the spring and the number correct in the fall, divided by the number of weeks between the fall and spring assessments).
- **National Percentile Rank (NPR):** A norm-referenced measure that compares students' raw score (number correct) to a national sample of students.
- **Student Growth Percentile (SGP):** SGP describes a student's ROI compared to other students in that national sample with a similar baseline performance.

Additionally, SDP uses the number correct (also known as the raw score) to place students into performance tiers: Tier 1 (At Target), Tier 2 (Strategic Intervention), or Tier 3 (Intensive Intervention). Using the three-tiered Response to Intervention (RTI) model as the underlying framework, aimswebPlus can then be used to support tiered assessment and instruction. Students within Tier 1 receive the core curriculum, while Tier 2 students receive additional small group interventions, and Tier 3 students receive more intensive interventions.

aimswebPlus: Eligibility, Participation, and Performance

The following section describes the decision rules for student eligibility and participation in aimswebPlus assessments and reviews the participation rates at the District and grade level. It also discusses the weekly progression of aimswebPlus assessment participation during the Fall 2020 window. Finally, it compares tier performance in aimswebPlus Reading and Math assessments between Fall 2019 and Fall 2020.

aimswebPlus: Eligibility

Students are eligible for inclusion in aimswebPlus participation metrics if they were enrolled in a District school during the aimswebPlus assessment window.⁵ Results are counted only if assessments are taken within the District testing window.⁶ An eligible student who completes an assessment outside of the testing window is counted as not participating. From Fall 2020 onwards, a student needs to complete all tests that contribute to a composite score to be counted as participating. For the remainder of this report, mentions of student counts refer only to eligible students. Table 4 outlines the number of students eligible in Fall testing windows of 2019 and 2020 by grade level. These figures constitute the denominators for all aimswebPlus participation rate calculations reported below.

Table 4. AimswebPlus eligible student counts by grade, Fall 2019 and Fall 2020

Grade	Fall 2019	Fall 2020
K	9,936	7,417
1	10,354	9,532
2	10,427	9,787
3	10,442	9,892
4	10,565	9,952
5	10,163	9,708
6*	1,882	1,757
7*	1,988	1,747
8*	1,679	1,864
Total	67,436	61,656

* Grade 6-8 Special Education students are required to take aimswebPlus. Some Special Education students are exempted from assessments in their Individualized Education Plans (IEPs); however, all students with IEPs, regardless of exemptions, are counted as eligible here and in the participation calculations below.

A comparison of the number of eligible students shows that all grades except eighth grade have a lower number of eligible students in Fall 2020 compared to Fall 2019 because of changes in overall

⁵ Students in dual language schools take aimswebPlus in English and Spanish, although English is prioritized. The results in this report only reflect English language assessments.

⁶ Before Fall 2020, SDP provided additional weeks on either end of the official testing window to capture testing data from students who may have had barriers to completing their assessment(s) during the District-specified testing window. For Fall 2019, the expanded window was from September 3 to October 31, 2019. Fall 2019 numbers in this section reflect participation and performance during the actual testing window, not the expanded window.

enrollment. The downward trend in number of eligible students is in line with changing enrollment dynamics due to Covid-19, especially for the kindergarten class entering in 2020-21. It is worth noting that only Special Education students take aimswebPlus assessments in grades 6-8, while non-Special Education students in these grades take Star assessments.

aimswebPlus: Overall Participation in Fall 2019 and Fall 2020

Before Fall 2020, student participation in aimswebPlus was monitored according to whether the students completed the core assessments for their grade level and how many required assessments for the grade level they completed (See Appendix A for details). Since Fall 2020, SDP considers a student as participated in aimswebPlus Reading or aimswebPlus Math assessments if they have completed all component tests of the composite score for that grade level. In this report we provide the number of students who have composite scores for Reading Only, Math Only, Both Reading and Math, and Neither Test. More detailed participation metrics are available internally for progress monitoring.

During the Fall 2019 assessment period, 46% of kindergarten through fifth-grade students participated in the aimswebPlus Reading assessment and 10.1% of kindergarten through fifth-grade students participated in the aimswebPlus Math assessment (Table 5). During the Fall 2020 assessment window, 87% of kindergarten through fifth-grade students had an aimswebPlus Reading composite score and 84% of students in these grades had an aimswebPlus Math composite score.

The comparison of Fall 2019 and Fall 2020 aimswebPlus Reading assessment reflects the change in the definition of “participation.” Rather than monitoring the rate of students that completed core and required test scores, SDP now requires that students take all tests that contribute to the composite score and monitors the rate of students that received a composite score. Retroactively applying the Fall 2020 business rules to prior years data results in very low participation rates for aimswebPlus in Fall 2019. Compared to 81.9% of all eligible students in Fall 2020, only 42.8% of all (K-8) eligible students took the reading tests that contribute to a composite score in Fall 2019 (Table 5). Appendix A shows the aimswebPlus participation according to the participation metrics used before Fall 2020.

Throughout the Fall 2019 assessment window, only 9.6% of all eligible students participated in aimswebPlus Math. It is worth reiterating that aimswebPlus Math tests were available but not required before Fall 2020. AimswebPlus Math assessments became required across the District Fall 2020 onwards and the dramatic increase in participation rates for aimswebPlus Math reflect the change in requirements. During the Fall 2020 window, 79.5% of all eligible students had a composite Math score.

During the Fall 2020 assessment window, 10.8% of kindergarten to fifth-grade students completed neither the aimswebPlus Reading nor the aimswebPlus Math test. We expect that the context of online learning combined with the first year of administering a new required assessment contributed to this lack of participation.

Table 5. Participation in aimswebPlus assessments by participation type, Fall 2019 and Fall 2020

Assessment Window	aimswebPlus Reading Only		aimswebPlus Math Only		aimswebPlus Both Reading and Math		aimswebPlus Neither Test	
	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>
Fall 2019 (K-5)	39.1%	24,171	3.1%	1,934	7.0%	4,325	50.8%	31,457
Fall 2020 (K-5)	5.1%	2,898	2.2%	1,233	81.8%	46,056	10.8%	6,101
Fall 2019 (K-8)*	36.1%	24,345	3.0%	1,993	6.7%	4,494	54.3%	36,604
Fall 2020 (K-8)*	4.9%	3,048	2.5%	1,556	77.0%	47,476	15.5%	9,576

* Grade 6-8 Special Education students are required to take aimswebPlus. Some Special Education students are exempted from assessments in their Individualized Education Plans (IEPs); however, all students with IEPs, regardless of exemptions, are included in the participation rate denominator. Inclusion of these students lowers the participation rate in the K-8 band compared to K-5.

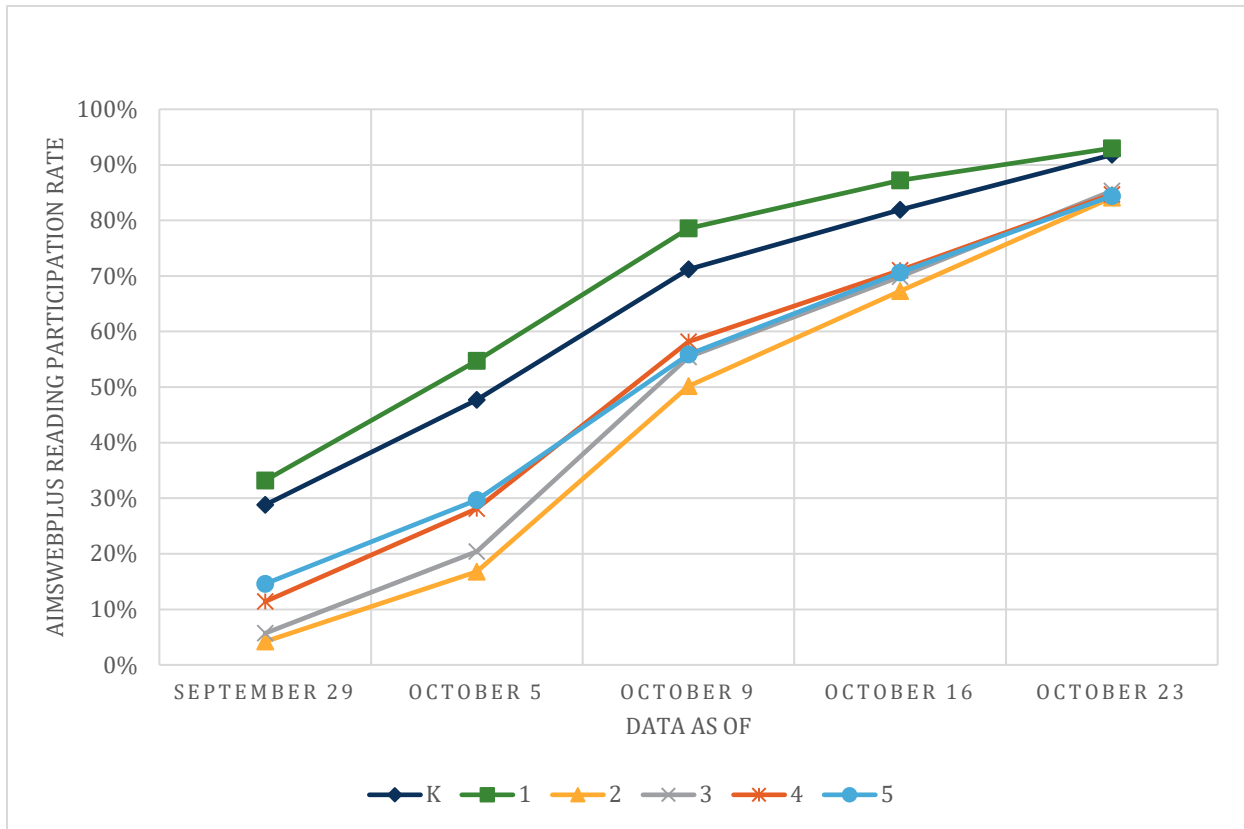
aimswebPlus: Weekly Grade Level Participation During Fall 2020 Testing Window

SDP adopted universal standard formative assessments and started implementing them in the Fall 2020 window. This window also happened to take place during the 100% online learning period due to Covid-19. All aimswebPlus tests were administered virtually either during individual online meetings between the student and the teacher or through Pearson’s online system, TestNav. Figures 1 and 2 show the progress in participation rates across the required grades during this inaugural testing window, for aimswebPlus Reading and Math respectively.⁷

An analysis of grade level Fall 2020 aimswebPlus Reading participation rates based on data pulled at about weekly intervals show that first and kindergarten grades, respectively, started and finished the assessment window at higher participation rates compared to other grade levels (Figure 1). This may be explained by first grade having only one component test to the composite score and all tests at these two grade levels being administered through one-to-one teacher student online meetings rather than through the online test administration system, TestNav. Students in grades 2-5 all converged around 85% participation at the end of the testing window.

⁷ SDP received participation and assessment data at the conclusion of the assessment windows prior to Fall 2020. During the Fall 2020 window, SDP received data from the vendors daily, making these weekly progress reports possible.

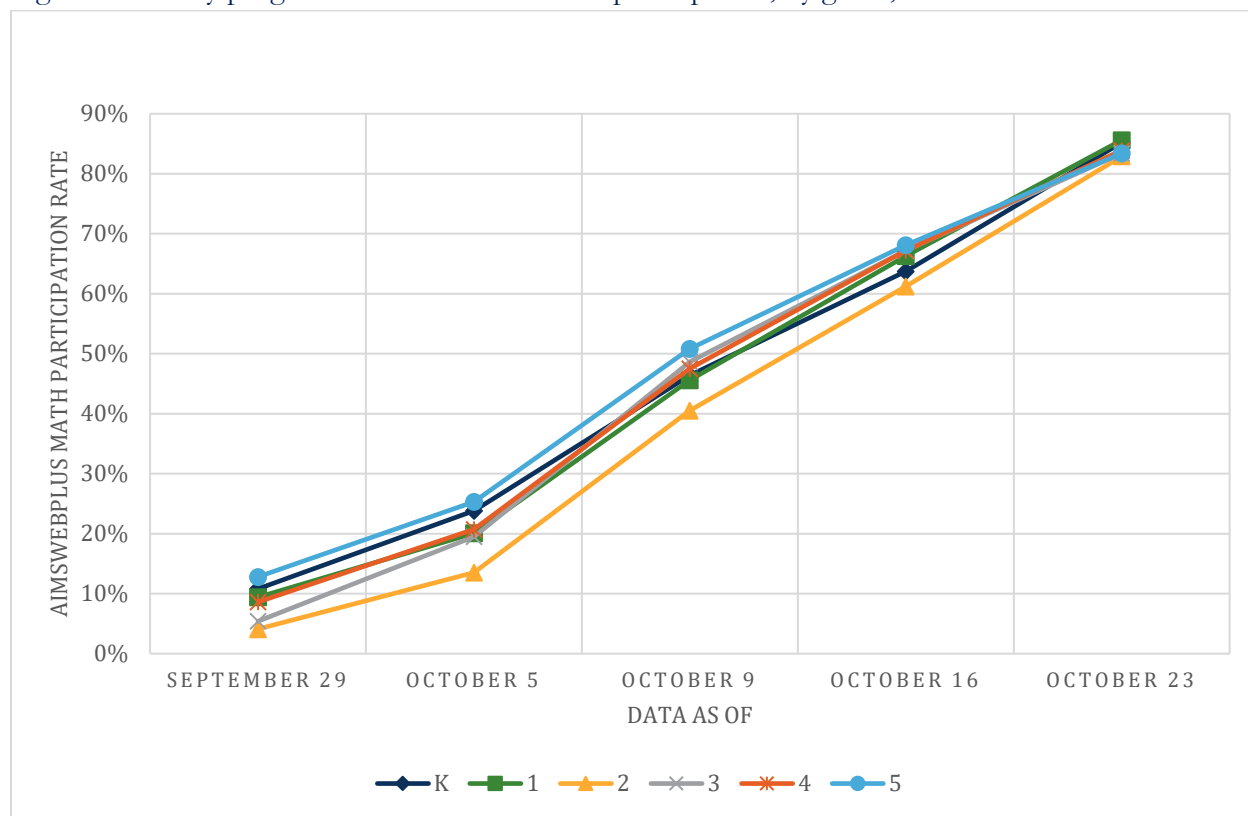
Figure 1. Weekly progress in aimswebPlus Reading participation, by grade, Fall 2020



Weekly progression of aimswebPlus Math participation rates were more tightly clustered and all grade levels converge on a participation rate in the mid-80% range at the end of the Fall 2020 testing window (Figure 2).

At the end of the Fall 2020 assessment window, first grade was the grade level with the highest participation rate both in aimswebPlus Reading and aimswebPlus Math. High kindergarten and first-grade participation rates seem to indicate that teachers of grades K and 1 were able to successfully pivot to administering the one-to-one aimswebPlus tests virtually.

Figure 2. Weekly progress in aimswebPlus Math participation, by grade, Fall 2020



aimswebPlus: Grade Level Participation in Fall 2020 compared to Fall 2019 for Reading and Math

In comparing Fall 2019 and Fall 2020 participation rates on the reading and math aimswebPlus tests, comparing first, fourth, and fifth grades is the most appropriate approach given the changes in required component tests. In first, fourth and fifth grades, all of the component tests that contribute to the composite score in Fall 2020 were also required tests in Fall 2019 (Table 2 above). In Fall 2019, 93.9% of first-graders participated in the aimswebPlus Reading assessment compared to 93% of first-graders in Fall 2020 (Table 6). Similarly, fourth-graders' reading participation was 86% in Fall 2019 and 84.7% in Fall 2020 and fifth-graders' reading participation was 82.5% in Fall 2019 and 84.4% at the end of the Fall 2020 window. These results show that administering tests fully virtually did not have a big impact on participation rates.

In Fall 2019, aimswebPlus Math tests were available but not required. Between 10-17.5% of student in grades 3-5 took the aimswebPlus math tests, with higher participation rates at higher grade levels. In comparison, all K-5 grade levels had aimswebPlus Math participation rates in the 83-86% range in Fall 2020.

Making aimswebPlus assessments required for Special Education students in grades 6-8 has increased the percentage of students taking these reading and math tests. The Fall 2020 participation rates for Special Education students in grades 6-8 was about 25-30%; however, note that the eligible students, which is the denominator for the participation rate, include all students with IEPs and does not exclude students whose IEP exempts them from assessments.

Table 6. Participation in aimswebPlus assessments, by grade, Fall 2019 and Fall 2020

Grade	Test Participated	Fall 2019		Fall 2020	
		%	N	%	N
K	Reading Only	3.5%	349	7.4%	551
	Math Only	0.6%	64	0.8%	59
	Both Reading and Math	1.9%	189	84.4%	6,260
	Neither Test	93.9%	9,334	7.4%	547
1	Reading Only	91.7%	9,491	7.8%	741
	Math Only	0.0%	0	0.4%	36
	Both Reading and Math	3.2%	327	85.2%	8,120
	Neither Test	5.2%	536	6.7%	635
2	Reading Only	80	3.3%	3.8%	373
	Math Only	8.4%	877	2.7%	263
	Both Reading and Math	2.5%	259	80.2%	7,854
	Neither Test	88.3%	9,211	13.3%	1,297
3	Reading Only	1.1%	116	4.4%	440
	Math Only	8.2%	854	2.6%	257
	Both Reading and Math	2.1%	217	80.8%	7,997
	Neither Test	88.6%	9,255	12.1%	1,198
4	Reading Only	70.6%	7,461	4.0%	396
	Math Only	0.6%	65	3.2%	318
	Both Reading and Math	15.4%	1,630	80.7%	8,032
	Neither Test	13.3%	1,409	12.1%	1,206
5	Reading Only	65.7%	6,674	4.1%	397
	Math Only	0.7%	74	3.1%	300
	Both Reading and Math	16.8%	1,703	80.3%	7,793
	Neither Test	16.8%	1,712	12.5%	1,218
6*	Reading Only	2.1%	39	2.8%	50
	Math Only	2.2%	42	5.2%	91
	Both Reading and Math	4.1%	77	27.4%	482
	Neither Test	91.6%	1,724	64.5%	1,134
7*	Reading Only	3.3%	66	3.3%	58
	Math Only	0.4%	7	5.8%	102
	Both Reading and Math	2.4%	48	29.3%	511
	Neither Test	93.9%	1,867	61.6%	1,076
8*	Reading Only	4.1%	69	2.3%	42
	Math Only	0.6%	10	7.0%	130
	Both Reading and Math	2.6%	44	22.9%	427
	Neither Test	92.7%	1,556	67.9%	1,265

* Grade 6-8 Special Education students are required to take aimswebPlus. All students with IEPs, regardless of exemptions, are counted as eligible and are included in the denominator for participation rates.

aimswebPlus: Tier Performance by Grade in Fall 2019 and Fall 2020

Students are placed into three performance tiers based on their aimswebPlus assessment outcomes. These performance tiers are aligned with the levels of intervention needed to improve student learning and used primarily for school and District level progress tracking and accountability, not instructional management. The tiers are set by the District using raw score cut points (provided by Pearson) that correspond to the 40th percentile.

Similar to the challenges with comparing participation rates from Fall 2019 to Fall 2020 described above, comparing aimswebPlus Reading tier performance across the two school years is also not straightforward because the composition of the tests and requirements changed. Applying the Fall 2020 business rules retrospectively, only a small fraction of Fall 2019 kindergarten, second-, and third-grade students meet the requirements. However, comparing first-, fourth-, and fifth-grade student tier performance between Fall 2019 and Fall 2020 is possible because all composite score components were required tests in Fall 2019. This comparison shows that distribution of students across performance tiers were very consistent for fourth- and fifth-graders, with Fall 2020 Tier 1 percentages being a few percentage points higher (Table 7). The first-grade student distribution across performance tiers shows different patterns for the two school years, however. There is a drop of about 10 percentage points in percentage of students that placed in Tier 1 and conversely an increase of about 10 percentage points in Tier 3.

For the kindergarten, second, and third grades the distribution of students across performance tiers is skewed towards Tier 3 for Fall 2019 students, regardless of business rules (Table A.5, Appendix A). This holds true for Fall 2020 kindergarten students; however, more Fall 2020 second-grade students placed in Tier 1. About 40% of Fall 2020 third-grade students placed in Tier 1 and Tier 3.

Table 7. AimswebPlus Reading, tier performance by grade, Fall 2019 and Fall 2020

Grade	Number of Participants		Tier 1 (At Target)		Tier 2 (Strategic Intervention)		Tier 3 (Intensive Intervention)	
	2019	2020	2019	2020	2019	2020	2019	2020
K	538	6,811	36.2%	16.6%	18.0%	21.5%	45.7%	61.8%
1	9,818	8,861	33.9%	24.6%	10.0%	8.2%	56.1%	67.1%
2	339	8,227	38.6%	51.7%	20.1%	16.5%	41.3%	31.8%
3	333	8,437	33.3%	43.2%	15.6%	16.3%	51.1%	40.6%
4	9,091	8,428	39.5%	42.1%	17.6%	16.6%	42.9%	41.2%
5	8,377	8,190	44.5%	47.9%	19.1%	16.3%	36.4%	35.8%
6	116	532	16.4%	10.6%	13.8%	14.3%	69.8%	75.1%
7	114	569	22.8%	21.6%	16.7%	12.5%	60.5%	65.9%
8	113	469	14.2%	20.0%	12.4%	13.2%	73.5%	66.8%
District (K-8)	28,839	50,524	38.7%	37.5%	15.4%	15.6%	45.9%	46.9%

AimswebPlus Math tests were not required in Fall 2019 and it is possible that performance in Fall 2019 aimswebPlus Math tests reflect a selection bias if higher performing schools chose to administer these optional tests. Table 7 shows the dramatic increase in participation for all grades taking aimswebPlus math in Fall 2020. Tier performance for 2019 and 2020 is provided but should be interpreted with caution due to the small sample sizes in 2019.

Table 8. AimswebPlus Math, tier performance by grade, Fall 2019 and Fall 2020

Grade	Number of Participants		Tier 1 (At Target)		Tier 2 (Strategic Intervention)		Tier 3 (Intensive Intervention)	
	2019	2020	2019	2020	2019	2020	2019	2020
K	253	6,319	31.6%	25.1%	29.2%	24.2%	39.1%	50.7%
1	327	8,156	40.4%	22.0%	16.8%	18.0%	42.8%	60.0%
2	1,136	8,117	32.2%	50.9%	19.8%	16.4%	48.0%	32.7%
3	1,071	8,254	31.4%	34.0%	21.6%	20.4%	47.1%	45.7%
4	1,695	8,350	39.7%	34.1%	18.9%	20.6%	41.4%	45.3%
5	1,777	8,093	41.1%	28.2%	19.1%	19.9%	39.8%	51.9%
6	119	573	11.8%	3.9%	15.1%	11.3%	73.1%	84.8%
7	55	613	5.5%	5.0%	9.1%	11.1%	85.5%	83.9%
8	54	557	5.6%	3.2%	16.7%	13.9%	77.8%	82.9%
District (K-8)	6,487	49,032	36.0%	31.7%	19.7%	19.5%	44.3%	48.8%

Note: Participation increased dramatically in Fall 2020 due to new District requirements, so changes from 2019 to 2020 should be interpreted with caution.

Star

About the Administration of Star Assessments in SDP

Star Assessments, provided by Renaissance, are a suite of computer-adaptive assessments that measure students' reading and math skills, monitor achievement and growth, and track understanding of skills aligned to state standards and Common Core State Standards. Renaissance offers six different tests as a part of the Star Assessment suite, including Star Reading, Star Math, Star Early Literacy, Star CBM (curriculum-based measures), Star Custom, and Star in Spanish. Star Reading, Star Math, Star Early Literacy, and Star in Spanish are adaptive tests, meaning the questions students receive adjust depending upon their answers. Therefore, two students taking the same assessment can receive different question sets depending on their responses.

For students in grades 6-10, Star is an approved universal screener tool, and for students in grades 6-8, Star Reading is also used to inform instructional reading levels. Finally, Star Reading may be used for MTSS for ELA in grades 6-12. Starting in 2019-20, SDP launched Star Reading and Star Math to inform District-wide instruction and progress monitoring. Initially, Star Reading and Star Math were required for students in grades 6-10 and were optional for students in grades 11-12. Starting in Fall 2020, Star Reading and Star Math assessments are required for all students in grades 6-12, including students receiving special education services.

Star: Eligibility, Participation, and Performance

This section compares Fall 2019 and Fall 2020 student participation rates at the grade level on both Star Reading and Star Math. First, testing windows and student eligibility is outlined. Then, District level and grade level participation on Star Math and Star Reading are compared between the two consecutive Fall windows. Finally, student performance on the two tests in Fall 2019 and Fall 2020 are compared.

Star: Eligibility

Students are eligible for participation metrics if they were enrolled for at least one day within the testing window and were not already tested for that window at a different school. Results are counted only if assessments are taken within the testing window. An eligible student who completes an assessment outside of the testing window is counted as not participating. As in the section above, mentions of student counts refer only to eligible students. Table 9 outlines the number of students eligible by testing window and grade for Fall 2019-20 and Fall 2020-21.

Table 9. Star eligible student counts by grade, Fall 2019 and Fall 2020

Grade	Fall 2019	Fall 2020
6	9,726	9,203
7	9,722	9,319
8	8,956	9,388
9	10,556	10,222
10	9,983	10,357
11	8,715	9,444
12	9,216	9,029
Total	66,874	66,962

Star: Overall Participation in Fall 2019 and Fall 2020

The number of students that completed the Star Reading and Star Math assessments increased from Fall 2019 to Fall 2020. Table 10 displays the overall District level student participation by assessment and participation category (Reading Only, Math Only, Both Reading and Math, or Neither Test). The percentage of students who took neither test decreased from 36.8% to 17.1%, possibly due to Star assessments becoming required all grade levels including grades 11 and 12.

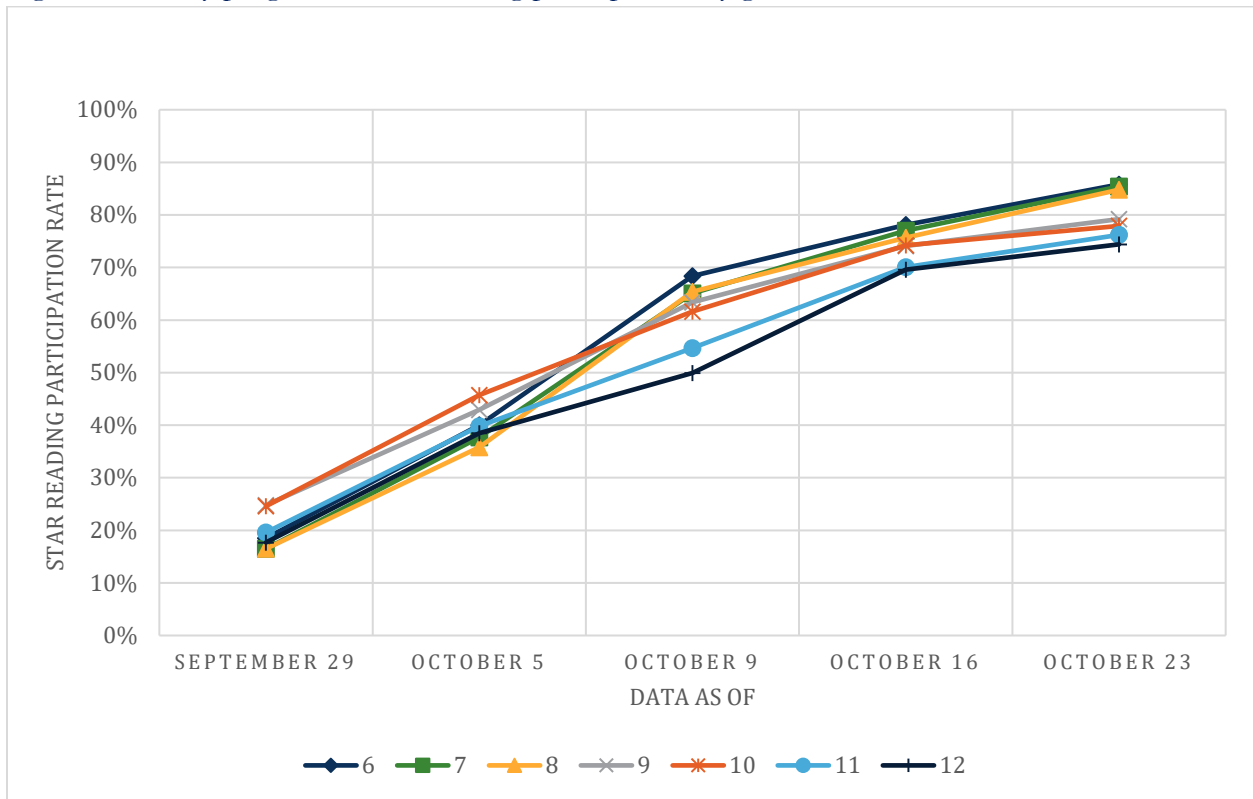
Table 10. Participation in Star assessments by participation type, Fall 2019 and Fall 2020

Assessment Window	Star Reading Only		Star Math Only		Star Both Reading and Math		Star Neither Test	
	%	N	%	N	%	N	%	N
Fall 2019	9.9%	6,644	6.0%	3,990	47.3%	31,600	36.8%	24,640
Fall 2020	8.6%	5,780	4.8%	3,182	69.5%	46,526	17.1%	11,474

Star: Weekly Grade Level Participation During Fall 2020 Testing Window

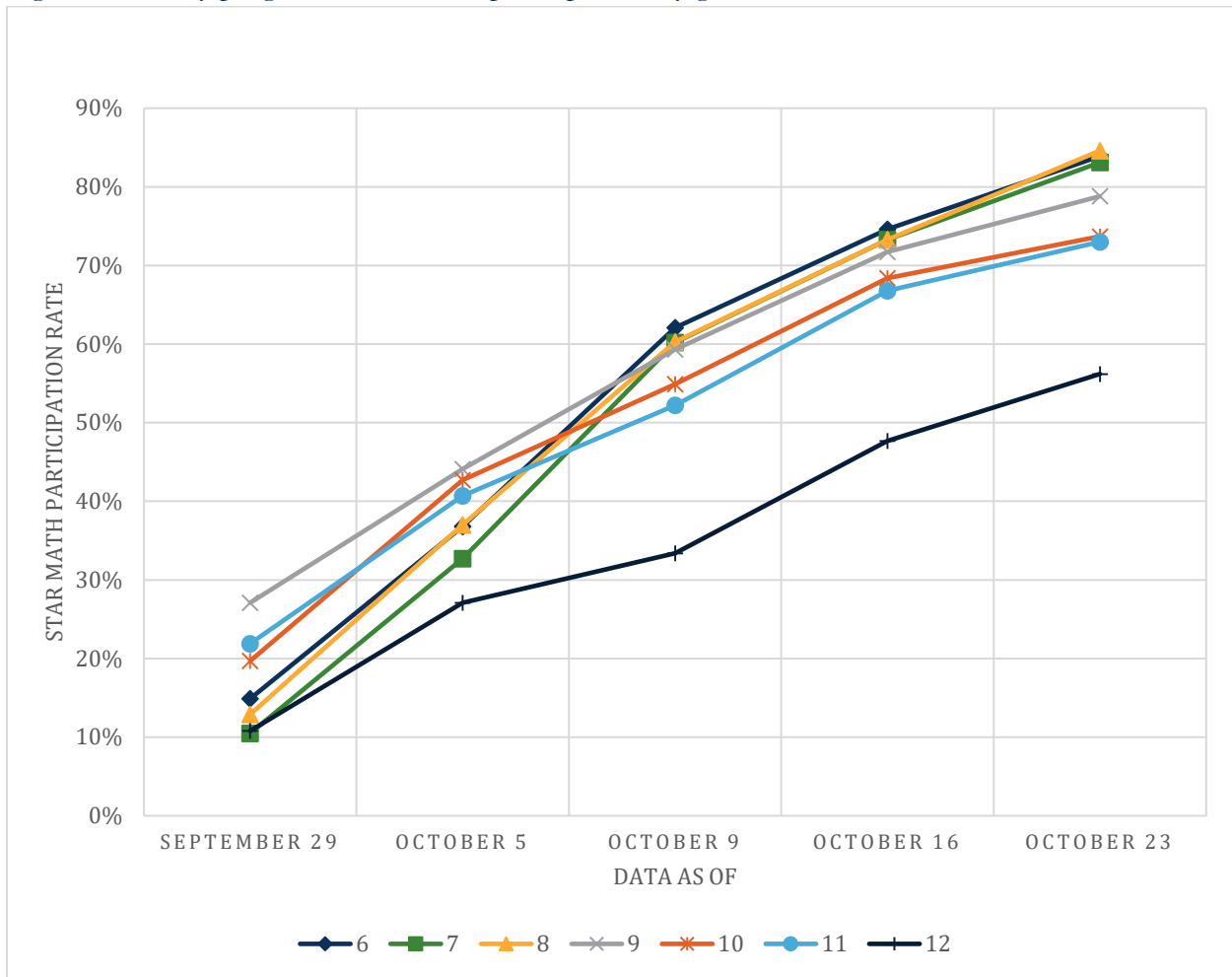
Our analysis of the weekly progression of grade level Star Reading participation rates across the Fall 2020 assessment window shows that grades 9 and 10 started the window at a higher participation rate than the other grade levels (Figure 3). However, between the second and third week of administration, middle school grades 6-8 had a surge in participation and finished the window with higher participation rates in Star Reading. At the same time middle school grade participation surged, participation of grades 11 and 12 started lagging and these grades had lower Star reading participation rates at the end of the testing window.

Figure 3. Weekly progress in Star Reading participation, by grade, Fall 2020-21



Weekly progression of Fall 2020 Star Math participation by grades shows a very clear outlier: grade twelve students have lagged behind all other grades throughout the window and ended the testing period with a much lower participation rate in Star Math (Figure 4). Middle school grades 6-8 started slow but a surge concurrent with the reading participation resulted in them ending the testing window with the highest rates of participation. High school grades other than twelfth grade are clustered together across the weeks of the assessment window; at the end of the window ninth grade had the highest participation rate in Star Math among the three grade levels and eleventh had the lowest.

Figure 4. Weekly progress in Star Math participation, by grade, Fall 2020-21



Star: Grade Level Participation in Fall 2020 compared to Fall 2019 for Reading and Math

In Fall 2019, Star was introduced as a requirement for students in grades 6-10, and participation was optional for grades 11 and 12. Despite all students attending school and taking assessments online, students in grades 6-10 had about a 10 percentage point increase in participation rates. For students in grades 11 and 12 (where Star assessments were required beginning in Fall 2020), participation rates increased more than 45 percentage points and 50 percentage points respectively.

A breakdown of the Fall 2020 participation rates by grade levels shows that the percentage of students who took neither test during this window increases with grade level, with ninth-grade students participating most and twelfth-grade students participating the least (Table 11). For ninth-graders, 10.5% took neither Star Reading or Star Math; the percentage of twelfth-grade students who were not tested at all is 27.9%. The percentage of non-tested students in other grades are within the range of 10-24%. Twelfth-grade student participation calls for attention in future windows, especially for math tests: although now required, only 68.2% took Star Reading and 52.3% participated In Star Math in Fall 2020.

Table 11. Participation in Star assessments, by grade, Fall 2019 and Fall 2020

Grade	Test Participated	Fall 2019		Fall 2020	
		%	N	%	N
6	Reading Only	10.1%	987	5.7%	523
	Math Only	5.7%	553	3.7%	344
	Both Reading and Math	65.8%	6,395	80.1%	7,374
	Neither Test	18.4%	1,791	10.5%	962
7	Reading Only	10.3%	1,005	6.4%	601
	Math Only	7.5%	729	4.2%	387
	Both Reading and Math	62.4%	6,066	78.7%	7,338
	Neither Test	19.8%	1,922	10.7%	993
8	Reading Only	11.2%	1,006	4.9%	463
	Math Only	6.3%	561	4.8%	452
	Both Reading and Math	63.7%	5,709	79.3%	7,445
	Neither Test	18.8%	1,680	11.0%	1,028
9	Reading Only	7.4%	776	6.2%	638
	Math Only	6.5%	684	5.8%	590
	Both Reading and Math	59.7%	6,305	71.7%	7,333
	Neither Test	26.4%	2,791	16.2%	1,661
10	Reading Only	10.1%	1,007	9.1%	944
	Math Only	7.5%	748	5.1%	528
	Both Reading and Math	49.7%	4,959	65.3%	6,765
	Neither Test	32.7%	3,269	20.5%	2,120
11	Reading Only	10.0%	870	8.7%	823
	Math Only	5.9%	510	5.6%	528
	Both Reading and Math	15.9%	1,388	62.5%	5,898
	Neither Test	68.2%	5,947	23.2%	2,195
12	Reading Only	10.8%	993	19.8%	1,788
	Math Only	2.2%	205	3.9%	353
	Both Reading and Math	8.4%	778	48.4%	4,373
	Neither Test	78.6%	7,240	27.9%	2,515

Star: Tier Performance by Grade in Fall 2019 and Fall 2020

Performance on Star Reading and Star Math is categorized into four levels based on national percentiles: Intensive Intervention (<10th percentile), Strategic Intervention (10th-24th percentile), On Watch (25th - 39th percentile), and At/Above Benchmark (40th-100th percentile). Students are scored each time they take assessment.

Focusing on grades 6-10, which had Star as required assessments in both school years, there are not significant changes from Fall 2019 to Fall 2020 in the distribution of students across reading performance tiers for middle school grades, 6-8. For grades 9 and 10, though, the percentage of students in Tier 1 is notably higher and the percentage of students in Tier 3 is lower in Fall 2020 than in Fall 2019. For ninth grade, the percentage of students who placed in Tier 1 for reading went up from 19.8% to 28.3% and percentage of students who placed in Tier 3 went down from 44.4% to 39.4%. Similarly, tenth-grade students who placed in Tier 1 went up from 22.5% to 28.9% and students who placed in Tier 3 went down from 52.7% to 34.6%.

Within the Fall 2020 assessment window, the distribution of students across Star reading performance tiers was consistent across grades 6-10. For example, the percentage of students that placed in Tier 1 were in the 24-29% range for these grade levels and the percentage of students that placed in Tier 3 were in the 39-43.5% range. Grades 11 and 12 show a different pattern than the other grades, with slightly higher percentage of students in Tier 1 (35.1% and 31.1% respectively) and lower percentage of students in Tier 3 (34.6% and 32.1% respectively).

Table 12. Star Reading, tier performance by grade, Fall 2019 and Fall 2020

Grade	Tier 1 (At/Above Benchmark)		(On Watch)*		Tier 2 (Strategic Intervention)		Tier 3 (Intensive Intervention)	
	2019	2020	2019	2020	2019	2020	2019	2020
6	23.9%	24.1%	14.0%	11.6%	21.4%	20.8%	40.7%	43.4%
7	25.7%	25.4%	13.5%	12.2%	19.6%	19.7%	41.2%	42.6%
8	23.8%	24.7%	14.1%	13.5%	21.0%	19.6%	41.1%	42.2%
9	19.8%	28.3%	14.2%	12.7%	21.5%	19.5%	44.4%	39.4%
10	22.5%	28.9%	14.2%	12.5%	19.5%	18.3%	43.8%	40.3%
11	15.2%	35.1%	11.6%	12.4%	20.5%	17.9%	52.7%	34.6%
12	12.5%	31.1%	12.4%	16.8%	22.0%	20.1%	53.0%	32.1%
Total	22.2%	28.0%	13.8%	13.0%	20.7%	19.5%	43.3%	39.6%

* Performance on Star assessments are categorized into four tiers as described above. In the QlikBAM aimswebPlus/Star application, three of these tiers, except "On Watch" are aligned with aimswebPlus performance tiers.

The percentage of students who placed in On Watch and Tier 2/Strategic Intervention in Star Math show similar patterns across grade levels 6-10 and across Fall 2019 and Fall 2020 assessment windows (Table 13). Student distributions across the tiers do not show big shifts from Fall 2019 and Fall 2020 for grades 6-8. However, for high school grades 9-12, the percentage of students that placed in Tier 1 increased 10 or more percentage points from Fall 2019 to Fall 2020 and the

percentage of students in Tier 3 decreased. Star Math was a required test for grades 9-10 in Fall 2019; changing testing requirements might explain the shifts in Tier 1 and 3 performance for grades 11 and 12 but does not explain the shifts in grades 9 and 10.

Table 13. Star Math, tier performance by grade, Fall 2019 and Fall 2020

Grade	Tier 1 (At/Above Benchmark)		(On Watch)*		Tier 2 (Strategic Intervention)		Tier 3 (Intensive Intervention)	
	2019	2020	2019	2020	2019	2020	2019	2020
6	38.0%	35.1%	12.6%	14.1%	19.7%	19.0%	29.7%	31.9%
7	36.6%	38.3%	13.4%	13.1%	20.2%	20.4%	29.8%	28.1%
8	38.7%	38.7%	14.4%	13.6%	21.1%	20.6%	25.8%	27.1%
9	37.1%	47.5%	12.7%	11.3%	21.3%	17.4%	28.8%	23.9%
10	44.0%	53.2%	11.8%	10.7%	21.5%	17.4%	22.8%	18.7%
11	34.6%	53.3%	13.4%	11.4%	16.7%	13.3%	35.2%	22.0%
12	29.2%	53.4%	12.5%	11.4%	17.2%	13.1%	41.1%	22.1%
Total	38.2%	44.9%	13.0%	12.3%	20.4%	17.7%	28.4%	25.1%

Note: Star was required for grades 6-10 and available for grades 11-12 in Fall 2019.

A comparison of average scale scores for Star Reading and Math between Fall 2019 and Fall 2020 shows slight decrease for sixth grade and slight increases for grades 7 and 8 (Table 14). The average scale score increased by a larger margin for ninth and tenth grades both for Star Reading and Math. The increase in average scale scores for grades 11 and 12 were more dramatic, but this is likely due to Star becoming a required test for these grades only in Fall 2020 onwards.

Table 14. Star Reading and Math, average scale score grade, Fall 2019 and Fall 2020

Grade	Average Scale Score Reading			Average Scale Score Math		
	2019	2020	Difference	2019	2020	Difference
6	490.3	489.5	-0.8	650.5	644.5	-6.1
7	559.1	561.4	2.3	679.9	686.4	6.5
8	624.1	633.9	9.8	713.7	717.0	3.3
9	661.3	726.8	65.5	714.1	745.5	31.4
10	727.7	772.7	45.0	738.2	769.6	31.3
11	659.7	839.6	179.9	726.5	795.5	69.0
12	686.4	880.2	193.8	719.4	810.4	91.0
District (6-12)	614.3	691.3	77	699.8	732.4	32.6

Note: Star was required for grades 6-10 and available for grades 11-12 in Fall 2019.

Conclusions

This report aimed to understand the possible effects of administering tests under 100% online learning conditions, where assessments were administered virtually, at home. A comparison of the Fall 2019 assessment participation and performance with those in Fall 2020 would be the natural method of investigation into this question. However, the Covid-19 induced pivot to online learning also happened to coincide with the SDP's new approach to formative assessments. Changes in the testing requirements have had a confounding effect on assessment participation and performance analyses, especially for early childhood literacy assessments. However, despite the multiple caveats introduced by changes in assessment requirements, the Fall 2019-Fall 2020 comparisons yield some meaningful findings.

Younger grades where tests are administered by the teacher and middle school grades did not experience big changes due to test administration during online learning conditions. SDP can learn from the best teacher practices to improve on virtual test administration in the rest of the year, if necessary. On the other hand, second, eleventh, and twelfth grades need more attention in test administration in order to be able to get test outcomes that are comparable to the outcomes that would be expected if tests were administered under usual learning conditions.

Changes in the testing requirements have a big impact on participation and tier performance and as such, make year-to-year comparisons very difficult. Despite the limitations, SDP's district-wide standardization of assessments and assessment requirements will help provide accessible and actionable information moving forward.

Appendix: AimswebPlus participation and Performance based on Fall 2019 Business Rules

As discussed in the body of the report, SDP revised and changed the required formative assessments for reading and math in Fall 2020. For Star, the most notable change was the expansion of required grades from 6-10 to 6-12. For aimswebPlus, though, the changes were more comprehensive. The required set of literacy tests for various grade levels changed and a composite score is necessary for participation. AimswebPlus Math has become required for all K-5 students and Special Education students in grades 6-8. In addition, unlike Fall 2019, tests completed beyond the window are not valid in Fall 2020; that is, there is no extended window.

The analysis in this report applied Fall 2020 business rules in determining participation and performance to Fall 2019 tests and it has important consequences for aimswebPlus Reading in particular. For reference, aimswebPlus reading participation and performance results based on 2019-20 business rules are provided in this Appendix.

Before Fall 2020, SDP measured student aimswebPlus assessment participation using three different metrics:

- **1+ Required Assessment:** The percentage of students who participated in at least one of the grade-level specific required aimswebPlus assessments.⁸
- **Core Assessment:** The percentage of students who participated in the grade-level specific aimswebPlus assessment that is used as the primary metric to monitor school-level performance over time.
- **All Required Assessments:** The percentage of students who participated in all of the grade-level specific required aimswebPlus assessments.

Another metric calculated for research was:

- **No Assessments:** The percentage of students who did not participate in any of the aimswebPlus assessments required for their grade level.⁹

⁸ Grade-level specific *core* assessments are a subset of the grade-level specific *required* assessments. There are no required assessments for second- and third- grade students; as a result, all counts for those grades reflect participation in the core assessment.

⁹ Although administration of the aimswebPlus assessment is required, schools may determine that a student is not able to participate in the assessment due to disability status. Thus, it is not expected that every student will participate.

Overall Participation

During the fall 2019 assessment period, 91.6% of kindergarten through fifth-grade students took at least one required aimswebPlus assessment. (Table A.1). At this grade band, 90.9% of students took the core assessments for their grade level and only 8.4% of students took no assessments in aimswebPlus Reading.

Table A.1. Participation in aimswebPlus Reading assessment, Fall 2019-20

Assessment Period	All Grades (K-5)	1+ Required Assessment	Core Assessment	All Required Assessments	No Assessments
Fall	62,833	91.6%	90.9%	88.6%	8.4%

Grade Level Participation

Approximately 90% of all students in kindergarten through fifth grade participated in at least one required aimswebPlus assessment in the fall of the 2019-20 school year (Table A.2).

Table A.2. Fall participation in at least one required aimswebPlus assessment, by grade, 2019-20

Grade	Student Group	Fall
K	All Students	10,168
	<i>1+ Required</i>	91.5%
1	All Students	10,529
	<i>1+ Required</i>	92.5%
2	All Students	10,568
	<i>1+ Required</i>	92.8%
3	All Students	10,572
	<i>1+ Required</i>	92.7%
4	All Students	10,700
	<i>1+ Required</i>	92.0%
5	All Students	10,307
	<i>1+ Required</i>	88.0%
Total Average	All Students	62,844
	<i>1+ Required</i>	91.6%

Kindergarten through fourth-grade students had the highest participation in their core assessments (over 90%), while fifth-grade students had the lowest participation in their core assessments during the fall testing window (86%; see Table A.3).

Table A.3. Participation on aimswebPlus core assessment across assessment period

Grade	Student Group	Fall
K	All Students	10,168
	<i>Core Assessment</i>	91.3%
1	All Students	10,529
	<i>Core Assessment</i>	91.5%
2	All Students	10,568
	<i>Core Assessment</i>	92.8%
3	All Students	10,572
	<i>Core Assessment</i>	92.7%
4	All Students	10,700
	<i>Core Assessment</i>	90.8%
5	All Students	10,307
	<i>Core Assessment</i>	86.0%
K-5 average	All Students	62,844
	<i>Core Assessment</i>	90.9%

In addition to more than 90% of all K-5 students participating in their core assessment and at least one of the required assessments, a majority of K-5 students took all of the required aimswebPlus assessments in fall 2019 (88.6%; Table A.4).

Table A.4. Participation rates for all required aimswebPlus Reading assessments, Fall 2019-20

Grade	Student Group	Fall
K	All Students	10,168
	<i>All Required</i>	87.9%
1	All Students	10,529
	<i>All Required</i>	91.4%
2	All Students	10,568
	<i>All Required</i>	92.8%
3	All Students	10,572
	<i>All Required</i>	92.7%
4	All Students	10,700
	<i>All Required</i>	85.9%
5	All Students	10,307
	<i>All Required</i>	80.9%
K-5 average	All Students	62,844
	<i>All Required</i>	88.6%

Tier Performance

In fall 2019-20, the majority of kindergarten through fifth-grade students (51%) performed in the Tier 3 range, which means that they were in need of intensive intervention (Table A.5).

Kindergarten had the highest percentage of students requiring intensive intervention (60%). Just under one-third of all K-5 students (31%) performed in the Tier 1 range (At Target). The percentage of students scoring in Tier 1 ranged from nearly 40% of first-grade students to just 17% of kindergarten students.

Table A.5. AimswebPlus core assessments, tier performance by grade, Fall 2019-20

Grade	Tier 1 (At Target)	Tier 2 (Strategic Intervention)	Tier 3 (Intensive Intervention)
K	17.0%	22.8%	60.2%
1	39.9%	17.1%	42.9%
2	34.1%	13.9%	52.0%
3	33.0%	17.9%	49.1%
4	27.4%	17.5%	55.1%
5	31.0%	22.3%	46.7%
K-5 average	30.5%	18.5%	51.0%