



R-2 ACADEMIC ACHIEVEMENT - MATHEMATICS SUMMARY OF COMPLIANCE STATUS APRIL 2022

SUPERINTENDENT CERTIFICATION

With respect to R-2 Academic Achievement – Mathematics taken as a whole, the superintendent certifies that the proceeding information is accurate and complete, and the district is:

- Making Reasonable Progress
Making Reasonable Progress, with Exception (checked)
Failing to Make Reasonable Progress

Summary Statement by Administration

Monitoring of results policies is part of the ongoing process of district performance evaluation and superintendent evaluation. This report includes a Data Analysis on page 2 presenting an administrative summary of the data and a Capacity Building section on the last page outlining new practice or protocol to be utilized for the next reporting timeframe. The Capacity Building section also documents suggested changes to Operational Expectations or Results policies and/or indicators and interpretations. This report addresses nine indicators of the superintendent’s responsibility regarding Academic Achievement - Mathematics. Of the nine indicators, four demonstrated making reasonable progress; four demonstrated making reasonable progress, with exception; and one indicator was a baseline measurement. Reporting dates for this report are July 1, 2020 – June 30, 2021.

Signed: [Signature] Superintendent Date: 4/11/2022

SCHOOL BOARD ACTION

With respect to R-2 Academic Achievement – Mathematics, the Board:

- Accepts the report as making reasonable progress
Accepts the report as making reasonable progress, with exceptions (checked)
Finds the district failing to make reasonable progress

Summary Statement/Motion of the Board

Motion by Mr. Sagsveen to accept the R-2 Academic Achievement – Mathematics Monitoring Report as Making Reasonable Progress, with Exception, seconded by Mr. Eastgate. Motion carried.

Signed: [Signature] Board President Date: 4/11/2022

**Data Analysis**

North Dakota State Assessment Comparison data indicates grades 3-5 and grade 7 continue to match or exceed state performance, while grades 6 and 8 fell 2% short of state averages. Although district ACT averages fell by .4%, the students who took the ACT outperformed their peers across the state.

This trend is also evident in the Measures of Academic Progress (MAP) where grades 3, 4, 5, and 7 showed improvement, while grades 6 and 8 decreased by less than 2%. When using this same data to measure expected targeted growth, grades 2 – 7 showed improvement from .5% to 9% growth compared to the previous year, while grade 8 showed a decrease of 6.2%. It is noteworthy that all subgroups showed improvements from their scores from the previous year.

The 9<sup>th</sup> and 10<sup>th</sup> grade student performance on the ACT Aspire did meet the target of 40% in meeting the benchmark, but these percentages both dropped from the 2018-2019 school year. No ACT Aspire test was taken during the 2019-2020 school year.

Classroom-based scores indicate no less than 49.4% and no greater than 75.6% of K-5 grades students received a B or a standards score of 2.5 during the 2020-2021 school year. Letter grades for grades 6 and 8 were 64% to 69.8%, respectively and only 44.4% of 7<sup>th</sup> graders received a B or higher.

In closing, over 50% of seniors participate in course work that promotes college and career readiness specific to mathematics which is an improvement from the previous year.

**R-2.1 Academic Achievement – Mathematics**

This section provides readers a summary of the data they are about to review.

**Each student will meet or exceed targeted growth and proficiency using critical and creative thinking.**

**Each Student Will:**

<b>2.1</b> Achieve targeted growth and proficiency in the following disciplines: ELA <b>Mathematics</b> Science Social Studies	<b>Making Reasonable          Progress, with          Exception</b>
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**2.1 Mathematics****Superintendent Interpretation:**

- **External assessments** include assessments with national norms that are administered within specified windows as a part of state requirements.
- **Proficiency** means meeting or exceeding the knowledge and skill requirements of the specified measure.
- **Grade level target** on the NWEA (MAP) assessment is considered 50th percentile or higher.
- **Proficiency** on the NDSA is considered performing at or above grade level.
- **Proficiency** in the standards means that students have demonstrated that they know, understand, and are able to apply knowledge and skills at the “proficient” level of district proficiency scales.
- **Proficiency** is defined as “College Ready” on the ACT Aspire and ACT which is based upon the following percentiles and ACT cut scores. This score is an indication of the extent to which they are prepared for college-level work. The ACT consists of curriculum-based tests of educational development in English, mathematics, reading, and science designed to measure the skills needed for success in first-year college coursework.
- **Cut Score** is the minimum score needed on the ACT per subject-area to indicate a 50% chance of obtaining a B or higher or about a 75% chance of obtaining a C or higher in the corresponding credit-bearing college courses.

Minimum Expected Percentile				
	English	Math	Science	Reading
Aspire Grade 9	44	74	79	71
Aspire Grade 10	47	84	75	75
ACT	42	63	70	60
Minimum ACT Cut Score				
ACT	18	22	23	22

- **Targeted growth** is the expected growth defined by national norms on a particular assessment. National data indicates that 50% of students typically meet their expected targeted growth.

- **Minimum requirements** include BPS graduation expectations for high school and core courses in K-12.
- **Critical and creative thinking** refers to the success skills which include critical thinking, creativity, collaboration, and communication. Done well, students will collect, assess and analyze relevant information, reason effectively, reflect critically on learning experiences, use a wide range of idea creation techniques to create new and worthwhile ideas, work collaboratively in teams for sustained periods of time to develop high quality products, and communicate ideas through the creation of authentic products using a combination of words, data, and visual representations to inform, persuade and entertain others.
- **Routine application** means evidence from classroom observation, curricular and student work artifacts, and/or survey data indicate that critical and creative thinking is a clearly understood and regular part of the classroom environment.
- **“n”** equals number of students

**COMPARISON DATA – OUR STUDENTS COMPARED TO OTHERS IN THE STATE**

<b>Indicator 1:</b> Students in grades 3 - 8 who are Advanced or Proficient on the NDSA Mathematics Section will meet or exceed the state performance.		<b>Making Reasonable Progress, with Exception</b>
Green	Met or Exceeded	
Yellow	Within 5%	
Red	Not Met	

**Evidence:**

Percentage of Students Advanced or Proficient on the NDSA			
Year	Grade	State	District
2018-2019	3	49%	62%
2019-2020	3	COVID	COVID
2020-2021	3	48%	57%
2018-2019	4	43%	48%
2019-2020	4	COVID	COVID
2020-2021	4	36%	44%
2018-2019	5	48%	55%
2019-2020	5	COVID	COVID
2020-2021	5	42%	47%
2018-2019	6	47%	47%
2019-2020	6	COVID	COVID
2020-2021	6	39%	34%
2018-2019	7	40%	39%
2019-2020	7	COVID	COVID
2020-2021	7	38%	41%
2018-2019	8	47%	45%
2019-2020	8	COVID	COVID
2020-2021	8	38%	36%

**2020-2021 Analysis:** Grades 3-5 and 7 exceeded the state performance, while grades 6 and 8 both were both within 5%.

<b>Indicator 2:</b> The district mean scores will meet or exceed the state mean score on the ACT in the area of Mathematics.		<b>Making Reasonable Progress</b>
Green	Met or Exceeded	
Yellow	Within 1 Point	
Red	Not Met	

**Evidence:**

Year	Number of Students Tested		Math	
	State	District	State	District
2016	7379	849	20.3	20.2
2017	7399	834	20.4	20.3
2018	7282	827	20.3	20.1
2019	7451	845	19.9	20.0
2020	7418	871	19.6	19.6
2021	7203	855	19.1	19.2

**2020-2021 Analysis:** 2020-2021 marks the third consecutive year district students met or exceeded the state mean score in Mathematics.

**NWEA (MEASURES OF ACADEMIC PROGRESS) / ACT ASPIRE ASSESSMENT DATA**

<b>Indicator 3:</b> Students in grades 2-8 will show continuous improvement toward, or attainment of, the identified target indicating percent of students <b>at grade level</b> on the NWEA (MAP) Mathematics Assessment.		<b>Making Reasonable Progress</b>
Green	Met or Exceeded	
Yellow	Within 5%	
Red	Not Met	

**Evidence:**

Grad Class of	Current	Target	n	Spring 16-17	n	Spring 17-18	n	Spring 18-19	n	*Winter 19-20	n	Spring 20-21
2031	2	60%									870	62.6%
2030	3	60%							872	57.9%	822	67.4%
2029	4	60%					858	54.8%	847	58.9%	791	63.8%
2028	5	60%			820	56.8%	836	62.2%	814	58.0%	768	58.6%
2027	6	60%	850	63.1%	818	65.5%	806	62.2%	797	61.0%	769	59.2%
2026	7	60%	834	63.7%	800	61.3%	797	61.1%	783	56.3%	740	62.6%
2025	8	60%	803	59.1%	782	59.3%	773	54.2%	771	57.5%	745	56.8%

**2020-2021 Analysis:** In comparison to the 2019-2020 school year, grades 3, 4, 5, and 7 showed improvement and grades 6 and 8 showed a decrease of less than 2%.

**\*Signifies the use of winter data, while all other comparisons are spring-to-spring, due to students not being face-to-face in building during the spring 2020 COVID pandemic.**

<b>Indicator 4:</b> Students in grades 2-8 will show continuous improvement toward, or attainment of, the identified target indicating percent of students meeting their <b>expected targeted growth</b> on the NWEA (MAP) Mathematics Assessment.		<b>Making Reasonable Progress, with Exception</b>
Green	Met or Exceeded	
Yellow	Within 5%	
Red	Not Met	

**Evidence:**

Grade	Target	n	Spring 17-18	n	Spring 18-19	n	*Winter 19-20	n	Spring 20-21
2	60%	958	54.9%	997	53.0%	995	55.1%	947	62.0%
3	60%	955	61.5%	954	61.6%	991	55.9%	933	65.5%
4	60%	1015	59.0%	973	58.0%	972	57.2%	938	61.5%
5	60%	995	56.9%	1038	57.7%	1002	56.9%	939	57.4%
6	60%	987	54.8%	1006	52.0%	1063	52.5%	974	55.0%
7	60%	919	58.9%	996	58.5%	1023	54.6%	990	58.6%
8	60%	912	65.8%	905	63.3%	1021	59.8%	971	53.6%

**2020-2021 Analysis:** In comparison to the 2019-2020 school year, grades 2-7 showed improvement ranging from .5% in grade 5 to 9.6% in grade 3, while grade 8 showed a decrease of 6.2%. When comparing to pandemic scores, grades 2-7 continue to show improvement, while grade 8 still shows a decrease.

**\*Signifies the use of winter data, while all other comparisons are spring-to-spring, due to students not being face-to-face in building during the spring 2020 COVID pandemic.**

<b>Indicator 5:</b> Each student in grades 2-8 will show continuous improvement toward, or attainment of, the identified growth target of all students categorized into subgroups on the NWEA (MAP) Mathematics Assessment.		<b>Making Reasonable Progress</b>
Green	Met or Exceeded	
Yellow	Within 5%	
Red	Not Met	

**Evidence:**

Disaggregated subgroups:	Target	n	Spring 17-18	n	Spring 18-19	n	*Winter 19-20	n	Spring 20-21
Economically Disadvantaged	50%	1490	51.3%	1512	48.9%	1753	44.5%	1229	54.5%
African American	50%	279	50.2%	274	47.5%	359	44.3%	325	52.0%
American Indian	50%	531	49.9%	534	47.0%	612	42.3%	577	49.6%
Asian	50%	69	59.4%	75	58.7%	70	54.3%	71	56.3%
Caucasian	50%	5368	55.1%	5269	56.1%	5779	47.6%	5473	64.1%
Hispanic	50%	158	51.3%	151	51.0%	183	45.4%	173	51.5%
Pacific Islander	50%							66	54.6%
Students w/ Disabilities	50%	744	47.3%	778	48.2%	829	41.7%	825	52.1%
EL	50%	116	65.5%	134	58.2%	187	40.6%	165	53.3%
Female	50%	3157	54.1%	3105	55.6%	3422	45.6%	3261	62.5%
Male	50%	3283	54.8%	3247	54.2%	3645	48.2%	3431	61.0%
Gifted	60%	121	62.0%	148	58.1%	95	53.8%	149	68.5%
Title 1/District Support Services	50%			747	48.3%	1647	44.9%	1560	62.0%

**2020-2021 Analysis:** All subgroups outperformed 2019-2020, with the exception of one baseline measurement.

**\*Signifies the use of winter data, while all other comparisons are spring-to-spring, due to students not being face-to-face in building during the spring 2020 COVID pandemic.**

<b>Indicator 6:</b> Students will show continuous improvement toward meeting the benchmark on the ACT Aspire in the area of Mathematics.		<b>Making Reasonable Progress, with Exception</b>
Green	Met or Exceeded	
Yellow	Within 5%	
Red	Not Met	

**Evidence:**

Grade	Target	n	Spring 17-18	n	Spring 18-19	n	Winter 19-20	n	Spring 20-21
9	40%	908	47.8%	923	52.0%	No Data Due to COVID		962	43.9%
10	40%	874	38.7%	884	42.9%			888	35.4%

**2020-2021 Analysis:** In comparison to the 2018-2019 school year, both grades 9 and 10 showed a decrease by 5% or more.



**CLASSROOM-BASED SCORES**

<b>Indicator 7:</b> Each student in grades 2-8 will show continuous improvement toward, or attainment of, a target so that at least 60% of students reach a standards-based score of 2.5, or a letter grade of B in relation to Mathematics Standards.		<b>Making Reasonable Progress, with Exception</b>
Green	Met or Exceeded	
Yellow	Within 5%	
Red	Not Met	

**Evidence:**

B Letter Grade or 2.5 Standards-Based Score									
Grade	Target	n	Spring 17-18	n	Spring 18-19	n	Spring 19-20	n	Spring 20-21
K	60%	1014	75.9%	1061	70.1%	1096	55.4%	1059	75.6%
1	60%	1010	81.6%	1031	72.0%	1075	49.2%	995	73.0%
2	60%	995	71.9%	1017	68.6%	1042	55.2%	1000	63.0%
3	60%	1016	55.9%	1002	52.3%	1037	44.6%	993	53.1%
4	60%	1075	66.3%	1026	57.0%	996	42.1%	961	49.4%
5	60%	1038	65.7%	1085	58.7%	1026	57.6%	967	58.9%
6	60%	945	65.3%	982	63.0%	1012	65.4%	921	64.0%
7	60%	903	45.5%	950	54.2%	962	50.8%	984	44.4%
8	60%	689	72.6%	724	72.5%	744	66.5%	802	69.8%

**2020-2021 Analysis:** In comparison to the 2019-2020 school year, grades K-5 and grade 8 showed improvement, grade 6 showed a decrease within 5%, and grade 7 showed a decrease of more than 5%.

**EXTENDED PARTICIPATION IN ELA COURSE WORK - COLLEGE AND CAREER**

<b>Indicator 8:</b> At least 50% of all students are participating in courses that promote college and career readiness specific to mathematics beyond minimum requirements.		<b>Making Reasonable Progress</b>
Green	Met or Exceeded	
Yellow	Within 5%	
Red	Not Met	

**Evidence:**

Grade	Target	n	Spring 17-18	n	Spring 18-19	n	Spring 19-20	n	Spring 20-21
12	50%	858	52.2%	884	52.3%	919	49.4%	929	51.8%

**2020-2021 Analysis:** In comparison to the 2019-2020 school year, grade 12 showed an increase and is again above the 50% target.

**STUDENT SURVEY DATA**

<b>Indicator 9:</b> Students will report and show continuous improvement toward, or attainment of, a target so that at least 80% of students are routinely applying critical and creative thinking.		<b>Baseline</b>
Green	Met or Exceeded	
Yellow	Within 5%	
Red	Not Met	

**Evidence:**

A team of teacher leaders and district staff have finalized our district portrait of a graduate and corresponding student and staff survey questions. These questions are intended to gauge progress on student learning behaviors that illustrate their use of creativity, critical thinking in learning.

**BPS Student Survey - Critical Thinking**

**Critical Thinking** - I engage in coursework, discussion, and tasks that require the use of critical thinking (e.g. analyzing, applying, evaluating, synthesizing).

Grade	Target	n	**20-21	n	21-22	n	22-23	n	23-24
<b>K-2</b>	80%	*95.3%	83.2%	n	0.0%	0	0.0%	0	0%
<b>3-5</b>	80%	*95.3%	81.3%	n	0.0%	0	0.0%	0	0.0%
<b>6-8</b>	80%	*88.1%	69.9%	n	0.0%	0	0.0%	0	0.0%
<b>9-12</b>	80%	*83.6%	78.4%	n	0.0%	0	0.0%	0	0.0%

\*Percentage of students that completed the survey.

\*\*Derived from the sum of Frequently and Almost Always as shown in the table below.

**Strategic Plan Survey Question Critical Thinking**

- **K-2** I am a problem solver even when things are hard.
- **3-8** I think about and work on difficult tasks (things that challenge my thinking).
- **9-12** I engage in coursework, discussion, and tasks that require the use of critical thinking (e.g. analyzing, applying, evaluating, synthesizing).

**BPS Student Survey - Creative Problem Solving**

**Creative Problem Solving** - I solve complex problems by creatively thinking about solutions.

Grade	Target	n	**20-21	n	21-22	n	22-23	n	23-24
<b>K-2</b>	80%	*95.3%	88.1%	n	0.0%	0	0.0%	0	0.0%
<b>3-5</b>	80%	*95.3%	77.0%	n	0.0%	0	0.0%	0	0.0%
<b>6-8</b>	80%	*89.1%	63.4%	n	0.0%	0	0.0%	0	0.0%
<b>9-12</b>	80%	*83.6%	61.9%	n	0.0%	0	0.0%	0	0.0%

\*Percentage of students that completed the survey.

\*\*Derived from the sum of Frequently and Almost Always.

**Strategic Plan Survey Question Creative Problem Solving**

- **K-2** I can use my own ideas to do my work.
- **3-8** I solve problems by creatively thinking about solutions.
- **9-12** I solve complex problems by creatively thinking about solutions.

## Capacity Building/Recommendations

### Capacity Building

A couple notable recent inputs into the area of Math include but are not limited to:

#### Curriculum (Pre-K- 5)

- Distance learning digitized math lessons will be organized and available for future student and staff use
- K-5 Math Curriculum Review Teams with representation from each elementary school and all grade levels (year 2)
- Development and revision of proficiency scales for prioritized standards K-5
- Piloting the use of the revised Proficiency Scales within K-5 classrooms

#### Curriculum- (6-12)

- 6-12 Math Core Guiding Teams established representing teachers in all buildings
- TransMath resource upgrade third edition for 6-8 students enrolled in Transition Math
- 7th grade resource pilot to upgrade digital version to increase feedback and differentiation

#### Instruction

- Supplementing Tier 1 instruction with Dreambox K-8 district-wide
- Created Core Math Block Components K-5 to be implemented 2021-2022
- Streamlining Interventions across general ed and special education departments
- Piloting different math interventions: Spring Math, Math Fluency Tool Kit
- Monthly meetings with K-5 District Curriculum Specialists and Math Interventionists to support instruction, training, and personal math growth

#### Professional Development Opportunities

- Minds on Math: 2 differentiated online courses and coaching support to support application of strategies by teachers who have attended Minds on Math in the past
- Fraction Trainings with specific coaches who are working on math goals within their building
- Spring Math consultation for coaches and math strategies teachers
- K-5 Winter 2021 "Revisiting Standards Based Teaching & Learning" training to 100% classroom teachers & specialists

While not executed this year due to COVID & substitute availability, we have the formation of elementary professional learning pathways for teachers that are more deconstructed, specific in nature, and timed appropriately to reflect instructional delivery and pacing compared to years' past such as:

- Building a Rich Math Block
- Conceptually Understanding and Teaching Fractions
- Conceptually Understanding and Teaching Addition and Subtraction
- Conceptually Understanding and Teaching Multiplication and Division
- Math Interventions in the K-8 Classroom

#### Other Highlights

- K-12 Math Steering Committee

**Recommendations**

1. Focus on Meeting Established Cut-Scores
2. Create Categories of Data
  - a. Comparison Data
  - b. Normed Assessment Data
  - c. Classroom Grading Data
  - d. Student Self-Assessment Data
3. Set new targets that more accurately coincide with student test scores (please see previous R-2 *Academic Achievement – Mathematics* monitoring reports for earlier targets).