BISMARCK PUBLIC SCHOOLS

Bismarck Public School District
Results Monitoring Report

R-2 ACADEMIC ACHIEVEMENT - SCIENCE
SUMMARY OF PROGRESS STATUS
MARCH 2022

SUPERINTENDENT CERTIFICATION

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

_____ Making Reasonable Progress
__X__ Making Reasonable Progress, with Exception
_____ 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/Recommendations section on the last page outlining new practice or protocol to be utilized for the next reporting timeframe. The Capacity Building/Recommendations section also documents suggested changes to Operational Expectations or Results policies and/or indicators and interpretations. This report addresses five indicators of the superintendent's responsibility regarding Academic Achievement – Science. Two of the indicators demonstrated reasonable progress; one indicator demonstrated making reasonable progress, with exception; one indicator demonstrated failing to make reasonable progress; and one demonstrated baseline. Reporting dates for this report are July 1, 2021 – June 30, 2022.

Signed: _____ Date: 3/27/2023
Superintendent

SCHOOL BOARD ACTION

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

_____ Accepts the report as making reasonable progress
__X__ Accepts the report as making reasonable progress, with exception
_____ Finds the district failing to make reasonable progress

Summary Statement/Motion of the Board

Motion by Mr. Eastgate to accept the R-2 *Academic Achievement – Science* Monitoring Report as Making Reasonable Progress, with Exception, seconded by Ms. Peterson. Motion accepted.

Signed: _____ Date: 3/27/2023
Board President

Data Analysis

The state officially adopted new science standards in the fall of 2020. During the 2021-2022 school year, district work continued to center around unpacking standards, vertical and curriculum alignment, reviewing and revising proficiency scales, and continued work around a guaranteed and viable curriculum.

We have seen a decrease in the number of students taking additional science classes. We are working on increasing opportunities for students to engage in science electives across buildings, including the Career Academy.

Guiding Coalitions engage in collaboration around best practice for delivering core instruction. Prioritized standards have supported the proficiency scales and their connection to instruction and assessment.

We continue to exceed the state for ACT and NDSA with the exception of grade 8. Last year was our first year using the PreACT. We are working through reporting issues that affected our data numbers. We exceeded the goal in seven out of nine grade levels in standards-based grades, with both outliers being within five percent. All grade levels, except 6 and 8, are surpassing the target in standards-based grades, with at least 77% of students receiving a B or higher through the conversion. Grades 6 and 8 are continuing to grow.

While our data visually shows growth in most areas, BPS continues to refine our instructional practices and align our instruction, grading, and assessment practices.

R-2.1 Academic Achievement - Science

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

Each Student Will:

2.1 Achieve targeted growth and proficiency in the following disciplines: ELA Mathematics Science Social Studies	**Making Reasonable Progress, with Exception**

2.1 Science
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.
- **"n"** equals number of students.
- **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.

Minimum Score On Track for College Readiness				
	English	Math	Science	Reading
PreACT 8/9 Grade 9	13	18	19	18
PreACT Grade 10	15	19	20	20
Minimum ACT Cut Score				
ACT	18	22	23	22
Minimum Expected Percentile				
	English	Math	Science	Reading
PreACT 8/9 Grade 9	34	63	72	48
PreACT Grade 10	43	66	67	55
ACT	42	63	70	60

COMPARISON DATA – OUR STUDENTS COMPARED TO OTHERS IN THE STATE

Indicator 1: Students in grades 4, 8, and 10 who are Advanced or Proficient on the NDSA Science Section will meet or exceed the state performance.	**Making Reasonable Progress, with Exception**
Green	Met or Exceeded
Yellow	Within 5%
Red	Not Met

Evidence:

Percentage of Students Advanced or Proficient on the NDSA			
Year	Grade	State	District
2019-2020	4	*COVID*	*COVID*
**2020-2021	4	41%	*44%*
2021-2022	4	38%	38%
2019-2020	8	*COVID*	*COVID*
**2020-2021	8	51%	44%
2021-2022	8	48%	47%
2019-2020	10	*COVID*	*COVID*
**2020-2021	10	50%	52%
2021-2022	10	47%	54%

2021-2022 Analysis: We met or exceeded in grades 4 and 10. Although grade 8 did see an increase of 3% over the previous year, it is still an area of focus.

**The science assessment was aligned to the newly adopted standards and the first administration was in spring 2020.

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

Evidence:

Year	Number of Students Tested		Science	
	State	District	State	District
2016	7379	849	20.7	20.9
2017	7399	834	20.6	20.8
2018	7282	827	20.5	20.7
2019	7451	845	20.2	20.7
2020	7418	871	20.1	20.5
2021	7203	855	20.6	21.4
2022			20.0	20.6
2021-2022 Analysis: We continue to exceed the state average.				

PreACT DATA

Indicator 3: Students will show continuous improvement toward meeting the benchmark indicated target on the PreACT in the area of Science.	**Baseline**
Green	Met or Exceeded
Yellow	Within 5%
Red	Not Met

Evidence:

Grade	Target	n	Spring 21-22
9	TBD	1012	31.3%
10	TBD	604	21.4%
2021-2022 Analysis: 2021-2022 was our baseline year. Due to a new assessment and new testing procedures, the “n” values for grade 10 are lower than those who actually took the assessment. This has been addressed for the coming year.			

CLASSROOM-BASED SCORES

Indicator 4: Each student in grades K-8 will show continuous improvement toward, or attainment of, an identified target as students reach a standards-based score of 2.5, or a letter grade of B in relation to Science Standards.	**Making Reasonable Progress**
Green	Met or Exceeded
Yellow	Within 5%
Red	Not Met

Evidence:

B Letter Grade or 2.5 Standards-Based Score									
Grade	Target	n	Spring 18-19	n	Spring 19-20	n	Spring 20-21	n	Spring 21-22
K	~~80%~~ 90%	918	88.2%	974	85.7%	960	94.3%	1112	95.2%
1	~~80%~~ 90%	990	95.2%	964	91.2%	969	96.2%	1030	95.6%
2	~~80%~~ 90%	929	96.4%	954	98.0%	943	95.9%	989	92.7%
3	~~80%~~ 90%	911	84.4%	951	85.3%	919	88.0%	958	89.6%
4	~~80%~~ 85%	1002	87.9%	955	88.3%	957	85.4%	1034	83.6%
5	~~80%~~ 85%	1031	83.5%	1011	79.2%	972	80.3%	1021	83.3%
6	70%	1061	63.9%	1112	66.5%	1038	60.5%	1008	68.2%
7	~~70%~~ 80%	1057	70.1%	1089	75.9%	1128	74.8%	1059	77.6%
8	70%	1001	64.6%	1082	71.5%	1072	65.8%	1129	69.5%

2021-2022 Analysis: All grade levels, except 6 and 8, and are surpassing the current target. Consider moving to 90% for k-3, 85% for 4-5, and 80% for grade 7. Grades 6 and 8 have made growth from the previous year.

EXTENDED PARTICIPATION IN SCIENCE COURSE WORK – COLLEGE AND CAREER

Indicator 5: At least 40% of all students are participating in courses that promote college and career readiness specific to science beyond minimum requirements.	**Failing to Make Reasonable Progress**
Green	Met or Exceeded
Yellow	Within 5%
Red	Not Met

Evidence:

Grade	Target	n	Spring 18-19	n	Spring 19-20	n	Spring 20-21	n	Spring 21-22
12	40%	858	42.9%	892	35.1%	899	38.2%	895	31.2%

2021-2022 Analysis: The percent of students taking beyond the minimum requirement in science dropped.

Capacity Building/Recommendations

Capacity Building

The state officially adopted new standards in the fall of 2020. Beginning in the 20-21 school year, District has continued to work on unpacking standards, vertical and curriculum alignment, creating proficiency scales, and ensuring a guaranteed and viable curriculum. Current assessment practices around science are varied; this is driving current work around proficiency scales and guaranteed and viable curriculum. Continued inputs in this area include:

Curriculum (K- 5)

- Evaluated assessments to support Priority Standards
- Acquired Mystery Pack resources for all sections K-5
- Provided Mystery Science training for all new k-5 teachers
- Created Prioritized Vocabulary relating to Priority Standards
- Implemented Prioritized Pacing of unit instruction
- Evaluated and proposed feedback to prioritized scales

Curriculum- (6-12)

- Science Core Guiding Coalitions performed an audit of their proficiency scales and standards to align with their pacing and prioritized vocabulary.
- Guaranteed vocabulary vertically organized for the transition between elementary and middle school
- Forensic Science course development to expand the availability of the course offering
- Empower[ED] science teacher added to help expand learning opportunities
- Dual credit now available for many of the advanced science courses
- Updated AP Biology primary resource implemented for teachers and students
- Science Core Guiding Coalitions shared lab activities aligned to learning targets

Professional Development Opportunities

- Guaranteed and Viable Curriculum training
- Prioritized vocabulary training
- Proficiency Scale audit training
- Inquiry Based Science planning and coaching
- Hands-on practice with new resources and labs during district professional development days

Recommendations

1. In the guiding coalitions we believe that we should continue to examine the results from the data to identify different science standards and strands as areas of focus to grow our performance. We will continue our work on aligning the primary resource of Mystery Science with prioritized standards within K-5 guiding coalitions.

2. Set new targets as presented.