



ENDS REPORT 2016 – SCIENCE AND SOCIAL STUDIES



WHAT ARE “RESULTS REPORTS”?

- Annual reports made to the board of education on the progress made by our students in various academic disciplines.



ASSESSMENTS

- A variety of assessments are used to determine students mastery of the curriculum.
- Each building uses a variety of assessments to determine student success.
- The district subscribes to the philosophy of triangulating our data. Otherwise, we will use 3 assessments to measure student growth. (i.e.- if our students do well on 2 out of the 3 assessments, we will deem the data to be valid to drive instructional decisions)
- **Types of assessments-**
 - a. Summative- used to gather data on the whole year's progress. Examples include the Kansas Assessment and End of Unit exams.
 - b. Formative – used to gather data to inform instructional decisions. Examples include quizzes, projects, end of unit exams, including local assessments.
 - c. Informal – used by the grade/subject level teacher to measure progress made over a particular unit. Examples of this include daily checks for understanding such as observation and daily classroom work.
 - d. Progress monitor- used by the teacher to determine if 1-2 specific skills have been mastered. This is an on-going process that is delivered through a variety of means such as oral, written, etc.
- **In the end, assessments are tools used by the staff to measure:**
 - a. Student progress
 - b. Curriculum alignment
 - c. Effectiveness of instructional strategies/practices

ASSESSMENTS

- **Map Assessment**
 - A. Given at grade levels 4, 7 and 10
 - B. Aligned to common core standards
- **State Assessment**
 - A. Given at grade 5, 8 and 11
 - B. Aligned to the common core standards
- **ACT Assessment**
 - A. Given at the high school level

STATE ASSESSMENT SCIENCE 2016

- The 2016 State Assessment was the field test year of the “new” state test that will be fully implemented in the spring of 2017.
- Testing items are multiple choice, technology enhanced and machine scored. This was a two part test.
- As a field test, the primary purpose to ensure that the newly developed items are performing the way that we expect them to perform and students, teachers, buildings, and districts should not expect to receive data from these assessments other than the percent of students that participated.



KANSAS ASSESSMENT PROGRAM

Conceptual Shifts for Next Generation Science Standards

- ▶ **K-12 Science Education Should Reflect the Interconnected Nature of Science as it is Practiced and Experienced in the Real World.**
- ▶ **The Next Generation Science Standards are student performance expectations – NOT curriculum.**
- ▶ **The Science Concepts in the NGSS Build Coherently from K–12.**
- ▶ **The NGSS Focus on Deeper Understanding of Content as well as Application of Content.**
- ▶ **Science and Engineering are Integrated in the NGSS, from K–12.**
- ▶ **The NGSS are designed to prepare students for college, career, and citizenship.**
- ▶ **The NGSS and Common Core State Standards (English Language Arts and Mathematics) are Aligned.**

NWEA MAP DATA

- MAP Reports provide another data point that indicate how well a student is performing at a given grade level. Currently the science test given is aligned to KS 2007 Standards.
- Because MAP tests are given at all levels, MAP data provides a longitudinal analysis of the same group of students. In this way, growth can be monitored, both individually as well as by class.
- Fall 2015 was the initial implementation of the Science MAP Assessment and it was given at grades 4, 7 and 10. The test is given 2x a year now (Fall and Spring.)
- Like the Kansas Assessment Program, Science MAP results provide an overall score (RIT) for General Science as well as a score in multiple goal areas:
 - Goal 1: Understanding Physical Science
 - Goal 2: Living Systems and the Behavior of Organisms
 - Goal 3: Earth System, Dynamics, Organization of Universe

NWEA MAP DATA- FALL 2016 4TH GRADE SCIENCE

Science - General Science

MAP: General Science KS 2007 V2 / KS Science K-12: 2007

Summary	
Total Students With Valid Growth Test Scores	58
Mean RIT	197.2
Standard Deviation	10.4
District Grade Level Mean RIT	197.2
Students At or Above District Grade Level Mean RIT	31
Norm Grade Level Mean RIT	194.3
Students At or Above Norm Grade Level Mean RIT	35

Science continues to be very strong for 4th grade at BES. The class mean was 2.9 points above the national norm with 72% of students scoring the Avg/HiAvg/Hi levels.

	Lo %ile < 21		LoAvg %ile 21-40		Avg %ile 41-60		HiAvg %ile 61-80		Hi %ile > 80		Mean RIT (+/- Smp Err)	Std Dev	
	count	%	count	%	count	%	count	%	count	%			
Overall Performance													
MAP: General Science KS 2007 V2 / KS Science K-12: 2007	7	12%	9	16%	11	19%	17	29%	14	24%	196-197-199	10.4	
Goal Area													
Understanding of Physical Science	12	21%	12	21%	10	17%	10	17%	14	24%	195-196-198	11.3	
Living Systems and the Behavior of Organisms	10	17%	10	17%	9	16%	14	24%	15	26%	197-199-200	11.3	
Earth System, Dynamics, Organization of Universe	11	19%	12	21%	10	17%	12	21%	13	22%	195-197-198	11.5	

NWEA MAP DATA- FALL 2016 7TH GRADE SCIENCE

BMS MAP Science Data – Fall 2016 - 7th Grade

79% of 7th Grade students scored in the average range or higher. 64% scored HIAvg or higher.

Science - General Science

MAP: General Science KS 2007 V2 / KS Science K-12: 2007

Summary	
Total Students With Valid Growth Test Scores	80
Mean RIT	213.2
Standard Deviation	10.5
District Grade Level Mean RIT	213.2
Students At or Above District Grade Level Mean RIT	44
Norm Grade Level Mean RIT	207
Students At or Above Norm Grade Level Mean RIT	61

	Lo %ile < 21		LoAvg %ile 21-40		Avg %ile 41-80		HIAvg %ile 81-89		HI %ile > 89		Mean RIT (+/- Smp Err)	Std Dev
	count	%	count	%	count	%	count	%	count	%		
Overall Performance												
MAP: General Science KS 2007 V2 / KS Science K-12: 2007	6	8%	11	14%	12	15%	20	25%	31	39%	212-213-214	10.5
Goal Area												
Understanding of Physical Science	11	14%	6	8%	16	20%	19	24%	28	35%	212-213-214	10.7
Living Systems and the Behavior of Organisms	9	11%	11	14%	15	19%	20	25%	25	31%	211-213-214	11.5
Earth System, Dynamics, Organization of Universe	10	13%	6	8%	12	15%	19	24%	33	41%	213-214-216	12.6

NWEA MAP SCIENCE DATA- FALL 2015 10TH GRADE

MAP: General Science KS 2007 V2 / KS Science K-12: 2007

Summary	
Total Students With Valid Growth Test Scores	84
Mean RIT	218.3
Standard Deviation	11
District Grade Level Mean RIT	218.3
Students At or Above District Grade Level Mean RIT	46
Norm Grade Level Mean RIT	213.3
Students At or Above Norm Grade Level Mean RIT	57

Because this was the first year NWEA offered the Science MAP assessment, there is no normative data, meaning there are not enough scores nation-wide to do a comparison.

In all three goal areas, more than 50% of our students were Hi-Average or above. As significant is the low number of our students who scored in the "Lo" range (10% or less).

Overall Performance	Lo %ile < 21		LoAvg %ile 21-40		Avg %ile 41-60		HiAvg %ile 61-80		Hi %ile > 80		Mean RIT (±/- Smp Err)	Std Dev
	count	%	count	%	count	%	count	%	count	%		
MAP: General Science KS 2007 V2 / KS Science K-12: 2007	7	8%	13	15%	13	15%	32	38%	19	23%	217-218-219	11
Goal Area												
Understanding of Physical Science	3	4%	13	15%	21	25%	22	26%	25	30%	219-220-221	12.2
Living Systems and the Behavior of Organisms	9	11%	11	13%	25	30%	21	25%	18	21%	215-216-218	11
Earth System, Dynamics, Organization of Universe	6	7%	14	17%	15	18%	26	31%	23	27%	217-219-220	12.7

ACT REPORTS- FIVE YEAR TRENDS

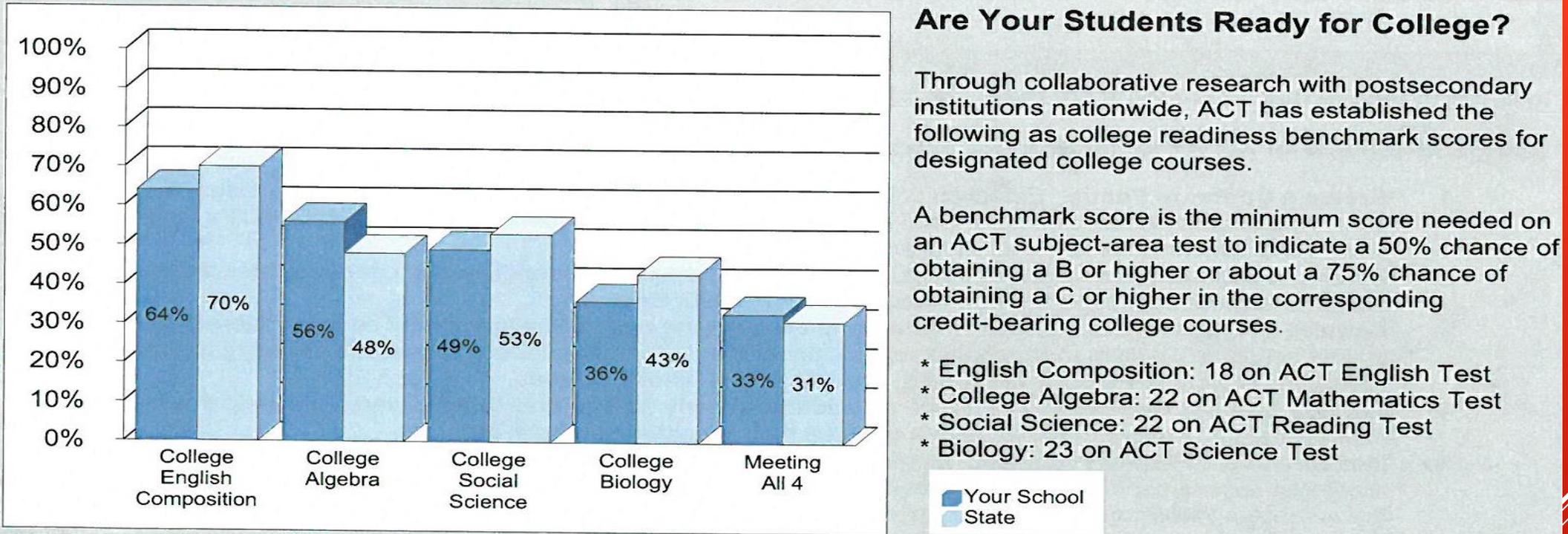
Table 1: Five Year Trends - Average ACT Scores

Grad Year	Total Tested		English		Mathematics		Reading		Science		Composite	
	School	State	School	State	School	State	School	State	School	State	School	State
2012	56	23,907	21.5	21.3	22.1	21.8	22.0	22.3	21.2	21.7	21.8	21.9
2013	54	24,268	21.9	21.2	22.5	21.7	22.8	22.3	22.2	21.7	22.4	21.8
2014	47	23,924	22.1	21.4	22.0	21.7	22.7	22.5	21.3	21.8	22.1	22.0
2015	58	23,708	21.0	21.3	21.9	21.6	21.5	22.4	21.0	21.8	21.4	21.9
2016	39	24,488	21.5	21.3	22.3	21.5	22.6	22.5	21.8	21.8	22.2	21.9

- Table 1 illustrates the five year data trend in the various areas tested by the ACT, including the overall composite score.
- In the area of Science, BHS has performed equal to the rest of the state.
- Clearly, the scores (Composite, Reading, English) vary from year to year. The state average sees less variance due to their substantially larger sample size.

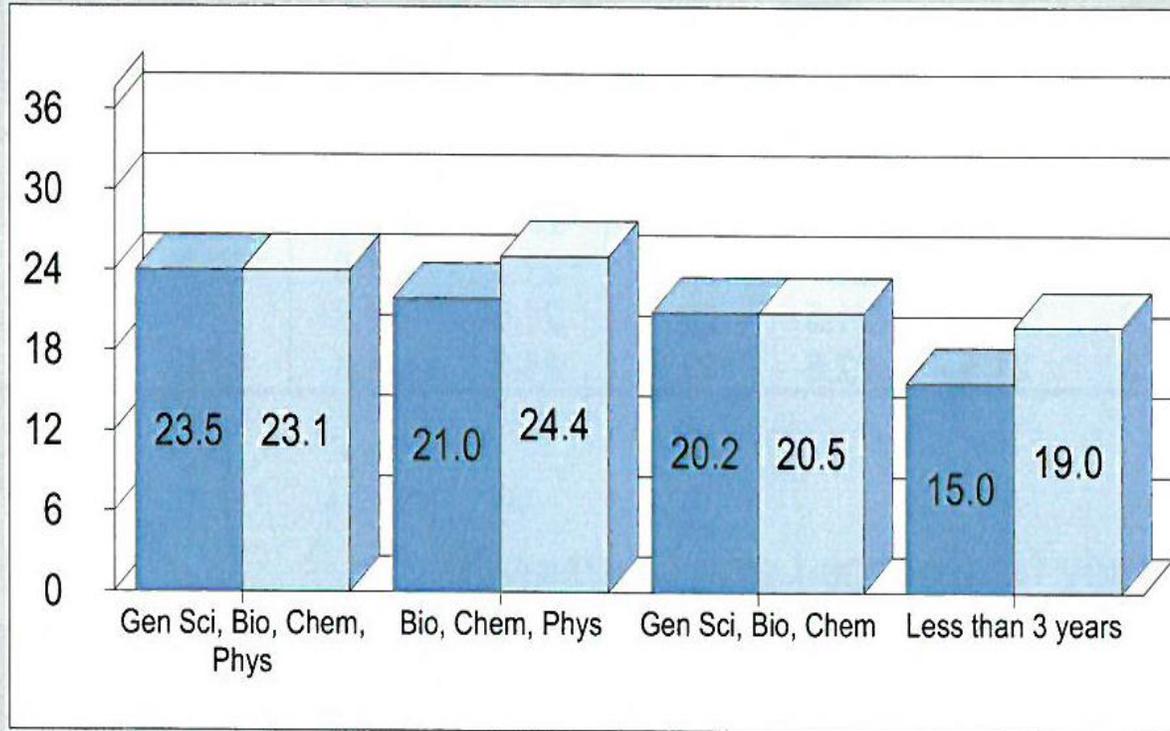
ACT REPORTS- FIVE YEAR TRENDS

Figure 1. Percent of ACT-Tested Students Ready for College-Level Coursework



- Figure 1 shows the percentage of those BHS students who have taken the ACT that have achieved the benchmark score of 23 on the ACT Science test. This graph also shows how BHS students compare to the rest of the state.
- This benchmark is an indication of student readiness for College Biology.

Figure 3. Average ACT Science Scores by Course Sequence



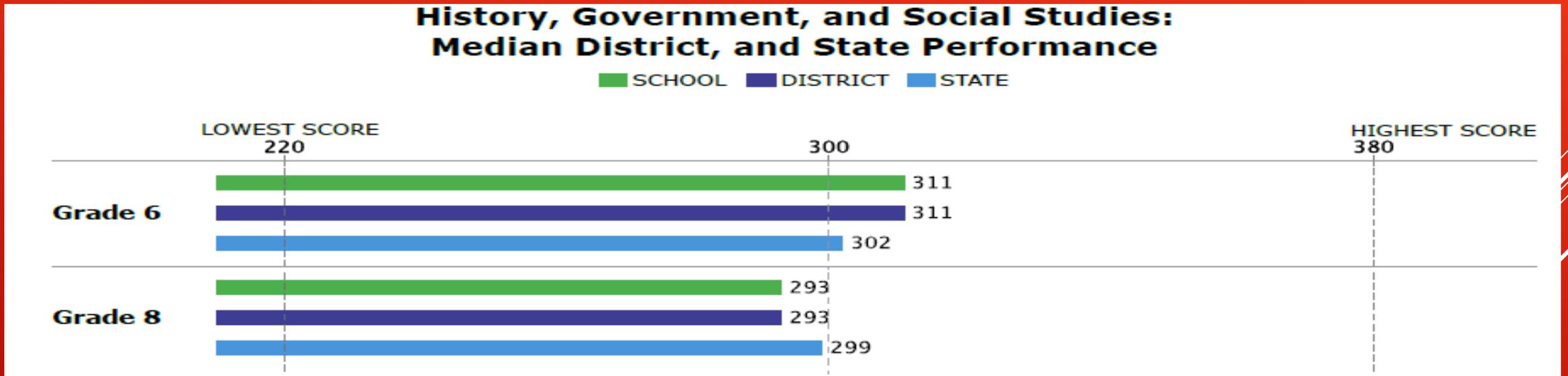
Value Added by Science Courses

Students taking Biology and Chemistry in combination with Physics typically achieve higher ACT Science scores than students taking less than three years of science courses.



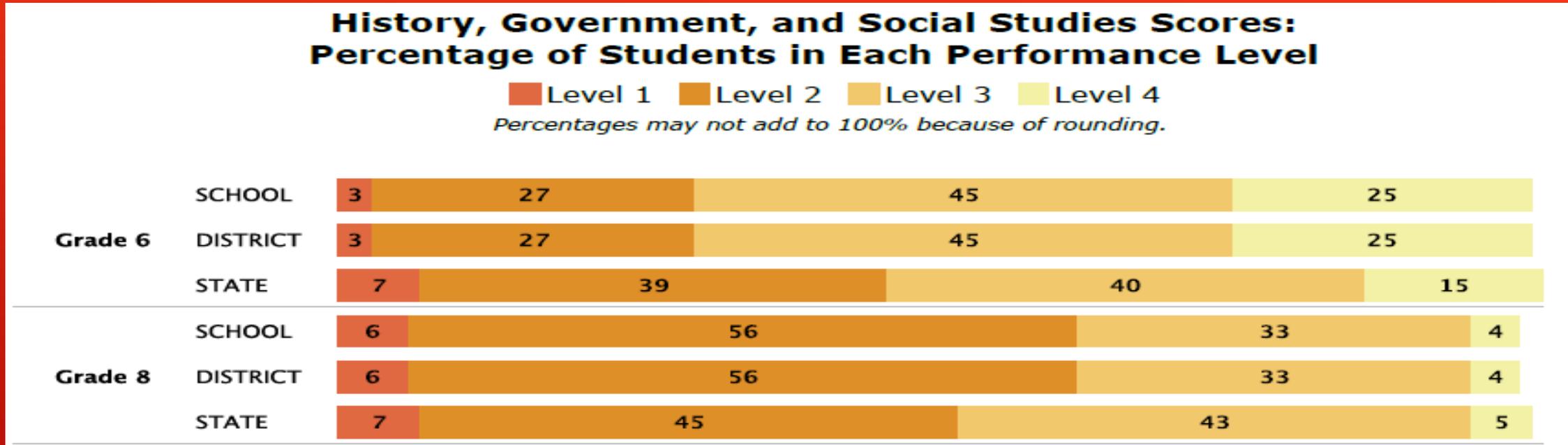
- Figure 3 shows how students fared on the ACT when following specific course sequences. On average, those students who took Chemistry and Physics in addition to General Science (Physical Science) and Biology achieve the ACT benchmark of 23 on the ACT Science.
- The absence of a second column indicates that we do not have that particular sequence of classes. All students are required to take Physical Science.

BMS 6th and 8th Grade Social Studies KAP Results



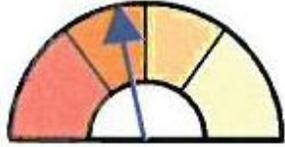
6th Grade had a median score of 302, which was 9 points higher than the State median.
8th Grade had a median score of 293, which is 6 points lower than the State median

6th and 8th Grade Social Studies KAP results cont.



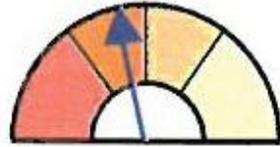
97% of all 6th grade students scored level 2 or above
 94 % of all 8th grade students scored level 2 or higher

Social Studies 2016 11th Grade



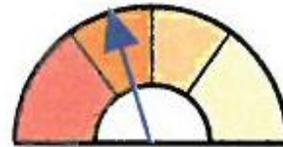
School Median
291

Number of Students: 54



District Median
291

Number of Students: 54



State Median
286

Number of Students: 27,468

Your student is performing at Level 2.

The Social Studies KAP was taken by the 11th grade students at the high school level in 2016. The scores above show how BHS 11th grade students compare to the rest of the state. As you can see, the BHS median score was five points above the rest of the state.

Social Studies 11th grade performance levels

History, Government, and Social Studies Scores: Percentage of Students in Each Performance Level

■ Level 1 ■ Level 2 ■ Level 3 ■ Level 4
Percentages may not add to 100% because of rounding.



This diagram shows the breakdown of 2016 scores by each performance category. Using the new Kansas guidelines, level 3 or higher was considered the benchmark for proficiency. Using these benchmarks, 80% of BHS 11th graders would be considered meeting or exceeding standards.

CONCLUSION- Assessments are an effective tool used to measure student progress and guide instruction.

- a. Our students have made adequate progress this past year.
- b. We must continue to target areas for growth.
- c. The administrative teams recommends the board continue to support the staff development fund to assist teachers in improving their skillset to help students continue to improve.
- d. Motion to accept the Results Monitoring report as a Reasonable Interpretation of the Board of Education's Results Policy.