Assessment Overview:

a mid-year look at formative data

A Presentation to the Sudbury School Committee March 21, 2022

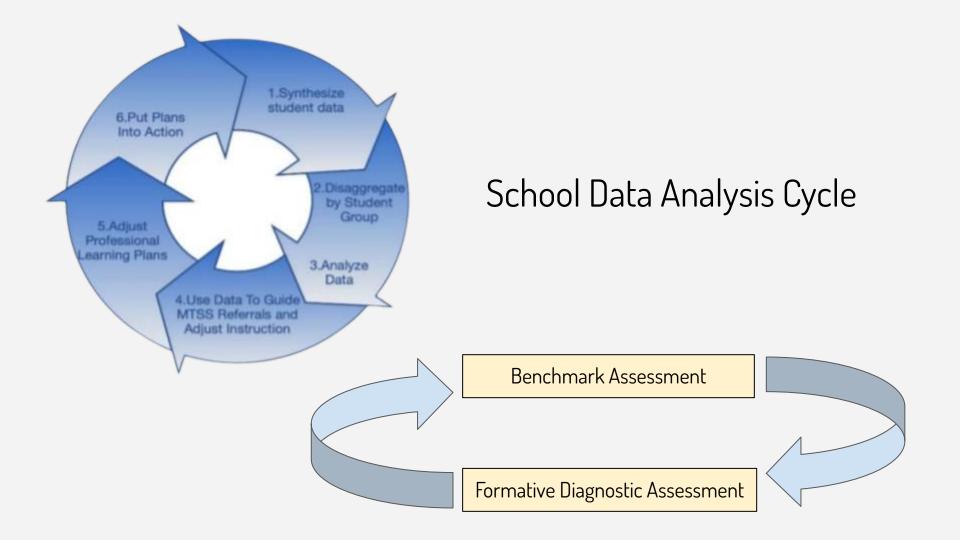
Teaching & Learning Department

...the major purpose of assessment in schools should be to provide interpretive information to teachers and school leaders about their impact on students, so that these educators have the best information about what steps to take with instruction and how they need to change and adapt.

--John Hattie, Education Week, vol 35, #10, October 28, 2015

Agenda

- 1. Different assessments-different purposes
- 2. SPS Benchmarking Calendar
- 3. Looking at Data: ELA and Mathematics
 - a. District Level Trends
 - b. Classroom and Subgroup Level
 - c. Student Level
- 4. Next Steps & Questions
- 5. Appendix



Formative Learning Assessment	Formative Diagnostic Assessment	Benchmark Assessment	Summative Assessment
Journals, Reflection, Goal setting routines, Quizzes	Classroom: Running Records, Observation, Conferencing, Student work, Rubrics, Unit tests & quizzes	ELA DIBELS, Phonics, Fountas & Pinnell, Fundations,TMP	MCAS: ELA, Math, STE, ACCESS
What assessment strategies are	Tiered Support: Norm-referenced measures, Observation	Math Number Corner Baseline, K Growth Assessment Interview	EOY and Placement content area assessments
used by SPS?	SPED: Norm-referenced measures, Observation	SEL DESSA	

When the cook tastes the soup, it is formative; when the guests taste the soup, it is summative."

--Bob Stake, University of Illinois

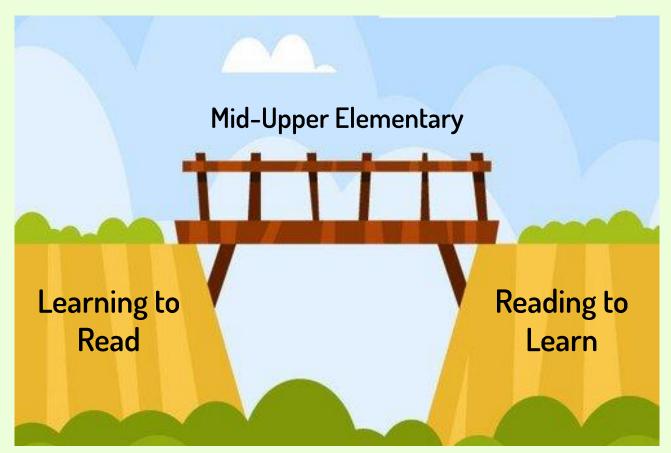
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		1					Multiplication &				9/27	
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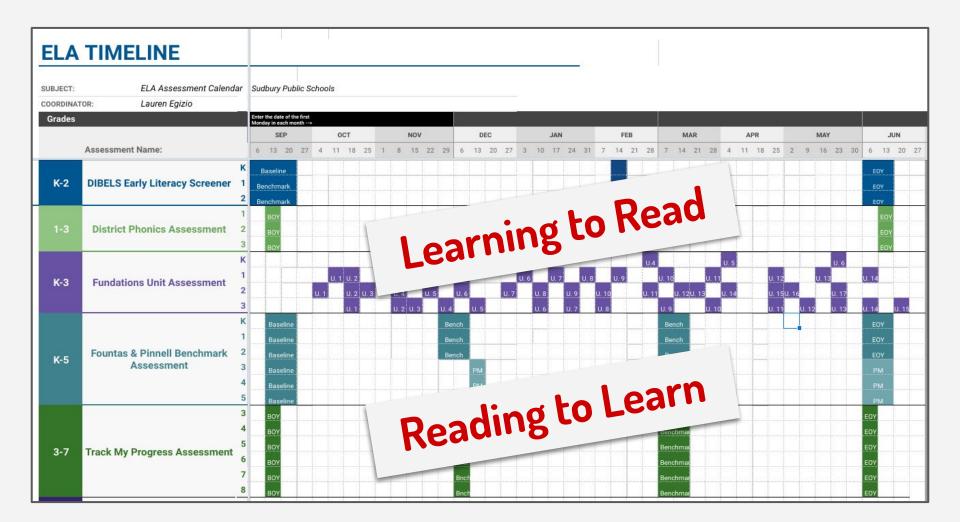
SPS 2021-2022 Assessments: Grade Five

		Lite	racy	Math					
Report Cards	State Testing	F&P	TMP	Number Corner Assessments All students	Unit Screeners Highly Recommend Approx. Dates	Formative Assessments Highly Recommend Approx. Dates			
	STE MCAS 4/26 - 5/27				Unit 7	Shapes Classification U6,M3,S1			
	1,20 3,21			End of Year Number Corner 4		Multiplying Mixed Number & Fractions U6,M4,S3			
Post Report cards by 6/14 @ 8am Elem Report Card live @ 4pm 6/16 is day 180		Benchmark Students in Levels 3 and 4 on TMP 6/6 - 6/15	Benchmark All Students 6/6 - 6/15			Division U7,M1,S6			

ENGLISH LANGUAGE ARTS

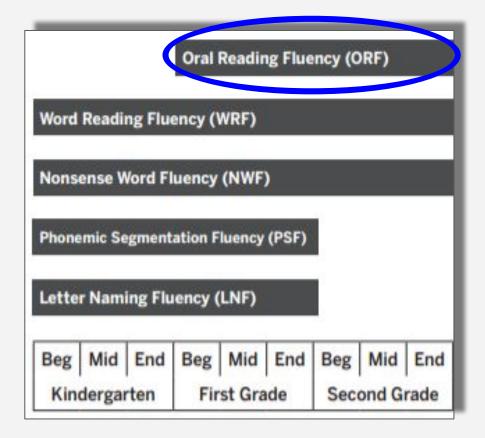
Elementary



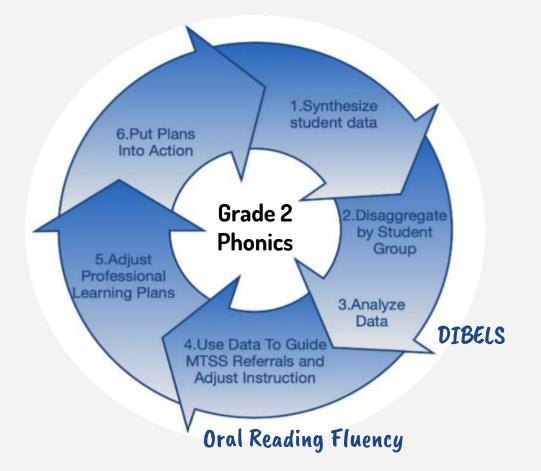




Dynamic Indicators of Basic Early Literacy Skills



Subtests are administered via 1-on-1 interviews

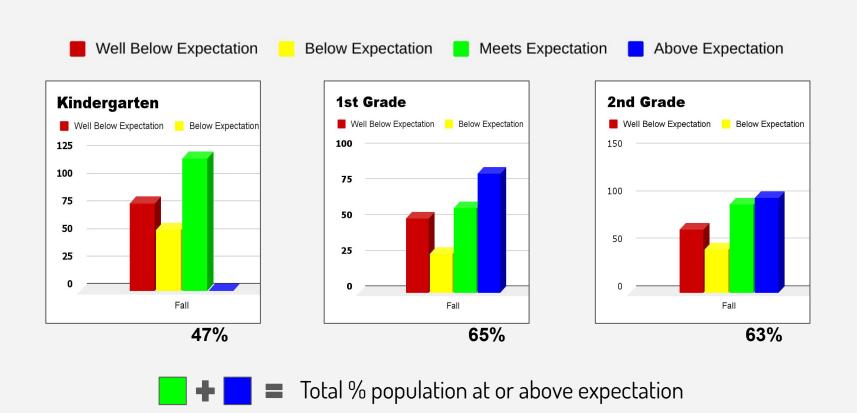


What other factors may influence the results?

- -Spent last 3 months of K at home
- -In-person learning for 2 days only for all of grade 1
- -K & 1 are crucial stages for developing phonological skills
- -decreased access to physical books
- -decreased access to ELA manipulatives
- -decreased time in group or paired discussions
- -lack of mouth modeling to due masks
- -increase in at-home distractions

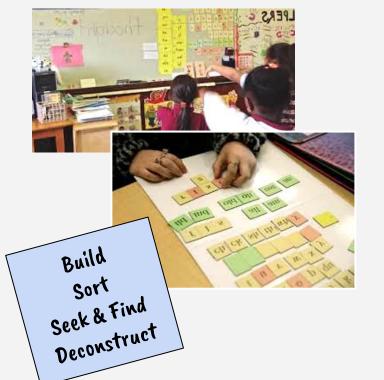
DIBELS: District View

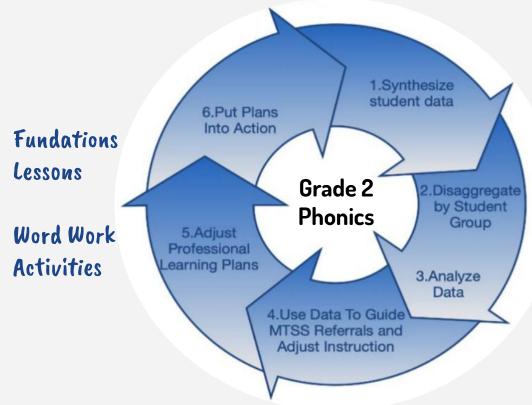
What do we notice? What do we wonder?

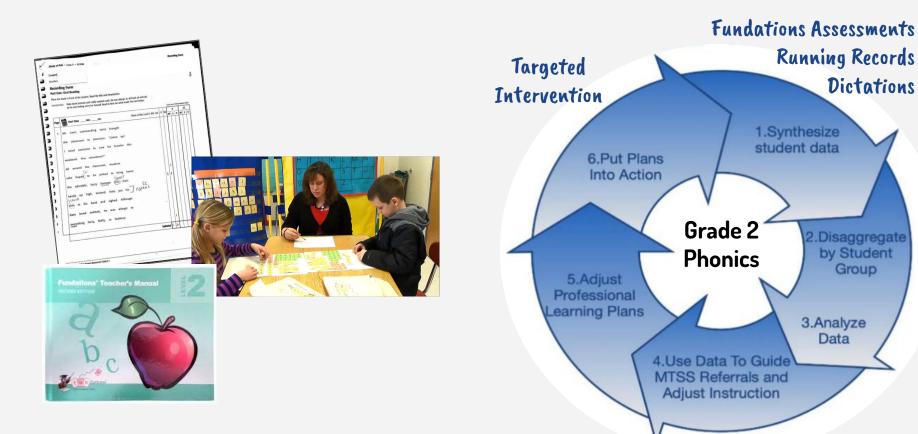


What else can we learn right now? What do we do with this information?

2021-2022 Instr	uctional	Group	ing - DIBELS 8t	h Editior	1				DIBEL	S" Data Sys	tem	
District: Sudburv Pub Classroom:		•	School: Second Grade Beg									
Group 1: Likely to nee good instruction at Ti 2. Re-assess at the nex window.	er 1 or Tier		Group 2: Word reading as at-risk. Intervention along with interim profile., once or twice per	n is recomme ogress monito	nded,	Group 3: The alphabe is marked as at-risk. Is recommended, alon progress monitoring (or twice per month).	Intervention og with interin	Group 4: Marked as at-risk in regard to the alphabetic principle and word reading. Recommend intensive intervention supports and weekly progress monitoring.				
Interventionist:	_	_	Interventionist:			Interventionist:			Interventionist:			
Interventionist: Time:			Time:			Time:		Time:				
NWF-CLS: At or above 41 WRF: At or above 18* **			NWF-CLS: At or above 41 WRF: At or below 17* **			NWF-CLS: At or below 40 WRF: At or above 18* **			NWF-CLS: At or below 40 WRF: At or below 17* **			
Student	CLS	WRF	Student	CLS	WRF	Student	CLS	WRF	Student	CLS	WRF	
	47	22		42	0		33	18		9	0	
	49	50		45	15	A				35	17	
	51	24		50	17					39	12	
	54	29										
	55	45				_				20 0 20 0		
	70	40										
	75	30										
	78	40										
	104	52										
	110	61										
	112	64										
	148	75										





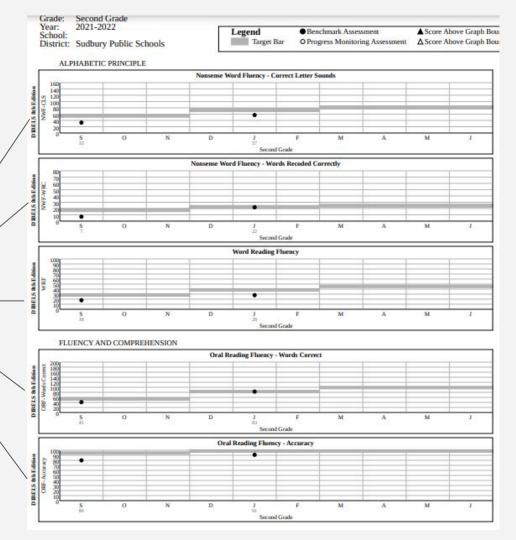


Student

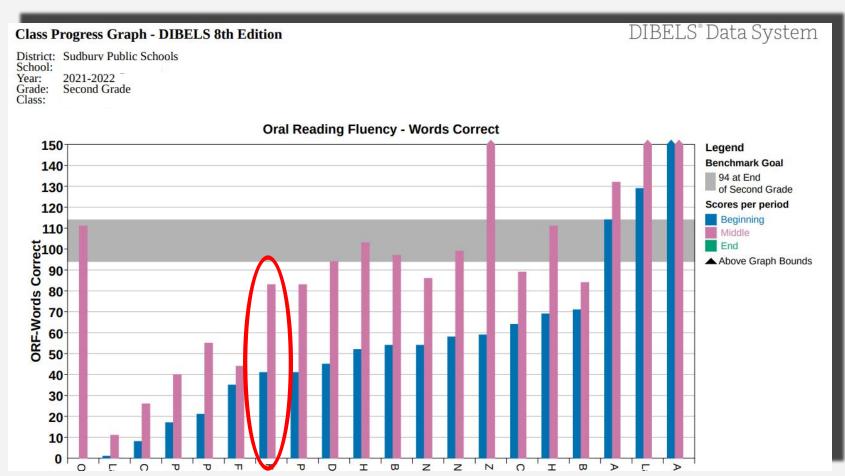
sment Data			
period benchmark n/a for measure	Intensive Support	Strategic Support	Core Sup
entile on easyCBM measures can be Note that the 40th and 20th percentile		1	

Period							
Beg	Mid						
33	57						
7	22	,					
18	28						
41	83						
10	8						
80%	91%						
	Beg 33 7 18 41 10	Beg Mid 33 57 7 22 18 28 41 83 10 8					

What strategies are working?
Where do we need to adjust instruction?
Where do we progress monitor?

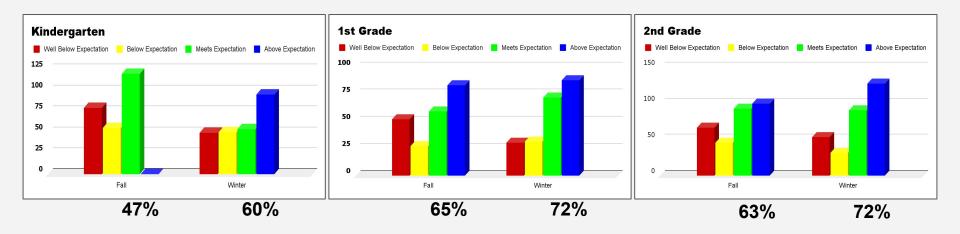


Classroom Fall to Winter



DIBELS: District Fall to Winter

Where are there increases or decreases in each category? How much growth is there?

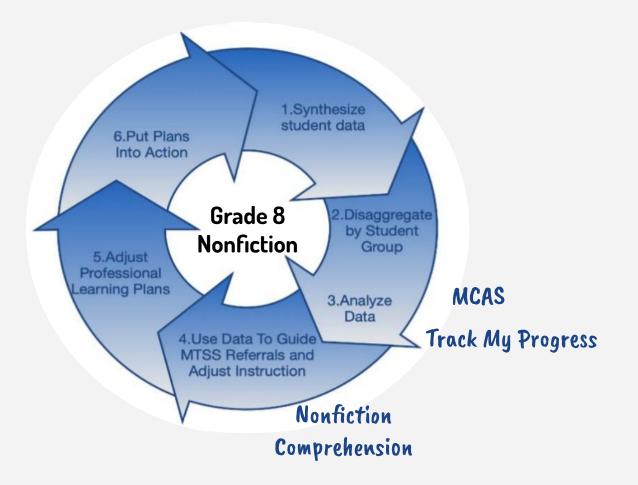




Middle School

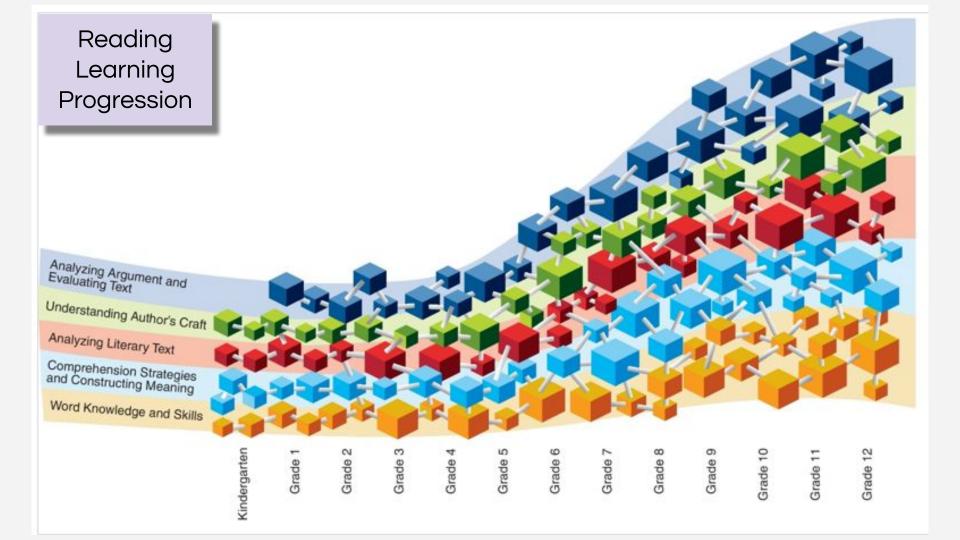
track my progress

- Assesses 5 domains: Literature, Informational Text, Language Skills, Conventions, and Vocabulary
- Question types that mimic MCAS
- Online student-led assessment
- Generates data instantly
- Instantly generates a variety of data types to measure performance and growth
- Data is tracked starting in grade 3



What other factors may influence the results?

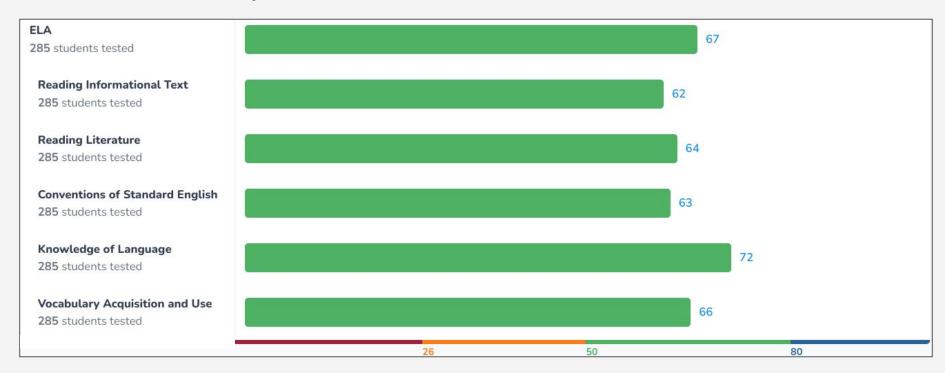
- -Spent last 3 months of Gr. 5 at home
- -In-person learning for 2 days only for all of grade 6
- -5 & 6 are crucial stages for developing independent reading skills
- -atypical transition to middle school
- -decreased access to teachers
- -decreased time in group or paired discussions
- -decrease in participation
- -increase in at-home distractions



District Level Trends: Grade 8

What do we notice? What do we wonder?

Winter Percentile by Domain



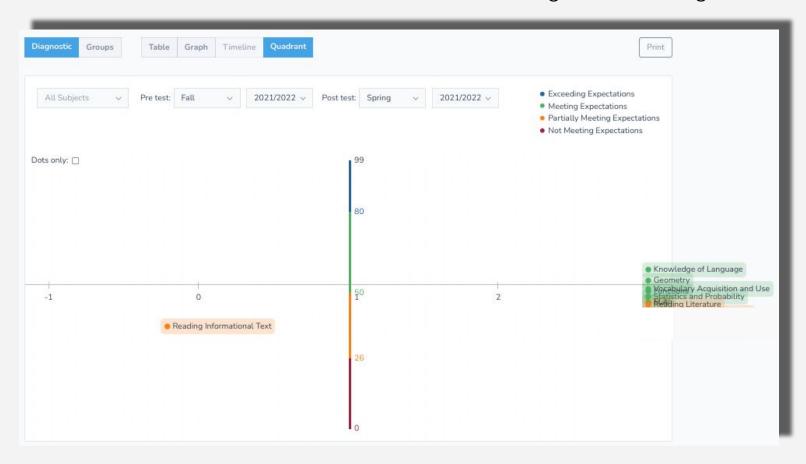
Subgroup Level: LAB Program

What else can we learn?
What do we do with this information?



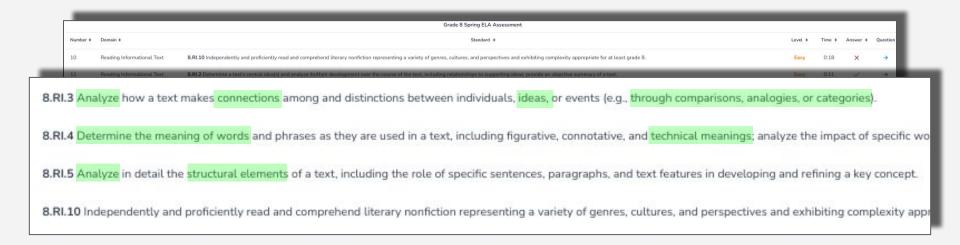
Student Level by Domain

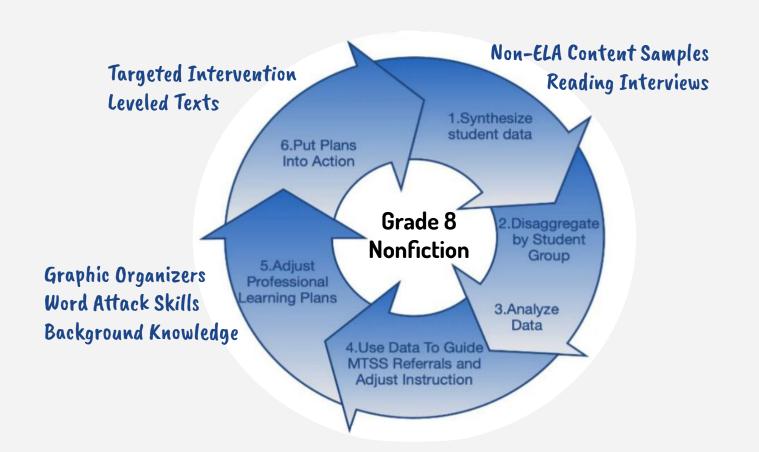
What prerequisite skills are needed? What background knowledge is needed?



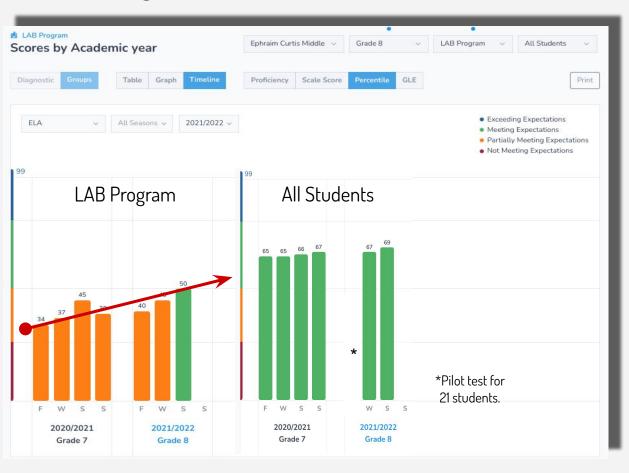
Student Level: Item Analysis

What strategies are working? Where do we need to adjust instruction? Where do we progress monitor?





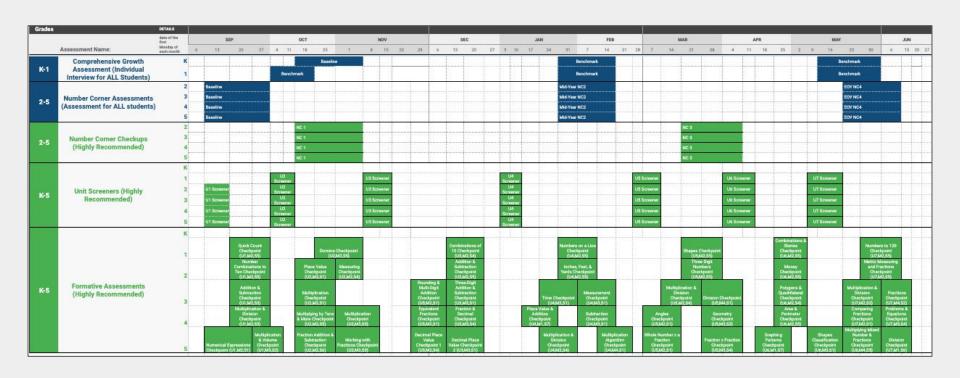
Subgroup Level: LAB Program



MATHEMATICS

Elementary

Mathematics Assessment Overview



Mathematics - District Level Benchmark Assessments from Bridges

Kindergarten interview assessments with written component:

2 Assessments per year (late Fall/Early Winter and End)

Grade 1 interview assessments with written component:

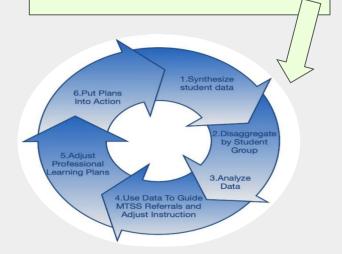
3 Assessments per year (Beginning, Mid-Year, and End)

Grades 2-5 written assessments:

3 Assessments per year (Beginning, Mid-Year, and End)
**At the grade level and class level, these assessments are
used as screener for students to look at more closely.

Questions Asked:

- What do we notice? What do we wonder?
- What are the trends across the district?
- What are the trends across a grade level?
 - If there is a cluster, what might be causing the cluster and how might we respond?

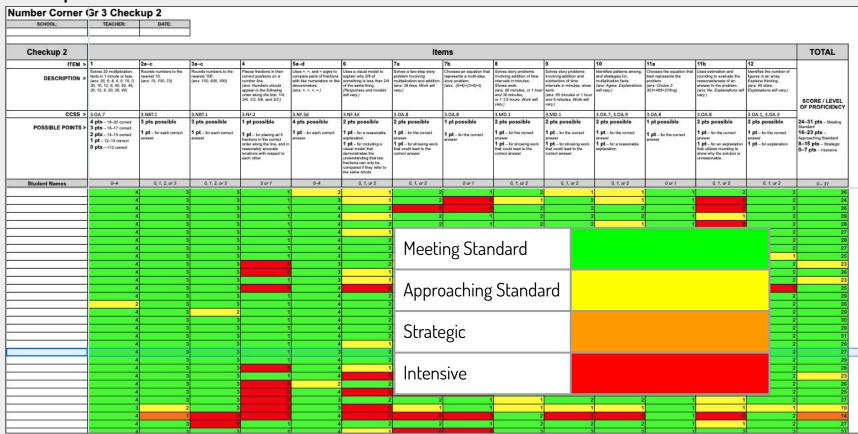


Example of Data from a Benchmark Assessment (Grade 3)

Checkup 2	Items												TOTAL
ITEM >	3a-c	4	5a-d	6	7a	7b	8	9	10	11a	11b	12	
DESCRIPTION >	Rounds numbers to the nearest 100. (ans: 100, 900, 300)	Places fractions in their correct positions on a number line. (ans: Numbers should appear in the following order along the line: 1/4, 3/8, 1/2, 5/6, and 3/3.)	Uses >, =, and < signs to compare pairs of fractions with like numerators or like denominators. (ans: >, <, <, =)	Uses a visual model to explain why 2/8 of something is less than 2/4 of the same thing. (Responses and models will vary.)	Solves a two-step story problem involving multiplication and addition. (ans: 38 tires. Work will vary.)	Chooses an equation that represents a multi-step story problem. (ans: (5×4)+(3×6)=t)	Solves story problems involving addition of time intervals in minutes. Shows work. (ans: 90 minutes, or 1 hour and 30 minutes, or 1 1/2 hours. Work will vary.)	Solves story problems involving addition and subtraction of time intervals in minutes, show work. (ans: 65 minutes or 1 hour and 5 minutes. Work will vary.)	will vary.)	Chooses the equation that best represents the problem. (ans: Choice 2: 303+485+218=g)	Uses estimation and rounding to evaluate the reasonableness of an answer to the problem. (ans: No. Explanations will vary.)	Identifies the number of figures in an array. Explains thinking. (ans: 45 stars. Explanations will vary.)	SCORE / LEVEL OF PROFICIENC
CCS Des	BT.1	3.NF.2	3.NF.3d	3.NF.3d	3.OA.8	3.OA.8	3.MD.1	3.MD.1	3.OA.7, 3.OA.9	3.OA.8	3.OA.8	3.OA.1, 3.OA.3	
POSSIBLE POINTS >	3 pts possible 1 pt – for each correct answer	1 pt possible 1 pt – for placing all 5 fractions in the correct order along the line, and in reasonably accurate locations with respect to each other	1 pt - for standards	2 pts possible 1 pt – for a reasonable explanation 1 pt – for including a visual model that demonstrates the understanding that two fractions can only be compared if they refer to the same whole	2 pts possible 1 pt – for the correct answer 1 pt – for showing work that could lead to the correct answer	1 pt possible 1 pt - for the correct answer	1 pt – for the correct answer 1 pt – for showing work	2 pts possible 1 pt – for the correct answer 1 pt – for showing work that could lead to the correct answer	2 pts possible 1 pt – for the correct answer 1 pt – for a reasonable explanation	1 pt possible 1 pt - for the correct answer	2 pts possible 1 pt – for the correct answer 1 pt – for an explanation that utilizes rounding to show why the solution is unreasonable	2 pts possible 1 pt – for the correct answer 1 pt – for explanation	24–31 pts – Meeting Standard 16–23 pts – Approaching Standard 8–15 pts – Strategic 0–7 pts – Intensive



Example of Data from a Benchmark Assessment (Grade 3)

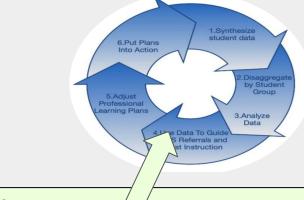


An Example of Teacher Discussion

These bullet points were taken from a school-based data meeting where teachers in grade 3 were reviewing previous MCAS items and a Benchmark Assessment.

<u> Discussion - Digging Deeper</u>

- In all three data points, Fractions was an area of need, especially placement of fractions on a number line, finding equivalent fractions, comparing fractions, and fractions greater than 1.
- Explaining their reasoning was an area that is seen to be an area of need.
- In Bridges Number Corner has the richer activities for fractions.
- There are not enough hands-on experiences with fractions. Bridges goes to paper too quickly.
- Students create the fractions, but there is not enough practice with materials.
- Not enough time on the Number Line. Would like to put in more activities around this.

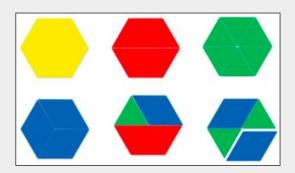


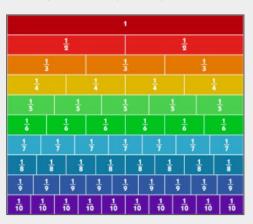
Next Steps:

- Co-planning Unit 4, Grade 3 to incorporate more hands on activities
- Highlighting the most important fraction activities from Number Corner to use during the math lesson
- Math Team creating a mini-unit to use before Unit
 4 to allow for additional concrete experiences

District Noticings

- Trends are not as clear as in the past inconsistencies between students
- Benchmark Assessments are often scored by correct/incorrect responses, so we need to dig deeper to show student understanding.
- We're spending longer focused on content than in previous years (pre-pandemic).
 - Fraction understanding and fraction operations
 - Abstract representations





Assessing Within the Classroom

Assessment	Timeline	Purpose
Unit Screeners Prior to each unit		What prerequisite skills do students need to access the learning in this unit?
		Where might we need additional instruction?
Unit Check-ins	At multiple	Are students understanding this module or unit?
points throughout the unit Work Samples throughout		What are possible misconceptions?
		How might we need to adjust our pacing?
		Specific Skill or Concept:
		Are students understanding this skill or concept?
		Can they apply it?
		Are there students who may need additional support or instruction?

Within the Classroom

Mathematics Assessments - Grade 3

Assessments for All Students

Data from the following assessments will be collected and used for consistent IST data and long-range data for students.

Timeline	Assessment Title & Location	At this time, you should be concerned about students who are struggling with any of the following:
September	Number Corner Baseline Assessment Location: Number Corner Volume 1 September	Solving simple one-step addition and subtraction story problems within 100 (2.OA.1) Recalling from memory all sums of two 1-digit numbers, i.e., addition facts to 20 (2.OA.2) Fluently subtracting with minuends to 20 using mental strategies (2.OA.2) Adding 2-digit numbers using strategies based on place value (2.NBT.5)
End January - early February	Number Corner Checkup 2 Location: Number Corner Volume 2 January	Solving one-step addition and subtraction story problems within 100 and writing equations to match Highly Recommended Assessments - Checkups Data from the following assessments may provide helpful data for report cards and contains the solution of the solut

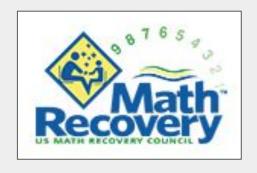


Timeline	Assessment Title	At this time, you should be concerned about students who are struggling with any of the following:
End of October	Number Corner Checkup 1	 Solving one-step addition and subtraction story problems within 100 and writing equations to match (2.OA.1) Recalling from memory all sums of two 1-digit numbers, i.e., addition facts to 20 (2.OA.2) Fluently subtracting with minuends to 20 using mental strategies (2.OA.2) Reading, writing, and understanding numbers to 1,000 using base-ten numerals, number names, and expanded form (2.NBT.3) Adding 2-digit numbers using strategies based on place value (2.NBT.5)

Delving Deeper to Uncover Student Thinking

Listening to student thinking allows us to learn more about what they understand and where they are in their trajectory of learning.

Currently Piloting:



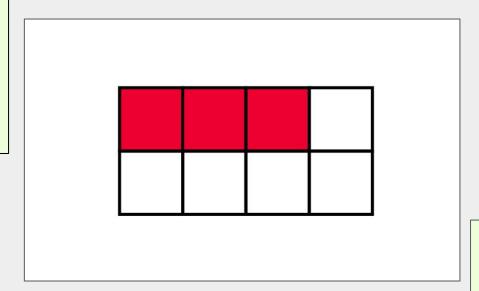


Uncovering Student Thinking

An example from Listening to Learn, Foundation of Fractions:

"What fraction of the rectangle is shaded red?"

"What fraction of the rectangle is not shaded?"



"How did you figure it out?"

Uncovering Student Thinking

An example from Listening to Learn, Foundation of Fractions:

"Point to a fraction that is not equal to ½."

$$\frac{2}{4}$$
 $\frac{5}{10}$ $\frac{3}{8}$ $\frac{3}{6}$

"How did you figure it out?"

What We Are Learning

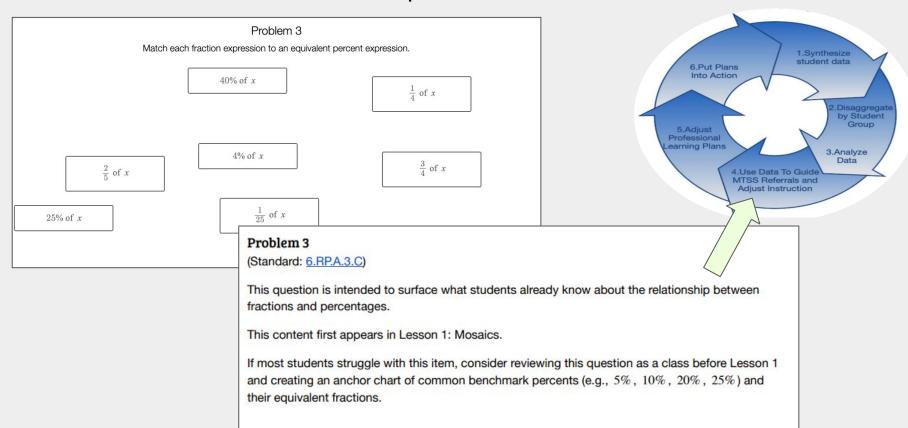
- Students need opportunities to explore different strategies and experience opportunities to be flexible in their thinking.
- Students need to experience more hands on learning with concrete manipulatives before moving to pictorial and more abstract representations.
- Building in these additional experiences takes more time. These are not replacing current experiences but enhancing the learning environment.
- Student interviews are invaluable and also take a lot of time.

Middle School

Middle School Mathematics Assessment Overview

Assessment	Timeline	Purpose
Readiness Check	Prior to Unit	What prerequisite skills do students need to access the learning in this unit?
		Where might we need additional instruction?
Quizzes	Mid-Unit	Are students understanding this module or unit?
		What are possible misconceptions?
		How might we need to adjust our pacing?
End of Unit/Chapter	After each Unit/Chapter	Both Formative and Summative Formative: Informs future units that may build upon content Summative: Did the students understand the content and can they apply it?
Mid-term (Algebra 1)	February	Continued assessment of progress towards end of year goals
End of Year Assessment	Last Term	Summative Assessment Placement

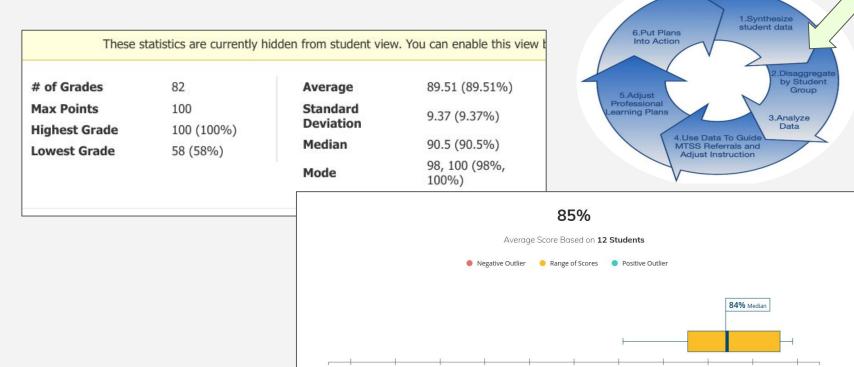
Formative Assessment - Example from Desmos Readiness Check



Unit Assessments within Desmos Dashboard

Anonymize Pacing Pause		2 Problem	3 Problem . Explain or show	4 Problem . Suplin or show	5 Problem	6 Problem .	7 Problem 3	8 Problem . Determine the area ##################################	9 Problem . Determine the area f(x)	10 Proble Superina the area f(x)
		Anor	nymize mode is	on. Your students	' names have bee	n changed to the	names of notable	mathematicians. <u>L</u>	earn more	
Edray Goins					~	~		~	~	~
Robert Eugene	: ~			0	~	~		~	~	~
Marjorie Lee Bro			0	0	~	~	0.00	~	~	~
Erica Walker	: ~	0			~	~		~	~	~
David Blackwell	:		0.0		~	~	(0)	~	~	~
Aryabhata	: ~			0	~	~		~	~	~
Argelia Velez-Ro	: ~	0		0	~	~		~	~	~
Mary Winston Ja	: ٧	0	0		~	~		~	~	~
Grace Alele-Willia	:	0			~	~		~	~	~
Margaret H. Ham			0		~	~		~	~	~
Euphemia Lofton	: ٧	0		0	~	~		~	~	~
Carl Gauss			0		~	~	.0.7	~	~	~
Ada Lovelace				0	~	~		~	~	~
Wang Zhenyi	: ~	0		0	~	~	0	~	~	~
Rochelle Gutierrez	: ~				~	~		~	~	~
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Unit Assessment Reports from Schoology



0%

10%

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60%

70%

80%

90%

100%

What We've Noticed and Our Response

- Students are struggling where the content jumps from concrete to more abstract.
- Students are showing mastery of content in later chapters, where content is revisited.
- Students are needing more time to master the content than in previous years. (pre-pandemic)

- We are spending more time with content and explicitly making connections between visual and abstract.
- Sharing the reminder that all math standards are year-end standards. Repetition and continued practice help to support student understanding.
- Adjusting our pacing to respond to student needs. Provide more differentiation. Take time to ensure student understanding.

In-Process

- Review and Revise reporting and communication structures to support information sharing between home and school regarding student learning
- Warehousing of key points in SIS to determine cut scores, track longitudinal student progress, predict outcomes on state assessments & developing Data Studio visuals for key data points to support educators' access to and use of integrated data.
- Implement actions plans developed by District Data Team
- Provide professional learning focused on using data to improve student learning outcomes and improve equitable learning opportunities for all
- Evaluate benchmarking pilots and reporting structures and make recommended adjustments
- Commit to continued funding for benchmarking tools

Educators need to understand what each student already knows, and where that student needs to

--John Hattie, Education Week, vol 35, #10, October 28, 2015

go next in the teaching process.

Appendix

The following slides provide supplemental background information.

- A. SPS District Data Team Charge
- B. SPS Data Studio Exemplar
- C. ELA Benchmarking Data (DIBELS, Track My Progress)
- D. ELA & Mathematics MCAS SPS Summary Data
- E. Data Visualization Options for Mathematics

A. District Data Team: Charge & Subgroups

Three Main Categories of Our Data Work

Technical

This work includes:

- Data warehouse
- How to collect?
- What to collect?
- Keeping records from building data meetings

Process/Procedure/Protocol

This work includes:

- How to use data?
- When to use data?
- What data to use?

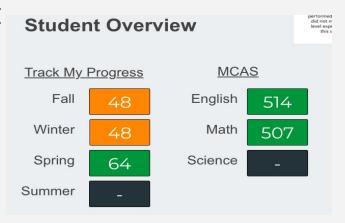
Professional Learning

This work includes:

- How to build capacity for looking at data (within schools and the district)?
- How to build capacity for facilitating data meetings?
- Partnership and collaboration for next steps

B. SPS Data Visualization: Sample Student

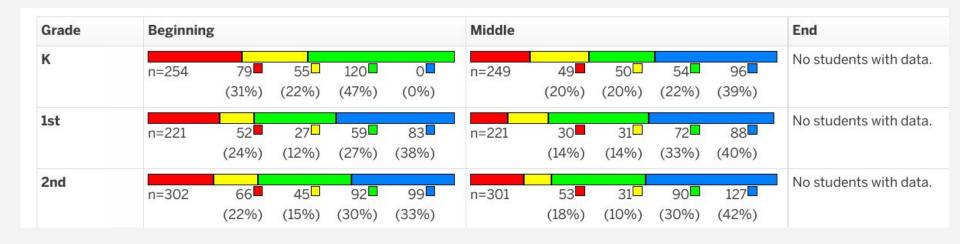
In order to help SPS educators access data efficiently and effectively, key data points will be warehoused in the ASPEN SIS system. We are building Google Studio Analytics, to consolidate data and allow educators to readily compare data points.





C. DIBELS 8: ELA Composite

The DIBELS 8 measures decoding subskills and is administered universally k-2 and as part of Tiered Intervention programming k-8.

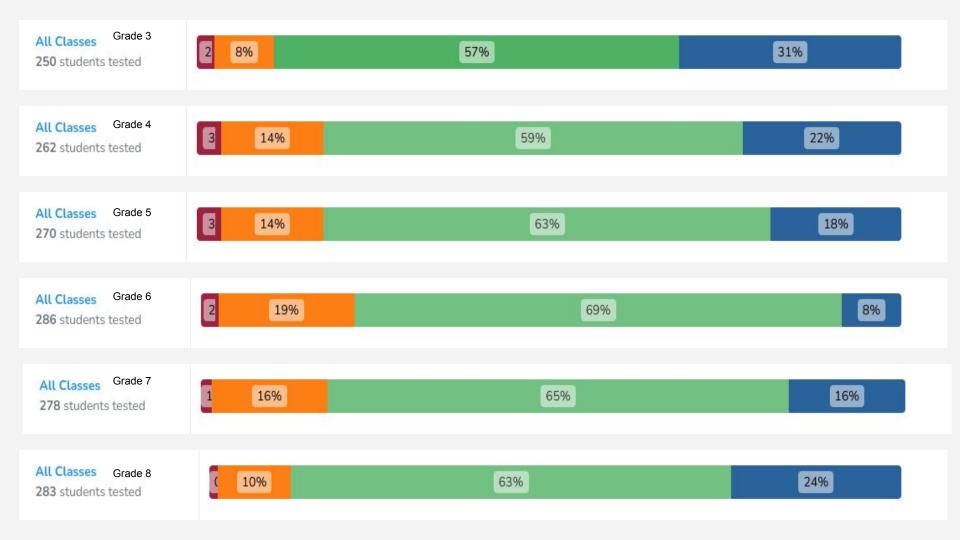


Legend n = Number of Students ■ Intensive Support Strategic Support Core Support Core^ Support

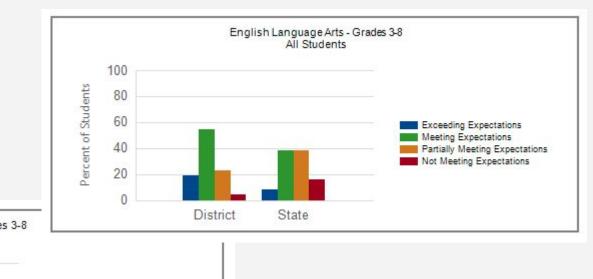
C. Track My Progress: ELA Composite

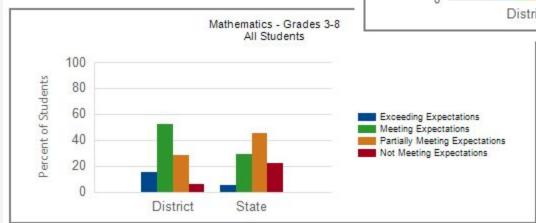
Track My Progress reading comprehension, vocabulary, and word knowledge and is administered universally grades 3-8.





D. MCAS Proficiency Levels 2021



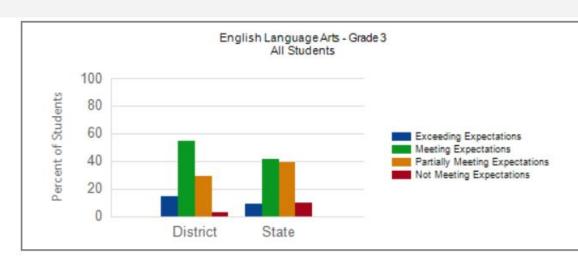


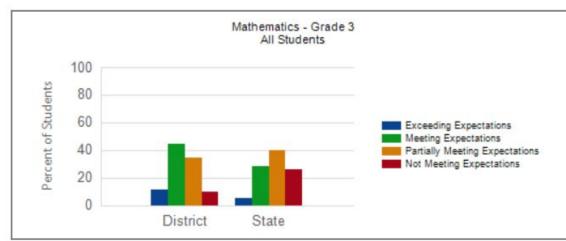
Participation Rate: 99%

English Language Arts	N Students Included	% District	% State
Exceeding Expectations	37	14	9
Meeting Expectations	143	54	41
Partially Meeting Expectations	76	29	39
Not Meeting Expectations	7	3	10
Total Included	263		

Participation Rate: 100%

Mathematics	N Students Included	% District	% State
Exceeding Expectations	30	11	5
Meeting Expectations	117	44	28
Partially Meeting Expectations	91	34	40
Not Meeting Expectations	26	10	26
Total Included	264		



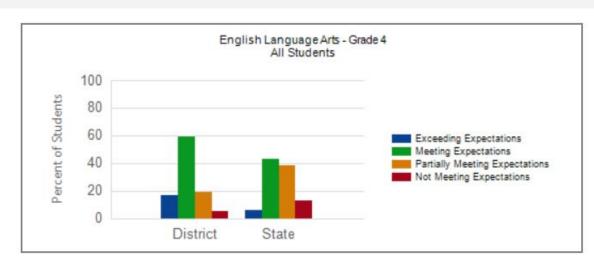


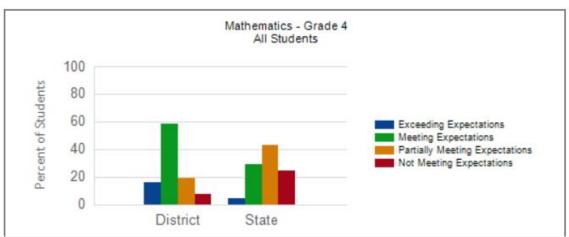
Participation Rate: 99%

English Language Arts	N Students Included	% District	% State
Exceeding Expectations	47	17	6
Meeting Expectations	162	59	43
Partially Meeting Expectations	53	19	38
Not Meeting Expectations	13	5	13
Total Included	275		

Participation Rate: 99%

Mathematics	N Students Included	% District	% State
Exceeding Expectations	44	16	4
Meeting Expectations	159	58	29
Partially Meeting Expectations	53	19	43
Not Meeting Expectations	20	7	24
Total Included	276		



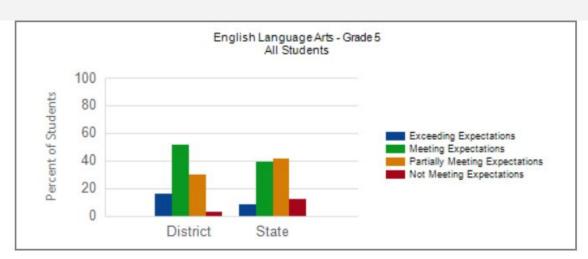


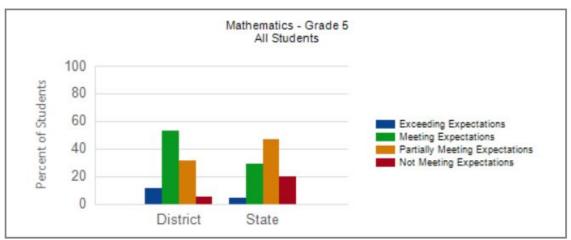
Participation Rate: 97%

English Language Arts	N Students Included	% District	% State
Exceeding Expectations	45	16	8
Meeting Expectations	147	51	39
Partially Meeting Expectations	87	30	41
Not Meeting Expectations	8	3	12
Total Included	287		

Participation Rate: 98%

Mathematics	N Students Included	% District	% State
Exceeding Expectations	32	11	4
Meeting Expectations	152	53	29
Partially Meeting Expectations	90	31	47
Not Meeting Expectations	14	5	20
Total Included	288		



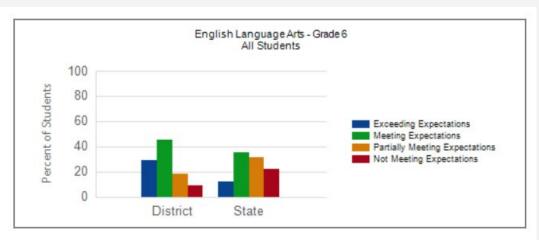


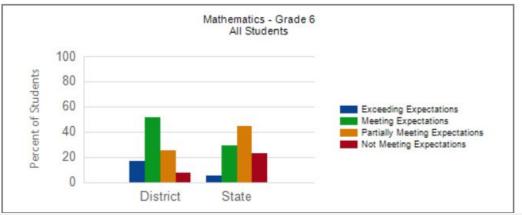
Participation Rate: 98%

English Language Arts	N Students Included	% District	% State
Exceeding Expectations	82	29	12
Meeting Expectations	125	45	35
Partially Meeting Expectations	49	18	31
Not Meeting Expectations	24	9	22
Total Included	280		

Participation Rate: 99%

Mathematics	N Students Included	% District	% State
Exceeding Expectations	48	17	5
Meeting Expectations	143	51	29
Partially Meeting Expectations	69	25	44
Not Meeting Expectations	21	7	23
Total Included	281		



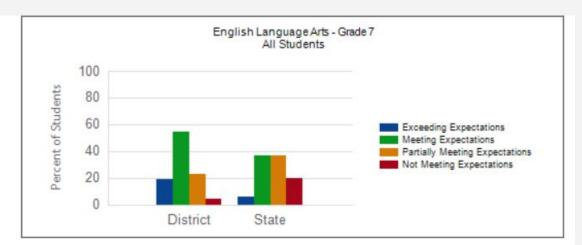


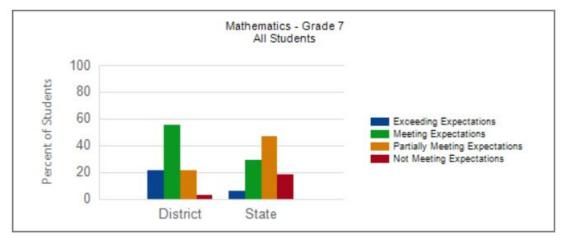
Participation Rate: 99%

English Language Arts	N Students Included	% District	% State
Exceeding Expectations	56	19	6
Meeting Expectations	158	54	37
Partially Meeting Expectations	66	23	37
Not Meeting Expectations	11	4	20
Total Included	291		

Participation Rate: 99%

Mathematics	N Students Included	% District	% State
Exceeding Expectations	61	21	6
Meeting Expectations	160	55	29
Partially Meeting Expectations	62	21	47
Not Meeting Expectations	8	3	18
Total Included	291		



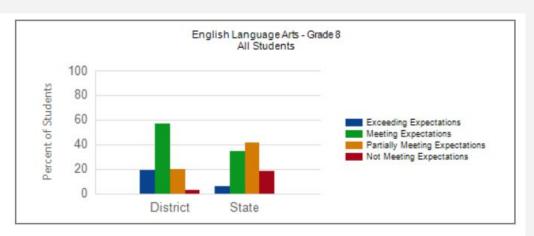


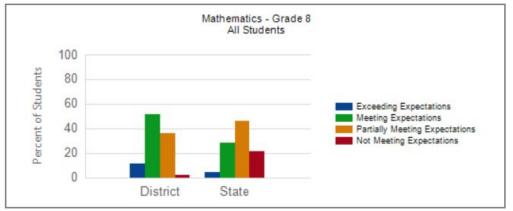
Participation Rate: 96%

English Language Arts	N Students Included	% District	% State
Exceeding Expectations	63	19	6
Meeting Expectations	186	57	34
Partially Meeting Expectations	66	20	41
Not Meeting Expectations	9	3	18
Total Included	324		

Participation Rate: 96%

Mathematics	N Students Included	% District	% State
Exceeding Expectations	37	11	4
Meeting Expectations	163	51	28
Partially Meeting Expectations	115	36	46
Not Meeting Expectations	7	2	21
Total Included	322		





E. Data Visualization Options for Mathematics

- Elementary School
 - Create a visualizer for our Bridges assessments
 - Purchase a visualizer for our Bridges assessments
 - Use Track My Progress, in addition to current Bridges assessments
- Middle School
 - Expand use of existing Schoology visualizers or create a Desmos-specific visualizer
 - Use Track My Progress for Benchmarking assessments, in addition to current unit readiness checks, quizzes and unit assessments.