



Literacy and Math Data Grades 1-5

Spring 2022



AGENDA



01

Internal Assessments

What did our analysis show us overall? What was our process?

02

Subgroup Disaggregation

How do our internal assessments mimic or tell different stories from MCAS?

03

Supporting Students

What were the trajectories & outcomes of individual students who needed support?

04

Moving Forward

What have we learned from this process? How might we grow and refine it?



Ongoing Guiding Questions

1. How are our students doing in math and literacy?
2. Are there gaps we need to be aware of between groups of students?
3. Have we already identified students whose performance concerns us? Do we have plans in place to support and accelerate these students' learning? Are those plans working?





Purpose of assessments & our process

- These are internal assessments whose purpose is to inform teams of teachers about students' skills and progress in order to make instructional decisions that best meet students' needs
 - Data impacts:
 - Curricular decisions (whole class of students need more of x)
 - Small group instruction on behalf of classroom teacher (this group of students could benefit from y)
 - Direct support from an interventionist on a specific goal (this student needs individualized, targeted support through push-in or pull-out services)



Cautionary Note:

While these math and literacy assessments are not intended to be used in the aggregate, we thought we could learn by experimenting with a “data roll-up,” particularly around differences in outcomes for students when we disaggregate by demographics. Ultimately, we confirmed that our internal assessments show similar gaps to statewide MCAS data.



Internal Assessment Data Tracking

Beginning NWF/CLS	Beginning NWF/WRC	Beginning WRF	Beginning ORF Words Correct	ORF Errors	Beginning MAZE	Sept-Dec BAS level
39	10	39	49	4	6	I
115	35	41	72	4	6.5	K
62	23	45	116	1	20	N
134	40	59	175	1	28.5	O
74	17	52	135	4	6.5	K
68	17	43	108	22	11.5	O
42	14	59	139	0	6.5	N
45	13	23	41	5	9.5	J
131	39	64	94	1	abs	M
220	65	106	167	0	21	O
49	15	45	115	2	12	N
48	16	86	151	2	18	M
65	21	128	179	1	25	N
108	31	52	100	6	9.5	N
105	24	55	79	5	0	J
39	8	71	129	1	22.5	M
126	38	63	143	0	17	O

Math Focus Report Card Descriptors	Story - equal sharing	Justify 1/2 equivalence	Shade Equivalent fractions	Identify Equivalent fractions	Identify Equivalent fractions	Label fractional parts on number line	Fraction & decimal for 1/2	Fractions as decimals, shading	Write Fraction & decimal of shading	Write Fraction & decimal of shading	Compare Decimals	Compare Decimals
	4.MTH.P.1	4.MTH.NO. 1	4.MTH.NO. 1	4.MTH.NO. 1	4.MTH.NO. 1		4.MTH.NO. 3	4.MTH.NO. 3	4.MTH.NO. 3	4.MTH.NO. 3	4.MTH.NO. 3	4.MTH.NO. 3
Question #	EoU3-Q1	EoU3-Q2	EoU3-Q3	EoU3-Q4	EoU3-Q5	EoU3-Q6	EoU3-Q7	EoU3-Q8	EoU3-Q9	EoU3-Q10	EoU3-Q11	EoU3-Q12
	2	3	3	3	2	3	3	3	3	3	3	3
	1	3	1	2	1	1	3	3	3	3	3	3
	3	3	3	3	3	3	3	3	3	3	3	3
	2	3	3	3	3	3	3	2	3	3	3	3
	3	3	3	3	3	3	3	3	3	3	3	3
	3	3	3	3	3	3	3	3	3	3	3	3
	3	3	3	3	2	3	3	3	3	3	3	3
	2	3	3	3	2	3	3	2	3	3	3	3
	3	3	3	3	3	3	3	3	3	3	3	3
	3	3	1	3	1	3	3	2	3	3	3	3
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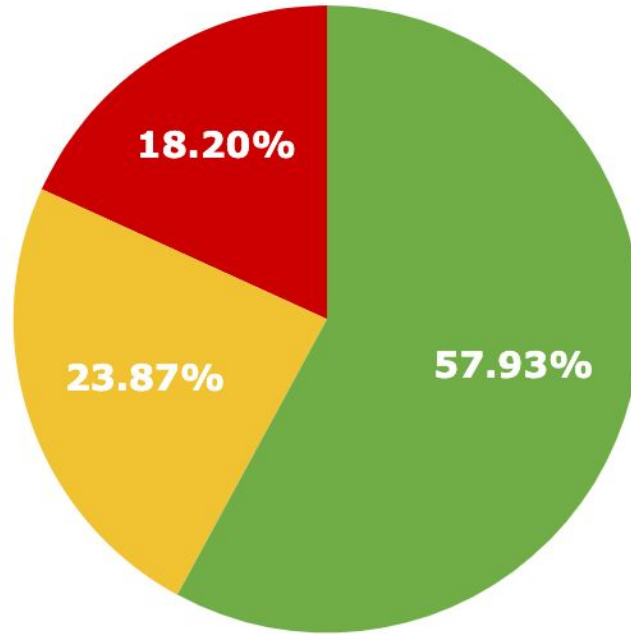
Color coding system:
 Below Benchmark
 Approaching Benchmark
 At Benchmark
 Above Benchmark

Color coding system:

Completely correct
 Minor misunderstanding or miscalculation
 Incorrect

Math "Roll-Up"

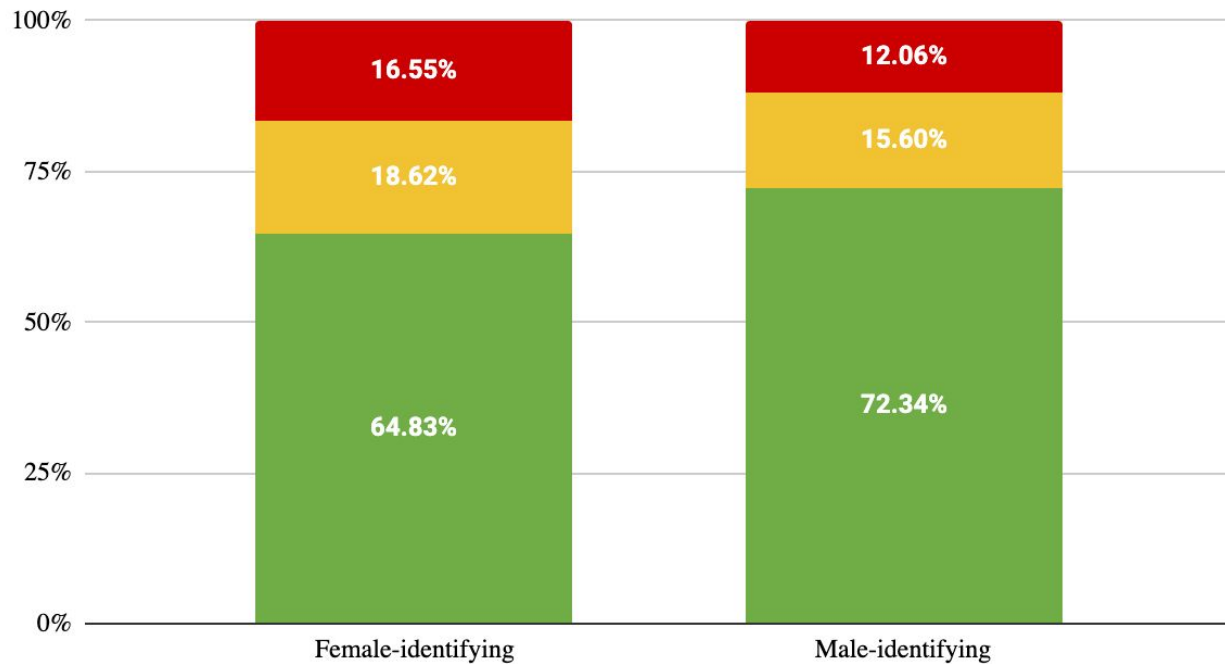
Math Grades 1-5 -- Overall



Mastery at this point in time
Approaching understanding
Not mastered

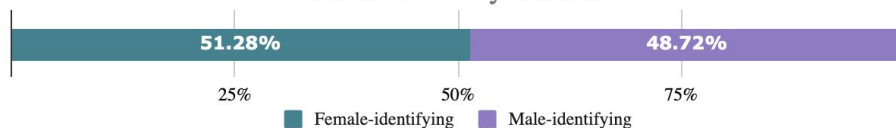
Approx. 512 students

Math Gr 1-5 & Gender

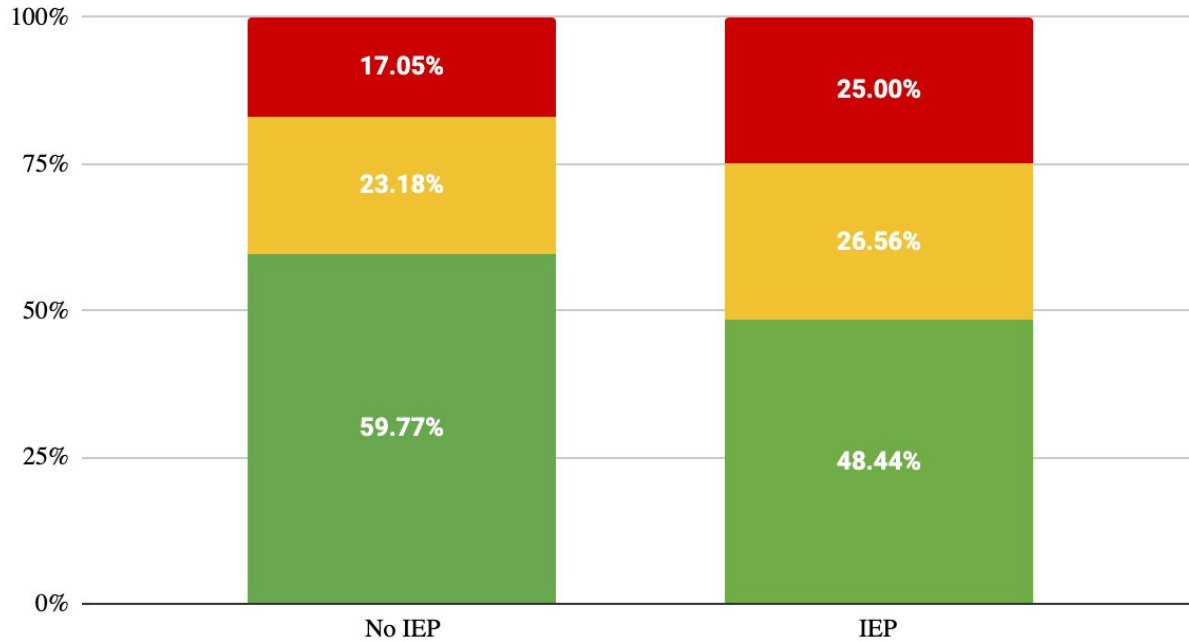


Mastery at this point in time
Approaching understanding
Not mastered

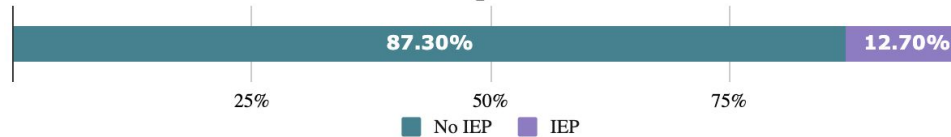
Math Gr 1-5 by Gender



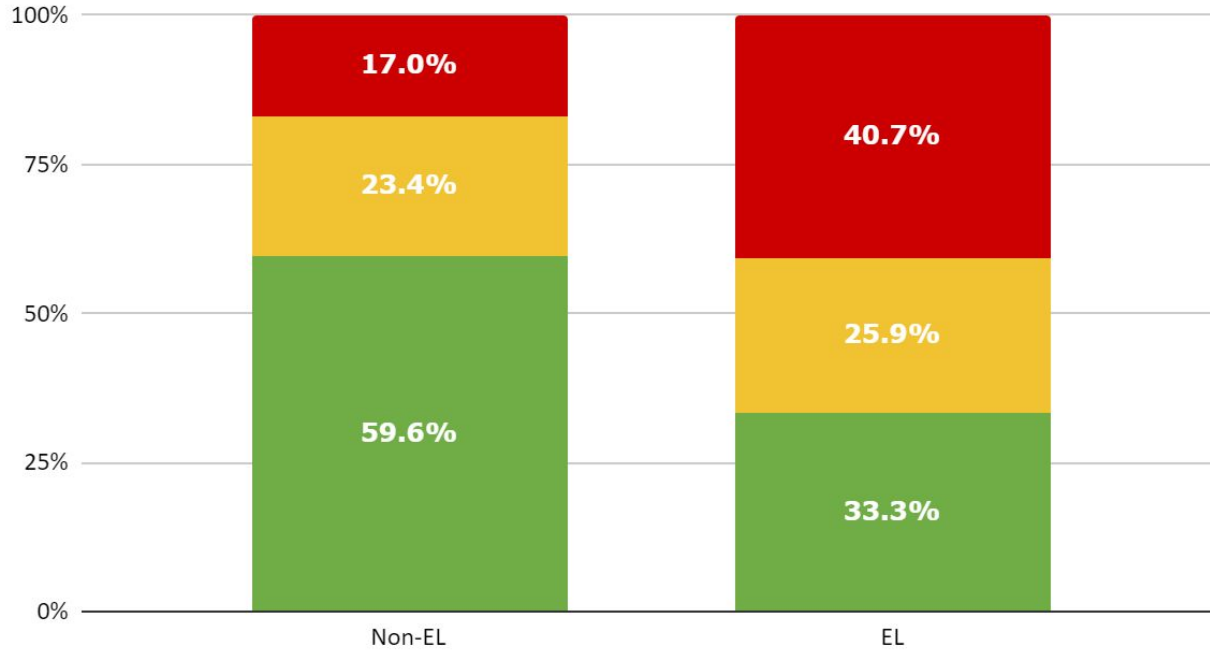
Math Gr 1-5 & Special Education



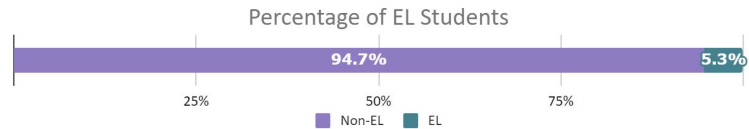
Math Gr 1-5 Special Education



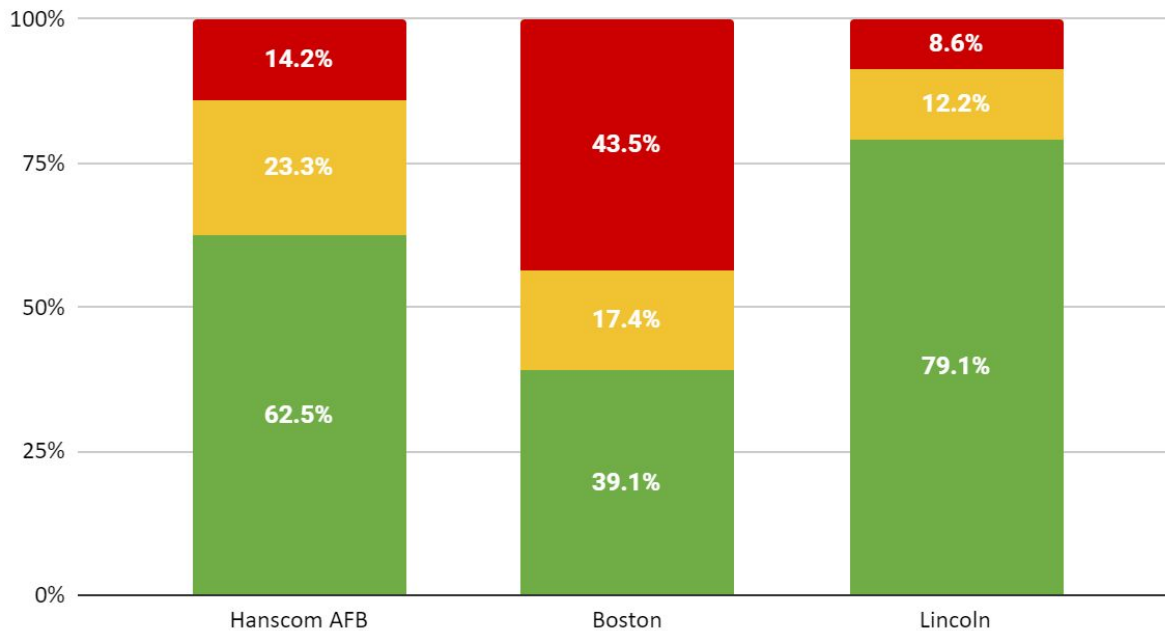
Math Gr 1-5 -- English Learners



Mastery at this point in time
Approaching understanding
Not mastered

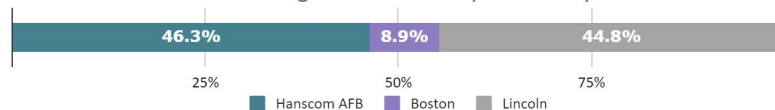


Math Gr 1-5 by Residency



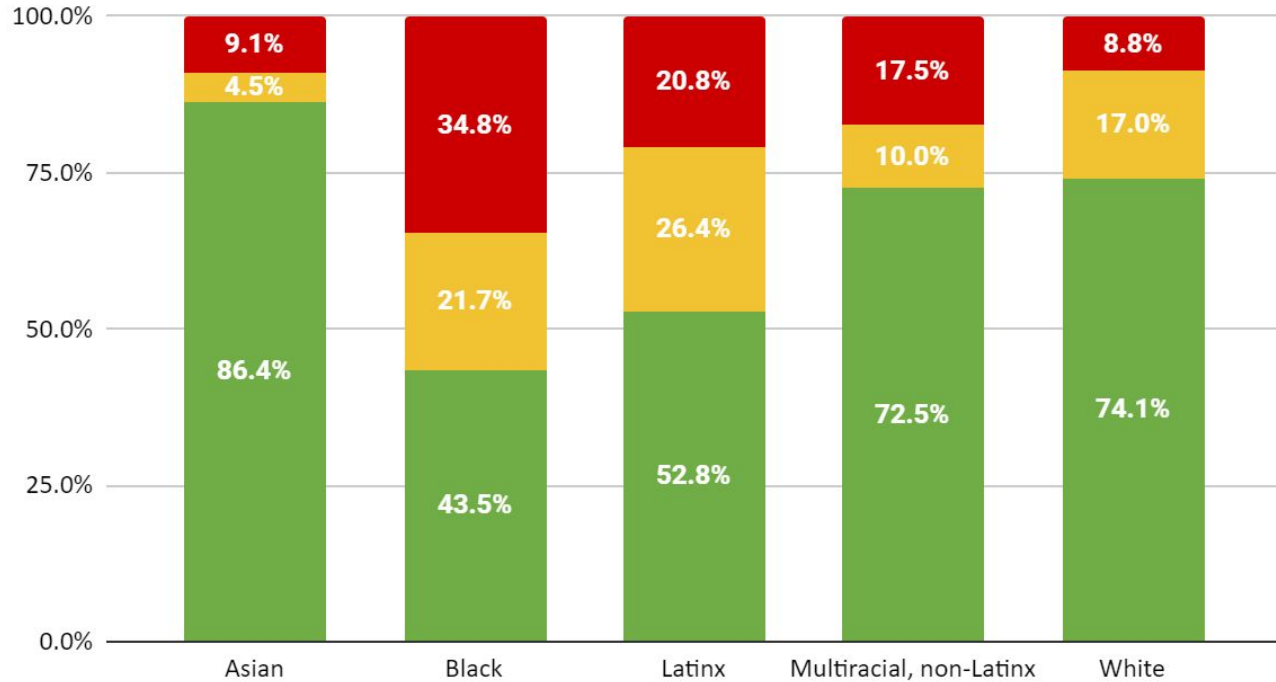
Mastery at this point in time
Approaching understanding
Not mastered

Percentage of Students by Residency



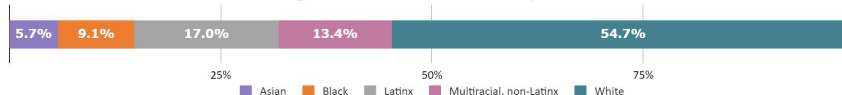
Students who live outside of Hanscom, Boston, or Lincoln have been removed to protect anonymity based on small n-sizes.

Math Gr 1-5 by Race



Mastery at this point in time
Approaching understanding
Not mastered

Percentage of Students in Racial Groups Grades 1-5



Note: for comparison purposes, we are using DESE's definitions of Latinx and Multiracial, non-Latinx. Students who identify as American Indian or Alaska Native; or Native Hawaiian or Other Pacific Islander have been removed to protect anonymity based on small n-sizes.

Student Vignettes

Student 1 - red bucket

- Identified through IST and Bootcamp
- Addition - met goal
- Subtraction - a bit inconsistent, met goal
- Amended goal to to include add/subt story problems - met goal
- Amended goal to include multiplication facts, based on classroom performance

Student 2 - red bucket

- Identified after Bootcamp
- Addition - met goal
- Subtraction - met goal
- Amended goal to to include add/subt story problems - met goal
- Amended goal to include multiplication facts, based on classroom performance

Student 3 yellow bucket

- Identified after Bootcamp
- Addition - met goal, inconsistent
- Subtraction - met goal, inconsistent
- Amended goal to to include add/subt story problems - met goal

Student 4 - yellow bucket

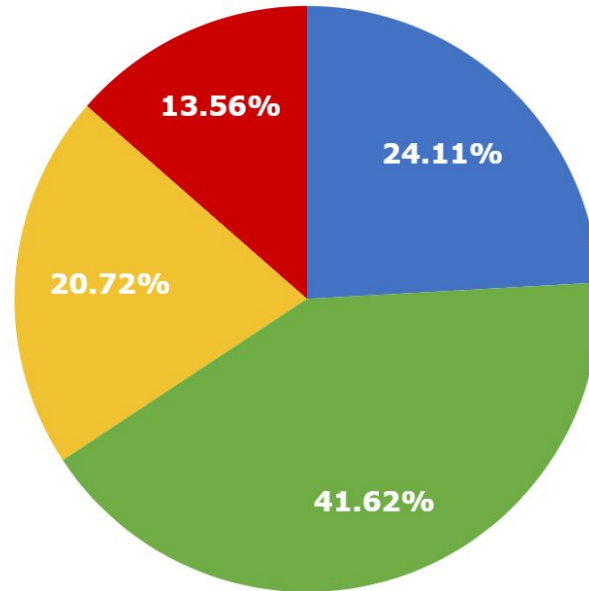
- Identified after Bootcamp
- Addition has not met goal
- Subtraction has not met goal
- Amended goal to include multiplication facts, based on classroom performance

Student 5 - red bucket

- Concerns for a couple of years, difficulty with Beginning of Year assessment
- Intervention immediately - little progress
- Evaluated and placed on an IEP

Literacy “Roll-Up”

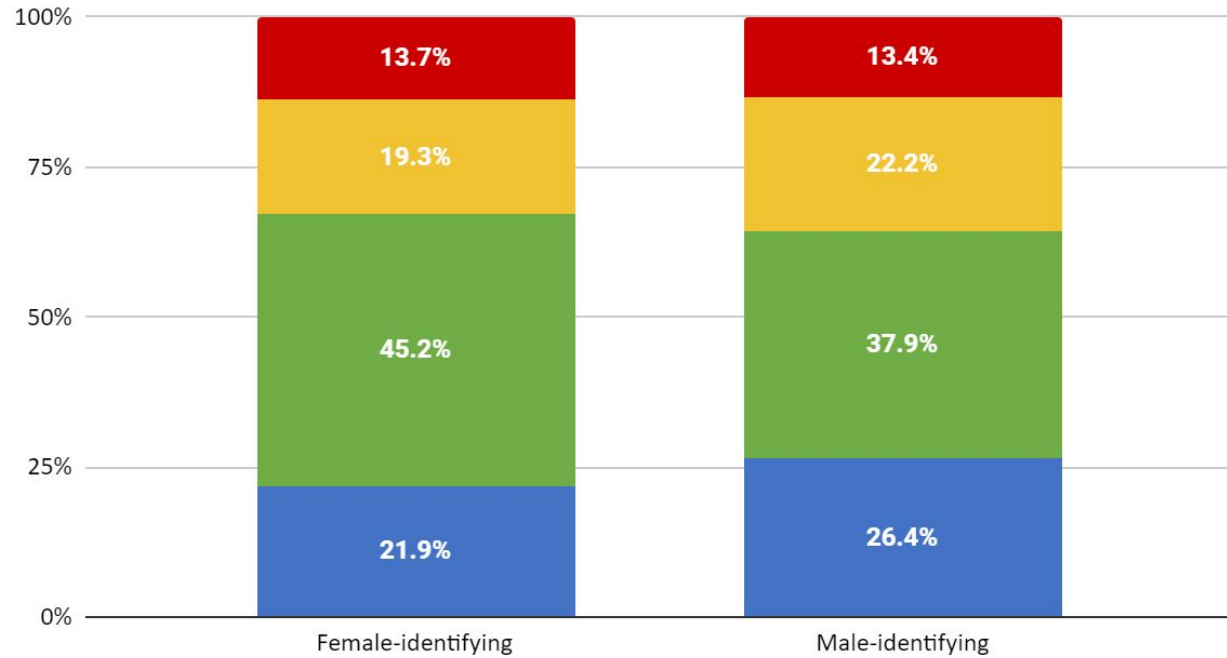
Literacy Gr 1-5 Overall



Above benchmark
At benchmark
Approaching benchmark
Below benchmark

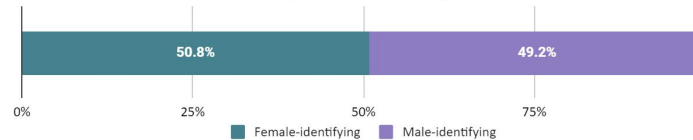
Approx. 532 students

Literacy Gr 1-5 by Gender



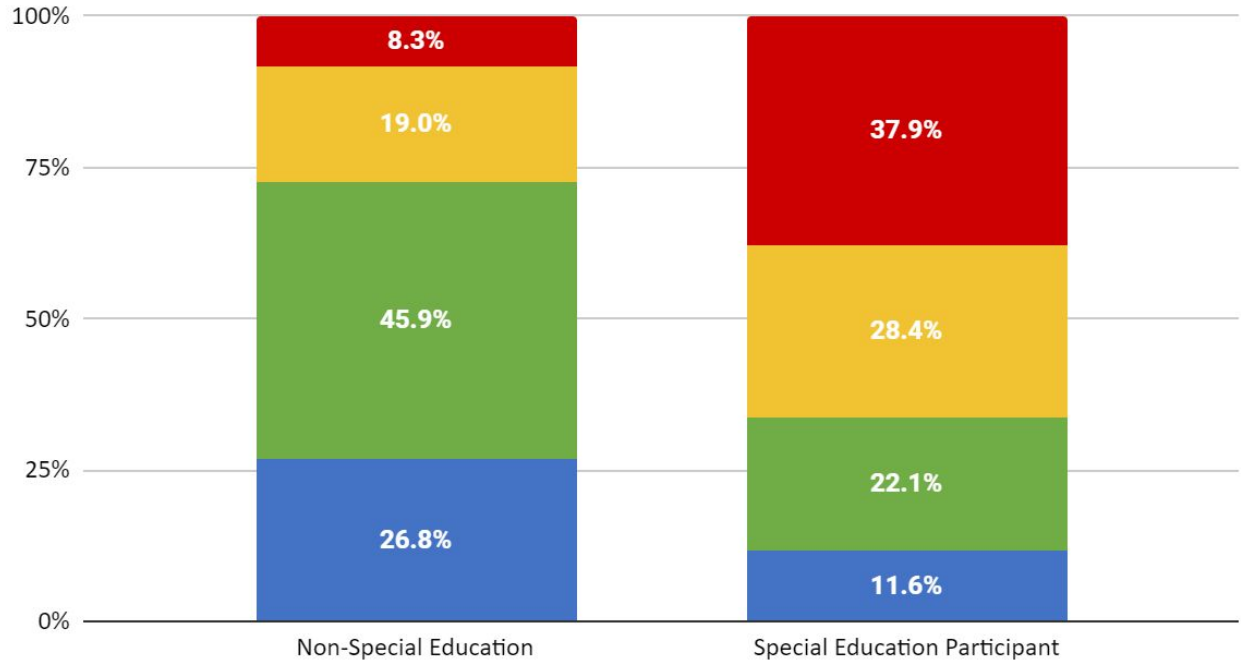
Above benchmark
At benchmark
Approaching benchmark
Below benchmark

Percentage of Students by Gender



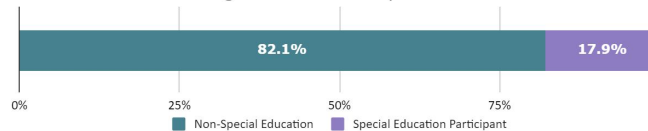
Note: of the students in this particular data set, all identify as male or female.

Literacy Gr 1-5 Special Education



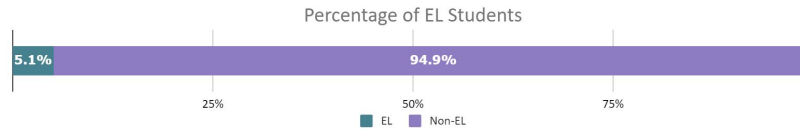
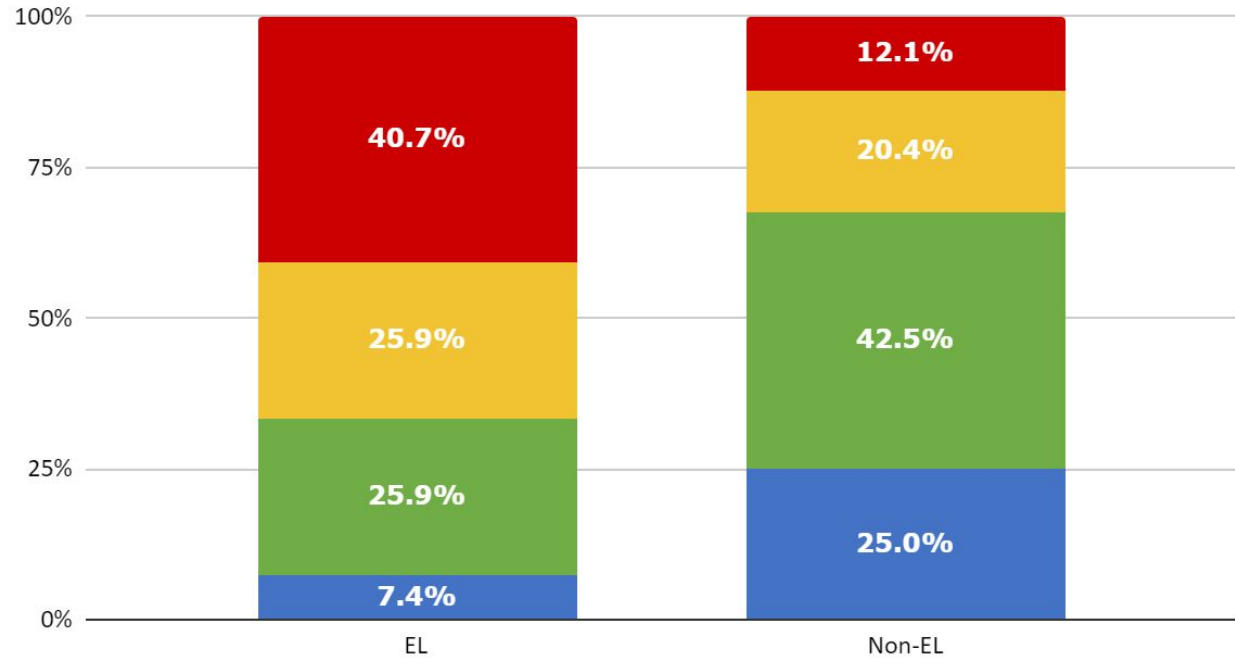
Above benchmark
At benchmark
Approaching benchmark
Below benchmark

Percentage of Students in Special Education

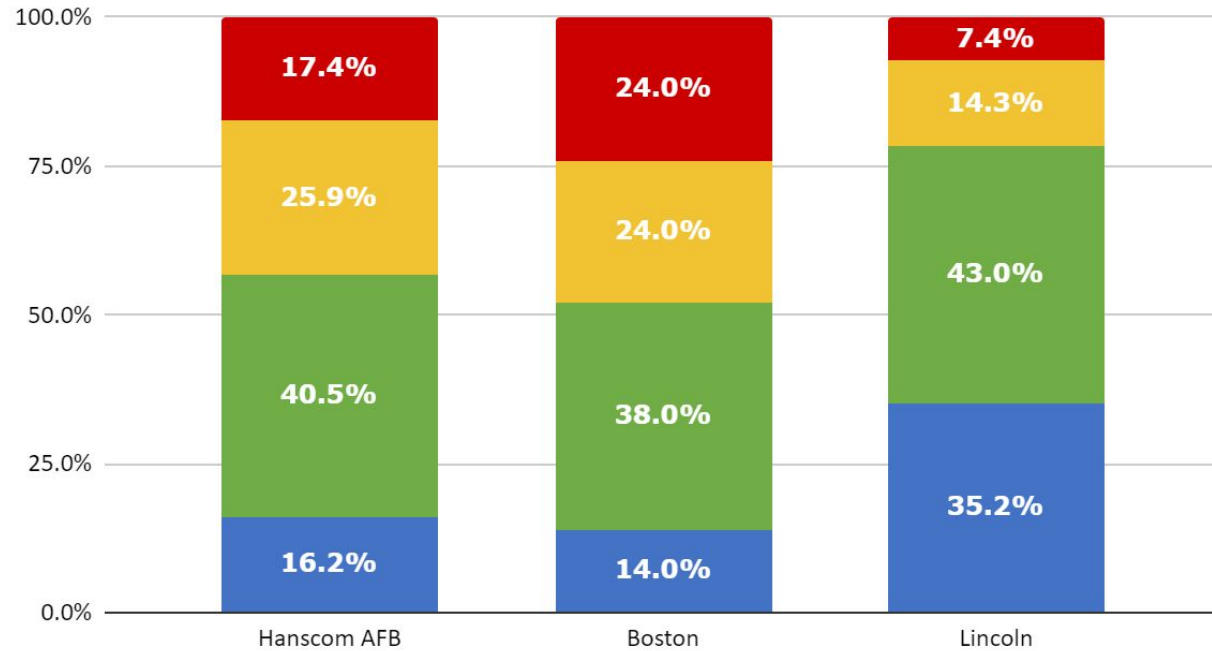


Literacy Gr 1-5 English Learners

Above benchmark
At benchmark
Approaching benchmark
Below benchmark

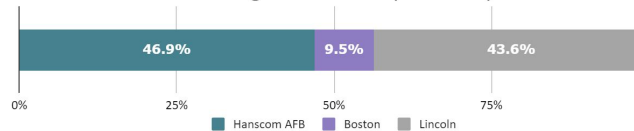


Literacy Gr 1-5 by Residency



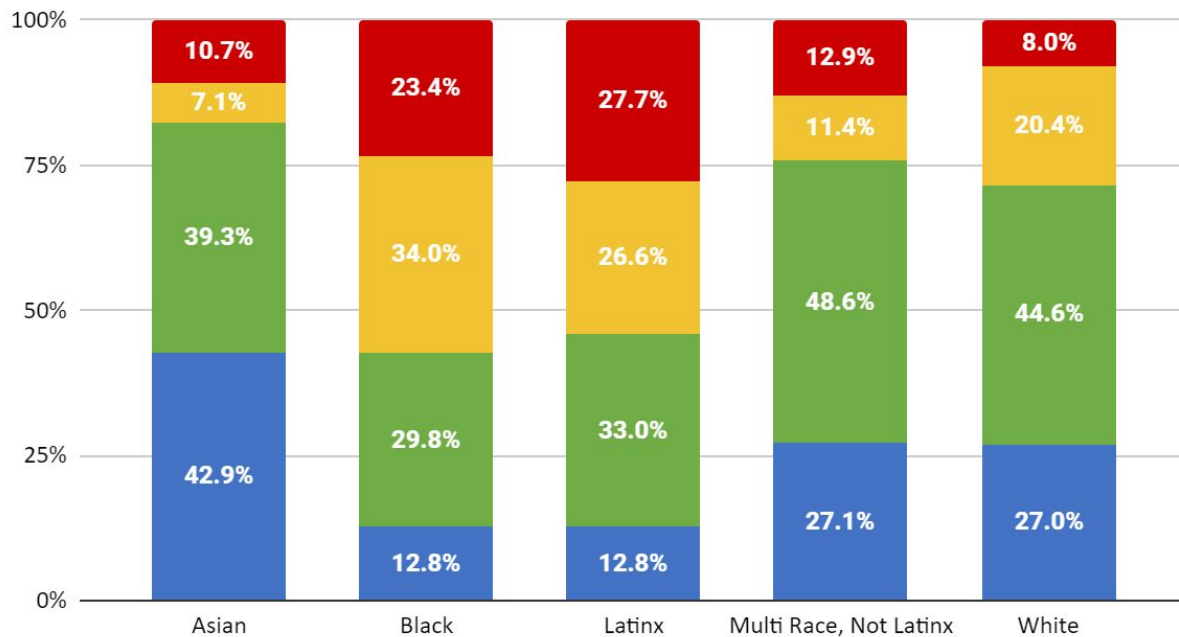
Above benchmark
At benchmark
Approaching benchmark
Below benchmark

Percentage of Students by Residency



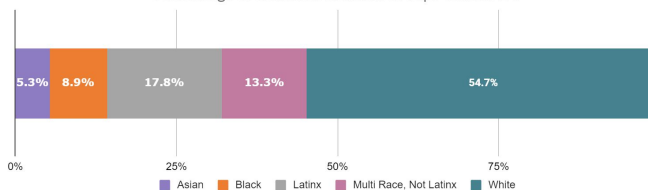
Students who live outside of Hanscom, Boston, or Lincoln have been removed to protect anonymity based on small n-sizes.

Literacy Gr 1-5 by Race



Above benchmark
At benchmark
Approaching benchmark
Below benchmark

Percentage of Students in Racial Groups Grades 1-5



Note: for comparison purposes, we are using DESE's definitions of Latinx and Multiracial, non-Latinx. Students who identify as American Indian or Alaska Native; or Native Hawaiian or Other Pacific Islander have been removed to protect anonymity based on small n-sizes.

Case Study 1: Below Benchmark →
Received Intervention → Demonstrated
Growth → Released

LNF	PSF	NWF/CLS	NWF/WRC	WRF/ORF	BAS
BoY	BoY	BoY	Boy	BoY WRF	Sept-Oct BAS
39	12	11	2	5	B

Case Study 1: Below Benchmark →
 Received Intervention → Demonstrated
 Growth → Released

LNF	PSF	NWF/CLS	NWF/WRC	WRF/ORF	BAS
BoY	BoY	BoY	Boy	BoY WRF	Sept-Oct BAS
39	12	11	2	5	B

Intervention Goal: Strengthening **letter/sound connections** and increasing **phonemic awareness skills** in support of word reading. (4 x 30 in a small group)

	Progress Monitoring	Progress Monitoring	Progress Monitoring		
11/23/21	38				
12/20/21	49	43	14		

Case Study 1: Below Benchmark →
 Received Intervention → Demonstrated
 Growth → Released

LNF	PSF	NWF/CLS	NWF/WRC	WRF/ORF	BAS																					
BoY	BoY	BoY	Boy	BoY WRF	Sept-Oct BAS																					
39	12	11	2	5	B																					
Intervention Goal: Strengthening letter/sound connections and increasing phonemic awareness skills in support of word reading. (4 x 30 in a small group)																										
	Progress Monitoring	Progress Monitoring	Progress Monitoring	<div>– Correct Letter Sounds (CLS)</div> <table><tr><td>47+</td><td>78+</td><td>87+</td></tr><tr><td>46</td><td>77</td><td>86</td></tr><tr><td>30</td><td>52</td><td>55</td></tr><tr><td>29</td><td>51</td><td>54</td></tr><tr><td>25</td><td>41</td><td>45</td></tr><tr><td>24</td><td>40</td><td>44</td></tr><tr><td>0</td><td>0</td><td>0</td></tr></table>		47+	78+	87+	46	77	86	30	52	55	29	51	54	25	41	45	24	40	44	0	0	0
47+	78+	87+																								
46	77	86																								
30	52	55																								
29	51	54																								
25	41	45																								
24	40	44																								
0	0	0																								
11/23/21	38																									
12/20/21	49	43	14																							
	MoY	MoY	MoY	MoY ORF	Dec-Jan BAS																					
1/4/22	45	39	12	7	D																					
	End PSF	EoY	EoY	EoY ORF	EoY BAS																					
5/31/22	52	52	7	51	J																					

Case Study 2: Below Benchmark →
Received Intervention → Progress on
Goal → New Intervention Goal

	Blending	Segmenting	NWF/CLS	NWF/WRC	ORF	BAS
BoY	4	4	25	3	43	F
Intervention Goal 1: Strengthening phonemic awareness and phonics (blends, digraphs, short vowels) in support of word reading. (5 x 30 during a push-in residency)						

“I can’t read.”

Case Study 2: Below Benchmark →
Received Intervention → Progress on
Goal → New Intervention Goal

	Blending	Segmenting	NWF/CLS	NWF/WRC	ORF	BAS
BoY	4	4	25	3	43	F
Intervention Goal 1: Strengthening phonemic awareness and phonics (blends, digraphs, short vowels) in support of word reading. (5 x 30 during a push-in residency)						
MoY	10	10	35	11	66	K

“I can’t read.”

Started to
see themself
as a learner!

Case Study 2: Below Benchmark →
Received Intervention → Progress on
Goal → New Intervention Goal

	Blending	Segmenting	NWF/CLS	NWF/WRC	ORF	BAS
BoY	4	4	25	3	43	F
Intervention Goal 1: Strengthening phonemic awareness and phonics (blends, digraphs, short vowels) in support of word reading. (5 x 30 during a push-in residency)						
MoY	10	10	35	11	66	K
Intervention Goal 2: Applying phonics skills to word reading in support of passage reading/connected text (5 x 30 during a push-in residency)						
Intervention Goal 3: Continued application of phonics skills to fluent passage reading/connected text (5 x 30 during a push-in residency)						
EoY			56	11	113	N

“I can’t read.”

Started to
see herself
as a learner!

“Be sure to
tell my dad
what I did
today!”

Case Study 2: Below Benchmark →
Received Intervention → Progress on
Goal → New Intervention Goal

	Blending	Segmenting	NWF/CLS	NWF/WRC	ORF	BAS
BoY	4	4	25	3	43	F
Intervention Goal 1: Strengthening phonemic awareness and phonics (blends, digraphs, short vowels) in support of word reading. (5 x 30 during a push-in residency)						
MoY	10	10	35	11	66	K
Intervention Goal 2: Applying phonics skills to word reading in support of passage reading/connected text (5 x 30 during a push-in residency)						
Intervention Goal 3: Continued application of phonics skills to fluent passage reading/connected text (5 x 30 during a push-in residency)						
EoY			56	11	113	N

"I can't read."

Started to
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tell my dad
what I did
today!"

Nonsense Word Fluency (NWF)						
Date	BoY BM		Mid-Year BM		EoY BM	
	CLS	WRC	CLS	WRC	CLS	WRC
Fall '21	3	29	35	11		
2/8			51	16		
3/14			52	16		
6/6					56	11

Oral Reading Fluency - ORF			
Date	BoY BM	MoY BM	EoY BM
Fall '21	43		
2/8		106	
3/21		117	
3/30		92	
5/25			95
6/6			113

Placement Assessment for Bridge the Gap Intervention Lessons		Date 2/1	Date Post Score
Phoneme Isolation	Initial Sound	6	
	Final Sound	6	
	Medial Sound	6	
Blending & Segmenting	Blending Syllables	6	
	Blending Phonemes	4	10
	Segmenting Syllables	5	
	Segmenting Phonemes	4	10

Case Study 3: Below Benchmark →
Received Intervention → IST → Evaluation

	PSF	NWF/CLS	NWF/WRC	WRF/ORF	BAS
BoY	1	10	0	1	A
Intervention Cycle 1	Goal: Strengthening letter/sound connections & phonemic awareness skills. (4 x 30/small group) Shifted from small group to 1-1 mid-cycle <ul style="list-style-type: none"> Increased Letter Sounds from 17 at mid-cycle to 23 of 26 at end of cycle 10 of 49 kindergarten snap words at mid-cycle to 27 of 49 at end of cycle 				

Case Study 3: Below Benchmark →
Received Intervention → IST → Evaluation

	PSF	NWF/CLS	NWF/WRC	WRF/ORF	BAS
BoY	1	10	0	1	A
Intervention Cycle 1	Goal: Strengthening letter/sound connections & phonemic awareness skills. (4 x 30/small group) Shifted from small group to 1-1 mid-cycle <ul style="list-style-type: none"> Increased Letter Sounds from 17 at mid-cycle to 23 of 26 at end of cycle 10 of 49 kindergarten snap words at mid-cycle to 27 of 49 at end of cycle 				
<u>MoY</u>	28	33	5	3	B
Intervention Cycle 2	Goal: to strengthen phonemic awareness, phonics, and snap words to read leveled texts. (5 x 30/small group, transitioned to 1-1 at mid-cycle) <ul style="list-style-type: none"> Able to consistently blend and segment words with 3 and 4 sounds. 81 of the first 94 first grade snap words 				

Case Study 3: Below Benchmark →
Received Intervention → IST → Evaluation

	PSF	NWF/CLS	NWF/WRC	WRF/ORF	BAS
BoY	1	10	0	1	A
Intervention Cycle 1	Goal: Strengthening letter/sound connections & phonemic awareness skills. (4 x 30/small group) Shifted from small group to 1-1 mid-cycle <ul style="list-style-type: none">Increased Letter Sounds from 17 at mid-cycle to 23 of 26 at end of cycle10 of 49 kindergarten snap words at mid-cycle to 27 of 49 at end of cycle				
<u>MoY</u>	28	33	5	3	B
Intervention Cycle 2	Goal: to strengthen phonemic awareness, phonics, and snap words to read leveled texts. (5 x 30/small group, transitioned to 1-1 at mid-cycle) <ul style="list-style-type: none">Able to consistently blend and segment words with 3 and 4 sounds.81 of the first 94 first grade snap words				
IST was initiated due to slow rate of progress given the level of support, and effort by child. Evaluation is supported by IST Team and Family					

Case Study 3: Below Benchmark →
Received Intervention → IST → Evaluation

	PSF	NWF/CLS	NWF/WRC	WRF/ORF	BAS
BoY	1	10	0	1	A
Intervention Cycle 1	Goal: Strengthening letter/sound connections & phonemic awareness skills. (4 x 30/small group) Shifted from small group to 1-1 mid-cycle <ul style="list-style-type: none">Increased Letter Sounds from 17 at mid-cycle to 23 of 26 at end of cycle10 of 49 kindergarten snap words at mid-cycle to 27 of 49 at end of cycle				
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IST was initiated due to slow rate of progress given the level of support, and effort by child. Evaluation is supported by IST Team and Family					
Intervention Cycle 3	Goal: Phonics & phonemic awareness skills (5 x 30/1-1) <ul style="list-style-type: none">85 of the 142 first grade snap wordsLevel D books with independent accuracy and comprehension				
EoY	36	43	9	24	D

Case Study 3: Below Benchmark → Received Intervention → IST → Evaluation

	PSF	NWF/CLS	NWF/WRC	WRF/ORF	BAS
BoY	1	10	0	1	A
Intervention Cycle 1	Goal: Strengthening letter/sound connections & phonemic awareness skills. (4 x 30/small group) Shifted from small group to 1-1 mid-cycle <ul style="list-style-type: none">Increased Letter Sounds from 17 at mid-cycle to 23 of 26 at end of cycle10 of 49 kindergarten snap words at mid-cycle to 27 of 49 at end of cycle				
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Intervention Cycle 2	Goal: to strengthen phonemic awareness, phonics, and snap words, to read leveled texts. (5 x 30/small group, transitioned to 1-1 at mid-cycle) <ul style="list-style-type: none">Able to consistently blend and segment words with 3 and 4 sounds.81 of the first 94 first grade snap words				
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Intervention Cycle 3	Goal: Phonics & phonemic awareness skills (5 x 30/1-1) <ul style="list-style-type: none">85 of the 142 first grade snap wordsLevel D books with independent accuracy and comprehension				
EoY	36	43	9	24	D

Unit 1	Words (49)	Unit 2	Words (22)	Unit 3	Words (23)	Unit 4	Words (23)	Unit 5	Words (25)	Total
11/15	19									19
12/7/22	20									20
2/17/22	44	2/17/22	7							51
4/1/22	49	4/1/22	20	4/1/22	12					81
5/5/22	49		22		12		1		1	85
6/8/22	49		22		15		14		4	104

Date	NWF		Mid-Year BM		End of Year BM	
	Beg of Year BM CLS	WRC	CLS	WRC	CLS	WRC
Sept	10	0				
11/23/21	24	0	24	0		
DIBELS	33	5	33	5		
2/11	21	5	21	5		
3/4	21	5	21	5		
3/11	29	9	29	9		
3/21/22	31	9	31	9		
5/9			41	10	41	10
EoY Dibels					43	9

Date	12/9/21	12/16/21	1/25/22	2/7/22	3/1/22	3/8/22	3/14/22	4/27/22	4/29/22	5/16/22
Title	Bubbles	Boots and Shoes	Mell on the Stairs	Big Lizard in the Little Lizard	A Day at the Park	The Drip	Up in a Tree	A Picnic in the Rain	A Surprise for Romy	Bullfrog
Hot/Cold	Cold	Cold	Cold	Cold	Cold	Hot	Cold	Hot	Cold	Cold
F/NF	NF	NF	NF	F	F	F	F	F	F	F
Ind/Inst/Hard	Inst	Inst	Ind	Inst	Ind	Inst	Inst	Ind	Inst	Inst
Accuracy %	92%	92%	95%	94%	96%	93%	92%	99%	93%	92%
SC Ratio	1:0	1:3	1:6	1:4	1:0	1:0	1:3	1:1	1:5	1:4
Fluency WPM	2	2	2	2		1	1	2	1	2
Comprehension	4				5	4	3	4	4	
Within the Text					3	3		2	2	
Beyond/About					2	1		2	2	
J										
June BM - I										
H										
Mar. BM - G										
F										
Dec. BM - E										
D						Inst	Inst	Ind	Inst	Inst
Sept. BM - C			Ind	Inst	Ind					
B	Inst	Inst								
A										
Date			1/25/22	2/7/22	3/1/22	3/8/22	3/14/22	4/27/22	4/29/22	5/16/22

OUR LEARNING



- Looking at data at a higher level we confirmed that our internal assessments showed similar gaps as to statewide MCAS assessment
- Student performance categories change across the course of the year and there can be a significant range of progress within a single category. How do we accurately represent the dynamic nature of our students' learning?
- How do we represent that our set of students shift (students that have moved in or out of LPS) and so data at any point in the year includes a different set of students?
- Even very quick assessments that are not necessarily share-worthy in isolation can help tell a story when aggregated with others to paint a fuller picture.

MOVING FORWARD

- Replicate our process three times a year, sharing findings with faculty and administrators and use the trends to ensure students and families are getting what they need
- Identify ways to notice how students are growing across the year, not just an overall “bucket”
- Consider how to include Kindergarten and grades 6-8 in helpful ways
 - Math: Identify ways to track Number Sense and Operations strands across years; consider tweaks to items on assessments we include in the “roll-up” for clarity of data
 - Literacy: Consider how to incorporate encoding into literacy DLAP
- Identify how to aggregate data across the year to contribute to Key Yearly Measure data