A Goal Monitoring Conversation:

PPS 3rd Grade Mathematics

Status Update



Dr. Wayne N. Walters & Leadership Team

May 13, 2025

Pittsburgh Public Schools

Students first
Always, in all ways.

Goal – 3rd Grade Mathematics Proficiency

Why?

In 3rd grade, students use mathematical models and strategies to solve multi-step problems, and literacy and mathematics work together to build competence, confidence, and a positive math identity. This grade is crucial for applying mathematical concepts in real world settings. Despite recognizing existing racial and disability disparities in math outcomes, we find that proficiency is lower than in English Language Arts, indicating a need for focused improvement.

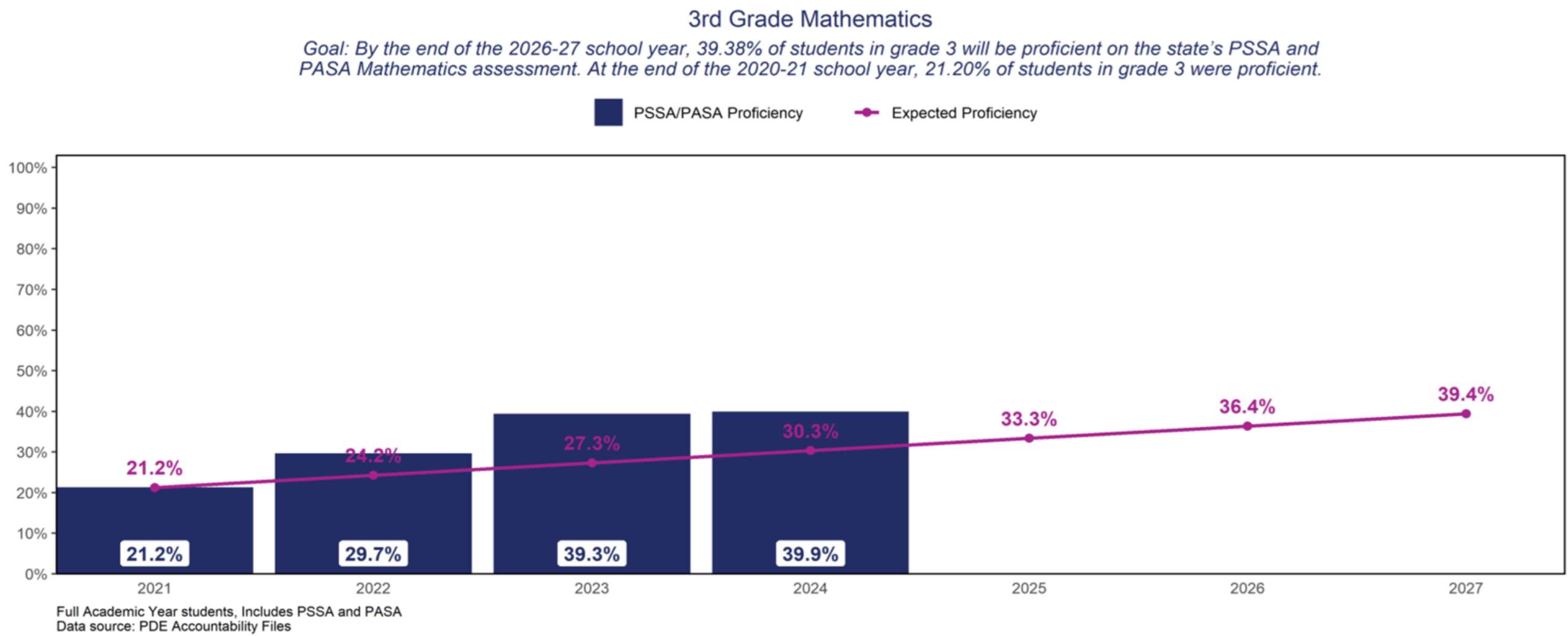
What?

By the end of the 24-25 school year, 33.3% of students in grade 3 will be proficient on the state's PSSA and PASA Mathematics assessment. At the end of the 20-21 school year, 21.2% of third-grade students were proficient, establishing the baseline for our 5-year goal of achieving 39.4% by 2027.

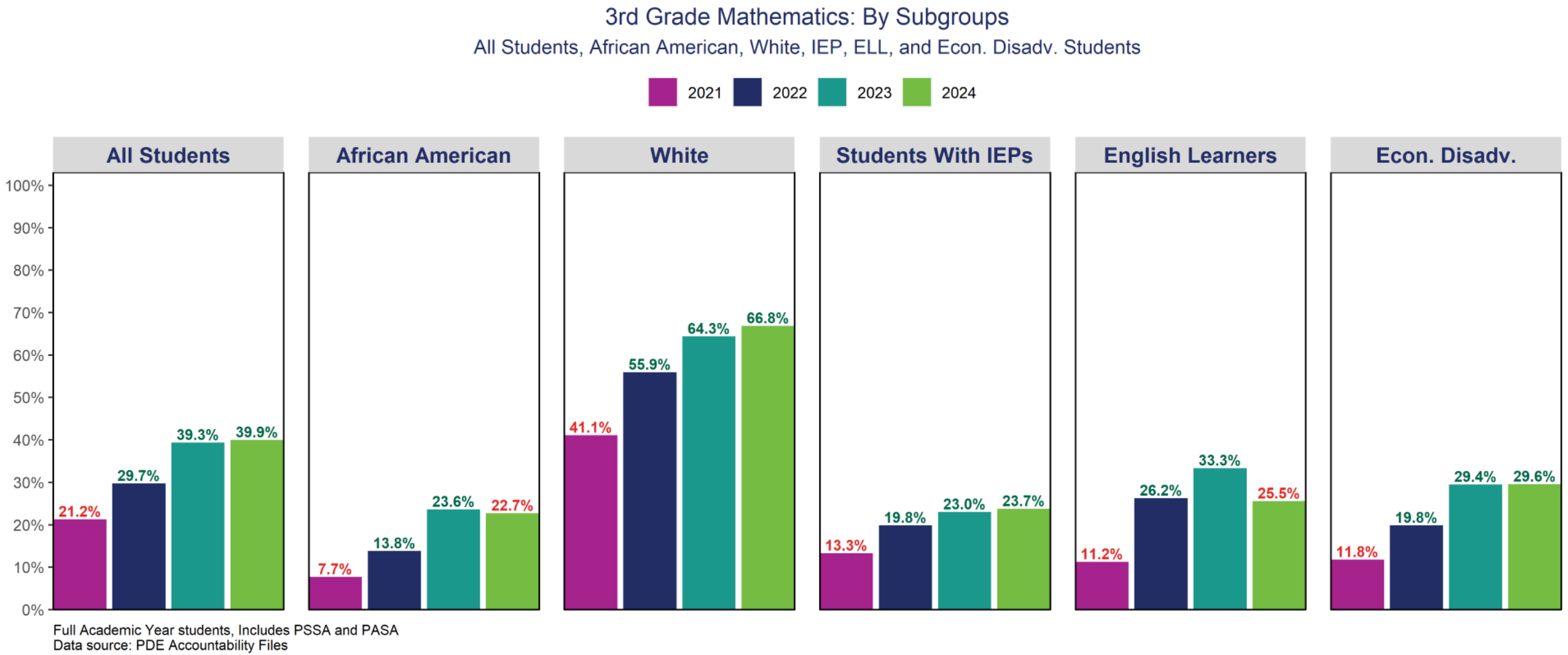
How?

PA Classroom Diagnostic Tool (CDT), 3 administrations

Goal – 3rd Grade Math Proficiency (By Year)



Goal – 3rd Grade Math Proficiency (By Subgroups)



Full Academic Year students, Includes PSSA and PASA
Data source: PDE Accountability Files

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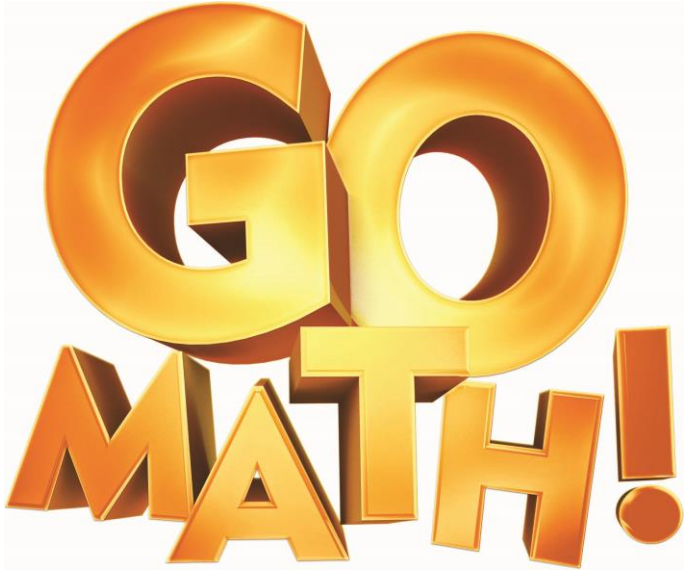
Adoption of New Instructional Materials



Illustrative Mathematics®
LEARN MATH FOR LIFE

	GoMath	Illustrative Mathematics
Focus & Coherence	Partially Meets Expectations in 2/9 grade levels (K-8)	Perfect Rating for all grade levels (K-8)
Rigor & Mathematical Practices	Partially Meets Expectations for all grade levels (K-8)	Perfect Rating for all grade levels (K-8)

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3rd Grade Math CDT Results – 3rd Administration (Fall, Winter, & Spring)

CDT Results by Grade										
Assessment	Assessment Window	Assessment Completion			Red Range	Green (Below Midpoint)	Green (Above Midpoint)	Blue Range	Likely Proficient or Advanced	Increase/Decrease in % of Students Performing At/Above Grade Level
		Completed	Required	Rate						
Grade 3 Mathematics	Fall	1332	1378	96.7%	93.5%	4.6%	1.1%	0.8%	1.9%	
	Winter	1369	1405	97.4%	87.6%	8.4%	2.8%	1.4%	4.2%	5.9%
	Spring	1366	1405	97.2%	78.5%	13.5%	5.6%	2.4%	8.0%	9.1%

3rd Grade Math CDT Subgroup Results – Fall, Winter, & Spring

CDT Results by Subgroup											
Assessment	Sub Group	Assessment Window	Assessment Completion			Red Range	Green (Below Midpoint)	Green (Above Midpoint)	Blue Range	Likely Proficient or Advanced	Increase/Decrease in % of Students Performing At/Above Grade Level
			Completed	Required	Rate						
	Black	Fall	641	664	96.5%	98.4%	1.1%	0.5%	0.0%	0.5%	
	Black	Winter	655	673	97.3%	95.9%	3.2%	0.9%	0.0%	0.9%	2.5%
	Black	Spring	653	671	97.3%	91.4%	6.6%	2%	0%	2%	4.5%
	White	Fall	397	402	98.8%	84.4%	10.8%	2.3%	2.5%	4.8%	
	White	Winter	405	411	98.5%	72.1%	17.2%	6.7%	4.0%	10.7%	12.3%
	White	Spring	404	407	99.3%	57.9%	23.6%	11.6%	6.9%	18.5%	14.2%

3rd Grade Math CDT Subgroup Results – Fall, Winter, & Spring

CDT Results by Subgroup											
Assessment	Sub Group	Assessment Window	Assessment Completion			Red Range	Green (Below Midpoint)	Green (Above Midpoint)	Blue Range	Likely Proficient or Advanced	Increase/Decrease in % of Students Performing At/Above Grade Level
			Completed	Required	Rate						
Grade 3 Mathematics	IEP	Fall	330	348	94.8%	97.9%	1.2%	0.6%	0.3%	0.9%	
	IEP	Winter	338	354	95.5%	95.6%	3.2%	0.6%	0.6%	1.2%	2.3%
	IEP	Spring	332	347	95.7%	91.6%	6.6%	0.9%	0.9%	1.8%	4%
	ELL	Fall	168	184	91.3%	98.8%	1.2%	0.0%	0.0%	0.0%	
	ELL	Winter	187	197	94.9%	92.5%	7.0%	0.5%	0.0%	0.5%	6.3%
	ELL	Spring	188	203	92.6%	83.5%	13.3%	2.7%	0.5%	3.2%	9.0%
	Econ Dis	Fall	885	916	96.6%	98.4%	1.4%	0.2%	0.0%	0.2%	
	Econ Dis	Winter	906	936	96.8%	94.7%	4.5%	0.7%	0.1%	0.8%	3.7%
	Econ Dis	Spring	904	933	96.9%	89.4%	8.1%	2.4%	0.1%	2.5%	5.3%

Superintendent's Evaluation of the Data

Are We on Track to Meet This Year's Goal?

- The 3rd CDT results (8.0% Likely Proficient or Advanced) are lower than the past two years (11.4% in 2022-23, 9.1% in 2023-24).
- The PSSA Proficiency results we anticipate will be slightly lower than prior years (39.3% in 2022-23, 39.9% in 2023-24), however, we should still surpass our goal.

Trends in Students Performing on Grade Level

- 3rd CDT "On Grade Level" rates (21.5%) are slightly lower than past years (23.1% in 2023-24, 24.2% in 2022-23).
- We anticipate PSSA proficiency data to be slightly below the previous two years, however we should still surpass our goal.

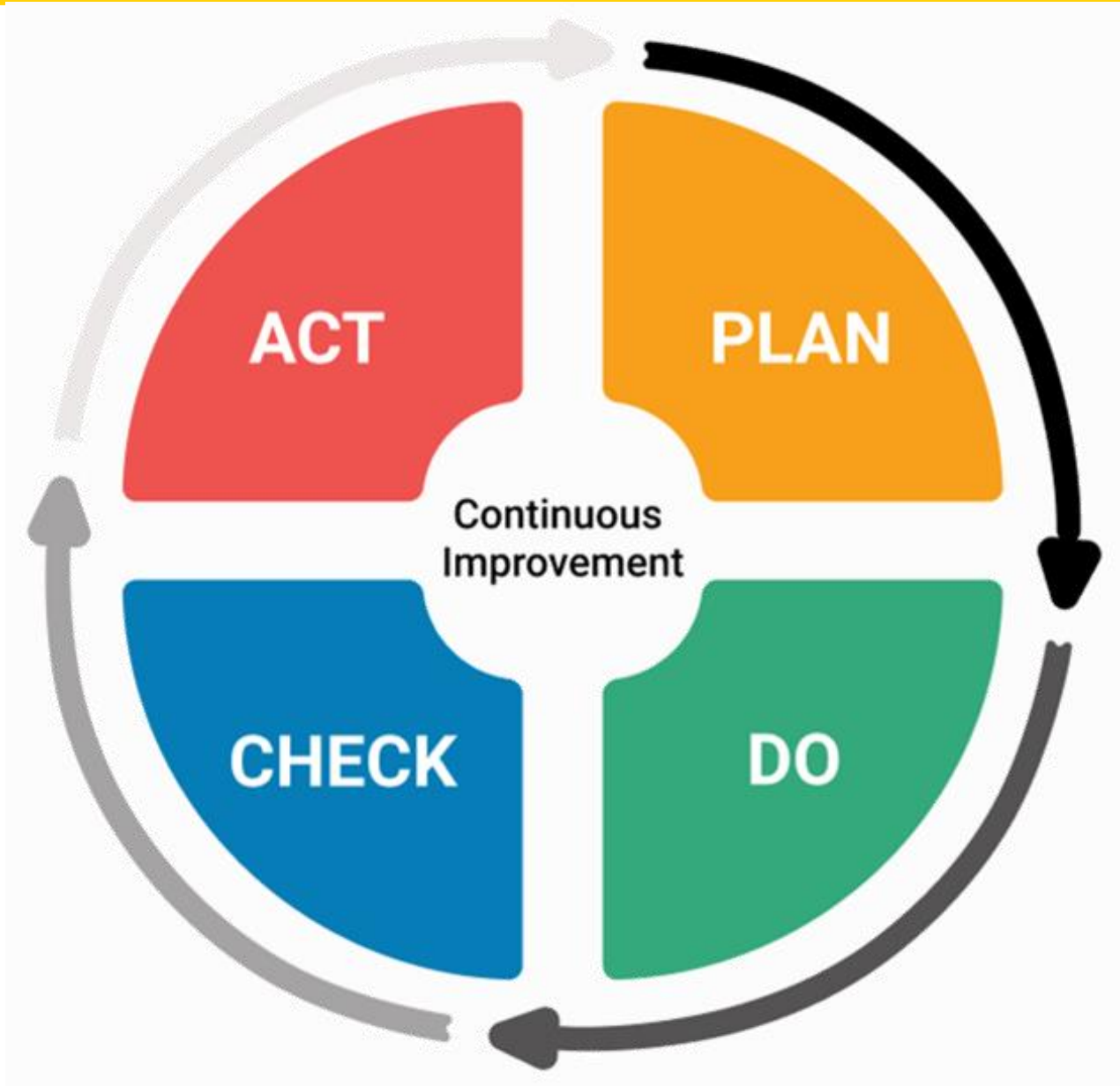
Key Takeaways:

- The latest 3rd CDT results (8.0% likely proficient or advanced) show a modest decrease from prior years, offering an important opportunity to target support where it's most needed.
- While we anticipate a slight dip in this year's PSSA proficiency results compared to previous years, we are still on pace to meet our annual goal.
- Overall performance trends remain relatively stable, and we are using these insights to make timely adjustments that will help maximize student growth through the remainder of the year.

School Year	2nd CDT Likely Prof/Adv	3rd CDT Likely Prof/Adv	PSSA Proficiency
22-23	5.5%	11.4%	39.3%
23-24	4.7%	9.1%	39.9%
24-25	4.2%	8.0%	Goal-33.4%

School Year	2nd CDT Grade Level and Above	3rd CDT Grade Level and Above	PSSA Proficiency
22-23	14.1%	24.2%	39.3%
23-24	13.6%	23.1%	39.9%
24-25	12.4%	21.5%	Goal-33.4%

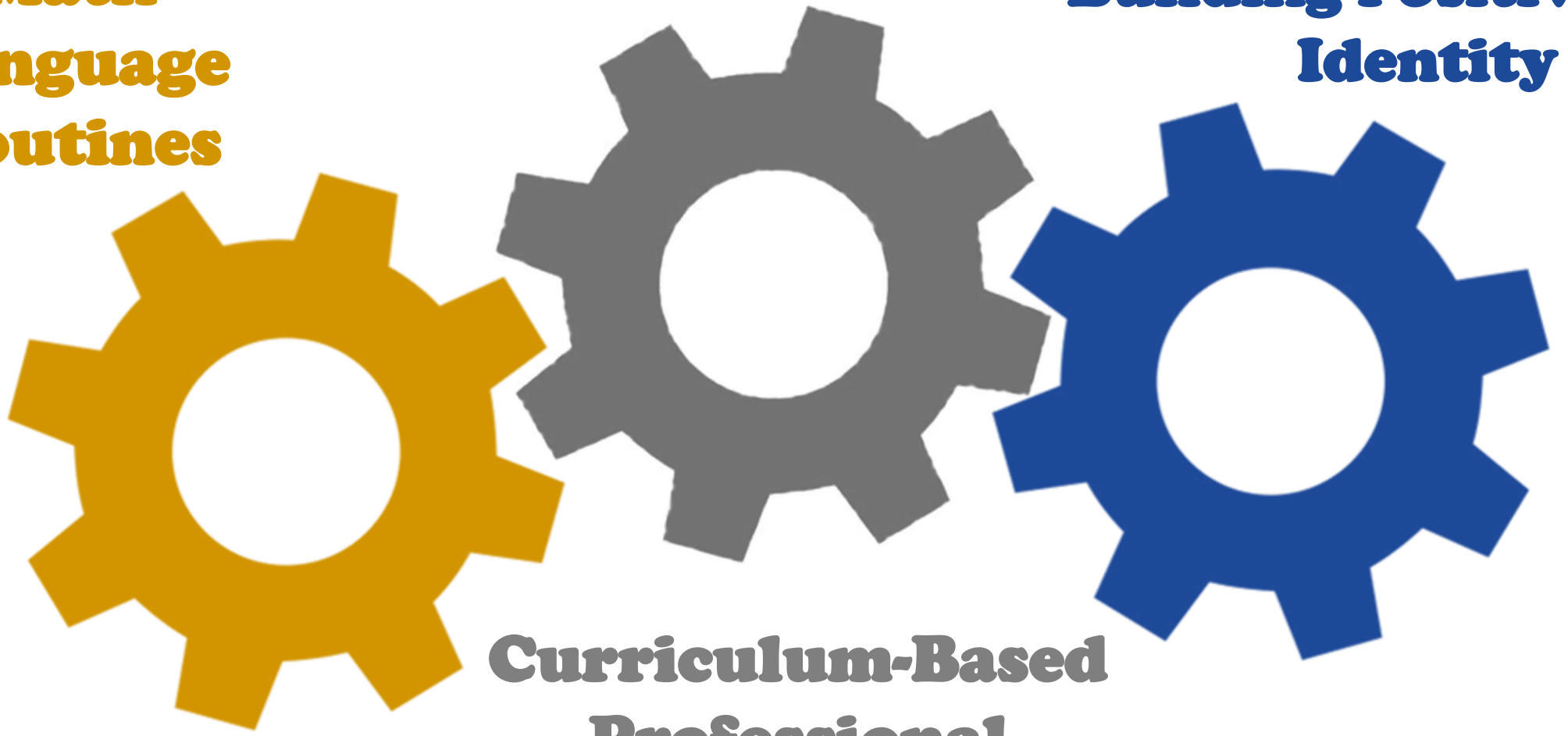
Strategy and Plan



Strategies

Math Language Routines

Building Positive Math Identity



Curriculum-Based Professional Learning

Implementation Timeline

January 2025

- 1/14/2025 — Presentation of 3rd Grade Math Goal, Education Committee
- 1/7/25 and 1/9/25 — Leading and Learning Institute for Principals: Curriculum-Based PL
- 1/26/2025 — District Professional Learning
- Grade 3 Coaching Cycles Continue

February 2025

- 2/11/25 and 2/13/25 — Learning and Leadership Institute for Principals-Math Language Routines
- 2/7/25 — Grade 3 Unit 5 Unpacking Professional Learning
- 2/21/25 — Grade 3 Unit 6 Unpacking Professional Learning
- Grade 3 Coaching Cycles Continue

March 2025

- 2/24/2025 – 3/7/2025 — EOY Administration of CDT
- 3/7/25 — Grade 3 Curriculum-Based Professional Learning
- 3/21/2025 — Grade 3 Unit 7 Unpacking Professional Learning
- Math Norms Posters distributed to all grade 3 classrooms
- MLR Posters distributed to all grade 3 classrooms
- Grade 3 Coaching Cycles Continue

April 2025

- Sharing of Family Math Night Resources
- Grade 3 Coaching Cycles Continue
- 4/28/25-4/30/25 PSSA Math Assessment

Board Meetings
Administration of Assessments
Strategy 1
Strategy 2
Strategy 3

Strategy #1 – Building Positive Math Identity

By building a strong math identity, we can empower African American students to reach their full potential in math and beyond.

Key Components of This Strategy:

Creating and implementing universal math norms in all PPS classrooms to establish a positive and inclusive learning environment.
Developing and delivering targeted mini-lessons that align with these norms, helping students build confidence and a growth mindset.
Intentionally modeling identity-building strategies during Unit Unpacking professional learning sessions to equip educators with the tools to support students' mathematical journeys.
Utilize Student Survey data to track student perceptions of themselves as math learners over time so that teachers can reflect on instructional practices and work to create a positive and inclusive learning environment that fosters the development of strong math identities

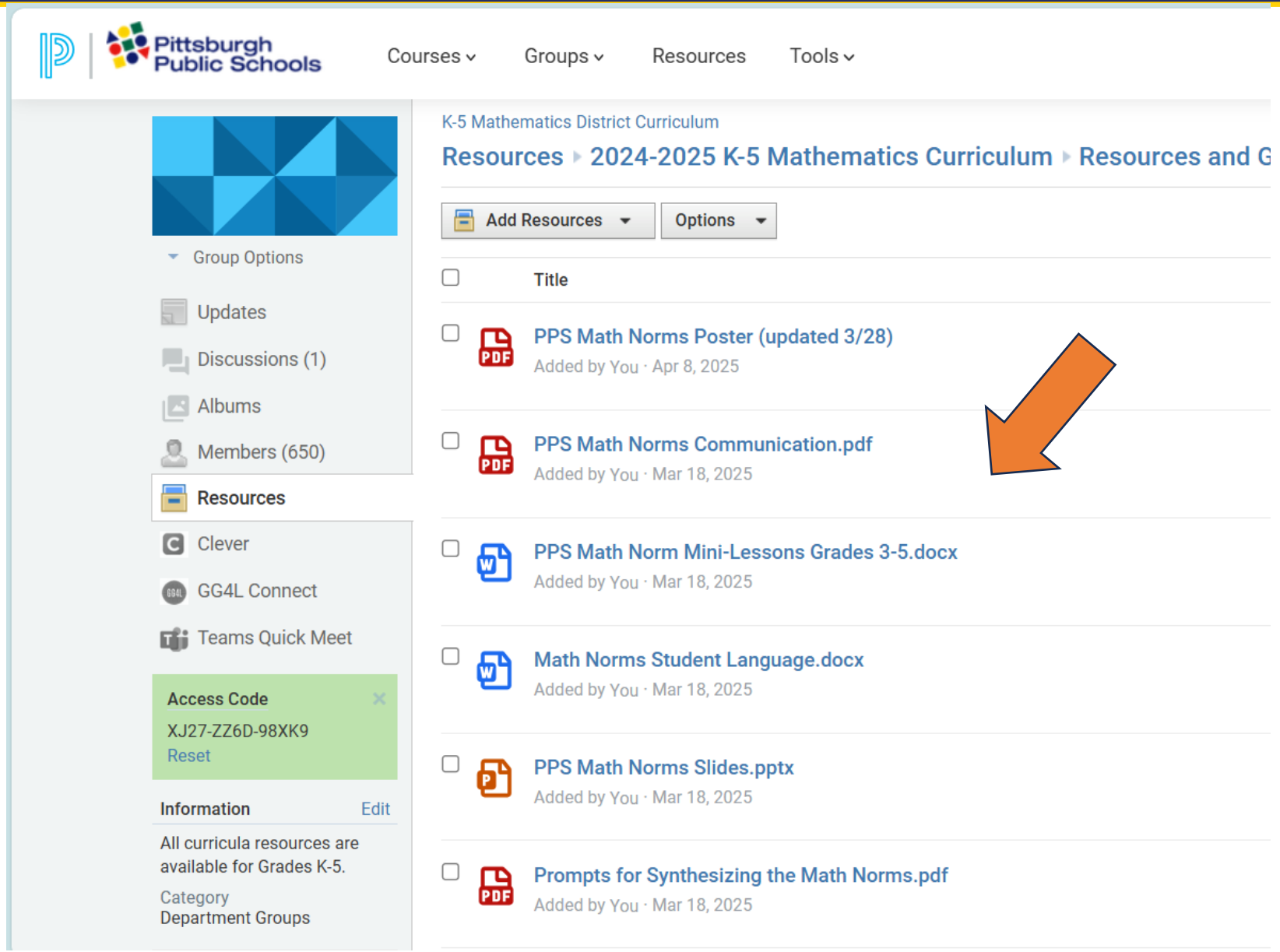
Rationale: Currently our African American subgroup is our lowest performing subgroup. Building a positive math identity is crucial for the academic success of all students, including African American students. It can support their achievement in the following ways: Challenging Stereotypes, Encouraging Persistence, Increasing Engagement, Promoting Critical Thinking, and Developing Future Pathways.

Strategy #1 – Building Positive Math Identity

Strategy #1: (Do)

- Developed and introduced universal math norms during March third-grade unit unpacking sessions.
- Shared aligned mini-lessons via the Schoology curriculum group and modeled them during professional learning sessions.
- Administered a mid-year student survey to gather feedback on students' math learning experiences.
- Delivered job-embedded professional learning through Mathematics Academic Coaches to support inclusive and positive classroom cultures.
- Facilitated targeted professional learning for principals to strengthen their ability to support teachers in fostering inclusive math environments.

Strategy #1 – Building Positive Math Identity



Strategy #1 – Building Positive Math Identity

Strategy #1 Growth and Challenges (Check):

- **Implementation Observation:** Math walks revealed encouraging signs: third-grade teachers demonstrated the highest gains districtwide in cultivating a positive and inclusive classroom environment—rising from 29% at the start of the year to 66% mid-year.
- **Measurement of Math Identity:** Math walks revealed encouraging signs: third-grade teachers demonstrated the highest gains districtwide in cultivating a positive and inclusive classroom environment—rising from 29% at the start of the year to 66% mid-year.
- **Demographic Data Collection:** The survey itself used just one broad question, limiting our insight into the depth of students' math identities. We also faced a drop in survey responses and lacked disaggregated demographic data, which hindered our ability to analyze growth for specific student subgroups.

Strategy #1 Next Steps (Act):

- **Implementation Observation:** Future efforts will be tailored towards improving our survey tools to more accurately capture students' math identities and allow disaggregation by race and other demographics. This will help us track our impact more clearly.
- **Academic Coaches:** Academic Coaches will continue providing targeted support, with an even stronger focus on inclusive instruction and identity development.
- **Monitoring Implementation:** School leaders will take a more active role in monitoring classroom implementation, while professional learning will further reinforce the connection between math identity and academic success.

Strategy #2 – Curriculum-Based Professional Learning

This strategy focuses on professional learning that equips our school leaders and educators with the skills and confidence to effectively implement the district's new problem-based math curriculum.

Key Components of this Strategy:

Create an ongoing, cohesive series system of professional learning and support for school leaders through collaboration with the Assistant Superintendents to be delivered through monthly LLI meetings, and individualized support.

Implement an ongoing, cohesive series system of curriculum-based professional learning and support for teachers that expands opportunities for curriculum-based professional learning in the form of unit unpacking sessions.

Provide train-the trainer sessions to building-based math leaders. The sessions will be conducted in PLCs, or on building-based half days. **Deploy math coaches to support teachers** with implementation of the new problem-based curriculum through professional learning, focused coaching cycles, and individualized flexible support.

Rationale: We are currently in our first year of implementing a new problem-based math curriculum. Implementing a new curriculum requires sustained, collaborative support to master the specific standards, routines, and tasks of each grade level. Data from math walks and from teacher feedback indicates a need for support in implementation of the new problem-based approach.

Strategy #2- Curriculum Based Professional Learning

Strategy #2: (Do)

- Facilitated three professional learning sessions for principals in January and February to strengthen their capacity to support curriculum implementation.
- Shifted third-grade unit unpacking sessions to district-wide half-days, resulting in a notable increase in teacher participation.
- Focused math coaching efforts on third grade through job-embedded support and close collaboration with teachers.
- Provided a suite of planning and instructional resources through the Schoology platform to support classroom implementation.
- Conducted mid-year math walks to monitor the use and effectiveness of the problem-based curriculum in classrooms.

Strategy #2 – Curriculum-Based Professional Learning

*** Leading and Learning Institutes for Principals**

Leading the Charge: Supporting Teachers in *Cultivating Positive and Inclusive Classroom Communities*

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The Why Behind the What: Preparing Our Students for Success on the PSSA and Beyond

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Supporting Teachers to Implement Math Language Routines;

MLR 2 Collect and Display,
MLR 5 Co-craft Questions and Problems,
and MLR 6 Three Reads

LLI
February 11 and 13, 2025

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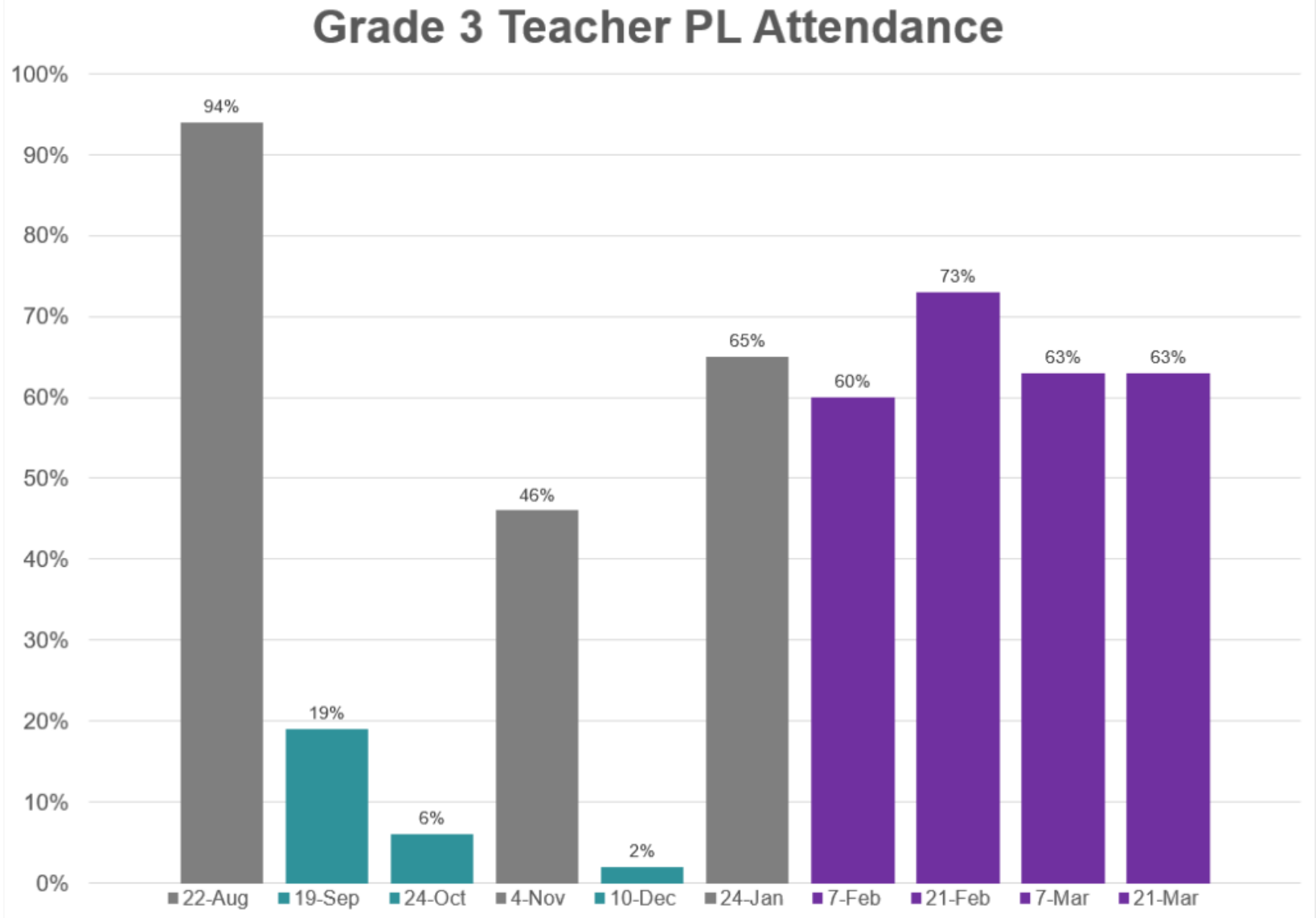

= Required district-wide PL days

= Optional Unpacking Sessions Prior to Goal Monitoring

= Prioritized through 3rd grade Goal Monitoring

Strategy #2 – Curriculum-Based Professional Learning

Strategy #2 Growth and Challenges (Check):

- **Math Walks:** Mid-year math walks showed clear improvement in third grade. For example, the percentage of classrooms where students had time to share their math thinking grew from 32% to 71%. And the use of the curriculum's problem-based structure increased from 35% to 66%. Additionally, 93% of coaching cycle goals were met, and teachers who engaged more deeply in professional learning consistently demonstrated stronger instructional practice.

- **Competing Initiatives and Time Constraints:** Professional learning sessions on several Math Language Routines had to be postponed due to competing district priorities. 3 of 8 were completed for principals and 6 of 8 were completed for teachers.

- **Math Coach Caseloads:** With only five math coaches supporting over 400 elementary teachers—each serving 80 to 95 educators—it has been challenging to provide the individualized support teachers need while learning a new curriculum.

Strategy #2 Next Steps (Act):

- **Competing Initiatives and Time Constraints:** Moving forward, we must find creative ways to systematically support all needs. Ensuring consistent and comprehensive support for both teachers and leaders is crucial to the improvement of teaching and learning.

- **Math Coach Caseloads:** Future school reconfiguration efforts offer an opportunity to expand the math coaching program, enabling the provision of necessary coaching support to all educators.

Strategy #3 – Math Language Routines

Math Language Routines (MLRs) were specifically developed with English Language Learners in mind but are beneficial to all students. MLRs develop mathematical language and reasoning skills, alongside English language proficiency. MLRs provide opportunities for students to communicate their thinking clearly and concisely, listen actively to others' ideas and build on them, use precise mathematical language to describe concepts and procedures, connect mathematical ideas to real-world contexts, and reason critically about mathematical problems and solutions.

Key Components of the Strategy:

Design and Share Visual Models: Create clear, accessible visual models outlining the 8 Math Language Routines. These models will be posted in every third-grade classroom, serving as a guide for teachers and students.

Professional Learning and Support: Curriculum-based professional learning will be provided to teachers so that they feel confident with facilitating Math Language Routines. The routines will be modeled, one at a time, in Unit Unpacking sessions, through coaching cycles, and in the School-based Math Leader train-the-trainer sessions.

Family Support: Schools will teach families how to use the *Three Reads Math Language Routine* to support their student with making sense of and solving word problems.

Rationale: Third-grade math often challenges students with language-based tasks like understanding real-world problems and explaining their solutions. Math Language Routines can help students navigate these language-based hurdles and make math more accessible and engaging. These routines will support the district's growing English Learner population.

Strategy #3- Math Language Routines

Strategy #3: (Do)

- We designed and distributed classroom posters illustrating all eight Math Language Routines to every third-grade classroom in the District.
- Delivered professional learning sessions from January to March for teachers and principals to introduce and model the use of MLRs.
- Shared facilitation guides and ready-to-use slides on Schoology to support implementation during team meetings and PLCs.
- Provided schools with handouts and presentation materials to incorporate MLRs into Family Math Night events.

MATH LANGUAGE ROUTINES

MLR1: STRONGER AND CLEARER EACH TIME

This MLR will help us to explain our math ideas more clearly. We will practice speaking and writing about math with our classmates. They will help us to make our explanations stronger and clearer by using drawings, precise math language, examples, equations, and by comparing our answers.

1. FIRST DRAFT
Read the math prompt and write a first draft on your paper. Be ready to share your writing, drawing, or answer with a partner.

2. SHARE IDEAS WITH A PARTNER
Each partner takes a turn as the speaker and as the listener sharing the first draft. Listeners should ask questions and give their partner suggestions.

3. SECOND DRAFT
Take time to write a second draft. Your second draft should include borrowed ideas from your partner and be stronger and clearer than your first draft.

4. REPEAT
Repeat steps 2 and 3 until you havemet with at least 2-3 partners. Then write your final draft. Compare your final draft to your first draft. How did you make it stronger and clearer?

MATH LANGUAGE ROUTINES

MLR2: COLLECT AND DISPLAY

This MLR will help us to keep track of the language we are using to share our mathematical ideas. The teacher will collect our words, phrases, and even sometimes pictures and display them for us to use in our future conversations and explanations. This routine will help us to build more precise mathematical language.

1. COLLECT
The teacher will listen while students work in pairs, groups, or even during whole class discussions.

The teacher jots down the words and phrases students use, together with helpful sketches or diagrams.

2. DISPLAY
The teacher will display the words in a place where everyone can see them and refer to them. As we learn more, we can add new words or change the old ones to make them even better.

MATH LANGUAGE ROUTINES

MLR3: CLARIFY, CRITIQUE, CORRECT

This MLR will help us to improve our mathematical reasoning and explanations. By practicing this routine, we will get better at catching errors, at critiquing the work of others, and at reflecting on how to make our own explanations better.

1. ANALYZE THE WORK
Read the math work provided by the teacher. What parts of this response are unclear, incorrect, or incomplete? Perhaps there is an incorrect answer or maybe they had an unclear or confusing way to explain something.

2. PARTNER DISCUSSION
With your partner, talk about what the author might have been thinking.

"What does this part mean?"
"Why did they do it that way?"
"Is there another way to solve it?"
"How could we make the explanation clearer?"

3. IMPROVE IT
Write a new, correct version of the answer and explanation. Make sure your new version is clear and easy to understand.

MATH LANGUAGE ROUTINES

MLR4: INFO GAP

This routine helps us learn to communicate by giving one student information that their partner needs to solve a problem. It encourages students to think about the context of a problem and what information is needed in order to solve it. To solve the problem, students must work together by asking questions, listening carefully, and explaining their thinking.

PROBLEM CARD STUDENT
Silently read the problem card.

DATA CARD STUDENT
Silently read the data card.

Can you tell me the _____
(Ask for a specific piece of information)

Why do you need to know _____?
(Repeat the information requested)

I need to know _____ because..
(Listen to your partner's reason)

"Answer with the information from the data card."

I have enough information to solve this problem.
(Display the problem card)

- Solve the problem independently.
- Continue to ask questions if more information is needed.
- Compare strategy solutions.

MATH LANGUAGE ROUTINES

MLR5: CO-CRAFT QUESTIONS

This MLR helps us to understand the problem first, without worrying about the answer right away. By co-crafting questions we will get better at understanding math problems and using math language to explain our thinking.

1. THE HOOK
The teacher will show a picture, video, or story.

2. STUDENTS WRITE QUESTIONS
Next, students write down math questions they can answer about the situation. These questions should be answerable with math and could be about what's happening, what's missing, or what they think is true.

3. STUDENTS COMPARE QUESTIONS
Students share their questions with a partner, then with the whole class. Together, you'll identify questions that fit today's math lesson. If needed, you can show how to change a question to better match our learning goals.

4. REVEAL OF ACTUAL QUESTIONS
The actual questions students are expected to work on are revealed or selected from the student question list.

MATH LANGUAGE ROUTINES

MLR6: THREE READS

This MLR will help us to get better at reading math story problems and understanding what they mean before we start to solve them.

READ #1
SHARED READING
What is this situation about?

READ #2
SHARED, INDIVIDUAL, OR PAIRED
What in this problem can be counted or measured?

READ #3
SHARED, INDIVIDUAL, OR PAIRED
What is the question asking us to figure out? What strategy might you use to get started?

MATH LANGUAGE ROUTINES

MLR7: COMPARE AND CONNECT

This MLR helps students better understand their own thinking and problem-solving strategies by comparing and contrasting different mathematical approaches and representations.

1. PREPARE VISUAL DISPLAY
Students are given a problem that can be approached and solved using multiple strategies, or modeled using multiple representations. Students prepare a visual display of how they made sense of the problem and why their solution makes sense.

2. COMPARE
Students compare strategies and representations. "What might make this or that approach or representation more complete or easy to understand?"

3. CONNECT
Students use math language to talk about the similarities and differences between strategies and representations.

MATH LANGUAGE ROUTINES

MLR8: DISCUSSION SUPPORTS

This MLR will help us to improve the way we have discussions about our mathematical ideas.

SENTENCE STEMS

DESCRIBE	• It looks like... • I notice that... • I wonder if... • Let's try... • A quantity that varies is _____. • What do you notice? • What other details are important?	**CRITIQUE**	• That could/couldn't be true because... • This method works/does not work because... • We can agree that... • _____'s idea reminds me of... • Another strategy would be _____ because... • Is there another way to say/do...?
EXPLAIN	• First, I _____ because... • Then/Next, I... • I noticed _____ so I... • I tried _____ and what happened was... • How did you get...? • What else could we do?	**COMPARE AND CONTRAST**	• Both _____ and _____ are alike because... • _____ and _____ are different because... • One thing that is the same is... • One thing that is different is... • How are _____ and _____ different? • What do _____ and _____ have in common?
JUSTIFY	• I know _____ because... • I predict _____ because... • If _____ then _____ because... • Why did you...? • How do you know...? • Can you give an example?	**REPRESENT**	• _____ represents _____. • _____ stands for _____. • _____ corresponds to _____. • Another way to show _____ is... • How else could we show this?
GENERALIZE	• _____ reminds me of _____ because... • _____ will always _____ because... • _____ will never _____ because... • Is it always true that...? • Is _____ a special case?	**INTERPRET**	• We are trying to... • We will need to know... • We already know... • It looks like _____ represents... • Another way to look at it is... • What does this part of _____ mean? • Where does _____ show...?

Strategy #3- Math Language Routines

Strategy #3 Challenges (Check):

- One challenge we encountered was time. While some routines were modeled during professional learning sessions, limited time meant that not all eight MLRs were introduced in depth.
- Principal exposure to the full set of routines was also constrained by scheduling demands. And although resources were provided for Family Math Nights, usage data is limited due to variation in school schedules and event timing.

Strategy #3 Next Steps (Act):

- Recognizing the limited professional learning time, our focus will shift to strategically integrating Math Language Routines (MLRs) within upcoming curriculum units during teacher professional learning and coaching sessions. This targeted approach ensures more meaningful and timely application.
- We will resume the MLR series with principals as scheduling allows.
- For the 2025-26 school year, we plan to introduce a more strategic process for sharing and tracking Family Math Night resources.


LET'S
HAVE
A
Conversation