



COMMITTEE OF THE WHOLE (PUBLIC)
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UPDATE #1 ON THE 2024-2025 MATH ACHIEVEMENT ACTION PLAN

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PURPOSE:

1. This update provides trustees with the latest information on the implementation and progress of the Mathematics Achievement Action Plan (MAAP) for the Ottawa-Carleton District School Board (OCDSB).

STRATEGIC LINKS:

2. The MAAP for 2024-2025, outlined in Appendix C, is directly aligned with the achievement-related pillar of the District's 2023-2027 Strategic Plan, which emphasizes Learning, Well-Being, and Social Responsibility. The MAAP also reflects the latest Ministry directives and the District's strategic goals, with a strong focus on improving program quality and accessibility for all students. Key priorities include ensuring effective curriculum implementation by strengthening instructional practices, enhancing educator efficacy in mathematics, and promoting equitable and inclusive math instruction that meets the diverse needs of all learners. Together, these efforts aim to elevate student achievement and ensure equitable access to high-quality math education across the District.

CONTEXT:

3. During the 2023-2024 school year, Program Services introduced the District's MAAP (Appendix A), to guide the teaching and learning of mathematics in the OCDSB. The Ministry of Education (MoE) requires this plan and outlines key priority areas which include:
 - ensuring the fidelity of curriculum implementation;
 - engaging in ongoing learning about mathematics content knowledge for teaching;
 - and,

- knowing the mathematics learner and ensuring that mathematical tasks, interventions, and supports are relevant and responsive.

The plan aimed to connect actions at the District, school, and classroom-levels with clear and measurable outcomes. Key needs for each priority area were identified and strategies were developed to address them. Key performance indicators (KPIs) were then established to monitor progress in educator practices and student achievement.

In the 2023-2024 MAAP, District priorities included enhancing instructional practices and building educator expertise in mathematics, as well as expanding our understanding of culturally relevant and responsive instruction to support student learning.

In the first year of the system-wide MAAP implementation, central staff collaborated with educators to assess the learning needs of both students and staff. Educators across the District were given opportunities to participate in professional learning focused on effectively teaching fundamental math skills and building math content knowledge. In the thirty Ministry-identified priority schools, which included approximately 110 Grade 3, 6, and 9 classes, seven instructional coaches worked closely with classroom teachers, co-teaching, co-planning, and co-reflecting in classrooms to directly support students and enhance their success.

Understanding the critical impact that principals have in shaping instruction and setting direction, school leaders participated in professional learning sessions during Superintendent Days that focused on effective math instruction and school improvement strategies. This training was designed to equip school principals with the tools to support and monitor math teaching and learning as part of the school improvement process.

This report provides an update on the impact of the 2023-2024 MAAP highlighting some of the evidence of progress that has been gathered to date. A Student Learning and Achievement report will be presented to trustees in January 2025 providing more fulsome information and analysis of student achievement including demographic, qualitative and quantitative information.

KEY CONSIDERATIONS:

4. During the implementation of the 2023-2024 Math Achievement Action Plan, staff have observed improvements in the District with indicators of progress in student achievement, well-being and teaching practices. Although we are still in the early stages, these outcomes suggest that our efforts are moving in the right direction. Below, we highlight these improvements and outline strategic next steps aimed at addressing the math needs within the District for implementation during the 2024-2025 school year.
5. **Math Understanding and Student Achievement**
In Ministry-identified schools, a consistent upward trend in student achievement and understanding of math concepts in the Grade 3 and 6 curricula was observed through the OCDSB Assessment for Learning (AFL) diagnostic tool. This tool was administered at three key points during the year: fall (Beginning of Year-BOY), winter (Middle of Year-MOY), and spring (End of Year-EOY). Appendix B provides a detailed breakdown of growth in the math

strands for both Grade 3 and Grade 6, as well as data on students' mindset regarding math learning. This diagnostic demonstrated that:

- across all strands, correct responses increased from 44.4% to 56.2% for Grade 3 students; and,
- across all strands, correct responses rose from 50.6% to 54.9% for Grade 6 students.

While growth was observed across all strands, less improvement was noted in the Number and Spatial Sense strands, highlighting a need for greater focus and support in these areas.

6. **Next Steps for Math Understanding and Student Achievement**

Given that Number Sense is foundational to more advanced math concepts such as spatial reasoning, algebra, and geometry, upcoming professional learning at the elementary level will emphasize this strand. Professional development at the secondary level will focus on strengthening algebraic reasoning and ensuring effective implementation of the Grade 9 curriculum.

Principal learning sessions will focus on their role in instructional leadership and overseeing math learning at their schools, emphasizing how to guide and support educators in applying effective instructional strategies.

7. **Data-Driven Instruction**

The use of formative (ongoing) assessment data is key to identifying students early in the term to support their learning with direct intervention strategies. Growth was observed in data-driven instruction through the increased use of diagnostic tools, math continuums, and digital platforms like OCDSB Assessment for Learning, MathUp, and Knowledgehook. These tools enabled educators to effectively identify student strengths and needs, allowing for more targeted interventions using [High Impact Instructional Practices](#) (HIIPs), such as small group instruction and manipulatives, to support and improve student learning outcomes.

8. **Next Steps in Using Data to Drive Instruction**

Enhancing educators' capacity to use student assessment data and understand their students is essential for informing instructional decisions, targeting interventions, and implementing culturally relevant and responsive instruction. To support this goal, the Math program team has developed a web-based diagnostic tool designed to identify student strengths and needs in the Number strand. The OCDSB Numeracy Assessment Tool (ONAT) will facilitate personalized instructional and assessment strategies, allowing educators to better support students and track their progress. Similar to the OCDSB Assessment for Learning diagnostic tool used in 2023-2024, the ONAT will be administered at three key points during the year (beginning, middle and end of year). This will help monitor student progress in the Number strand.

Principal learning sessions will focus on enhancing school leaders' understanding of data collection and analysis, while exploring ways to track student progress, inform decision-making, and ensure that math instruction is aligned with curriculum standards and the diverse needs of students. These sessions will emphasize how to effectively use data to drive impactful teaching and learning.

9. **Improved Instructional Practices**

Last year professional learning focused on enhancing math content knowledge and building educators' capacity to effectively implement HIIPs and connect these strategies to individual student learning needs. Throughout the year, math instructional coaches and principals observed the application of HIIPs in classrooms. Educators showed improved implementation of HIIPs, including setting clear learning goals, defining success criteria, and providing descriptive feedback. In classrooms surveyed, students could articulate the learning goals for various tasks and activities. Additionally, the use of exit tickets - key assessment questions aligned with learning goals- increased, allowing for better monitoring of student progress. Both students and educators became more aware of their learning journeys by identifying strengths and areas for improvement.

10. **Next Steps for Instructional Practices**

The focus of professional learning for educators will continue to be on evidence-based, high-impact instructional practices, aligning with the curriculum, and implementing interventions that are both relevant and responsive to students' needs. A key area of focus will be the use of tools and representations to enhance student learning while promoting culturally relevant and responsive teaching. By incorporating visual aids and concrete tools, educators can help students of diverse needs, abilities, linguistic backgrounds, and lived experiences better grasp abstract concepts, thereby improving their spatial reasoning and overall math skills. Tools and representations serve to explicitly and visually convey abstract mathematical ideas. When used alongside discussion, they allow students to explore concepts and share their thinking. Visual representations provide opportunities for students to engage in conversations about math, examine mathematical relationships, and make the process of problem-solving more visible and accessible.

11. **Math Additional Qualification (AQ) Course**

Now in its seventh year, the OCDSB's partnership with the University of Ottawa supports elementary educators' professional development in mathematics. The course meets Math AQ requirements accredited by the Ontario College of Teachers (OCT) and incorporates strategies for implementing the OCDSB's revised Scope and Sequence, math resources, and District goals. Last year 144 educators were enrolled, 50 educators for Part 1 and 94 for the Math Specialist course. Educators report increased confidence and enhanced teaching practices, particularly in supporting diverse learners, including multilingual and exceptional students. They further indicated that the course has strengthened their ability to apply HIIPs, empowering them to differentiate instruction and offer varied learning experiences.

12. **Increased Use of Digital Tools and Resources**

Approximately 1,500 teachers have supported over 41,000 students in using the Ministry of Education-supported digital math tool, Knowledgehook. This tool has provided many opportunities for practice, helping students build a deeper understanding of the curriculum. District data reveals that students are effectively utilizing digital tools for math, outperforming provincial averages in the Number strand. Proficiency rates are as follows: 82.4% for Grade 3 students (provincial average: 80.3%), 84.1% for Grade 6 students (provincial average: 79.3%), and 82.8% for Grade 9 students (provincial average: 80.8%). These results show that using digital tools is positively affecting math learning.

13. **Next Steps for Digital Tools**

Moving forward, digital math tools will remain a key part of professional learning, helping educators use these resources more intentionally to enhance their instructional and assessment practices. Regular feedback sessions will be organized to evaluate the effectiveness of these tools and their integration into the curriculum, ensuring that educators are equipped to maximize their impact on student learning.

14. **Recent EQAO results**

In the 2023-2024 school year, EQAO math scores for Grades 6 and 9 remained steady, while Grade 3 students saw a 1% improvement compared to the previous year (Table 1). Additionally, students in Grades 3, 6, and 9 continue to perform above the provincial averages, showing a higher likelihood of meeting the provincial math standards. Perceptual data also indicates that student mindset regarding mathematics has improved for students in Grade 3, while Grade 6 students saw a 1% improvement in math confidence (Table 2).

Table 1 Math Achievement

Assess-ments	# of Students in Cohort			Participation Rate			% Meeting Provincial Standard					
	2021-2022	2022-2023	2023-2024	2021-2022	2022-2023	2023-2024	2021-2022		2022-2023		2023-2024	
							OCDSB	Prov.	OCDSB	Prov.	OCDSB	Prov.
Grade 3												
Mathematics	5,025	5,137	4,898	89%	94%	95%	61%	59%	61%	60%	62%	61%
Grade 6												
Mathematics	5,241	5,299	5,176	90%	94%	96%	52%	47%	52%	50%	52%	50%
Grade 9												
Mathematics	3,578	6,306	6,228	93%	82%	84%	57%	52%	55%	54%	55%	54%

Table 2 Math Mindset

Question	# of Students in Cohort			% Yes, I agree		
	2021-2022	2022-2023	2023-2024	2021-2022	2022-2023	2023-2024
Grade 3						
I like math.	4,409	4,697	4,490	73%	70%	72%
I am good at math.	4,405	4,697	4,486	61%	61%	65%
Grade 6						
I like math.	4,605	4,912	4,866	55%	52%	52%
I am good at math.	4,599	4,913	4,863	51%	51%	52%
Grade 9	# of Students in Cohort			% Somewhat or Strongly Agree		
	2021-2022	2022-2023	2023-2024	2021-2022	2022-2023	2023-2024
I like math.	2,773	4,331	4,450	56%	53%	52%
I am good at math.	2,773	4,331	4,450	58%	58%	55%

15. **The 2024-2025 Math Achievement Action Plan (MAAP)**

Based on insights from the 2023-2024 MAAP, student achievement data, and staff input, staff will continue to prioritize professional learning for educators, school and system leaders focused on effective math instruction. We remain committed to enhancing students' mathematical knowledge and skills in grades 3, 6, and 9, with a particular focus on underserved learners, including Indigenous and multilingual learners.

The implementation of the 2024-2025 MAAP will be supported by fourteen instructional coaches in the Ministry-identified schools. These coaches will collaborate with educators in Ministry-identified schools to implement targeted interventions aimed at improving students' mathematical thinking. Additionally, they will lead professional learning sessions focusing on foundational math skills, algebraic reasoning and effective teaching practices. Opportunities for educators to enroll in the Math AQ courses will continue this year.

The math program team will collaborate with school and system leaders to gather and analyze student progress data. In line with the Ministry of Education's guidelines, efforts and data collection will focus on students in Grades 3, 6, and 9 within Ministry-identified schools. This data will help drive efforts to improve student achievement and overall school performance. Staff anticipate continued growth in student outcomes as a result of these targeted interventions.

Appendix C provides a summary of the OCDSB's 2024-2025 MAAP detailing the Key Performance Indicators (KPIs) at the Board, school, and classroom levels, which are aligned with Ministry of Education strategies.

Board-level Strategies and Key Performance Indicators (KPIs) include:

- Strategy 1: Prioritizing understanding of the curriculum and the continuum of learning across grades;
- KPI: Number of educators participating in professional development sessions on aligning curriculum and assessment with effective mathematics instruction, emphasizing tools and representations;

- Strategy 2: Understanding the importance of the relationship between mathematics content knowledge and effective mathematics instruction, as it relates to student achievement;
- KPI: Number of professional learning opportunities focused on strengthening math content knowledge and effective math instruction;

- Strategy 3: Aligning the Math Improvement Action Plan with board improvement planning, including using student assessment and demographic data to identify areas of focus; and
- KPI: Number of professional learning sessions conducted with READ, school, and system leaders to review EQAO and achievement data, set targeted goals, and develop next steps for student support.

School-level Strategies and Key Performance Indicators (KPIs) include:

- Strategy 1: Engagement in ongoing professional learning (e.g., in grade/division/department meetings, learning teams, classroom visits) on the curriculum, including making connections across strands;
- KPI: Number of classrooms observed by principals and Math instructional coaches where tools and representations are being effectively used to support number sense in instruction and assessment;

- Strategy 2: Engagement in regular meetings (e.g., team teaching, collaborative analysis of student work, school and/or board networks, classroom visits) to deepen knowledge of mathematics, curriculum, instructional starting points, and interventions;
- KPI: Number of educators reporting an increased understanding of mathematical content knowledge and effective practices after participating in professional learning, as measured by mid-term and end-of-term surveys;

- Strategy 3: Developing processes to identify and monitor achievement of students achieving below Level 2 in mathematics and provide ongoing support so that students can access grade-level curriculum; and
- KPI: Number of students performing below Level 2 in mathematics in grade 3, 6 and 9 demonstrating measurable improvement after receiving targeted interventions.

Classroom-level Strategies and Key Performance Indicators (KPIs) include:

- Strategy 1: Connect instruction and assessment to curriculum expectations and long term essential mathematical understandings using developmental continuums;
- KPI: Number of grade 3, 6 and 9 students demonstrating increased achievement as evidenced by the OCDSB Numeracy Assessment Tool (ONAT) and report card data;

- Strategy 2: Access resources (e.g., teacher supports on the [Curriculum and Resources](#) website), experts (e.g., curriculum consultant, school math facilitator), and professional learning to continuously develop content knowledge for teaching;
- KPI: Number of educators using digital tools and district supported/developed resources to support learning of number sense as evidenced through online resource dashboards (e.g. Knowledgehook, MathUp, Mathia, ONAT, etc.);

- Strategy 3: Plan, teach, and assess learning in culturally responsive and relevant ways that motivate students to take ownership of their learning of, and progress in, mathematics; and
- KPI: Number of classrooms observed by principals and Math instructional coaches where instructional and assessment practices more aligned with Universal Design for Learning (UDL) and Culturally Relevant and Responsive Pedagogy (CRRP) are in practice.

RESOURCE IMPLICATIONS:

16. The OCDSB has received a one-year grant of \$76,305.36 from the MoE to support the implementation of destreaming in the intermediate and secondary divisions. Additionally, the Board-approved budget has allowed for the continuation of seven math instructional coaches, along with the hiring of seven additional coaches funded by the MoE grant for school math facilitators, totaling \$836,900. The MoE has also allocated funds for hiring a Superintendent of Numeracy to oversee the District's implementation and monitoring of the Math Achievement Action Plan (MAAP). Furthermore, additional funding is provided through Board allocations to central departments, including Program Services.

COMMUNICATION/CONSULTATION ISSUES:

17. The proposed plan was developed collaboratively between Program Services, Student Achievement Through Equity (SATE) and the Research, Evaluation and Analytics Department (READ) to fulfill the goals and objectives of the MoE expectations, Responsive Education Programs (REP) funding and to align with District priorities and values. Efforts to engage parents and caregivers will continue throughout the 2024-2025 school year, providing opportunities to keep families informed about mathematics education in the District. A dedicated webpage has been created to provide resources for supporting math learning at home. Updates about the Math Achievement Action Plan (MAAP) are available on the District website, staff portal, and through regular communications to students, staff, and parents.

The Math program team is also working closely with Learning Support Services, SATE, Equity, Indigenous Education, and English as a Second Language (ESL) teams to ensure a comprehensive and inclusive approach to supporting students.

GUIDING QUESTIONS:

18. The following questions are provided to support the discussion of this item by the Committee:
 - How do our Key Performance Indicators (KPIs) help us focus more clearly on student achievement, and how do they connect with students' day-to-day learning experiences?
 - How are we ensuring that the learning needs of underserved students, including Indigenous and Multilingual learners, are central to our ongoing efforts?
 - How can we differentiate our approaches further to better support the unique needs of identified learners?

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Pino Buffone
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APPENDICES

- Appendix A Math Achievement Action Plan, 2023-2024
- Appendix B Assessment for Learning (AFL) Trend for 2023-2024
- Appendix C Math Achievement Action Plan, 2024-2025