

Update on the Math Achievement Action Plan

The Math Achievement Action Plan (MAAP) is informed by insights from district, school, and classroom levels, as well as feedback from students and the community. These perspectives emphasize the importance of foundational concepts like Number Sense and the effective use of Tools and Representations to enhance student understanding and engagement in grades 3, 6, and 9. They also highlight the urgent need for culturally responsive and relevant pedagogy to address inequities and improve outcomes for specific student groups, including Indigenous and Multilingual Learners.

For 2024-2025, MAAP goals are to:

- **Reduce Underperformance:** Decrease the number of students performing below Level 2 in grades 3, 6, and 9.
- **Strengthen Foundational Skills:** Enhance number sense in elementary grades and algebraic thinking in secondary grades.
- **Promote Inclusive Practices:** Integrate Universal Design for Learning (UDL) and Culturally Relevant and Responsive Pedagogy. (CRRP)


Between September 2024 and January 2025, the Math team implemented various support measures to enhance numeracy skills at both elementary and secondary levels. These initiatives have positively influenced student outcomes and educator instructional practices, leading to increased student confidence and improved teaching methods. The table below provides a detailed overview of these district-level actions and their impacts.

Student Learning Need Identified through...	<p>Mathematics: Kindergarten - Grade 12</p> <ul style="list-style-type: none"> ● Lower achievement in Mathematics on the EQAO Assessment at grades 3, 6, and 9 <p>Elementary</p> <ul style="list-style-type: none"> ● Challenges in foundational number sense skills, including number recognition, counting, basic operations, and spatial sense <p>Secondary</p> <ul style="list-style-type: none"> ● Challenges in algebraic thinking, especially in upper grades, including difficulty grasping abstract concepts and engaging in problem-solving
Actions include...	<ul style="list-style-type: none"> ● Professional Learning: Aligned with CRRP and UDL principles, this learning enhances educators' capacity in foundational math skills (elementary), proportional reasoning and algebraic thinking (secondary) and utilizes the Concrete-Representational-Abstract (CRA) model across all grade levels to foster both procedural fluency and conceptual understanding in key mathematical domains. ● Principal Learning Sessions focus on analyzing student data, monitoring learning, and supporting effective mathematics teaching practices.

	<ul style="list-style-type: none"> ● Math Coach Support: In Ministry-identified schools, Math coaches support teachers in applying professional learning, using assessment data, planning targeted interventions, and supporting culturally relevant and responsive instruction. ● Using Student Data: Enhancing educators' ability to use the OCDSB Numeracy Assessment Tool (ONAT) and other student assessment data to inform instructional decisions, target interventions, and implement culturally relevant and responsive teaching. ● Develop tools to support progress monitoring of student growth and implementation of teacher practice (e.g., ONAT digital dashboards; classroom “look-fors” for CRRP, UDL, and Tools and Representations) ● Digital Tools: Professional development on using digital tools (KnowledgeHook, Mathia, MathUp, Desmos) to enhance instruction and assessment. ● Interdepartmental Collaboration: Strengthened collaboration across central departments to provide targeted support for Indigenous learners, MLLs, and students with disabilities. Professional development and resources are aligned with Indigenous principles, CRRP, and UDL to ensure an inclusive, responsive approach. Additionally, three focused projects are underway to support Indigenous learners, MLLs, and students with disabilities. ● Parent Support: Regular updates to the OCDSB’s Math web page with new resources to help parents support math learning at home.
<p>Evidence of Impact includes...</p>	<ul style="list-style-type: none"> ● Shifts in practice: Principal and coach observations indicate that educators incorporate more high-impact strategies (collaborative, hands-on, student-centred), leading to increased critical thinking, deeper understanding, and improved student learning. ● Math Conversations: Students reported that discussing math with peers and teachers boosts their learning, confidence, and understanding. Explaining their thinking and hearing others’ reasoning helps solidify concepts. ● Number Talks: Increased use of Number Talks has enhanced student confidence, engagement, and strategy-sharing. Educators indicate that students are less likely to give up and are better at clarifying their thinking, justifying strategies, and listening to peers. ● Shifting Educator Mindsets: Educators indicate in exit surveys that they are more confident using manipulatives (pattern blocks, algebra tiles, etc.) in their classrooms. They recognize the value of these tools in making learning visible,

honoring student voices, and supporting student understanding.

- **Student Learning:** Students shared that using tools and engaging in small group discussions help them build number sense, boosting their confidence and enabling them to tackle more complex problems. Mid-year ONAT data shows overall growth in student learning for many students, especially in classrooms where tools are regularly used.
- **Improved Reasoning and Problem-Solving:** Students are improving their ability to explain their reasoning and problem-solving strategies, showing a deeper understanding of concepts.
- **Classroom Practices:** Two schools with diverse school communities, including Indigenous students, MLLs and students with special education needs (excluding gifted), demonstrate the impact of prioritizing “knowing the learner” and fostering belief in student potential. Students reported that tools and representations, math discussions and personalized teaching boosted their engagement, confidence, self-efficacy and achievement, while helping them feel understood and supported in their math learning.
- **Educator Learning:** During Math learning networks, educators collaborate and deepen their learning. Exit surveys show most found activities immediately applicable, gained confidence, and improved their math knowledge and teaching practices.
- **Improved Student Attitudes:** Students are showing improved attitudes toward math, with increased enjoyment, engagement, confidence, and reduced anxiety, as reflected in educator feedback and student anecdotes.
- **Using Student Data:** Teachers report that using the ONAT has helped them make timely adjustments to classroom instruction, targeting specific areas where students need support, resulting in improvements in student learning.
- **Math instructional coaches** have enhanced teaching practices in Ministry-identified schools, improving student learning. They have supported educators in differentiating instruction, tracking growth using learning progressions and implementing responsive, culturally relevant practices to boost student achievement.
- **Principal Learning:** Principals report improved understanding of effective math teaching strategies, enhanced ability to co-facilitate learning with staff, and strengthened support for struggling students through data analysis with coaches and educators.
- **Digital platforms:** Student engagement across digital



platforms remains steady, with tools like Knowledgehook and Mathia helping reinforce skills. Educators are also integrating technology, using Ozobots, Desmos, and coding activities to engage students and offer new learning experiences in math.

Next Steps for MAAP Implementation

Next steps to improve curriculum implementation, teacher development, and culturally responsive instruction include:

- **Enhancing High-Impact Instructional Practices:** Promote consistent use of high-impact strategies like using tools and representations, small-group instruction and differentiation through coaching and modelling to address inconsistencies in implementation.
- **Deepening Culturally Responsive and Relevant Pedagogy:** While awareness of culturally responsive teaching has grown, practical application in classrooms needs to be deepened. Provide educators with resources and examples to integrate culturally responsive teaching into math lessons.
- **Using Data to Inform Instruction:** Increasing educators' capacity to use diagnostic tools and math continuums to monitor the achievement of students with curriculum modifications, evaluate their progress, and inform targeted strategies.
- **Monitoring Progress:** Continue supporting principals with implementing progress monitoring tools, such as the ONAT, digital dashboards, and “CRRP and UDL Look Fors” through learning sessions and school visits.
- **Fostering Collaboration and Best Practices:** Encourage collaboration and sharing of best practices among educators within and across schools to accelerate effective math instruction.

The Math Achievement Action Plan (MAAP) has enhanced math education district-wide, leading to improved teaching methods, student progress, educator growth, and leadership development. To maintain this positive direction, we will continue to offer educators the necessary support and professional development to foster an equitable and effective math learning environment for all students. Future initiatives will focus on enhancing curriculum delivery, implementing data-driven teaching methods, and improving progress monitoring to ensure continued success for every learner.