

**Appendix A: OCDSB Mathematics Achievement Action Plan, 2023-2024**

	<b>Ensuring fidelity of curriculum implementation</b>	<b>Engaging in ongoing learning on mathematics content knowledge for teaching</b>	<b>Knowing the mathematics learner and ensuring mathematical tasks, interventions, and supports are relevant and responsive</b>
<b>Areas of need</b>	Intentionally connecting foundational assessment practices with curricular expectations grades 3, 6, 8, and 9.	Increase educators' intentional implementation of the High Impact Instructional Practices in mathematics in grades 3, 6, 8, 9.	Increase educator capacity to create personalized, culturally relevant instruction
<b>Board strategies</b>	Prioritize understanding of the curriculum and the continuum of learning across grades	Understand the importance of the relationship between mathematics content knowledge and effective mathematics instruction, as it relates to student achievement	Align Math Improvement Action Plan with board improvement planning, including using student assessment and demographic data to identify areas of focus
<b>School strategies</b>	Engage in ongoing professional learning (e.g., in grade/division/ department meetings, learning teams, classroom visits) on the curriculum, including making connections across strands	Collaborate with Board Math Lead to identify school/division/grade mathematics content knowledge focus areas, including planning and monitoring associated professional learning	Develop processes to identify and monitor achievement of students achieving below Level 2 in mathematics and provide ongoing supports so that students can access grade-level curriculum
<b>Classroom strategies</b>	Draw explicit connections to and between mathematical processes and in lesson planning and use proven instructional and assessment practices (e.g., High-Impact Instructional Practices (HIIP))	Model a positive and curious learning stance with mathematics to create an environment where students are excited to learn mathematics and develop into confident math learners (e.g., regularly using "think-alouds", making the problem-solving process explicit, integrating math talk prompts and conversations, co-solving mathematics puzzles/problems with students)	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
<b>Key Performance Indicators</b>	Board <ul style="list-style-type: none"> <li>Increased use of MoE/District approved resources supporting learning of</li> </ul>	Board <ul style="list-style-type: none"> <li>Measure increased educator capacity in using HIIPs through PD Day exit cards and coach and</li> </ul>	Board <ul style="list-style-type: none"> <li>Increased use of EQAO math achievement and perceptual data in Grades 3, 6, 9, as</li> </ul>

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	<p>number sense evidenced through coach and principal observations and online resource dashboards including Knowledgehook and MathUp.</p> <p>School</p> <ul style="list-style-type: none"> <li>Increased educator capacity in making intentional connections between curriculum and assessment practices as noted through exit cards, coach observations, and principal observations</li> </ul> <p>Classroom</p> <ul style="list-style-type: none"> <li>Increased educator capacity in applying intentionally selected HIIPs for specific curricular expectations as noted through exit cards, coach observations, and principal observations</li> </ul>	<p>principal observations.</p> <ul style="list-style-type: none"> <li>Increased student achievement in learning that involved HIIPs, evidenced through <i>'Assessment for Learning' diagnostics</i>.</li> </ul> <p>School</p> <ul style="list-style-type: none"> <li>Increased student achievement in number sense at grades 3, 6, and 9 evidenced through the districts <i>'Assessment for Learning' diagnostic tool</i></li> </ul> <p>Classroom</p> <ul style="list-style-type: none"> <li>Increased inclusion of prompting questions encouraging curious exploration in student learning experiences as captured through principal and coach observations.</li> <li>Increased student understanding of mathematical thinking through 1:1 and small group conferencing in the area of number sense.</li> <li>Increased student achievement as measured through <i>'Assessment for Learning' diagnostics</i> and report card data.</li> </ul>	<p>measured by engagement in Math Achievement Action Plan Team meetings, including READ, Provincial Math Lead, System Principals, Board Based Math Facilitators, to generate next steps for student support.</p> <ul style="list-style-type: none"> <li>Data-informed School Improvement Plans focus on underserved groups of students whose achievement is lower than the district average.</li> <li>Increased achievement in number sense for underserved students monitored through School Improvement Plans and the AFL.</li> <li>Understanding of student experience captured through intentional student voice listening moments.</li> </ul> <p>School</p> <ul style="list-style-type: none"> <li>Increased achievement and sense of belonging in mathematics classrooms for students achieving level 2 in mathematics learning as measured by the OCDSB generated KPI Provincial Report data dashboard.</li> </ul> <p>Classroom</p> <ul style="list-style-type: none"> <li>Increased evidence of educators Incorporating students' identities and ways of knowing in math tasks, evidenced through principal and coach observations of culturally relevant instruction and assessment strategies.</li> <li>Student ability to articulate meaning</li> </ul>
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			<p>between their life, learning, and pathway goals captured through student voice listening moments.</p> <ul style="list-style-type: none"> <li>Increased student achievement in report card data and formal in-class assessments as noted by principals and coaches.</li> </ul>
<p><b>Action Examples</b></p>	<ul style="list-style-type: none"> <li>Direct instruction engaged with educators on the use of the curriculum continuums and how to identify student strengths and needs based on using diagnostic tasks from <i>Math Up</i>, <i>Knowledgehook</i> or the OCDSB's Scope and Sequence resource platform.</li> <li>Professional learning was provided that analyzed the continuum of learning in math from grade 1 to grade 9.</li> <li>Professional learning was provided to build capacity in understanding high impact instructional strategies and connecting those strategies to individual student learning needs.</li> </ul>	<ul style="list-style-type: none"> <li>Direct and ongoing training was provided for principals on the use of the online math resource, <i>Knowledgehook</i>.</li> <li>A reimagine instructional coach model was implemented in math that was driven by student learning needs informed by periodic assessments, implementation of the high impact instructional practices, and follow up diagnostics to confirm improved achievement.</li> <li>Coaching support was co-developed between coaches, classroom teachers, and school principals.</li> <li>An educator self assessment of HIIPs was completed pre and post working with coaches to note changes in understanding and engagement.</li> <li>144 OCDSB educators received additional qualification in mathematics through the partnership with University of Ottawa (Part 1 and Specialist)</li> </ul>	<ul style="list-style-type: none"> <li>Educators engaged students in problem solving, math conversations, and small-group and partner experiences through coding with Scratch, micro:bit and Ozobots. Students reflected on their work and set plans for improvement. (e.g., "How about instead of displaying 'yes' or 'no', we code the micro:bit to say 'conductor' or 'insulator'").</li> <li>Students were prompted to consider social-emotional learning skills in math including perseverance and reasoning while helping each other in learning about coding</li> <li>Schools identified and monitored specific underserved groups of students as their focus in their SIPSAW work.</li> </ul>
<p><b>KPI examples</b></p>	<ul style="list-style-type: none"> <li>Educators used <i>Knowledgehook</i> (an online resource) to measure student understanding of subtraction strategies as a pre and post assessment. Reports provided individual student results which allowed educators to provide</li> </ul>	<ul style="list-style-type: none"> <li>Through <i>Knowledgehook</i>, increased student achievement was noted in fair share problems with fractions using HIIPs.</li> <li>Routinization of HIIPs was observed by coaches and principals.</li> <li>Educators focused on a HIIP they wanted to</li> </ul>	<ul style="list-style-type: none"> <li>Aligning with the school's SIPSAW, marker students were used to track progress (data was collected from the whole class). 80% of the class demonstrated an increased understanding of fair share concepts. This group of students included the marker</li> </ul>

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	<p>small group instruction based on results.</p> <ul style="list-style-type: none"> <li>● Use of <i>Knowledgehook</i> in the OCDSB is at or above the provincial average.</li> <li>● The OCDSB saw a significant increase in student engagement with <i>Knowledgehook</i>.</li> <li>● Evidence of improved student achievement was noted in the area of Number Sense in Grade 3 and Geometry in Grade 6 through diagnostic tools.</li> <li>● Educators have noted that the math high impact instructional practices were also being implemented in other curricular areas.</li> </ul>	<p>improve with coach support with noticeable improvement of HIIP use throughout the year as observed by coaches.</p> <ul style="list-style-type: none"> <li>● Educators demonstrated improved use of HIIPs including learning goals, success criteria and descriptive feedback.</li> <li>● Students were able to explain the learning goal of a task/activity.</li> <li>● Improved use of exit tickets (key assessment questions related to learning goals) to monitor student progress was noted.</li> <li>● Students and educators recognized where they are in their own learning by identifying strengths and areas of need.</li> <li>● Significant improvements in student achievement was captured through the <i>Assessment for Learning</i> diagnostic tool administered in the fall, winter, and spring. For example:             <ul style="list-style-type: none"> <li>○ Upward trajectory was noted in many schools including schools identified on the RAISE index.</li> <li>○ One school demonstrated a 12% increase in student achievement in the area of Number Sense.</li> </ul> </li> </ul>	<p>students. 20% of students demonstrated the same understanding of fair share when comparing the pre and post data.</p> <ul style="list-style-type: none"> <li>● In one class, data was collected to determine why the number string routine to develop mental math strategies was not showing progress with a set of students. Small group instruction was then started targeting the basic math facts through games. Student confidence and engagement increased as a result of knowing where the students were at in their learning and providing the appropriate level of challenge.</li> <li>● Students' automaticity was measured with subtraction in all supported classrooms. Engagement in number talks resulted in an increased need for subtraction strategy focus and continued daily use of number strings.</li> <li>● Student mindset was measured at the start of the year and again at the end. Improvements were noted in classrooms that used more HIIPs and created differentiated, engaging student centered tasks and assessment opportunities.</li> </ul>
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