

**NUMERACY 7-12 2017-2018  
TCDSB PROFESSIONAL LEARNING PLAN**

Initiative Goal BLIP Goal	Initiative/Subject	Details	Grades	# of schools	# of teachers	# of Days	Responsibility	Timeline
<p><b>Initiative:</b> Renewed Mathematics Strategy: A Targeted Approach to Supporting Mathematics Learning, Teaching and Leading.</p> <p><b>Goal:</b> - Reducing the learning gaps in grade 9/10 Applied Mathematics and creating a culture of high expectations that supports the belief that all students can learn, progress and achieve excellence.</p> <p>- Develop, promote and implement engaging effective professional learning sessions to address needs of students with learning disabilities and students taking compulsory courses in grade 9 and 10 Applied Mathematics</p> <p>- Transforming culture; optimizing conditions for teaching, leading and learning; and investing in and building upon professional capacity</p> <p><b>BLIP Goals:</b> - Curriculum Teaching and Learning - Student Engagement - Mental Health and Well-Being - School and Classroom Leadership - Assessment for, as, and of learning</p>	<p><b>Initiative:</b> Renewed Mathematics Strategy</p> <ul style="list-style-type: none"> <li>- Intensive support for FEW Schools (4)</li> <li>- Increased Support for SOME Schools (21)</li> <li>- Support for ALL Schools (32)</li> </ul> <p>Through the use of differentiated instruction and collaborative inquiry, the math department will provide meaningful, focused support and professional development for Numeracy Teams to build capacity with school teams by:</p> <ul style="list-style-type: none"> <li>- Diagnostic and formative assessment practices that address the needs of grade 7-10 students</li> <li>- Interventions to support the learning styles of applied level learners</li> <li>- Implementation of precise, timely descriptive feedback that informs the learning goals aligned to curriculum expectations</li> <li>- Varied and frequent opportunities to refine students learning skills while engaged in rich problem solving tasks.</li> </ul>	<ul style="list-style-type: none"> <li>- The focus will be on the strengths and needs of students with learning disabilities and students taking compulsory courses in grade 9 and 10 Applied Mathematics.</li> <li>- Professional learning sessions will be with Numeracy School Teams receiving Intensive and Increased Support from Ministry of Education in 2017/2018</li> <li>- In these professional learning sessions, working collaboratively, teachers will focus on the effective assessment and analysis of student work, plan instruction in response to students' strengths and needs, and share evidence of informed instructional strategies. Increased and Intensive Support Schools will be invited to participated in two sessions. Intensive Support Schools will be invited to attend an additional session focusing on intervention strategies in response to identified student needs.</li> </ul> <p>Intensive Support for FEW Schools (4): (4 schools)x(4 teachers)x(3 days) = 48 days</p> <p>Increased Support for SOME Schools (21): (21 schools)x(4 teachers)x(2 days) = 42 days</p> <p>Ministry RMS Sessions (In person and virtual sessions) for Intensive and Increased Schools.</p>	<p>9/10</p> <p>9/10</p> <p>9/10</p>	<p>4</p> <p>21</p> <p>25</p>	<p>16</p> <p>84</p> <p>100</p>	<p>48</p> <p>168</p> <p>Days will be taken from other allocation (code 94)</p>	<p>Numeracy Team</p>	<p>Sept. 2017 to June 2018</p>

<p><b>Initiative:</b> EQAO Grade 9 Assessment Analysis and Teaching Strategies</p> <p><b>Goal:</b> Develop an understanding of the mathematics program, and planning instruction in relation to: Ontario Mathematics Curriculum, EQAO Grade 9 Assessment, practices and board improvement goals (i.e., LG, SC, DF, assessment for, as and of learning)</p> <p><b>BLIP Goals:</b></p> <ul style="list-style-type: none"> <li>- Assessment for, as, and of learning</li> <li>- Increasing Student Engagement</li> <li>- Curriculum Teaching and Learning</li> <li>- Staff Engagement and Well-Being</li> </ul>	<p><b>Initiative:</b> EQAO Grade 9</p> <ul style="list-style-type: none"> <li>- Provide support in collecting and analyzing data to improve student achievement</li> <li>- Identify with precision the learning needs of students. <ul style="list-style-type: none"> <li>- The Numeracy Team will provide a “<b>Grade 9 EQAO Analysis by Strands &amp; Specific Expectations</b>” that is created on the basis that all EQAO questions are written to specific curriculum expectations, and that in any three-consecutive years, 85% of specific expectations are covered</li> </ul> </li> <li>- Assist teachers in understanding how gathering student information and analyzing it can be used as part of the school improvement learning plan (<b>SLIP</b>), school’s transition planning, and narrowing students’ confidence and achievement gaps.</li> <li>- Understanding how the assessment process is integral to gathering information about what students already know and can do, so that the unique learning needs of students at any level and grade can be met.</li> <li>- Ensuring that the teaching and learning environment is inclusive and reflects individual student needs, strengths and learning styles.</li> <li>- Support teachers in using a variety of diagnostic assessment tools to identify students at risk.</li> </ul>	<p>-Two day EQAO sessions focused on organization, planning, teaching and assessment strategies in preparation for grade 9 EQAO Assessment of Mathematics.</p> <ul style="list-style-type: none"> <li>- 4 sessions with 20 to 25 teachers per session, who are currently teaching grade 9 Applied or Academic Math.</li> </ul> <p>(32 schools)x(2 teachers)x(2 days) = 128</p> <ul style="list-style-type: none"> <li>- An in-depth analysis of EQAO school results (e.g. EQAO Grade 9 Applied and Academic math results, Open Response and Multiple Choice questions, Item Information Reports, Tracking a Cohort’s Achievement, etc.)</li> <li>-Using EQAO Data Information Items (DII) and Item Information Reports (IIR), the Numeracy Team identifies the questions with the lowest score, together with the overall expectation, in every strand for all schools. This resource also shows the trend by the average rate of change per year.</li> <li>- The “Grade 9 Applied EQAO Analysis by Strand &amp; Specific Expectations” will assist schools in planning teaching and assessment strategies to help prepare students for grade 9 EQAO Assessment.</li> <li>-Teachers identify the specific expectation of questions and anticipate possible students’ solutions and possible errors/misconceptions. Teachers pinpoint what students need to know and do mathematically to achieve that specific expectation.</li> <li>- A critical analysis of incorrect multiple choice answers is facilitated to identify the student strengths and areas for improvement. Teachers use this information to reflect and refine their instructional teaching practices.</li> <li>- Teachers examine how the results inform their instructional strategies and how they</li> </ul>	<p>9</p>	<p>32</p>	<p>64</p>	<p>128</p>	<p>Numeracy Team</p>	<p>Oct 2017, Feb 2018</p>
--	---	---	----------	-----------	-----------	------------	----------------------	---------------------------

		link with their School Improvement Learning Plan (SLIP) and share their learning with their school communities.						
<p><b>Initiative:</b> Collaborative Inquiry in Mathematics</p> <p><b>Goal:</b> Develop and implement productive classroom discourse using Professional Learning Processes</p> <p><b>BLIP Goals:</b></p> <ul style="list-style-type: none"> <li>- Staff Engagement and Well-Being</li> <li>- School and Classroom Leadership</li> <li>- Curriculum Teaching and Learning</li> <li>- Nurturing our Catholic Community</li> <li>- Assessment for, as, and of learning</li> </ul>	<p><b>Initiative:</b> Collaborative Inquiry in Mathematics</p> <ul style="list-style-type: none"> <li>- Support teachers in designing their own local inquiry based learning with the use of “If and Then” statements</li> <li>- Support teachers in using problem solving as the central approach to teaching/learning mathematics</li> <li>- Support teachers in developing a growth mindset</li> <li>- Encourage teachers to focus on creating a positive classroom environment for discussions that motivate students’ thinking and clarify their reasoning</li> </ul>	<ul style="list-style-type: none"> <li>- Collaborative inquiry/study sessions involving groups of teachers from grade 7-12</li> <li>- Sessions could be local school level (math teachers from the same school), board level (math teachers or groups from different schools), or cross-panel (math teachers from grades 7-10)</li> <li>- Sessions will be facilitated by the Numeracy Team in collaboration with Numeracy Leads and/or Math Department Heads</li> <li>- 3 days per group, 30 teachers x 4 groups = 360</li> </ul> <p>Collaborative Inquires will focus on the following:</p> <ul style="list-style-type: none"> <li>- MAT1L to MFM1P pre-applied pathway (Gr. 9) (5 schools)x(4 teachers)x(3 days) = 60</li> <li>- Supporting Numeracy in Technology (Gr. 9-12) (32 schools)x(1 teachers)x (3 days)</li> <li>- Providing enrichment opportunities for STEM Schools (Gr. 9-12) (4 schools)x(2 teachers) x (3 days) =12</li> <li>- Focused interventional strategies in response to schools’ urgent critical needs as identified through classroom achievement and EQAO IIR Data (Gr. 7-8 Intense Schools) (9 schools)x(2 teachers)x(3 days) =54</li> </ul>	9	5	20	60	Numeracy Team	Oct 2017 to May 2018
			9-12	32	32	96		
			9-12	4	8	32		
			7/8	9	18	54		
<p><b>Initiative:</b> AEAC – Achieving Excellence in Applied Courses</p> <p><b>Goal:</b> Support development of on-going assessment opportunities that are clearly aligned with curriculum</p>	<p><b>Initiative:</b> AEAC – Achieving Excellence in Applied Courses</p> <ul style="list-style-type: none"> <li>- Support building a common understanding and implementing balanced mathematics instruction by</li> </ul>	<ul style="list-style-type: none"> <li>- The professional learning is focused and precise in building capacity as well as being closely aligned with other Student Success and Ministry initiatives (The School Effectiveness Framework, Growing Success, Differentiated Instruction (DI), The Professional Learning Cycle for Collaborative Inquiry, The Leadership</li> </ul>	9/10 Applied Math	33	33	Days will be taken from other banks (code 94)	Numeracy Team	Ongoing Sept 2017 to May 2018

<p>expectations, and gap closing strategies that are identified and implemented in Applied courses</p> <p><b>BLIP Goals:</b></p> <ul style="list-style-type: none"> <li>- Assessment for, as, and of learning</li> <li>- Increasing Student Engagement</li> <li>- Staff Engagement and Well-Being</li> <li>- Curriculum Teaching and Learning</li> <li>- Nurturing our Catholic Community</li> </ul>	<p>focusing on mathematics concepts to narrow the gap in student achievement</p> <ul style="list-style-type: none"> <li>- Support connecting Big Ideas, Curriculum Expectations, Success Criteria and Descriptive Feedback in mathematics classes</li> <li>- Focus on co-teaching strategies to support school improvement efforts to build capacity and reduce achievement gaps</li> </ul>	<p>Framework – Core Leadership Capacities, LSA, SIM)</p> <ul style="list-style-type: none"> <li>- Ongoing local and schools group sessions to enhance instructional practices in the classroom to raise the level of student achievement</li> <li>- Sessions focus on addressing the needs of students in the applied math program</li> <li>- Teachers will make use of resources (e.g., Ontario Numeracy Assessment Package (ONAP 9), Gap Closing, etc.) to create pre and post assessments</li> </ul>						
<p><b>Initiative:</b> Cultivate and Develop Math Leadership (Dept. Heads/Numeracy Leads)</p> <p><b>Goal:</b> Cultivate and continuously develop strong leadership and a high-quality of teaching professionalism in mathematics</p> <p><b>BLIP Goals:</b></p> <ul style="list-style-type: none"> <li>- School and Classroom Leadership</li> <li>- Increasing Student Engagement</li> <li>- Staff Engagement and Well-Being</li> <li>- Curriculum Teaching and Learning</li> </ul>	<p><b>Initiative:</b> Cultivate and Develop Math Leadership</p> <ul style="list-style-type: none"> <li>- Through differentiated instruction, develop math content and pedagogical knowledge within the context of school and regional leadership.</li> </ul>	<ul style="list-style-type: none"> <li>- Learning session focused on math leadership strategies that include: analyzing data (school achievement and EQAO Data) to identify student needs and to inform school planning, assessment for learning, culturally responsive pedagogy and monitoring student achievement</li> <li>- Support differentiated professional learning with math heads and numeracy leads that includes co-planning, co-learning co-teaching and the collaborative analysis of student work to inform next steps and improve student engagement and achievement</li> </ul> <p>33 schools x 2 teachers x 3 days = 198 days</p>	9-12	33	66	198	Numeracy Team	Sept 2017 Feb 2018 May 2018
<p><b>Initiative:</b> Focused Learning Sessions</p> <p><b>Goal:</b> Develop math content and pedagogical knowledge in relation to analysis and monitoring of student learning and achievement using focused learning sessions.</p>	<p><b>Initiative:</b> Focused Learning Sessions</p>	<ul style="list-style-type: none"> <li>- Teachers will sign-up to attend these learning sessions.</li> </ul> <p>Sessions will be focused on various topics:</p> <ol style="list-style-type: none"> <li>1. Supporting Numeracy through Literacy (2 part session, East and West) 25 teachers x 2 sessions x 2 areas =100</li> <li>2. Supporting Special Education Students</li> </ol>	7/8  7-10	N/A  N/A	25  25	100  100	Numeracy Team	Oct 2017 to May 2018

<p><b>BLIP Goals</b></p> <ul style="list-style-type: none"> <li>- Assessment for, as, and of learning.</li> <li>- Staff Engagement and Well-Being</li> <li>- Curriculum Teaching and Learning</li> <li>- Increasing Student Engagement</li> </ul>		<p>in Mathematics (2 day session, East and West) 25 x 2 sessions x 2 areas = 100</p> <p>3. Promoting well-being in mathematics (1 session, East and West) 25 teachers x 1 sessions x 2 areas</p>	7/10	N/A	25	50		
<p><b>Initiative:</b> SSLN-Student Success Learning Network</p> <p><b>Goal:</b> Promote cross-panel learning through collaboration between teachers, professional development pertaining to Numeracy and 21<sup>st</sup> Century Learning, as well as student engagement and achievement.</p> <p><b>BLIP Goals</b></p> <ul style="list-style-type: none"> <li>- Assessment for, as, and of learning</li> <li>- School and Classroom Leadership</li> <li>- Curriculum Teaching and Learning</li> <li>- Nurturing our Catholic Community</li> </ul>	<p><b>Initiative:</b> SSLN-Student Success Learning Network</p> <ul style="list-style-type: none"> <li>- Sessions may include the following topics: Developing a growth mindset in mathematics classes, analyzing data (EQAO, CAT4 scores), implementing high quality math instruction, assessment and evaluation, trajectory of math content, cross-panel co-planning of math lessons</li> </ul>	<p>- If students, teachers, and principals understand and actively participate in their cross-panel SSLN learning sessions, then improvement in student achievement in mathematics will be ongoing and lasting through elementary, high school, and beyond.</p> <p>32 SSLN groups x 20 teachers x 3 sessions = 1920</p>	7-10	198	640	1920	<p>Secondary and Elementary School Principals</p> <p>Numeracy Team</p>	Oct 2017- May 2018
<p><b>Initiative:</b> Math Technology Learning Sessions</p> <p><b>Goal:</b> Develop strategies to utilize technology to understand, implement, monitor and articulate effective mathematics teaching and learning practices in relation to student learning, engagement and achievement</p> <p><b>BLIP Goals:</b></p> <ul style="list-style-type: none"> <li>- Increasing Student Engagement</li> <li>- Curriculum Teaching and</li> </ul>	<p><b>Initiative:</b> Math Technology Learning Sessions</p> <ul style="list-style-type: none"> <li>- Integrating technology with pedagogy</li> <li>- Alignment of technology use with school goals</li> <li>- Establishing/sharing promising practices with the use of technology through teacher collaboration</li> </ul>	<p>Through a culture of learning, teachers will:</p> <ul style="list-style-type: none"> <li>- Use different technology to understand, implement, monitor and articulate effective mathematics teaching and learning practices in relation to student learning, engagement and achievement.</li> <li>- Develop precision in using instructional strategies (e.g., three-part lesson, questioning, exit survey, etc) and mathematics resource materials to improve students' conceptual understanding and strategic competence of mathematics.</li> <li>- Develop a better understanding of</li> </ul>					Numeracy Team	Oct 2017- May 2018

<p>Learning          - Staff Engagement and Well-Being          - School and Classroom Leadership</p>		<p>assessment (for/as/of learning) and the role it plays in increasing student learning, engagement and achievement</p> <p>- Develop strategies for using technology, in terms of math content, math communication, and/or monitoring/recording details of student mathematics learning, engagement and achievement</p> <p>- 30 teachers per session x 2 sessions per group x 4 groups = 240 days and 120 teachers</p>	<p>7-10</p>	<p>33</p>	<p>120</p>	<p>240</p>		
---	--	--	-------------	-----------	------------	------------	--	--