



Area of Focus: **Numeracy**

Overall Goal: We will promote math literacy and build students' math literacy skills (math vocabulary) to build confidence and apply problem solving skills across all strands, in order to move 50% of our Applied level math students to provincial standard as evidenced by our pre and post exploratory tasks.

Needs Assessment / Where Are We Now??

- 2016/2017 EQAO data reports 9% of applied math students were at or above provincial standard and 52% of academic math students were at or above provincial standard.
- A deeper analysis reveals 14/31 (45%) of applied level students were at level 1 or below.
- Data also indicates that on 14/31 questions on the assessment, applied students scored significantly less than the Board and Province; of these questions, 71% of the questions were Thinking & Application (winter), and 73% of the questions were Thinking/Application (Spring). Winter: 7/14 –AP, 3/14 – TH, 4/14- KU. Spring 7/15 – AP, 4/15 – TH, 4/15 – KU. Data suggests that students are not performing well on multi-step problems that require deconstruction of text. Trend also evident upon examination of released questions to numeracy team at SFDCI.
- Linear Relations questions were met with 50% success rate; winter 7/14 and spring 7/14.
- Overall Raw scores indicate 5 students achieved 2.7 – 2.9 (16%)
- 26/31 (84%) questions students achieved less than 50% success; 8/31 (26%) questions students achieved 10% or less; 3/31 (10%) questions were met with 0% success
- School team suggests that problem solving across different contexts is challenging for students; require support to make sense of text and identify salient information

| PLAN | ACT | ASSESS | REFLECT |
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| <p>PLAN: Needs Assessment <i>Where are we now?</i></p> | <p>ACT: Evidenced-Based Strategies/Action <i>What are we going to do?</i></p> | <p>ASSESS: Monitor/Gather Data <i>How are we doing? What evidence do you have?</i></p> | <p>REFLECT: Analyze/Reflect <i>How did we do? Where to next?</i></p> |
| <p>1st CYCLE OF INQUIRY</p> <p>If we monitor student's open response solutions as it relates to reasoning and proving, and reflecting so as to implement intentional instructional moves to close the gaps, then we will improve students' achievement level and problem solving capacity.</p> | <p><i>Actions will be outlined in the first three learning team meetings through the "SIPSA Monitoring Template" and summarized here at the end of the cycle – November 17th.</i></p> <ul style="list-style-type: none"> - Learning Goals posted and shared with students - Team co-creates and shares a common assessment tool for problem solving with students - Teachers create tracking tool that includes evidence of triangulation of data (conversations, products, observations) with reference to three students of focus - Staff use exploratory tasks to gauge baseline data and create intentional moves to address gaps - Teachers use multi-step, contextualized questions that mirror EQAO format to familiarize students with format and help develop problem solving skill building | <p><i>Data Gathering will be outlined and collected in the first three learning team meetings through the "SIPSA Monitoring Template" and summarized here at the end of the cycle – November 17th</i></p> <ul style="list-style-type: none"> - Applied students willing to take risks, discuss the validity of answer, collaboration and group work has increased, attempt unfamiliar questions, confidence has increased "it's a class, not a bunch of kids doing math" - Video math journals used to document confidence levels and student progress as it relates to engagement - Students are asking for the learning goal - Student developed social media outlet to support learning in the classroom - Classroom climate invites math narrative - Students holding teacher accountable – related to success criteria shared with students | <p><i>Reflections of Learning Teams work for cycle one will be summarized here at the end of the cycle by November 17th and posted on Insite</i></p> <ul style="list-style-type: none"> - Teachers will build in more time for conversations with students (ie. Math Talk) - SIPSA team meets to work through mini-inquiry between SIPSA meetings related to improving problem solving - Continue to find ways to increase confidence and work through math problems that are unfamiliar. "embrace the struggle" - Incorporate Microsoft Forms for documenting observations and conversations and explore ways to streamline monitoring of focus students |

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| <p>2nd CYCLE OF INQUIRY Starting November 20, 2017 Complete this section with any new data from your 1st Cycle of Inquiry.</p> <p>If/Then Statement: Posted by December 1, 2017</p> <p>If we monitor student's open response solutions as it relates to reasoning and proving, so as to implement intentional instructional moves to close the gaps, then we will improve students' achievement level and problem solving capacity.</p> | <p><i>Actions will be outlined in the three learning team meetings through the "SIPSA Monitoring Template" and summarized here at the end of the cycle on March 9th, 2018</i></p> | <p><i>Data Gathering will be outlined and collected in the three learning team meetings through the "SIPSA Monitoring Template" and summarized here at the end of the cycle on March 9th, 2018</i></p> | <p><i>Reflections of Learning Teams work for cycle two will be summarized here at the end of the cycle on March 9th, 2018, and posted on Insite</i></p> |
| <p>3rd CYCLE OF INQUIRY Starting March 19, 2018 Complete this section with any new data from your 2nd Cycle of Inquiry</p> <p>If/Then Statement: Posted by March 30, 2018</p> | <p><i>Actions will be outlined in the three learning team meetings through the "SIPSA Monitoring Template" and summarized here at the end of the cycle by June 15th, 2018.</i></p> | <p><i>Data Gathering will be outlined and collected in the three learning team meetings through the "SIPSA Monitoring Template" and summarized here at the end of the cycle by June 15, 2018.</i></p> | <p><i>Reflections of Learning Teams work for cycle two will be summarized here at the end of the cycle by June 15th, 2018, and posted on Insite</i></p> |