



School Improvement
Plan
for Student

School: Queen Elizabeth PS

Principal:

Mark Williams

Vice-Principal(s):

Goal Setting

Success Criteria:

- I develop a goal that defines a response to the challenge of practice (relevance).
- I consider a variety of data sources.
- I ensure the goal spans a minimum of a full year.
- I write a goal that focusses on big ideas (i.e. achievement, assessment, equity, well-being, mindset).
- I consider the profiles of all students when writing the goal.
- I write a goal that can be monitored in all classrooms throughout the cycles of inquiry.
- I write a goal that is realistic and achievable.
- I consider how pre and post classroom assessments over time will be used in measuring the success of our goal.
- I rely on multiple source of evidence to measure the success of our goal (i.e. pre and post classroom assessments, report cards and EQAO).

Overall Goal: 75% of students in Grade 5 and Grade 6 to be proficient on the student development numeracy continuum.

Needs Assessment / Where Are We Now?

If WE use a pre-task multiplication/division activity that will assist students in understanding a part-whole relationship to determine their position on the student continuum of numeracy development THEN we can purposely plan for their progression on the continuum.

Complete this section with data that is driving your decision-making to establish your goal above and If/Then statement below for the first Cycle of Inquiry.

Success Criteria:

- I am gathering multiple sources of data to determine where we are now.
- I am analyzing demographic data.
- I am analyzing contextual data.
- I am analyzing EQAO trend data.
- I am analyzing EQAO cohort data.
- I am analyzing report card data.
- I am analyzing student work (pre and post classroom assessments).
- I am analyzing qualitative data (e.g. anecdotal comments and observations) from educators.
- I am analyzing qualitative data (e.g. anecdotal comments and observations) from students.
- I am analyzing other sources of data relevant to my school.
- I reflect on all the analysis to determine the challenge of practice.

PLAN	ACT	ASSESS	REFLECT
<p style="text-align: center;">PLAN: Needs Assessment Where are we now?</p> <p>Success Criteria:</p> <ul style="list-style-type: none"> • I apply the needs assessment in determining my IF/THEN statement. • My plan includes targeted assessment/instructional move(s) that intend(s) to address my challenge of practice. • My plan includes a mechanism to determine instructional/assessment next moves to improve student learning. • My plan identifies my intended student learning as a result of the educator instructional move(s). • My plan includes tracking of what students know, are able to do and communicate. • My plan includes steps for documenting the educator instructional/assessment next moves. • I can align the learning experiences with the assess/reflect component of the SIPsa. • I can align the learning experiences with the intended monitoring plan of the the SIPsa. • I can align resources with the SIPsa. • I can co-construct success criteria for the plan. • I include flexible timelines in the plan. • I communicate the plan and success criteria to all stakeholders. 	<p style="text-align: center;">ACT: Evidenced-Based Strategies/Action What are we going to do?</p> <p>Success Criteria:</p> <ul style="list-style-type: none"> • I can determine all the steps in implementing my plan. • I have a monitoring plan to track student achievement through triangulation of data • I know the steps I am responsible for in implementing the plan. • I establish clear responsibilities for all stakeholders. • I celebrate successes in carrying out the plan. 	<p style="text-align: center;">ASSESS: Monitor/Gather Data How are we doing? What evidence do you have?</p> <p>Success Criteria:</p> <ul style="list-style-type: none"> • I can gather documentation aligned to the theory of action including both educator and student learning. • I can gather documentation from a variety of sources and triangulate the data using observations, conversations and products. • I can use a consistent assessment tool for the exploratory task and the assessment of learning task (pre and post). • I can use different tasks for the exploratory task and the assessment of learning task which align with the learning goal(s) and success criteria. • I can use success criteria to assess student exploratory task and the assessment of learning task. • I can examine student learning and reflect on my educators' teaching practices to intentionally plan our next educator move(s) to increase student achievement, learning and autonomy. • I can sort and summarize documentation and organize it in a meaningful way. • I can align documentation against the success criteria in order to analyze, interpret and justify the documentation as evidence of learning. • I can use technology to help me organize my documentation. • I can use parent friendly language and avoid the use of acronyms. • I can use both qualitative and quantitative data as needed. 	<p style="text-align: center;">REFLECT: Analyze/Reflect How did we do? Where to next?</p> <p>Success Criteria:</p> <ul style="list-style-type: none"> • I can determine trends and patterns in both educator and student learning. • I can analyze the documentation to determine what we learned. • I can identify gaps in learning for both students and educators. • I can generalize the insights gained by looking at focus students to a whole class/whole school profile. • I can align reflections with the If and Then statements. • I can use a variety of sources to support the analysis of the documentation (e.g. reflections from both educators and students). • I can identify intentional moves for both educators and students. • I can support educators identifying a personal and team next step.

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1st CYCLE OF INQUIRY

Theory of Action: Due October 12, 2018
If we create engaging learning experiences through a focus on purposeful planning and improve assessment and feedback practices through a focus on eliciting student thinking and learning through triangulation then student engagement and achievement will improve as measured by monitoring our focus students.

Success criteria for engaging learning experiences:
I can see and hear authentic learning experiences
I can see and hear assessment and feedback practices
I can see and hear student-centered learning
I can see and hear students using resources with intention
I can see and hear educators as responsive facilitators
I can see and hear Collaboration
I can see and hear purposeful planning
I can see and hear discourse along with independent think time
I can see and hear wellness

‘Look Fors’

Success Criteria for:
I can use a variety of mental math strategies to solve problems
I can understand parts of a whole
I can solve problems involving multiplication and division of whole numbers
I can represent my thinking
I can interpret the question correctly
I can seek clarification where necessary
I can utilize manipulatives when provided

DATA:
Monitoring the IF:
We utilized video of students solving pre-task, assisted us in understanding student thinking during the problem-solving stages
Monitoring the THEN:
We could diagnose the student thinking during the pre-task videos and gather evidence to support strategies for further assessment tactics

PRE: QUANTITATIVE EVIDENCE – DUE: October 12, 2018
All of the students were able to solve the problem with varying levels efficiently, only 2 students were able to use the continuum with automaticity. 3 students were moderately efficient and 2 students were inefficient.

Learning Skills:
Students had difficulty dissecting the openness of the question. Several students did not effectively interpret the question to support their ability to solve the problem.

Several students did not effectively utilize the manipulatives to support their answer.

MID: QUANTITATIVE EVIDENCE – DUE: November 16, 2018

Phase	Percentage
None Used	~5%
Counting More Efficiently & Tracking	~10%
Proficiency	~10%
Direct Modeling & Counting	~15%
Working with Numbers	~15%
Total	~45%

We continued with a new ‘splat’ numeracy problem to improve our frame of reference with a similar type of math problem

2 students continued to solve the problem with automaticity
3 students were moderately efficient in solving the problem

We still have 2 students that were inefficient in solving the problem

All of the students were more efficient with question familiarity and interpreting the literacy component of the word problem

Learning Skills:

POST: QUANTITATIVE EVIDENCE – DUE: February 8, 2019
23/23 students used direct modelling and counting to solve the initial part of the problem meaning that they could get to the point of formulating a partitive division problem.

When solving the partitive division problem, many strategies were used:

Strategy	Percentage
Counting on	~10%
Automatic Retrieval	~45%
Empty Groups and Fair Sharing	~10%
Repeated Addition	~10%
Trial and Error	~10%

	<p>QUALITATIVE ANECDOTES – DUE: October 12, 2018</p> <p><i>We observed the following multiplication strategies on the continuum of numeracy development</i></p> <p><i>Counting on with tracking, trial and error, taking jumps of 10 (forward or backwards), grouping, using known facts and automatic retrieval.</i></p> <p><i>We observed that the lower the grade the further back the students were on the continuum.</i></p> <p><i>We require more students to solve the problem with equal numbers of solution with fair sharing.</i></p>	<p><i>The format of the question was more readily understood and therefore the interpretation of the question was less of a barrier and the numerate understanding took precedent</i></p> <p>QUALITATIVE ANECDOTES – DUE: November 16, 2018</p> <p><i>As stated above: we continued with a new ‘splat’ numeracy problem to improve our frame of reference with a similar type of math problem</i></p> <p><i>During instructional time, we modelled how to demonstrate math thinking. This is an attempt to improve our understanding of how we are working through a math problem and ultimately finding potential areas for improvement and efficiencies.</i></p> <p>Learning Skills (Reading Comprehension): <i>We created a problem-solving book on how to solve a numeracy problem, comprised of 7 steps to solve work problem (co-constructed with the students). This problem-solving book will serve a lexicon for numeracy vocabulary and strategies to interpret multi-step math problems, that often have inferential aspects of the questions that require interpretation</i></p> <p><i>We reviewed problem solving models as a math talk to support more efficient and increased ways of solving the problem and to promote more entry points to the problem</i></p> <p><i>Math games were integrated for targeted groups to support numerate gaps in learning</i></p>	<p>QUALITATIVE ANECDOTES – DUE: February 8, 2019</p> <p><i>We learned that pre-teaching the “splat” problems using the website was an important step to create a frame of reference.</i></p> <p><i>Teachers used scaffolding to model how to solve the splat problem, students solved with the whole class then students solved independently.</i></p> <p><i>Teachers accessed the Steve Wyborne website to cultivate further splat questions.</i></p> <p><i>Teachers reverted to the original splat lessons with smaller numeric values so all students could access and master the concepts.</i></p> <p><i>Students were thoroughly engaged and excited with the activities.</i></p> <p><i>Not one student used the manipulatives that were provided, and many students relied on tally marks to create fair groups.</i></p>
<p>PLAN – DUE: October 12, 2018</p> <p><i>If we use a pre-task multiplication/division activity that will assist students in understanding a part-whole relationship to determine their position on the student continuum of numeracy development then we can purposely plan for their progression on the continuum. We will also determine learning skills associated with interpreting the question and using the math manipulatives.</i></p>	<p>ACT – DUE: October 12, 2018</p> <p><i>Model the use of manipulatives. Read basic math facts book as a numeracy team and develop math talks will help students understand the thinking of others. Continue to provide exit card to the marker students, in the coming units of study. Demonstrate how to represent your thinking as a learning skill. Equal number groups when solving a problem need to be modelled with explicit teaching. Teaching students how to break down the question in to usable parts.</i></p>	<p>ASSESS – DUE: November 16, 2018 & February 8, 2019</p> <p><i>We have made gains in understanding student thinking as it pertains to open-ended numeracy problems with multiple entry points.</i></p> <p><i>We will continue to develop the problem-solving strategies to support the most efficient means of solving the numeracy problem.</i></p>	<p>REFLECT – DUE: November 16, 2018 & February 8, 2019</p> <p><i>We have been reflecting on our current strategy and we have been pleased with student progress to date. We are finding new avenues to support a ‘tool chest’ of problem solving techniques for students and subsequently building perseverance during numeracy work.</i></p> <p><i>Students were unfamiliar in working with division sentences and unable to explain their thinking. Next steps for teachers is to use direct instruction on how to demonstrate thinking.</i></p> <p><i>Students using automatic retrieval were ineffective at demonstrating “how” they knew the answer and were unable to use a picture or number sentence to support their answer. Further explicit teaching will continue in this area.</i></p>

2nd CYCLE OF INQUIRY

Theory of Action: Due February 15th, 2019

If we create engaging learning experiences through a focus on purposeful planning and improve assessment and feedback practices through a focus on eliciting student thinking and learning through triangulation then student engagement and achievement will improve as measured by monitoring our focus students.

Success criteria for engaging learning experiences:

- I can see and hear authentic learning experiences*
- I can see and hear assessment and feedback practices*
- I can see and hear student-centered learning*
- I can see and hear students using resources with intention*
- I can see and hear educators as responsive facilitators*
- I can see and hear Collaboration*
- I can see and hear purposeful planning*
- I can see and hear discourse along with independent think time*
- I can see and hear wellness*

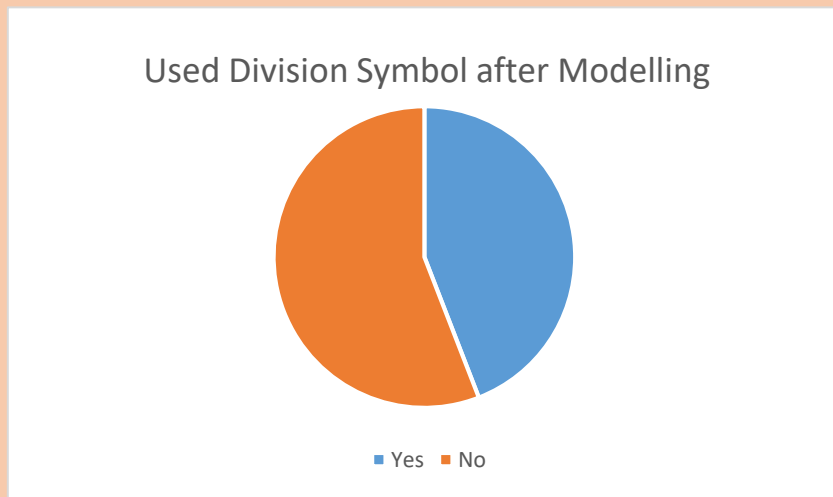
'Look Fors'

Success Criteria for:

- I can use a variety of mental math strategies to solve problems*
- I can understand parts of a whole*
- I can solve problems involving multiplication and division of whole numbers*
- I can represent my thinking*
- I can interpret the question correctly*
- I can seek clarification where necessary*
- I can utilize manipulatives when provided*

If we create engaging learning experiences through a focus on purposeful planning and improve assessment and feedback practices through a focus on eliciting student thinking and learning through triangulation then student engagement and achievement will improve as measured by monitoring our focus students.

<p>DATA:</p> <p>Monitoring the IF: Based on the <i>co-constructed success criteria</i> for educator learning. (e.g. criteria for providing effective descriptive feedback)</p> <p>Monitoring the THEN: Based on the <i>co-constructed success criteria</i> for the pre, mid and post assessments of student learning (e.g. success criteria for number fluency)</p>	<p>PRE: QUANTITATIVE EVIDENCE – DUE: February 15, 2019</p> <p>Currently, a limited number of students could demonstrate the division symbol as part of our initial diagnostic with our splat activity.</p>	<p>MID: QUANTITATIVE EVIDENCE – DUE: April 12, 2019</p> <p>The tasks that were selected in Grade 5 and Grade 6 were intending to elicit student thinking demonstrating division. We noticed that the students were completing the task without the division symbol and using multiplication instead of division. They were grouping the However, after the modelling was performed students then were able to use the division symbol (please see graph below).</p>	<p>POST: QUANTITATIVE EVIDENCE – DUE: May 31, 2019</p> <p>94% of the students from Grade 3-5 correctly answered the question</p> <p>43% use the division sign correctly in their answer 36% used a picture to solve 3% used trial and error to solve</p> <p>3% used a number line to solve 4% used repeated addition to solve 6% had the incorrect answer</p>
	<p>QUALITATIVE ANECDOTES – DUE: February 15, 2019</p> <p>Students are still in very early stages understanding the division symbol and its direct relationship to multiplication.</p>	<p>QUALITATIVE ANECDOTES – DUE: April 12, 2019</p> <p>The division symbol is still unfamiliar to many of the students in grade 4 and 5. After writing it on the board, students were unable to identify the function of the division symbol and the functionality. Moreover, the students struggled with the explanation of how the mathematical relationship worked with division and multiplicative</p>	<p>QUALITATIVE ANECDOTES – DUE: May 31, 2019</p> <p>REFLECT – DUE: April 12, 2019 & May 31, 2019</p> <p>Overall, we have seen a marked improvement in students' ability to show their thinking. At the beginning of the year they often put a number on their sheet but did not include either a visual</p>



		<p><i>thinking. Some could visually display the operation, however orally and written was deficient in comparison.</i></p> <p><i>Students in grade 4 and 5 in our previous cycle used repeated addition to show their thinking around splat problems, we have seen an increase in students now moving from addition statements to multiplication statements to justify their reasoning. More students are using multiplicative thinking to find a more efficient means of solving the problem.</i></p> <p><i>Need to understand that fractions are division. There is a relationship here that we need to develop and provide direct instruction to support student thinking in this regard.</i></p>	<p><i>model or number statement. They are more consistently including a detailed answer using either +, -, X or division symbol.</i></p> <p><i>Upon reflection of our task, we felt that by not having a picture/graphic to support the question and to provide a multiple entry points for the students, we read the prompt aloud, which we now realize may have provided students with more support to solve and less independence.</i></p> <p><i>We noticed an increase in the number of students who showed their thinking by providing a number sentence, for not only the final answer but how they solved each part of the two-part question.</i></p>
<p>PLAN – DUE: February 15, 2019</p> <p><i>If we embed the concepts of splats into a traditional division equation then students will be able to recognize the construct of a division equation through the lens of the splat activities. Moreover, they will be able to explain their thinking and gain a stronger understanding of the concepts of the division/multiplication relationship.</i></p>	<p>ACT – DUE: February 15, 2019</p> <p><i>We will expose the students to both partitive and quotative division questions.</i></p> <p><i>Teachers will reduce the size of the composite to ensure all students have a thorough understanding of the concept.</i></p> <p><i>Teachers will use concrete materials to model solutions to students that still need a foundation in solving quotative and partitive problems.</i></p> <p><i>Counting and additive reasoning will be a focus to support the division relationship.</i></p>	<p>ASSESS – DUE: April 12, 2019 & May 31, 2019</p> <p><i>Next steps:</i></p> <p><i>Can the students apply this understanding of part to whole relationships when presented with a word problem?</i></p> <p><i>Can 90% of the students use the division symbol in their answers?</i></p> <p><i>We want to challenge students to use a variable in the expression.</i></p>	

Engaging Learning Experiences Foci:

1. Creating meaning and integrating curriculum

Schools working in this area will be focused on how to create meaningful learning experiences for students that are relevant, important and challenging, while also seamlessly integrating and assessing the curriculum. They will work on how to incorporate real-world ideas and purposeful work, while using the curriculum as a tool to accomplish this work.

2. Integrating global competencies

Schools working in this area will be focused on ensuring that all students develop the knowledge, skills and characteristics to become personally successful, economically productive and actively engaged citizens. These competencies include:

- 1) Critical Thinking and Problem Solving
- 2) Creativity, Innovation and Entrepreneurship
- 3) Self-Directed Learning
- 4) Collaboration
- 5) Communication
- 6) Citizenship

3. Purposeful planning

Schools working in this area will use organizational concepts such as Backwards Design, Universal Design, Differentiated Instruction and Problem or Project-Based Learning to create purposeful learning experiences for students.

4. Building community partnerships

Schools working in this area will be focused on building and maintaining symbiotic partnerships with a variety of community stakeholders. These relationships are authentic and provide benefits for the students and stakeholders. In this work, students will benefit from authentic learning environments that provide them real-life learning opportunities.

5. Student voice and work

Schools working in this area will be focused on students as active participants in the classroom, where teachers build plans based on student interest and with students. In these classrooms, students are driving learning through their own inquiries and passions.

6. Publishing

Schools working in this area will find ways to engage students in purposeful work, and increase accountability and pride through sharing this work with the school, community, and wider world.

Assessment Loop Foci:

1. Identifying and using learning goals and success criteria

Schools working in this area will be focused on building educator efficacy in determining learning goals using big ideas and the curriculum and then noticing and naming the learning with students to co-construct success criteria.

2. Eliciting student thinking and learning through triangulation

Schools working in this area will be focused on building educator efficacy in gathering documentation from a variety of sources and triangulating the data using observations, conversations and products.

3. Generating descriptive feedback

Schools working in this area will be focused on building educator efficacy in examining student learning and reflecting on their teaching practices to intentionally plan next steps for students and educators to increase student achievement, learning and autonomy.

4. Engaging in peer and self-assessment

Schools working in this area will be focused on building educator efficacy in supporting students' engagement with the learning goal, success criteria and descriptive feedback to self-assess their and their peers' learning and act on the identified gaps.

5. Monitoring learning and setting goals

Schools working in this area will be focused on building educator efficacy in supporting students monitoring their learning to identify next steps and set personal goals for learning. In addition, educators will monitor their own and their students' learnings to identify and apply their intentional next best instructional moves.