MYP Unit Planner
Algebra 1: Quarter 1
2013-2014 School Year

Unit title	Expressions and Operations
Teacher(s)	Lee Tran
Subject and grade level	Algebra 1 9th – 12th grade
Time frame and duration	2 weeks / 5 block classes approximately 88 minutes each

Stage 1: Integrate significant concept, area of interaction and unit question

Area of interaction focus Which area of interaction will be our focus? Why have we chosen this?	Significant concept(s) What are the big ideas? What do we want our students to retain for years into the future?
Health and Social Education The student will make good choices regarding diet and exercise.	Key concept: Form Related concept: Measurement, Data Conceptual statement: Measurements and data can be expressed in many different forms

MYP unit question
How can you use different forms of expressions to measure data in sports.

Assessment What task(s) will allow students the opportunity to respond to the unit question? What will constitute acceptable evidence of understanding? How will students show what they have understood?
1) Students will use real numbers and expressions to represent situations in sports and other physical activities. 2) The students will use an algebraic expression to solve a problem. 3) The students will explain why variables are necessary 4) The students will describe a situation where we would use a variable in a mathematical expression

Which specific MYP objectives will be addressed during this unit?
Objective C (Communication in Mathematics) - Use appropriate mathematical language (notation, symbols, terminology) in both oral and written explanations in familiar situations. - Use different forms of mathematical representation (simple formulae, diagrams, tables, charts, graphs and models) - Communicate a mathematical line of reasoning in solving simple problems using different forms of representation.
Which MYP assessment criteria will be used?
Criteria C

Stage 2: Backward planning: from the assessment to the learning activities through inquiry

Content What knowledge and/or skills (from the course overview) are going to be used to enable the student to respond to the unit question? What (if any) state, provincial, district, or local standards/skills are to be addressed? How can they be unpacked to develop the significant concept(s) for stage 1?
Essential 1.a.1 Translate verbal quantitative situations into algebraic expressions. 1.a.2 Translate algebraic expressions into verbal quantitative situations. 1.a.3 Model real-world situations with algebraic expressions in a variety of representations (concrete, pictorial, symbolic, verbal). 1.a.4 Evaluate algebraic expressions for a given replacement set to include rational numbers. 1.a.5 Evaluate algebraic expressions that contain absolute value. 1.a.6 Evaluate algebraic expressions with square roots and cube roots. Expected 1.a.7 Simplify algebraic expressions using the distributive property and combining like

terms. Terms will include multiple variables with positive exponents.

1.a.8 Solve practical problems by simplifying algebraic expressions.

Approaches to learning

How will this unit contribute to the overall development of subject-specific and general approaches to learning skills?

Reflection: Self-evaluation – students will do a KWL as an exit ticket for a class towards the end of the unit.

Collaboration - Students will work in teams, collaborate, designate roles and resolve a problem.

Thinking - identifying problems—including deductive reasoning, evaluating solutions to problems

Communication - informing others with writing using mathematical language

Organization - self-management—including personal goal setting, organization of learning materials

Learning experiences	Teaching strategies
How will students know what is expected of them? Will they see examples, rubrics, templates? How will students acquire the knowledge and practise the skills required? How will they practise applying these? Do the students have enough prior knowledge? How will we know?	How will we use formative assessment to give students feedback during the unit? What different teaching methodologies will we employ? How are we differentiating teaching and learning for all? How have we made provision for those learning in a language other than their mother tongue? How have we considered those with special educational needs?
1. Students will separate into groups of 3. One student will be designated a leader, and one will be the recorder and one will be the presenter. Each group will search through magazines, cookbooks, newspapers and other forms of media to look for 4 examples of numbers expressed in different forms.	1A. The teacher will collect newspapers, magazines, other media, poster board, markers and rulers and have them ready for students to use. 1B. The teacher will facilitate the group work, keep students on task and answer questions. 1C. The teacher will break down the time in class and remind students to move on to the next phases of their assignment as the allotted time for each phase ends.
2. In groups the students will create an informational poster with the different types of expressions they found and in what context they were found it. In their presentation they will orally communicate why a form of expression was used in each case they came up with.	2. The teacher will encourage students to present to the class and keep a positive environment. The teacher will provide immediate feedback by way of a completed rubric to groups immediately after they finish.
3. In the middle of the unit the student will complete a KWL as an exit ticket. K→ what I Know, W → what I Want to know , L→ what I Learned today.	3. The teacher will assess the KWLs and plan the following class according to student needs.

4. The student will complete in-class assignments that will be turned in correct by the end of class.	4. The teacher will answer questions as they arise check for understanding, and provide feedback as students turn in their assignments.

Resources

What resources are available to us?

How will our classroom environment, local environment and/or the community be used to facilitate students' experiences during the unit?

Materials:

Graphing calculator, work sheets / hand-outs, Text book, Directions for project, Rubrics, document camera, Smartboard, Projectors, Stuart Common Drive, County shared materials, Online resources, Library and IB Math Tutors.

In addition the teacher will provide comfortable and open classroom environment where students are encouraged to help each other and ask for help and one in which they know they are capable of succeeding.

Ongoing reflections and evaluation

In keeping an ongoing record, consider the following questions. There are further **stimulus questions at the end of the "Planning for teaching and learning" section of *MYP: From principles into practice*.**

Students and teachers

What did we find compelling? Were our disciplinary knowledge/skills challenged in any way?

What inquiries arose during the learning? What, if any, extension activities arose?

How did we reflect—both on the unit and on our own learning?

Which attributes of the learner profile were encouraged through this unit? What opportunities were there for student-initiated action?

Possible connections

How successful was the collaboration with other teachers within my subject group and from other subject groups?

What interdisciplinary understandings were or could be forged through collaboration with other subjects?

Assessment

Were students able to demonstrate their learning?

How did the assessment tasks allow students to demonstrate the learning objectives identified for this unit? How did I make sure students were invited to achieve at all levels of the criteria descriptors?

Are we prepared for the next stage?

Data collection

How did we decide on the data to collect? Was it useful?

Will be updated throughout the unit.