

	Course: Math 7
	Teacher: Martin
	Unit: Operations with Integers
	Date: Starting March 31, 2020
	Duration: Approximately 3 weeks
Description: We will learn how to perform operations with integers: addition, subtraction, multiplication and division. We will also learn how to solve problems using order of operations with integers, including brackets, but excluding exponents.	

	Big Ideas	Essential Questions
Understand	<p><i>Which Big Ideas will be the focus of this unit?</i></p> <ul style="list-style-type: none"> • Computational fluency and flexibility with numbers extend to operations with integers. 	<p><i>What questions will be guiding your students' inquiry?</i></p> <ul style="list-style-type: none"> • When we are working with integers, what is the relationship between: <ul style="list-style-type: none"> ○ addition and subtraction? ○ multiplication and division? ○ addition and multiplication? ○ subtraction and division? • What rules can we describe for operations with integers? • After solving a problem, can we extend or generalize it? • How can we take a real-life problem and turn it into a math problem that we can solve? • How can we tell if a math solution is reasonable? • Where are we most likely to make errors? How can we avoid these? How can we identify and correct our errors?

	Core Competencies	Curricular Competencies
Do	<p>Communication</p> <p>Creative Thinking</p> <p>Critical Thinking</p> <p>Personal Awareness and Responsibility</p>	<p>Reasoning and logic</p> <p>Estimate reasonably</p> <p>Apply</p> <p>Multiple Strategies and Model</p> <p>Connected</p> <p>Explain and justify</p> <p>Communicate</p> <p>Reflect</p>

Curricular Content		
Know	<i>Which Curricular Content will students learn and be assessed on this unit?</i>	<i>Which activities, projects, exercises or discussions will teach this Curricular Content?</i>
	<ul style="list-style-type: none"> • Add, subtract, multiply and divide integers • Use order of operations to solve problems involving integers, including brackets, but excluding exponents • Read and interpret real-life problems, solve mathematically using integer operations 	<ul style="list-style-type: none"> • Explore each integer operations using number lines, integers tiles (counters) and money • Generalize results of explorations to develop rules for addition/subtraction and multiplication/division of integers • Review order of operations (BEDMAS) and apply to solving multi-step problems with integers • Develop fluency with integer operations through practice • Relate real-life problems to personal experiences to help interpret problems • Develop fluency with problem solving through practice • Engage in regular discussions with the teacher, to ask questions to support learning, and to demonstrate understanding

First Peoples Principles of Learning
<p>Through discussions, independent work and self-reflection, students will have the opportunity to reinforce the following First Peoples Principles of Learning</p> <ul style="list-style-type: none"> • Learning ultimately supports the well-being of the self, the family, the community, the land, the spirits and the ancestors. • Learning is holistic, reflexive, reflective, experimental, and relational (focused on connectedness, on reciprocal relationships, and a sense of place). • Learning is embedded in memory, history, and story. • Learning involves patience and time.

Unit Assessment		
<i>For Learning: Formative Assessment</i>	<i>As Learning: Reflection/Self-Assessment</i>	<i>Of Learning: Summative Assessment</i>
<ul style="list-style-type: none"> • Check of specific questions from homework • Check-in quizzes through Google Form, completed after each new lesson • Participation in video conferences 	<ul style="list-style-type: none"> • Self-assessments through Google Forms 	<ul style="list-style-type: none"> • Test

Required Resources
<ul style="list-style-type: none"> • Computer for online lessons, activities and video-conferencing • Notebook, pencil, eraser • The Centre for Education in Mathematics and Computing Courseware – Grades 7 & 8 Mathematics: https://courseware.cemc.uwaterloo.ca/27 Unit: Operations, Lessons: #1, 2, 6, 12, 13, 11 (Try This, BEDMAS, Operations with Brackets) • Explore Learning, Gizmos: https://www.explorelarning.com/ Class Code will be given directly to the students <ul style="list-style-type: none"> ○ Integers, opposites, and absolute values ○ Adding and subtracting integers with chips ○ Adding and subtracting integers (using a number line) • Math Links 7 textbook (McGraw-Hill Ryerson), Chapter 9 • Math Links 8 textbook (McGraw-Hill Ryerson), Chapter 8