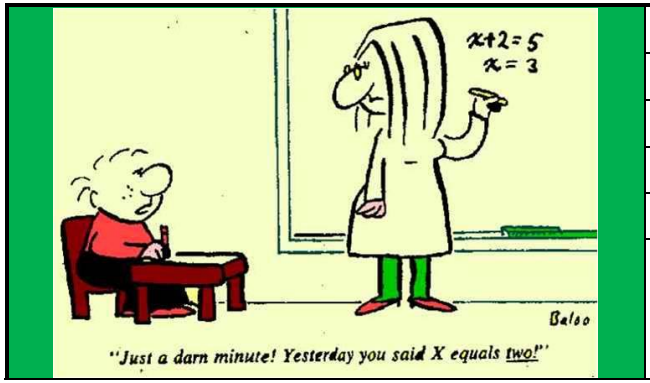

Course: Math 9

Teacher: Ablett

Unit: Solving Multi-Step Equations

Date: April 1 - 24 (approximately)

Duration: 3 weeks

Description: You have been solving equations for years, first by inspection, and then by learning to solve one-step and two-step equations. This unit builds on what you have learned in the past, incorporating distributive property, rational coefficients and variables on both sides of the equation. This is an important unit for success in future math courses.

Understand	**Big Ideas**	→ **Essential Questions**
	Which Big Ideas will be the focus of this unit? • The principles and processes underlying operations with numbers apply equally to algebraic situations and can be described and analysed. • Computational fluency and flexibility with numbers extend to operations with rational numbers.	*What questions will be guiding your students' inquiry?* • What does it mean to be equal? • Why does Mrs Ablett dislike "run-on math"? • What are you asked to determine when solving an equation? • How are the operations with polynomials connected to the process of solving equations? • How do we tell if a mathematical solution is reasonable? • How can we verify that we have solved an equation correctly? • Where can errors occur when solving a contextualized problem?

Do	**Core Competencies**	**Curricular Competencies**
	Choose one or more Core Competencies that will be focused on and developed in this unit: **Critical and Reflective Thinking** • Analysing and critiquing • Questioning and investigating • Reflecting and assessing	*Which Curricular Competencies will students learn and be assessed on in this unit?* **Reasoning and analysing** • Model by using concrete materials, drawing pictures or diagrams, building **Understanding and solving** • Apply multiple strategies to solve problems in both abstract and contextualized situations **Communicating and representing** • Use mathematical vocabulary and language to contribute to mathematical discussions • Explain and justify, using mathematical arguments • Communicate mathematical thinking in many ways • Represent mathematical ideas in concrete, pictorial, and symbolic forms **Connecting and reflecting** • Reflect, sharing the mathematical thinking of self and others, including evaluating strategies and solutions, extending, and posing new problems and questions

Know	Curricular Content	
	Which Curricular Content (specific to your course) will students learn and be assessed on this unit? • includes distribution, variables on both sides of the equation, and collecting like terms • includes rational coefficients, constants, and solutions • solving and verifying $1 + 2x = 3 – 2/3(x + 6)$ • solving symbolically and pictorially	*Which activities, projects, exercises or discussions will teach this Curricular Content?* • Class explorations of how to solve equations (how to distribute, collect like terms, move terms) • Consider worked examples and analyse steps • Reflect on whether solutions make sense • Make a video to explain how to solve a question or a problem

First Peoples Principles of Learning

How will they implement the First Peoples Principles of Learning?

Through class discussions, independent work and self-reflection, students will have the opportunity to reinforce the following First Peoples Principles of Learning

- 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

For Learning: Formative Assessment	*As Learning: Reflection/Self-Assessment*	*Of Learning: Summative Assessment*
• whiteboard work • online quizzes and activities • check of specific questions from homework • participation in video conferences	• self-assessments through Google Forms	• test • video assignment

Required Resources

What resources (textbooks, computer programmes, website subscriptions) will students need to complete this unit?

- Mathlinks 9 Pathways to Success textbook (McGraw-Hill Ryerson)
- CEMC, University of Waterloo https://courseware.cemc.uwaterloo.ca/41?gid=134
- Gizmos, G9-12 Algebra: Solving Linear Equations https://www.explorelearning.com/index.cfm?method=cResource.dspResourceExplorer&browse=Math/Grade+9-12/Algebra/Solving+Linear+Equations
- Computer for video-conferencing
- Notebook and calculator