

Curriculum Project Proposal

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EDUC-200

Solving Linear Equations from Word Problems

- 8th Grade Math
- **Purpose:**
 - Guide 8th-graders through deriving and solving a linear variable equation from a given word problem
 - Use current and relatable scenarios and context to create problems that students can connect to personally

Learning Objectives

Objective 1: Students will be able to derive a linear equation from a given word problem by understanding common synonyms for the main mathematical operations.

Objective 2: Students will be able to solve word problems by applying knowledge from the previous lesson to meaningful examples.

Objective 3: Students will be able to apply real-life knowledge to check their answers to word problems for reasonability.

Common Core State Standards (CCSS):

- A.SSE.A.1 Interpret expressions that represent a quantity in terms of its context; (Objective 1)
- A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems; (Objective 1)
- A.CED.A.2 Create equations in two or more variables to represent relationships between quantities. (Objective 1)
- 8.EE.7b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms; (Objectives 2 & 3)
- A.REI.B.3 Solve linear equations and inequalities in one variable including equations with coefficients represented by letters; (Objectives 2 & 3)
- 8.EE.8c. Solve real-world and mathematical problems leading to two linear equations in two variables. (Objectives 2 & 3)

Learning Activities

- Day 1 (Objective 1)
 - Mathematical operations game
 - Worksheet to derive equations (group work optional, not collected, review as a class)
 - Small group whiteboard problems
- Day 2 (Objective 2)
 - Examples with class and review of older material
 - Worksheet to derive equations and solve for the missing variable(s) (group work optional, collected)
- Day 3 (Objective 3)
 - Examples with class to explain methods of checking
 - Worksheet to derive equations, solve for variable(s), and check answers, either with reasonability, plugging in, or both
 - Exit Ticket
- Assessments
 - Formal: Day 2 Worksheet, Exit Ticket
 - Informal: Whiteboard activity—gauge levels of student understanding, listen to and observe how students go about solving the problems during individual/group work time

Elements of CRP

- Students in minoritized groups often are disadvantaged by mainstream curricula
- **Cultural competence** combats this by having educational material for the students that reflects their own experiences and culture