

Solving Linear Equations Expressions and Equations		Student/Class Goal Students will be able to find the value for the variable by solving a linear equation.
Outcome <i>(lesson objective)</i> Using the inverse operation method, students will start out solving one-step equations and progress to solving multi-step equations, involving variables on both sides, the distributive property, and combining like terms.		Time Frame 2 hours
Standard <i>Use Math to Solve Problems and Communicate</i>		NRS EFL 6
Components of Performance (COPs) Understand, interpret, and work with pictures, numbers, and symbolic information.	Activity Addresses COPs <i>(process)</i> Students will differentiate between constants, variables, and like terms.	
Apply knowledge of mathematical concepts and procedures to figure out how to answer a question, solve a problem, make a prediction, or carry out a task that has a mathematical dimension.	Students will use the inverse operation method and the distributive property.	
Define and select data to be used in solving the problem.	Students will determine the order of operations needed to isolate the variable.	
Determine the degree of precision required by the situation.	If necessary, student will round answer to given place value or write the solution as a fraction in lowest terms.	
Solve problem using appropriate quantitative procedures and verify that the results are reasonable.	Students will substitute their results back into the original equation to check for accuracy.	
Communicate results using a variety of mathematical representations, including graphs, charts, tables, and algebraic models.	Students will use modeling to confirm their answer.	
Activity Addresses Benchmarks <i>(content)</i> M.6.16, M.6.15, M.6.17, M.6.26, M.6.27, M.6.28, M.6.30, M.6.31		
Materials Hands on Equation material or similar modeling Practice Worksheets		
Learner Prior Knowledge <ul style="list-style-type: none"> • Four basic operations with integers, fractions, and decimals. • Distributive property • Vocabulary: like terms, coefficient, variable, constant 		
Instructional Activities Step 1 Review solving one-step and two-step equations using inverse operations. <ul style="list-style-type: none"> • Use concrete modeling to illustrate the steps and concepts used when solving equations. • Demonstrate on the board the steps needed to isolate the variable. • Provide students with guided practice problems. Step 2 Introduce equations where you have to combine like terms and use the distributive property. <ul style="list-style-type: none"> • Review how to combine like terms. • Review using the distributive property. • Point out common student errors. • Demonstrate and provide guided practice using both skills. 		

Step 3

Proceed with equations that have variables on both sides.

- Show students that the same techniques used for constants will work with variables.
- Show how to eliminate variables with negative coefficients by choosing the variable with the smallest coefficient to move to the other side of the equation.
- Demonstrate and provide guided practice.

Step 4

In a group, or with a partner, students will practice solving various types of equations.

- Provide practice material.

Step 5

Students will practice solving the various types of equations independently.

- Provide practice material.
- Online practice outside of class.

Assessment/Evidence *(based on outcome)*

Informal assessment by monitoring group/partner discussion and work. Formally check students' individual work for process and accuracy. Assign additional practice if necessary.

Teacher Reflection/Lesson Evaluation

Not yet completed.

Next Steps