7th Grade - Unit 2 Math - Expressions and Equations

Content Area: **Generic Content Area**
Course(s): **Math 6, Generic Course**
Time Period: **Generic Time Period**
Length: **35 Days**
Status: **Published**

Established Goals/Standards

Please choose the appropriate Goals/Standards from the Standards tab above.

MA.7.EE	Expressions and Equations
MA.7.EE.A	Use properties of operations to generate equivalent expressions.
MA.7.EE.A.1	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
MA.7.EE.A.2	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.
MA.7.EE.B	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.
MA.7.EE.B.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
MA.7.EE.B.4	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
MA.7.EE.B.4a	Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.
MA.7.EE.B.4b	Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.

Essential Questions

Please add your Essential Questions by clicking on the Lists tab above.

- How can properties of real numbers be used to represent equivalent algebraic expressions?
- How can the properties of equality be used to solve algebraic equations?
- What are algebraic equations and how can they be modeled, written, and solved?
- What are algebraic expressions and how can they be modeled, written, and evaluated?
- What are algebraic inequalities and how can they be written, solved and graphed?
- What is the distributive property?

Enduring Understanding

Please add your Enduring Understandings by clicking on the Lists tab above.

- Algebra tiles can be used to model algebraic expressions and demonstrate the combination of like terms.
- Algebraic equations are solved by applying the properties of real numbers.
- Algebraic inequalities can be represented on a number line.
- Distributive property is used to represent equivalent algebraic expressions.
- The properties of real numbers can be applied to expressions containing addition and multiplication.

Content

Students will be able to:

- Write and evaluate algebraic expressions
- Simplify algebraic expressions using properties
- Solve equations using properties
- Simplify and solve when the distributive is required
- Graph and write algebraic inequalities
- Solve inequalities

Vovabulary List:

- addition property of (in)equality
- subtraction property of (in)equality
- mulitplication property of (in)equality
- division propert of equality
- distributive property
- algebraic expression
- coefficient
- variable
- like terms
- inverse operation
- solution of an inequality
- inequality

Assessments

Resources

- Pearson Math Course 1 textbook and online resources
- Teacher made flip-charts
- Web-based activities (mathplayground.com) (coolmath.com)
- Teacher made worksheets/assessments
- mad minutes
- NJCTL.org (PMI math)
- Pizzazz series of worksheets