Unit 6 Variables & Equations

Content Area: **Special Education**
Course(s):
Time Period: **September**
Length: **6 weeks**
Status: **Published**

Enduring Understandings

All of the facts of arithmetic and algebra follow from certain properties.

Variables in place of numbers allow the statement of relationship among numbers that are unknown or unspecified.

Essential Questions

How is thinking algebraically different from thinking arithmetically?

How do I use algebraic expressions to analyze or solve problems?

What strategy can be used to simplify expressions with rational coefficients?

Content

Vocabulary

Variable

Expression

Equation

Like terms

Distributive Property

Skills

Evaluate variable expressions.

Simplify variable expressions combining like terms and applying the distributive property.

Translate verbal expressions to algebraic expressions.

Translate algebraic expressions to verbal expressions.

Solve equations using mental math.

Solve equations using addition and subtraction.

Solve equations using multiplication and division.

Solve two-step equations.

Solve equations with variables on both sides.

Solve equations using algebra tiles.

Resources

Standards

CCSS: Mathematics

CCSS: Grade 6

Expressions & Equations

6.EE.A. Apply and extend previous understandings of arithmetic to algebraic expressions.

6.EE.A.2. Write, read, and evaluate expressions in which letters stand for numbers.

6.EE.A.2a. Write expressions that record operations with numbers and with letters standing for numbers.

Show details

6.EE.A.2b. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity.

Show details

6.EE.A.2c. Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).

Show details

6.EE.B. Reason about and solve one-variable equations and inequalities.

6.EE.B.5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.

6.EE.B.7. Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all nonnegative rational numbers.

CCSS: Grade 7

Expressions & Equations

7.EE.A. Use properties of operations to generate equivalent expressions.

7.EE.A.1. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

CCSS: Grade 8

Expressions & Equations

8.EE.C. Analyze and solve linear equations and pairs of simultaneous linear equations.

8.EE.C.7. Solve linear equations in one variable.

MA.6.EE	Expressions and Equations
MA.6.EE.A	Apply and extend previous understandings of arithmetic to algebraic expressions.
MA.6.EE.A.2a	Write expressions that record operations with numbers and with letters standing for numbers.
MA.6.EE.A.2b	Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity.
MA.6.EE.A.2c	Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).