

Scope and Sequence – Bridge to Algebra	
7 th Grade Standards	Secured Content: Previously Taught Standards
7.EE.B.4a: 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. Solve real world 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 operations used in each approach.	Solve two-step equations.
New Content: 8 th Grade Standards	Secured Content: Previously Taught Standards
8.EE.A.1: Know and apply the properties of integer exponents to generate equivalent numerical expressions. 8.EE.A.2: Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that the square root of 2 is irrational. Fluently divide multi-digit numbers using the standard algorithm. 8.EE.B.5: Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. 8.EE.B.6: Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in a coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b. 8.EE.B.7a: Solve linear equations in one variable. Give examples of linear equations on one variable with one solution, infinitely many solutions, or no solutions. 8.EE.B.7b: Solve linear equations in one variable. Solve linear equations with rational coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	- Write and evaluate numerical expressions with whole number exponents. - Write, read, and evaluate expressions in which letters stand for numbers. - Apply the properties of operations to generate equivalent expressions. - Identify when two expressions are equivalent. - Solve two-step equations. - Plot ordered pairs in the coordinate plane.
8.SP.A.1: Construct and interpret scatterplots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and non-linear association.	- Graph points on the coordinate plane. - Describe patterns on a dot plot.

8.F.A.1: Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. 8.F.A.2: Compare properties of two functions represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). 8.F.A.3: Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. 8.F.B.4: Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	• Input output tables • Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
8.NS.A.2: Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line, and estimate the value of the expression.	• Locate rational numbers on the number line. • Square a number.