WAKE COUNTY PUBLIC SCHOOL SYSTEM

Middle School Programs
Building Healthy Core Learning
8th Grade Math, Unit 5

8th Grade UNIT 5 OVERVIEW: Solving Equations

Unit Outcomes At the end of this unit, your student should be able to:	**Key Vocabulary** Terms to deepen the student's understanding	
✓ Solve simple equations ✓ Solve equations that include variables on both sides, using the distributive property, and combining like terms ✓ Fluently solve equations with one solution, infinitely many solutions, or no solution ✓ Solve literal equations with a focus on solving equations for the y variable	✓ Addition property of Opposites ✓ Additive Identity Property of Zero ✓ Coefficient ✓ Distributive Property ✓ Equation ✓ Equivalent Expressions ✓ Evaluate ✓ Expression	✓ Infinitely Many Solutions ✓ Inverse Operation ✓ Like Terms ✓ No Solution ✓ Solution ✓ Subtraction Property of Equality

Key Standards Addressed Connections to Common Core/NC Essential Standards	**Where This Unit Fits** Connections to prior and future learning
8.EE.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 $\sqrt{2}$ is irrational. 8.EE.7 - Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	**Coming into this unit, students should have a strong foundation in:** ✓ Understanding of what a variable represents ✓ Setting up and solving one-, two-, and multi-step equations containing integers and rational numbers ✓ Solving equations using the distributive property ✓ Setting up and solving basic equations from word problems **This unit builds to the following future skills and concepts:** ✓ Manipulating equations in linear form ✓ Solving systems of equations with more than one variable

Additional Resources Materials to support understanding and enrichment	**"Learning Checks"** Questions Parents Can Use to Assess Understanding
✓ Teaching videos made by Wake County teachers ✓ WCPSS YouTube Channel – Math Playlist ✓ Variables on Both Sides Video ✓ Solving an Equation Overview ✓ Distributive Property Video ✓ Combining Like Terms Video ✓ Solving Equations Practice ✓ Solving Equations Practice #2 ✓ Literal Equations Overview ✓ Kuta Software ✓ No Solution and Infinite Solutions Overview	✓ Can an equation ever have more than one solution? ✓ Is it possible for an equation to have no solutions? ✓ How are numerical and variable expressions alike? How are they different? ✓ How do you solve an equation that has variables and constants on both sides of the equal sign? ✓ What key words do you look for in word problems to let you know what operation(s) to use in your equation?

*** Please note**, the unit guides are a work in progress. If you have feedback or suggestions on improvement, please feel free to contact wakemiddle@wcpss.net.