

UNIT 4 OVERVIEW

| SECTION | CORE PROBLEMS | VIDEOS | Lesson Objectives | CCSS Standards |
|---------|-------------------------|--|--|--|
| 2.1.1 | 2-1 thru 2-5 | Algebra Tiles and Perimeter - YouTube | Exploring Variables and Expressions Algebra Tiles and Perimeter (parent guide 2.1.1 -2.1.2) | Preparation for 8.EE.7a, 8.EE.7b in Lesson 2.1.8 |
| 2.1.2 | 2-11, 2-13(a-c), & 2-14 | Simplifying An Expression By Combining Like Terms - YouTube | Simplifying Expressions by Combining Like Terms Combining Like Terms (parent guide 2.1.2-2.1.3) | |
| 2.1.3 | 2-22 thru 2-26 | 🌟 How Do I Write Algebraic Expressions? 6th Grade Math - YouTube Math Shorts Episode 16 - Writing Algebraic Equations - YouTube | Writing Algebraic Expressions Simplifying Expression (Exp. Mat) (parent guide 2.1.3 – 2.1.5) | |
| 2.1.4 | 2-34 thru 2-39 | algebra tiles on an expression mat - using zero to simplify - YouTube | Using Zero to Simplify Algebraic Expressions | |
| 2.1.5 | 2-46 thru 2-49 | Simplifying Expressions on an Expression Mat - YouTube | Using Algebra Tiles to Simplify Algebraic Expressions | |
| 2.1.6 | 2-56 thru 2-57 | Comparing Expression Mats - YouTube | Using Algebra Tiles to Compare Expressions Comparing Quantities (Exp. Mat) (parent guide 2.1.5-2.1.8) | |

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| 2.1.7 | 2-63 thru 2-66(a & c) | Comparing Quantities on a 2 Region Expression Mat VIDEO 1 ... | Simplifying and Recording Work | |
| 6.1.3 | 6-23 thru 6-26 | | One Variable Inequalities | Preparation for 7.EE.4a, 7.EE.4b in Lessons 6.1.4, 6.2.1 |
| 6.1.4 | 6-35 thru 6-39 | Graphing Inequality Solutions | Solving One Variable Inequalities Graphing and Solving Inequalities (parent guide) | 7.EE.4b |
| 2.1.8 | 2-72 to 2-75(a & b) | Solving Equations Using Algebra Tiles - YouTube | Using Algebra Tiles to Solve for x Solving Equations (parent guide 2.1.8 – 2.1.9) | 8.EE.7a. 8.EE.7b. |
| 2.1.9 | 2-81 to 2-83 | How to Use Algebra Tiles to Model & Solve Equations - Video ... Solving Equations - With Algebra Tiles - YouTube | More Solving Equations | 8.EE.7a. 8.EE.7b. |

Review Standards from Prior Grades

6.G.A.1

Area of polygons by decomposing into triangles and rectangles.

6.RP.A.2

Understand unit rate.

6.RP.A.3

Ratio and rate reasoning with ratios, tables, equations, double number lines.

6.EE.A.3

Write equivalent expressions.

6.EE.A.4

Identify equivalent expressions.

6.EE.B.6

Use and understand variables.

6.EE.B.8

Write an inequality in the form $x > c$ or $x < c$.

7th Grade CCSS Standards

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. For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional $\frac{1}{10}$ of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar $9\frac{3}{4}$ inches long in the center of a door that is $27\frac{1}{2}$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.

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.

a) Fluently 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 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. For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.

Mathematical Vocabulary

The following is a list of vocabulary found in this unit. It is a good idea to make sure you are familiar with these words and to know what they mean. For the words you do not know, refer to the glossary or index. You might also want to add these words to your Toolkit for a way to reference them in the future.

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| 5-D Process | boundary point | coefficient |
| constant term | Distributive Property | equation |
| Equation Mat | evaluate | expression |
| Expression Comparison Mat | factor | factoring |
| inequality | inequality symbols | proportional relationship |
| ratio | solution | simplify |
| term | variable | |

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|-------------------------------|----------------------------------|--------------------------------|
| Additive Identity | Additive Inverse | Associative Property |
| combining like terms | Commutative Property | Equation Mat |
| evaluate | Expression Comparison Mat | Multiplicative Identity |
| Multiplicative Inverse | non-commensurate | Order of Operations |
| term | variable | |

** Please note this is a comprehensive curriculum and will include additional mathematical content and standards. This is ONLY an overview of Unit 4.