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| Chapter 3 | Algebraic Expressions and Properties |
| Date: | Lesson 3.1 Algebraic Expressions |
| Essential Question | How can you write and evaluate an expression that represents a real-life problem? |
| Vocabulary |

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| Vocab | Definition | Example |
| algebraic expression | an expression that may contain numbers, operations, and one or more symbols |  |
| term | a part of an algebraic expression |  |
| variable | a letter that represents a number |  |
| coefficient | the numerical factor of a term that has a variable |  |
| constant | a term without a variable |  |

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| Practice |

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| algebraic expression | term(s) | coefficient(s) | variable  | constant |
| 1) $$12 +10c$$ |  |  |  |  |
| 2)$$15 +3w + \frac{1}{2}$$ |  |  |  |  |
| 3)$$z^{2} +9z$$ |  |  |  |  |

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| Practice | 4) $j ∙ j ∙ j ∙j ∙ j ∙j =$  | 5) $91.5 ∙f ∙f ∙f =$ |
| 6) $7 ∙k ∙k ∙k ∙k =$ | 7) $m ∙ m ∙ m ∙ m ∙ m =$ |
| Practice | 8) Evaluate c – 24 when c = 51. | 9) Evaluate $h ∙k$ when h = 4.6 and k = 25. |
| 10) Evaluate $\frac{x}{3}$ when x = 2.4. |
| Practice | 11) Evaluate $30 -24 ÷y$ when y = 6 | 12) Evaluate $6.8+ y^{3}$ when y = 2 |
| Practice | 13) You want to buy a skateboard that costs $125. Your aunt gives you $45 for your birthday. You save $4 each week. The expression 45 + 4w gives the amount of money you save after w weeks. After 20 weeks, will you have enough money to buy the skateboard? Show your work. |

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| Chapter 3 | Algebraic Expressions and Properties |
| Date: | Lesson 3.2 Writing Expressions |
| Essential Question | How can you write an expression that represents an unknown quantity? |
| Key Words | Refer to the chart from the first week of school. Additional key words:Cubed means to the third power; y3Squared means to the second power; y2Doubled or twice means multiply by 2 |
| IMPORTANT! | The phrases “fewer than” or “less than” mean you must switch the order of the numbersExamples: 6 fewer than 14 means 14 – 6 15 less than y means y - 15 |
| Practice | 1) the sum of 16 and 4 | 2) the quotient of the number 24 and 3 |
| 3) the product of 7 and 4 | 4) 15 less than 45 |
| Practice | 5) 25 less than a number *b* | 6) a number *x* divided by 4 |
| 7) the total of a number *t* and 11 | 8) 100 decreased by a number *k* |
| Practice | 9) Your friend has 5 more than twice as many game tokens as your sister. Let t be the number of game tokens your sister has. Write an expression for the number of game tokens your friend has. |
| 10) You have $300 in your bank account. You earn $50 every weekend babysitting. Let w stand for the number of weekends you babysit. Write an expression to find out how much money you will have in your bank account after a certain number of weekends. |
|  | 11) John has 7 less than 3 times as many quarters as Scott. Write an expression to tell how many quarters John has.How many quarters does John have if Scott has 8? |

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| Chapter 3 | Algebraic Expressions and Properties |
| Date: | Lesson 3.3 Properties of Addition and Multiplication |
| Essential Question | Does the order in which you perform an operation matter? |
| Vocab  |

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| Vocab | Definition | Example |
| equivalent expressions | 2 or more expressions that have the same value | 5 + 6 = 3 + 8or3 x 10 = 6 x 5 |
| commutative property of addition | changing the order of addends does not change the sum | 12 + 7 and 7 + 12have the same value |
| commutative property of multiplication | changing the order of factors does not change the product | 4 x 5 and 5 x 4 have the same product |
| associative property of addition | changing the grouping of addends does not change the sum | (7 + 4) + 2 = 7 + (4 + 2) |
| associative property of multiplication | changing the grouping of factors does not change the product | (3 x 5) x 2 = 3 x (5 x 2) |

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| PracticeSimplify each expression. Tell what property you used. | 1) (9 + a) + 10 | 2) (4n)5 |
| Vocab |

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| Vocab | Definition | Example |
| addition property of zero | The sum of any number and 0 is that number | 7 + 0 = 7ora + 0 = a |
| multiplication property of zero | The product of any number and 0 is 0 | $$9 ∙0=0$$or$$b ∙0=0$$ |
| multiplication property of one | The product of any number and 1 is that number | $$4 ∙1=4$$or$$h ∙1=h$$ |

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| PracticeSimplify each expression. Explain each step. | 3) 1 $∙$ *m* $∙$ 24 | 4) 12 $∙$ *b* $∙$ 0 |
| Practice | 5) The length of one side of a square is 3x. Write an expression to find the perimeter of the square. Then simplify the expression and explain each step. |

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| Chapter 3 | Algebraic Expressions and Properties |
| Date: | Lesson 3.4 The Distributive Property |
| Essential Question | How do you use mental math to multiply two numbers? |
|  | Find the product of 6 x 47 without setting the problem up vertically. |
| Practice | 1) Use mental math to solve 3 x 76. |
| Vocab |

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| Distributive Property | when the number outside the parentheses uses the multiplication symbol, and the numbers inside the parentheses use addition or subtraction, multiply the outside number by each number inside the parentheses | Example |

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| Write an expression using the distributive property for each expression. Then solve your expression. | 2) 9 x 19 | 3) 37 x 8 |
| Practice | 3) 3(11 – d) | 4) 10(9 + 3y) | 5) 7(2 + 6 – 4f) |
| Like Terms | Like terms are terms that we can combine. The + or – goes with the term that follows the operation symbol. Example: |
| Practice | 7) 8 + 3*z* – 2 – *z* | 8) 3(*b* + 5) + *b* + 2 |