Grade 5

ALGEBRAIC REASONING

Created By:

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Whole Class Lessons and Guided Math Groups
Active Engagement and Games
Intervention and Enrichment
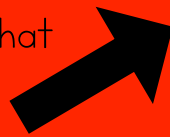Exit Tickets

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I SEE YOU~

- struggling each week to write lesson plans that meet the rigor of the TEKS.
- searching endlessly for resources that will help kids learn math while being challenged and engaged.
- staying late everyday after school working on plans and creating everything from scratch.

You are exhausted from working with students all day, and still have to prep, write and create.

I SEE YOU~

SACRIFICING your time with your family and friends

to ensure success for ALL of OUR Children.

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Algebraic Reasoning

Name	1	2	3	4	5
	1	2	3	4	5

6

LT	Statement	1	2	3	4	Evidence
1	I can identify prime and composite numbers.					
2	I can describe the meaning of parentheses and brackets in a numeric expression.					
3	I can represent multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity.					
4	I can solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity.					
5	I can simplify numerical expressions that do not involve exponents, including up to two levels of grouping.					

1	2	3	4
I have no idea how to do this.	I can do this with some help.	I can do this by myself	I can teach someone to do this.

Learning Target	What do we want students to learn?	How will we know if they learned it?	What will we do if they don't?	What will we do if they already know it?
1 5.4A	Identify prime and composite numbers.	❑ Identify special numbers: 2,1,0 ❑ Generalizations from arrays used to determine if a number is prime or composite ❑ Organizational factor lists and factor pairs	❑ Understand that a composite number is a whole number with more than two factors ❑ Understand that a prime number is a whole number greater than 1 with exactly two factors, 1 and the number itself ❑ Identify an explanation of why a number is prime or composite	❑ Introduce prime factorization.
2 5.4E	Describe the meaning of parentheses and brackets in a numeric expression.	Describe ❑ Expression ❑ Grouping symbols ❑ Generalization about grouping symbols within a numerical expression ❑ Indicators of multiplication ❑ Relationship between numbers and operators separated by parentheses and/or brackets	❑ Explain the meaning of the parentheses related to order of operations ❑ Understand the order of operations ❑ Understand that parentheses are a grouping symbol that indicate the part of the expression that should be simplified first	❑ Generate equivalent numerical expressions using order of operations, including whole number exponents and prime factorization.

Learning Target	What do we want students to learn?	How will we know if they learned it?	What will we do if they don't?	What will we do if they already know it?
3 5.4B	Represent multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity.	Representations of an unknown quantity in an equation ❑ Equation – a mathematical statement composed of algebraic and/or numeric expressions set equal to each other ❑ Any single letter to represent the unknown quantity (e.g., 24 – 8 = y, etc.) ❑ Equal sign at beginning or end and unknown in any position ❑ Recognition of addition, subtraction, multiplication, and/or division in mathematical and real-world problem situations ❑ Representation of problem situations with equations and/or diagrams	❑ Represent a two-step problem situation involving all operations using an equation with a letter standing for the unknown quantity ❑ Understand the relationship between known values, operations, and an unknown value in a real-world problem situation ❑ Understand how to solve an equation representing a multi-step problem with a letter standing for the unknown quantity ❑ Understand that parentheses are a grouping symbol that indicate the part of the expression that should be simplified first	❑ Model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts.
4 5.4B	Solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity.	❑ Determine value of an unknown in an equation and/or diagram ❑ Addition and subtraction problem structures ❑ Multiplicative structures ❑ Division structures ❑ Multi-step problem situations		

Learning Target	What do we want students to learn?	How will we know if they learned it?	What will we do if they don't?	What will we do if they already know it?
5 5.4F	Simplify numerical expressions that do not involve exponents, including up to two levels of grouping.	Grouping symbols – symbols to show a group of terms and/or expressions within a mathematical expression ❑ Parentheses ( ) ❑ Brackets [ ] ❑ Up to two levels of grouping ❑ Grouping symbols within grouping symbols ❑ Two sets of grouping symbols Order of operations – the rules of which calculations are performed first when simplifying an expression ❑ Parentheses/brackets: simplify expressions inside parentheses or brackets in order from left to right ❑ Multiplication/division: simplify expressions involving multiplication and/or division in order from left to right ❑ Various indicators of multiplication include ×, ·, or grouping symbols without a multiplication symbol. ❑ Addition/subtraction: simplify expressions involving addition and/or subtraction in order from left to right	❑ Understand the order of operations ❑ Understand that parentheses are grouping symbols that indicate the part of the expression that should be simplified first ❑ Understand that parentheses without an operation symbol indicate multiplication; a(b) means a multiplied by b ❑ Represent a problem situation involving all operations using an expression ❑ Simplify an expression using order of operations ❑ Understand that when an expression contains a set of grouping symbols within another set of grouping symbols, the innermost set of grouping symbols should be simplified first	❑ Simplify numerical expressions that may include a division bar instead of the division symbol.

Day 1	Day 2	Day 3	Day 4	Day 5
Concept Attainment LT 1 Prime and composite	Mini Lesson LT 1 Prime and composite	Independent Practice LT 1 Prime and Composite	Mini Lesson LT 2 Grouping Symbols	Mini Lesson LT 5 Order of Operations
Guided Math	Guided Math	Guided Math	Guided Math	Guided Math
Reteach Unit 1	LT 1	LT 1	LT 2	LT 2, 5

Day 6	Day 7	Day 8	Day 9	Day 10
Independent Practice LT 2, 5	Mini Lesson LT 3 Represent: Strip Diagrams	Mini Lesson LT 3 Represent: Equations	Mini Lesson LT 3 Represent: Equations	Mini Lesson LT 4 Solve Equations
Guided Math	Guided Math	Guided Math	Guided Math	Guided Math
LT 2, 5	LT 2, 5, 3	LT 3 + and – Problem Structures	LT 3 x Problem Structures	LT 4, 5 ÷ Problem Structures

Day 11	Day 12			
Game LT 4 Solve Equations	Independent Practice LT 3, 4 Represent and Solve			
Guided Math	Guided Math			
LT 4, 5 Problem Structures	LT 4, 5			

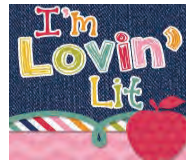# Unit 2 Algebraic Reasoning

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