

Chapter 10 **Curriculum for Grade 5**

The Grade 5 Curriculum has been organized into nine units for the year. The units are:

- 1 Place Value
- 2 Addition and Subtraction
- 3 Multiplication and Division
- 4 Fraction Concepts
- 5 Fraction Operations
- 6 Geometry
- 7 Algebraic Thinking
- 8 Measurement
- 9 Data Analysis and Probability

Each unit represents an overarching mathematical concept. The pacing of the units is to be determined by individual teachers, although some units build on concepts presented in other units. Some objectives are found in more than one unit. The objects refer to the TEAM-Math objectives.

5th Grade - CURRICULUM GUIDE
SUGGESTED 'QUARTER AT A GLANCE'

	1 st Nine Weeks	Investigations	SFAW	
	Place Value Unit			
N1a	Demonstrate number sense by comparing ordering, rounding, and expanding whole numbers through millions and decimals to thousandths.	NTP 1:1-7 NTP 3: 1-8 DCK 3: 1	1:1,2,4	
N1b	Determining the value of a digit to thousandths.	NTP 1: 1 NTP 3: 1-8 DCK 2:1 DCK 3: 1	1:3	
N6	Determine equivalency between fractions, decimals, and percents.		7:7,8	
N1d	Identify numbers less than zero by extending the number line.		9:14	
	Addition and Subtraction Unit			
N2.	Solve problems involving basic operations on whole numbers, including addition and subtraction of 7 digit numbers.			
N2c	Demonstrate computational fluency with addition and subtraction of whole numbers			
N5	Solve word problems involving decimals, fractions, or money.			
A6	Find the output of functions (number machines).		2:14	
A1	Demonstrate the commutative, associative, and identity properties of addition.			
	Graphing Unit			
D1	Analyze data collected from a survey or experiment to distinguish between what the data show and what might account for the results.	DCK 1:1 DCK 2:2 DCK 5:3-5	5:1,2,3,4,5	
D2	Use given measures of central tendency (mean, median, and mode) to analyze data.	DCK 1:1-4 DCK 2:1	5:6	
D3	Use common fractions to represent the probability of events that are neither certain or impossible.	BONYK TMM	5:10, 11, 12	

	2 nd Nine Weeks	Investigations	SFAW	
	Multiplication and Division unit			
N2	Solve problems involving basic operations on whole numbers including multiplication with 2-digit multipliers.			
N2a	Estimate products and quotients.	BONYK 3:1-6 BONYK 5:1-2 NTP 1:1-2 NTP 4:1-7		
N2	Solve problems involving basic operations on whole numbers including division with 2-digit divisors.			
N4b	Determine divisibility by 2, 3, 4,5,6,9, and 10.	BONYK 1:3-5	3:10	

N2c	Demonstrate computational fluency with multiplication of whole numbers.			
N2c	Demonstrate computational fluency with division of whole numbers.			
N3	Solve word problems involving decimals, fractions, or money.			
A1	Demonstrate the commutative, associative, and identity properties of multiplication.			
N7	Write a number sentence for a problem expressed in words.			
N3d	Identify and use order of operations.			
G4	Identify components of the Cartesian plane, including the x-axis, y axis, origin, and quadrants.		3:14	
G5	Locate points on the coordinate grid using ordered pairs.		3:14	
	Fraction Concepts Unit			
N4c	Introduce prime and composite numbers.		3:11	
N3b	Change mixed numbers to improper fractions and improper fractions to mixed numbers	NTP 2:6-8 NTP 3:7	7:3	
N4a	Using least common multiples and greatest common factor.	NTP 2:4-8 NTP 3:8	8:6	
N3c	Simplify fractions, make equivalent fractions.		7:7,8,10	

	3 rd Nine Weeks	Investigations	SFAW	
	Fraction Operations unit			
N3a	Determine the sum, difference, and product of fractions with common and uncommon denominators.		8:1,2,4,5,7,8	
N4b	Solve problems involving addition and subtraction of fractions with common and uncommon denominators.	NTP 2: 1-3, 7-8		
N4d	Estimate sums and differences of fractions.	NTP 2:3		
	Geometry Unit			
G1	Identify regular polygons and congruent polygons.			
G2a	Identify angles as right, obtuse, acute, or straight.			
G2b	Classify triangles as equilateral, isosceles, or scalene.			
G1	Identify figures that have rotational symmetry.			
G3	Predict the results of a flip (reflection), turn (rotation), or slide (translation).			
G2c	Identify the center, radius, and diameter of a circle.			
G6	Identify the nets (combination of two-dimensional shapes to make three dimensional shapes) for three dimensional shapes.	DCK TMM	10:1,2	
G7	Recognize geometric ideas and relationships and apply them to other disciplines and to problems that arise in the classroom or in everyday life.		6:12	
M3	Estimate perimeter and area of irregular shapes using unit squares and grid paper.	DCK TMM Volume and surface area		

M4.	Calculate the perimeter of rectangles from measured dimensions.			
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	4rth Nine Weeks	Investigations	SFAW	
	Measurement Unit			
N3a	Solve word problems involving elapsed time.			
M1	Use appropriate units and tools of measurement in customary and metric units.			
M2	Convert a larger unit of measurement to a smaller unit of measurement within the same system, customary or metric.			
	Algebra Unit			
	Determine equivalency between fractions, decimals, and percents.		11:8	
N7	Use ratios and proportions in real life applications such as scale drawings: equivalent fractions, unit rate, factor of change		11:6	
A2	Write a number sentence or sentences for a problem expressed in words involving multiple steps		12:4	
A3	Realize a variable is an unknown quantity represented by a letter or a symbol		12:1	
A4	Solve simple algebraic equations		12:2,3	
A5	Express mathematical relationships using equations		12:4	

5th grade Suggested Pacing Guide

Quarters	Objectives
1st	
___	Demonstrate number sense by comparing ordering, rounding, and expanding whole numbers through millions and decimals to thousandths.
___	Determining the value of a digit to thousandths
___	Determine equivalency between fractions, decimals, and percents.
___	Identify numbers less than zero by extending the number line.
___	Solve problems involving basic operations on whole numbers, including addition and subtraction of 7 digit numbers.
___	Demonstrate computational fluency with addition and subtraction of whole numbers
___	Solve word problems involving decimals, fractions, or money
___	Find the output of functions (number machines).
___	Demonstrate the commutative, associative, and identity properties of addition.
___	Analyze data collected from a survey or experiment to distinguish between what the data show and what might account for the results.
___	Use given measures of central tendency (mean, median, and mode) to analyze data.
___	Use common fractions to represent the probability of events that are neither certain or impossible
2nd	
___	Solve problems involving basic operations on whole numbers including multiplication with 2-digit multipliers.
___	Estimate products and quotients
___	Solve problems involving basic operations on whole numbers including division with 2-digit divisors.
___	Determine divisibility by 2, 3, 4,5,6,9, and 10
___	Demonstrate computational fluency with multiplication of whole numbers.
___	Demonstrate computational fluency with division of whole numbers.
___	Solve word problems involving decimals, fractions, or money.
___	Demonstrate the commutative, associative, and identity properties of multiplication.
___	Write a number sentence for a problem expressed in words.
___	Identify and use order of operations.
___	Identify components of the Cartesian plane, including the x-axis, y axis, origin, and quadrants.
___	Locate points on the coordinate grid using ordered pairs.
___	Introduce prime and composite numbers
___	Change mixed numbers to improper fractions and improper fractions to mixed numbers
___	Using least common multiples and greatest common factor
___	Simplify fractions, make equivalent fractions

3rd

- ___ Determine the sum, difference, and product of fractions with common and uncommon denominators
- ___ Solve problems involving addition and subtraction of fractions with common and uncommon denominators.
- ___ Estimate sums and differences of fractions.
- ___ Identify regular polygons and congruent polygons
- ___ Identify angles as right, obtuse, acute, or straight.
- ___ Classify triangles as equilateral, isosceles, or scalene
- ___ Identify figures that have rotational symmetry
- ___ Predict the results of a flip (reflection), turn (rotation), or slide (translation).
- ___ Identify the center, radius, and diameter of a circle
- ___ Identify the nets (combination of two-dimensional shapes to make three dimensional shapes) for three dimensional shapes.
- ___ Recognize geometric ideas and relationships and apply them to other disciplines and to problems that arise in the classroom or in everyday life.
- ___ Estimate perimeter and area of irregular shapes using unit squares and grid paper.
- ___ Calculate the perimeter or rectangles from measured dimensions

4th

- ___ Solve word problems involving elapsed time.
- ___ Use appropriate units and tools of measurement in customary and metric units.
- ___ Convert a larger unit of measurement to a smaller unit of measurement within the same system, customary or metric
- ___ Determine equivalency between fractions, decimals, and percents.
- ___ Use ratios and proportions in real life applications such as scale drawings: equivalent fractions, unit rate, factor of change
- ___ Write a number sentence or sentences for a problem expressed in words involving multiple steps
- ___ Realize a variable is an unknown quantity represented by a letter or a symbol
- ___ Solve simple algebraic equations
- ___ Express mathematical relationships using equations

Place Value

This unit focuses on understanding the place value of a digit in a whole number from thousandths through hundred millions, including concepts such as estimation, pictorial representations, expanded notation, and money. This unit also introduces integers.

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
	N1. Compare and order:				
1. Compare order, round and expand whole numbers through millions and decimals to the thousandths place. a. Relating percents to parts out of 100 by using equivalent fractions and decimals b. Determining the value of a digit to the thousandths 5. Identify digits less than zero by extending the number line.	a. Compare, order, round, and expand whole numbers through millions and decimals to the thousandths	Identify alternative representations of rational numbers (Communication, representation, and estimation) Compare and order rational numbers (Estimation and Mathematical Connections) Round whole numbers to a specified place value	1:1,2,4	KCA TMM: Digits Game, 1: 2-3 ,3: 1 BONYK 1: 2 NTP 3: 3-6 MT 2: 1-5, 3: 1-5, 4: 2-6	
1b. Determine the value of a digit to thousandths.	b. Determine the value of a whole number to the millions and decimals to the thousandths	Identify the place value of a digit in a whole or decimal number	1:3	DCK TMM: The Digits Game, 2: 1, 3: 1 BONYK 4: 1- 2 NTP 1: 1, 3: 1-7, 4: 2 MT 4: 1-6	
5. Identify numbers less than zero by extending the number line.	c. Identify numbers less than zero on a number line and in real life situations		9:14 12:5	MT 4: 1 (Teacher note p. 79)	
	b. Simplifying fractions, making equivalent fractions		7:7,8,10	NTP 1: 1-6, 2: 4-8	
	N4.				
4c. Use least common multiplies.	a. Find and use the least common multiple (LCM) by listing multiples of the numbers involved and greatest common factor (GCF) by listing factors of the numbers involved	Identify factors or multiples of numbers	8:6	NTP 2: 4-8, 3: 8	

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
	c. Introduce prime and composite numbers		3:11		
1a. Relate percents top parts out of 100 using equivalent fractions and decimals.	N6. Convert fractions to decimals and percents		11:8	NTP1: 1-7, 2: 1-9, 3: 1, 3-8, 4: 1-7	
	N7. Use ratios and proportions in real life applications such as scale drawings: <ul style="list-style-type: none"> •1 Equivalent fractions •2 Unit rate •3 Factor of change 	Solve problems using ratio or proportion Determine measurements indirectly from scale drawings	11:6	PC 1: 1-4, 2: 1-5, 3: 1-7	

Addition and Subtraction

This unit focuses on adding and subtracting using a multiple of strategies. It also covers output of functions.

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
	N3.				
	e. Identify and use order of operation rules	Identify and use order of operations	3:13		
	N5 Problem Solving				
2. Solve problems involving basic operations on whole numbers, including addition and subtraction of seven-digit numbers, multiplication with two-digit multipliers, and division with two-digit divisors. 4d. Estimate sums and differences of fractions	a. Solve problems using basic operations on whole numbers, fractions, and decimals b. Solve problems by estimating sums, differences, products, and quotients	Solve problems using numerical reasoning Solve problems using appropriate strategies Solve problems using nonroutine strategies Solve problems involving patterns Solve problems involving elapsed time Match pictorial models to fraction names and notation Solve problems using estimation strategies	1:12,13, 2:7,8,9,10,11,16 3:5,9,12 4:10,11,12 5:13 6:12 7:6,16 8:1,2,4,5,7,8,9,1 5,16, 9:16 10:11 11:11	MB 3: 1-3 NTP 1: 1,7 2: 1-3, 7-8 3: 7 BONYK 1: 2-8, 2: 1-7, 3: 1-10, 4:1-2, 5: 1-8	
6. Demonstrate the commutative associative and identity properties of addition and multiplication of whole numbers	A1. Demonstrate the use of commutative, distributive, associative, and identity properties of addition and multiplication	Identify and use field properties of addition and multiplication	1:7 2:1	MT 2: 1-4, 3: 2-5 BONYK 1:6-7,2: 5-6, 3: 1-3 MB TMM: Estimation and Number Sense	
7. Write a number sentence for a problem expressed in words	A2. Write a number sentence or sentences for a problem expressed in words involving multiple steps	Translate between visual representations, sentences, and symbolic notation	12:4	MT 2:1, 3:2-5, 4: 1 NTP TMM: Seeing Numbers BONYK 1: 1, 3-4, 6-8 2: 1-2, 5-6, 3: 1-10, 5: 4-7	
6. Demonstrate the commutative associative and identity properties of addition and multiplication of whole numbers	A6. Find the output of functions (number machines)	Identify and use field properties of addition and multiplication	2:14	BONYK 1: 1-8, 2: 1-3, 5- 3: 4-10, 4: 1-2, 5: 1-8	
11. Estimate perimeter and area of irregular shapes using unit squares and grid paper. 12. Calculate the perimeter of rectangles from measured	M4. Calculate the area and perimeter of measured dimensions	Solve problems involving area or perimeter	9:5	KCA TMM: (pp. 108-109)	

dimensions.					
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Multiplication and Division

This unit focuses on the ability to solve multiplication and division problems using multiple strategies.

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
	N4. Number Theory				
2b. Determine divisibility by 2, 3, 4, 5, 6, 9, and 10.	c. Determine divisibility of numbers 2, 3, 4, 5, 6, 9, and 10		3:10	BONYK 1: 3-5 BNA 1: 7	
	N5. Problem Solving				
2. Solve problems involving basic operations on whole numbers, including addition and subtraction of seven-digit numbers, multiplication with two-digit multipliers, and division with two-digit divisors. 4d. Estimate sums and differences of fractions	d. Solve problems using basic operations on whole numbers, fractions, and decimals e. Solve problems by estimating sums, differences, products, and quotients		1:12,13, 2:7,8,9,10,11,16 3:5,9,12 4:10,11,12 5:13 6:12 7:6,16 8:1,2,4,5,7,8,9,1 5,16, 9:16 10:11 11:11	NTP 1: 1,7 2: 1-3, 7-8 3: 7	
6. Demonstrate the commutative associative and identity properties of addition and multiplication of whole numbers	A1. Demonstrate the use of commutative, distributive, associative, and identity properties of addition and multiplication	Identify and use field properties of addition and multiplication	1:7 2:1	MT 2: 1-4, 3: 2-5	
7. Write a number sentence for a problem expressed in words	A2. Write a number sentence or sentences for a problem expressed in words involving multiple steps	Translate between visual representations, sentences, and symbolic notation	12:4	MT 2:1, 3:2-5, 4: 1 NTP TMM : Seeing Numbers	
6. Demonstrate the commutative associative and identity properties of addition and multiplication of whole numbers	A6. Find the output of functions (number machines)	Identify and use field properties of addition and multiplication	2:14	BONYK 1: 1-8, 2: 1-3, 5- 3: 4-10, 4: 1-2, 5: 1-8	
13. Convert a larger unit of measurement into a smaller unit of measurement within the same system, customary or metric.	M2. Convert a larger unit of measurement into a smaller unit of measurement and vice versa (length, capacity, time, weight)	Estimate capacity using customary or metric units Estimate or measure length using customary or metric units	9:1,4 10-6	MB 1: 4, 7-8,2: 1-4, 7-8, 3: 2	

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
11. Estimate perimeter and area of irregular shapes using unit squares and grid paper. 12 Calculate the perimeter of rectangles from measured dimensions.	M4. Calculate the area and perimeter of measured dimensions	Solve problems involving area or perimeter	9:5	KCA TMM: (pp. 108-109)	
14b. Use given measures of central tendency (mean, median, and mode) to analyze data	D2. Analyze data using measures of central tendency: mean, median, mode, and range	Determine and use measures of central tendency	5:6	KCA 1: 1-4, 2: 1	

Fraction Concepts

This unit concentrates on converting fraction whether equivalent, reducing or mixed number to improper fraction form. The introduction of prime and composite numbers are also listed for this unit. This unit focuses on equivalence between fraction, decimals and percents.

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
	N1. Compare and Order				
1a. Relate percents top parts out of 100 using equivalent fractions and decimals.	d. Determine equivalency between fractions, decimals, and percents		7:7,8 11:8	KCA 3: 1-4, 4: 3, 5: 3-5 BONYK 2: 3 NTP 1: 1-7, 3: 1-8, TMM (pp. 124-125)	
	N3. Fractions				
4a. Change mixed numbers to improper fractions.	a. Changing mixed numbers to improper fractions and improper fractions to mixed numbers	Addition of fractions using symbolic notation Addition of fractions in context Subtraction of fractions using symbolic notation Subtraction of fractions in context Multiplication of fractions using symbolic notation Multiplication of fractions in context	7:3	NTP 2: 6-8, 3: 7	
	b. Simplifying fractions, making equivalent fractions		7:7,8,10	NTP 1:1-6, 2: 4-8	

	N4.				
4c. Use least common multiplies	a. Find and use the least common multiple (LCM) by listing multiples of the numbers involved and greatest common factor (GCF) by listing factors of the numbers involved	Identify factors or multiples of numbers	8:6	NTP 2: 4-8, 3: 8	
	c. Introduce prime and composite numbers		3:11		
1a. Relate percents top parts out of 100 using equivalent fractions and decimals.	N6. Convert fractions to decimals and percents		11:8	NTP1: 1-7, 2: 1-9, 3: 1, 3-8, 4: 1-7	
	N7. Use ratios and proportions in real life applications such as scale drawings: <ul style="list-style-type: none"> •1 Equivalent fractions •2 Unit rate •3 Factor of change 	Solve problems using ratio or proportion Determine measurements indirectly from scale drawings	11:6	PC 1: 1-4, 2: 1-5, 3: 1-7	

Fraction Operations

The unit focuses completing all basic operation with fractions. It also includes an introduction to the order of operations.

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
	N3. Fractions				
4b. Solve problems involving addition and subtraction of fractions with common and uncommon denominators	d. Adding, subtracting, and multiplying fractions with common and uncommon denominators	Identify and use order of operations	8:1,2,4,5,7,8	DCK 1: 1-4, 2: 1-3, 3: 1-4, 4: 1-3, 5: 3-5	

Algebraic Thinking

This unit focuses on algebraic principles in relationships between mathematical situations, algebraic symbolism, and patterns.

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
6. Demonstrate the commutative associative and identity properties of addition and multiplication of whole numbers	A2. Write a number sentence or sentences for a problem expressed in words involving multiple steps	Translate between visual representations, sentences, and symbolic notation	12:4	MT 2:1, 3:2-5, 4: 1 NTP TMM: Seeing Numbers	
7. Write a number sentence for a problem expressed in words.	A3. Realize a variable is an unknown quantity represented by a letter or a symbol	Translate problem situations into algebraic equations and expressions	12: 1	BONYK 1:1-8, 2: 1-3, 5-6,3: 4-10, 4: 1-2, 5: 1-8	
7. Write a number sentence for a problem expressed in words.	A4. Solve simple algebraic equations	Solve simple algebraic equations	12:2,3	BONYK 1: 1-8, 2: 1-3, 5-6,	
7. Write a number sentence for a problem expressed in words	A5. Express mathematical relationships using equations	Translate problem situations into algebraic equations and expressions	12:4	BONYK 1: 1-8, 2: 1-3, 5-6, 3: 4-10, 4: 1-2,5: 1-8	

Geometry

This unit focuses on transformation, patterns, symbols, and geometric figures. Understanding plane and solid figures, coordinate geometry, and spatial reasoning.

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
Identify regular polygons and congruent polygons. a. Identifying angles as right, acute, and obtuse. b. Classifying triangle as equilateral, isosceles or scalene. c. Identifying figures that have Rotational symmetry.	G1. Identify figures that have a rotational symmetry	Identify Geometric transformations	6:2,4,5,9,11,12	PP 2: 1-5	
8c. Identify figures that have a rotational symmetry	G2. Identify figures that have a rotational symmetry	Solve problems using properties of geometric figures	6:2,4,5,9,11,12	PP 2: 1-5	

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
8a. Identify angles as right, obtuse, acute or straight	a. Identify angles as right, obtuse, acute or straight	Solve problems using properties of geometric figures	6:2	BONYK TMM (pp. 74, 122,149-150)	
8b. Classify triangles as equilateral, isosceles, or scalene	b. Classify triangles as equilateral, isosceles, or scalene	Solve problems using properties of geometric figures	6:5	PP2: 1-3, 6-7, 3: 1-3	
10. Identifying the center, radius and radius of a circle	c. Components of a circle: center, radius, diameter, and introduce circumference	Solve problems using properties of geometric figures	6:3	NTP 1:7, Page 31, 2:1-2,3: 8, 4: 2-7	
8d. Predicting the results from a reflection (flip), rotation (turn), or translation (slide).	G3. Use either transformations (slides, flips, or turns) or measurements to determine the congruence of angles, line segments, and polygons	Solve problems using properties of geometric figures Identify Geometric transformations	6:10	PP 2: 1-5	
9. Identify the parts of a Cartesian Plane, including x-axis, y-axis, origin and quadrants	G4. Identify the x-axis, y-axis, origin, and quadrants on the Cartesian Plane	Identify points on a coordinate grid	3:14 12:9	PP 1: 3-4, 2: 4-7, 9, 3: 1-2, 5-6	
9. Identify the parts of a Cartesian Plane, including x-axis, y-axis, origin and quadrants	G5. Locate points on the coordinate grid using ordered pairs	Identify points on a coordinate grid	3:14 12-9	PP 1: 3-4, 2: 4-7, 9, 3: 1-2, 5-6	
	G6. Identify the nets (combination of two-dimensional shapes to make three-dimensional shapes) for three-dimensional shapes	Solve problems using properties of geometric figures Solve problems using spatial reasoning	Ch 10 p. 592i 10-1,2	DCK TMM: (pp. 108-109)	
	G7. Recognize geometric ideas and relationships and apply them to other disciplines and to problems that arise in the classroom or in everyday life	Solve problems using properties of geometric figures Solve problems using spatial reasoning	6:12	CC 4: 1-9	

Measurement

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
13. Convert a larger unit of measurement into a smaller unit of measurement within the same system (customary or metric).	M1. Use appropriate units and tools of measurement in customary and metric units	Identify appropriate units of measurement	9:1,2,3,4	MB 1:1,3-7, 2: 3-4,3: 1	
12. Calculate the area of a rectangle with measured dimensions.	M2. Convert a larger unit of measurement into a smaller unit of measurement and vice versa (length, capacity, time, weight)	Estimate capacity using customary or metric units Estimate or measure length using customary or metric units	9:1,4 10-6	MB 1: 4, 7-8,2: 1-4, 7-8, 3: 2	
11. Estimate the area of an irregular shape using unit squares and grid paper.	M3. Develop and use formulas to find and/or estimate the perimeter of all shapes and area of parallelograms	Solve problems involving area or perimeter	9:5,7	DCK TMM: (pp. 108-109) MT1: 1-3	
12. Calculate the perimeter of rectangles from measured dimensions.	M4. Calculate the area and perimeter of measured dimensions	Solve problems involving area or perimeter	9:5	KCA TMM: (pp. 108-109)	

Data Analysis and Probability

This unit focuses on interpretation of tables, graphs, central tendency and predictions of events.

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
14. Analyze data collected from surveys or experiments to distinguish between what the survey shows and what might account for the results. a. evaluate different representations of the same data to determine how well each representation show different aspects of the data.	D1. Collect data through investigating and be able to organize and demonstrate the data in a variety of ways: charts, tables, graphs, and grids	Read and interpret tables and graphs Analyze tables and graphs	5:1,2,3,4,5	KCA 1:1, 2:2,5: 3-5	
14 b. Using given measures of central tendency mean, median, and mode) to analyze	D2. Analyze data using measures of central tendency: mean, median, mode, and	Determine and use measures of central tendency	5:6	DCK 1: 1-4, 2: 1	

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
data.	range				
15. Using common fractions to represent the probability of an event.	D3. Apply and understand concepts of probability using experiments and predictions	Identify possible outcomes Determine combinations and permutations Identify probabilities of a simple event	5:10,11,12	BONYK TMM (pp. 147-148)	

Appendix. Correlation of Objectives with Recommended Textbooks

The following pages show how resources from *Investigations in Number, Data, and Space* (“Investigations”) and Scott Foresman Addison Wesley (“SFAW”) align with the TEAM-Math and Alabama Course of Study objectives.

Abbreviations for units in *Investigations in Number, Data, and Space* follow:

- BNA = “Between Never and Always”
- BONYK = “Building on Numbers You Know”
- CC = “Containers and Cubes”
- KCA = “Kids, Cats, and Ads”
- MT = “Mathematical Thinking at Grade 5”

- MB = “Measurement Benchmarks”
- NTP= “Name That Portion”
- PC = “Patterns of Change”
- PP = “Picturing Polygons”

NUMBER STRAND – Grade 5

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
1. Compare order, round and expand whole numbers through millions and decimals to the thousandths place. a. Relating percents to parts out of 100 by using equivalent fracxtions and decimals b. Determining the value of a digit to the thousandths 5. Identify digits less than zero by extending the number line. 1b. Determine the value of a digit to thousandths. 1a. Relate percents top parts out of 100 using equivalent fractions and decimals. 5. Identify numbers less than zero by extending the number line.	N1. Compare, order...				
	e. Compare, order, round, and expand whole numbers through millions and decimals to the thousandths	Identify alternative representations of rational numbers (Communication, representation, and estimation) Compare and order rational numbers (Estimation and Mathematical Connections) Round whole numbers to a specified place value	1:1,2,4	KCA TMM:The Digits Game,1:2-3, 3:1 PC TMM (pp. 93-95) BONYK 1:2; NTP 3:3-6 MB 1:4 , 7-8; MT 2:1-5, 3:1-5, 4:2-6	
	f. Determine the value of a whole number to the millions and decimals to the thousandths	Identify the place value of a digit in a whole or decimal number	1:3	KCA TMM:The Digits Game, 2:1, 3:1 BONYK 4:1- 2 NTP 1:1, 3:1-7, 4:2 MT 4:1-6	
	g. Determine equivalency between fractions, decimals, and percents		7:7,8 11:8	KCA 3:1-4, 4:3, 5:3-5 BONYK 2:3 NTP 1:1-7, 3:1-8, TMM (pp. 124-125)	
	h. Identify numbers less than zero on a		9:14 12:5	PC TMM (p. 95) MT 4:1 (Teacher note p.	

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
	number line and in real life situations			79)	
a. Changing mixed numbers to improper fractions b. Solving problems involving addition and subtraction of fractions with common and uncommon denominators c. Estimating sums and differences of fractions	N3. Fractions				
	f. Adding, subtracting, and multiplying fractions with common and uncommon denominators	Addition of fractions using symbolic notation Addition of fractions in context Subtraction of fractions using symbolic notation Subtraction of fractions in context Multiplication of fractions using symbolic notation Multiplication of fractions in context	8:1,2,4,5,7,8	KCA 1:1-4, 2:1-3, 3:1-4, 4:1-3, 5:3-5 PC TMM (p. 94)	
	g. Changing mixed numbers to improper fractions and improper fractions to mixed numbers		7:3	NTP 2:6-8, 3:7	
	h. Simplifying fractions, making equivalent fractions		7:7,8,10	NTP 1:1-6, 2:4-8	
	i. Identify and use order of operation rules	Identify and use order of operations	3:13		
d. Using least common multiples	N4. Number Theory				
	b. Find and use the least common multiple (LCM) by listing multiples of the numbers involved and greatest common factor (GCF) by listing factors of the numbers involved	Identify factors or multiples of numbers	8:6	NTP 2:4-8, 3:8	
	c. Determine divisibility of numbers 2, 3, 4, 5, 6, 9, and 10		3:10	BONYK 1:3-5 BNA 1:7	
	d. Introduce prime and		3:11		

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
3. Solve word problems that involve decimals, fractions, or money. a. Solving word problems involving elapsed time	composite numbers N5. Problem solving <ul style="list-style-type: none"> •1 Solve problems using basic operations on whole numbers, fractions, and decimals •2 Solve problems by estimating sums, differences, products, and quotients 	Solve problems using numerical reasoning Solve problems using appropriate strategies Solve problems using nonroutine strategies Solve problems involving patterns Solve problems using estimation strategies	1-12,13 2:7,8,9,10,11,16 3-5,9,12 4-10,11,12 5-13; 6-12 7-6,16 8- 1,2,4,5,7,8,9,15,16 9-16; 10-11 11-11	NTP 1:1,7 2:1-3, 7-8 3:7 BONYK 1:2-8, 2:1-7, 3:1-10, 4:1-2, 5:1-8	
	6. Convert fractions to decimals and percents	Match pictorial models to fraction names and notation	11-8	NTP 1:1-7, 2:1-9, 3:1, 3-8, 4:1-7	
	7. Use ratios and proportions in real life applications such as scale drawings: <ul style="list-style-type: none"> •4 Equivalent fractions •5 Unit rate •6 Factor of change 	Solve problems using ratio or proportion Determine measurements indirectly from scale drawings	11-6	PC 1:1-4, 2:1-5, 3:1-7	

ALGEBRA STRAND – Grade 5

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
6. Demonstrate the commutative, associative, and identity properties of addition and multiplication of whole numbers.	A1. Demonstrate the use of commutative, distributive, associative, and identity properties of addition and multiplication	Solve problems using numerical reasoning Solve problems using appropriate strategies Solve problems using nonroutine strategies Solve problems involving patterns Solve problems involving elapsed time Match pictorial models to fraction names and notation Solve problems using estimation strategies	1-7 2-1	MT 2:1-4, 3:2-5 BONYK 1:6-7,2:5-6, 3:1-3 MB TMM :Estimation and Number Sense	
7. Write a number sentence for a problem expressed in words.	A2. Write a number sentence or sentences for a problem expressed in words involving multiple steps	Translate between visual representations, sentences, and symbolic notation	12-4	MT 2:1, 3:2-5, 4:1 NTP TMM :Seeing Numbers BONYK 1:1, 3-4, 6-8, 2:1-2, 5-6, 3:1-10, 5:4-7	
7. Write a number sentence for a problem expressed in words.	A3. Realize a variable is an unknown quantity represented by a letter or a symbol	Translate problem situations into algebraic equations and expressions	12:1	PC 1:3-4 BONYK 1:1-8, 2:1-3, 5-6,3:4-10, 4:1-2, 5:1-8	
7. Write a number sentence for a problem expressed in words.	A4. Solve simple algebraic equations	Solve simple algebraic equations	12:2,3	PC 1:3-4 BONYK 1:1-8, 2:1-3, 5-6, 3:4-10, 4:1-2, 5:1-8 NTP TMM , 1:3-4,2:3,6	
7. Write a number sentence for a problem expressed in words.	A5. Express mathematical relationships using equations	Translate problem situations into algebraic equations and expressions	12:4	PC 1:3-4 (pp. 14-25) BONYK 1:1-8, 2:1-3, 5-6, 3:4-10, 4:1-2,5:1-8	
6. Demonstrate the commutative associative and identity properties of addition and multiplication of whole numbers	A6. Find the output of functions (number machines)	Solve problems using numerical reasoning	2:14	BONYK 1:1-8, 2:1-3, 5-3:4-10, 4:1-2, 5:1-8	

GEOMETRY STRAND – Grade 5

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
8. Identify regular polygons and congruent polygons. a. Identifying angles as right, obtuse, acute, or straight b. Classifying triangles as equilateral, isosceles, or scalene c. Identifying figures that have rotational symmetry	G1. Identify figures that have a rotational symmetry	Identify Geometric transformations Solve problems using properties of geometric figures	6:2,4,5,9,11, 12	PP 2:1-5	
	G2. Identify and explore geometric shapes in terms of their angles and sides:	Solve problems using properties of geometric figures	6:3 (pp. 336-337)		
	a. Identify angles as right, obtuse, acute or straight	Solve problems using properties of geometric figures	6:2	BONYK TMM (pp. 74, 122,149-150) PP 2:1-3, 6-9,3:1-3	
	b. Classify triangles as equilateral, isosceles, or scalene	Solve problems using properties of geometric figures	6:5	PP 2:1-3, 6-7; 3:1-3	
	c. Components of a circle:center, radius, diameter, and introduce circumference	Solve problems using properties of geometric figures	6:3	NTP 1:7, Page 31, 2:1-2,3:8, 4:2-7	
8. Identify regular polygons and congruent polygons. a. Identifying angles as right, obtuse, acute, or straight b. Classifying triangles as equilateral, isosceles, or scalene c. Identifying figures that have rotational symmetry					
10. Identify the center, radius, and diameter of a circle. a. Predicting the results of a flip (reflection), turn (rotation), or slide (translation)	G3. Use either transformations (slides, flips, or turns) or measurements to determine the congruence of angles, line segments, and polygons	Identify Geometric transformations	6-10	PP 2:1-5	
9. Identify the parts of a Cartesian Plane, including x-axis, y-axis, origin and quadrants	G4. Identify the x-axis, y-axis, origin, and quadrants on the Cartesian Plane	Identify points on a coordinate grid	3-14 12-9	PP 1:3-4, 2:4-7, 9, 3:1-2, 5-6	
	G5. Locate points on the coordinate grid using ordered pairs	Identify points on a coordinate grid	3-14 12-9	PP 1:3-4, 2:4-7, 9, 3:1-2, 5-6	
	G6. Identify the nets (combination of two-dimensional shapes to make three-dimensional shapes) for three-dimensional shapes	Solve problems using properties of geometric figures Solve problems using spatial reasoning	Ch 10 Activity pp. 592i 10-1,2	KCA TMM :(pp. 108-109)	
	G7. Recognize geometric ideas and relationships and apply them to other disciplines and to problems that arise in the	Solve problems using properties of geometric figures Solve problems using spatial reasoning	6:12	CC 4:1-9	

	classroom or in everyday life				
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Measurement Strand – Grade 5

Course of Study	TEAM-Math	Investigations	SFAW	SAT-10	Documentation
13. Convert a larger unit of measurement into a smaller unit of measurement within the same system (customary or metric).	M1. Use appropriate units and tools of measurement in customary and metric units	MB 1:1,3-7, 2:3-4,3:1	9:1,2,3,4	Identify appropriate units of measurement	
13. Convert a larger unit of measurement to a smaller unit of measurement within the same system (customary or metric).	M2. Convert a larger unit of measurement into a smaller unit of measurement and vice versa (length, capacity, time, weight)	MB 1:4, 7-8,2:1-4, 7-8, 3:2	9:1,4 10-6	Estimate capacity using customary or metric units Estimate or measure length using customary or metric units	
11. Estimate perimeter and area of irregular shapes using unit squares and grid paper. 12. Calculate the perimeter of rectangles from measured dimensions.	M3. Develop and use formulas to find and/or estimate the perimeter of all shapes and area of parallelograms	KCA TMM:(pp. 108-109) MT 1:1-3 PP 3:4-6 CC 2:3-5	9:5,7	Solve problems involving area or perimeter	
11. Estimate perimeter and area of irregular shapes using unit squares and grid paper. 12. Calculate the perimeter of rectangles from measured dimensions.	M4. Calculate the area and perimeter of measured dimensions	KCA TMM:(pp. 108-109) PP 3:4-6 CC 2:3-5	9:5	Solve problems involving area or perimeter	

DATA ANALYSIS AND PROBABILITY STRAND – Grade 5

Course of Study	TEAM-Math	SAT-10	SFAW	Investigations	Documentation
14. Analyze data collected from a survey or experiment to distinguish between what the data show and what might account for the results. <ul style="list-style-type: none"> •1 Evaluating different representations of the same data to determine how well each representation shows important aspects of the data 	D1. Collect data through investigating and be able to organize and demonstrate the data in a variety of ways: charts, tables, graphs, and grids	Read and interpret tables and graphs Analyze tables and graphs	5-1,2,3,4,5	KCA 1:1, 2:2,5:3-5 PC 1:1-4, 2:3-5, 3:1-6, TMM:Nearest Answer Number Line Problems, TMM:Graph Stories	
<ul style="list-style-type: none"> •2 Using given measures of central tendency (mean, median, and mode) to analyze data 	D2. Analyze data using measures of central tendency: mean, median, mode, and range	Determine and use measures of central tendency	5-6	KCA 1:1-4, 2:1 BNA 1:3-6	
15. Use common fractions to represent the probability of events that are neither certain nor impossible.	D3. Apply and understand concepts of probability using experiments and predictions	Identify possible outcomes Determine combinations and permutations Identify probabilities of a simple event	5-10,11,12	BONYK TMM (pp. 147-148) BNA 1:1-2,5, 2:4-5	