Mathematics Scope and Sequence, K-8

Standard 1: Number and Operation

Goal 1.1: Understands and uses numbers (number sense)

Grade	Counting	Read, Write, Order, Compare	Place Value	Money	Number Theory
K	Count by ones to 31	Compare sets of objects using vocabulary (less than, greater than, and same as)		Identify a penny as a value of money	
	Show the verbal, symbolic and physical representations of a number up to 10.				
1st	Count by ones and tens to 100, count backwards by ones from 20, and count with ordinal numbers.	Read, write, compare and order whole numbers to 100.	Identify place value through 99.	Identify each and state the value of pennies, nickels, and dimes.	
2nd	Count by twos, fives, and tens to 100, count backwards and forwards by ones from any given number less than 100.	Read, write, compare and order whole numbers to 1000.	Identify place value through 999.	Count the value of a collection of pennies, nickels, dimes, and quarters up to $1.00.	
3rd		**Read, write, compare and order whole numbers to 10,000.**	**Identify place value through 9999.**	**Count the value of a collection of bills and coins up to $10.00.**	
4th		**Read, write, compare and order whole numbers to 100,000.**	**Identify and apply place value in whole numbers.**	**Count the value of a collection of bills and coins up to $100.00.**	
5th		**Read, write, compare and order whole numbers through millions.**	**Identify and apply place value in whole numbers.**	Count back change from $10.00.	**Apply the number theory concepts of primes, composites, multiples, factors.**
6th		**Compare magnitudes and relative magnitudes of positive rational numbers, including whole numbers through billions, fractions, and decimals.**			**Apply number theory concepts (prime, composite, prime factorization and identify common factors and common multiples.**
		Locate the position of integers on a number line.			
7th		**Compare magnitudes and relative magnitudes of rational numbers, including integers, fractions, and decimals.**			**Apply the number theory concepts of primes, composites, prime factorization and find the LCM and GCF.**
		Locate the position of rational numbers on a number line.			

Grade	Counting	Read, Write, Order, Compare	Place Value	Money	Number Theory
7th cont.		**Rewrite multiple factors using exponents.**			
8th		**Compare magnitudes and relative magnitudes of rational numbers, including integers, fractions, decimals, percents, and absolute values.**			**Apply number theory concepts (primes, composites, prime factorization, LCM, GCF).**
		Locate the position of rational numbers and positive real numbers on a number line.			
		Convert between standard form, scientific notation, and exponential form.			

Standard 1: Number and Operation

Goal 1.2: Performs computations accurately

Grade	Addition	Subtraction	Multiplication	Division	Evaluation	Computation Method/ Calculator
K	Use concrete objects to illustrate the concept of addition.	Use concrete objects to illustrate the concept of subtraction.				
1st	Use objects, pictures, and symbols to add up to 10 and solve addition problems up to 10.	Use objects, pictures, and symbols to solve subtraction problems from up to 9.				
2nd	Use strategies for addition combinations through 18.	Use strategies for subtraction combinations through 18.				
	Add whole numbers with and without regrouping through 99.					
	Add three one-digit addends.					
3rd	Recall basic addition facts through 18.	Recall basic subtraction facts through 18.	**Multiply whole numbers through 10 x 10.**			Select and use an appropriate method of computation from mental math, paper and pencil, calculator, or a combination of the three
	Add whole numbers with and without regrouping through 999.	**Subtract whole numbers with and without regrouping through 999.**				Investigate the use of a four-function calculator to solve complex grade-level problems

Grade	Addition	Subtraction	Multiplication	Division	Evaluation	Computation Method/ Calculator
3rd (cont.)	**Add three one-and two-digit addends.**					
4th	**Add whole numbers.**	**Subtract whole numbers.**	Recall multiplication facts through 10 x 10.	Divide whole numbers by one-digit divisors.		Select and use an appropriate method of computation from mental math, paper and pencil, calculator, or a combination of the three
			Multiply up to two-digit by two-digit whole numbers.			Investigate the use of a four-function calculator to solve complex grade-level problems
5th			Recall basic multiplication facts up to 10's	Recall basic division facts up to 10's.	**Evaluate numerical expressions that include parentheses**	Select and use an appropriate method of computation from mental math, paper and pencil, calculator, or a combination of the three
			Multiply whole numbers.	**Divide whole numbers.**		Investigate the use of a four-function calculator to solve complex grade-level problems
6th	**Add whole numbers.**	**Subtract whole numbers.**	Recall basic multiplication facts from 12 x 12 Times Table.	Recall basic division facts from 12 x 12 Times Table.	**Evaluate numerical expressions with whole numbers using the order of operations (excluding exponents).**	Select and use an appropriate method of computation from mental math, paper and pencil, calculator, or a combination of the three
			Multiply whole numbers.	**Divide whole numbers.**		Investigate the use of a four-function calculator to solve complex grade-level problems
7th	**Add whole numbers.**	**Subtract whole numbers.**	**Multiply whole numbers.**	**Divide whole numbers.**	**Evaluate whole numbers in exponential form.**	Select and use an appropriate method of computation from mental math, paper and pencil, calculator, or a combination of the 3.

Grade	Addition	Subtraction	Multiplication	Division	Evaluation	Computation Method/ Calculator
7th Cont.					**Evaluate numerical expressions using the order of operations with whole numbers and decimals.**	Investigate the use of a four-function calculator to solve complex grade-level problems
8th	Add rational numbers.	Subtract rational numbers	Multiply rational numbers.	Divide rational numbers.	**Evaluate numerical expressions with whole number exponents.**	Select and use an appropriate method of computation from mental math, paper and pencil, calculator, or a combination of the three
					Evaluate numerical expressions with rational numbers using the order of operations.	Investigate the use of a four-function calculator to solve complex grade-level problems

Standard 1: Number and Operation
Goal 1.3: Estimation

Grade	
K	Use estimation to identify a number of objects.
	Use estimation to evaluate the reasonableness of an answer.
1st	Estimate a quantity of objects when shown a set of 10
	Use estimation to evaluate the reasonableness of an answer.
2nd	Estimate to predict the sum of numbers through 99.
	Use estimation to evaluate the reasonableness of the sum of numbers through 99.
3rd	Estimate to predict sums and differences.
	Use estimation to evaluate the reasonableness of a sum or difference.
4th	Estimate to predict computation results.
	Use estimation to evaluate the reasonableness of an answer.
5th	Estimate to predict computation results.
	Identify when an estimation is sufficient or when an exact answer is required.
	Explain why a given estimate is an overestimate or underestimate.
6th	Estimate to predict computation results.
	Explain when estimation is appropriate
	Identify whether a given estimate is an overestimate or underestimate.
7th	Estimate to predict computation results.
	Explain when estimation is appropriate and describe the usefulness of an estimate as opposed to an exact answer.
	Identify whether a given estimate is an overestimate or underestimate.
8th	Estimate to predict computation results.
	Identify whether a given estimate is an overestimate or underestimate.

Standard 1: Number and Operation

Goal 1.4: Fractions

Grade	
3rd	**Recognize, name, and represent commonly used fractions using concrete materials.**
4th	**Read, write, compare, and order commonly used fractions with pictorial representations.**
	Add and subtract fractions with like denominators that do not require simplification
5th	**Compare and order commonly used fractions and their equivalents.**
	Add and subtract fractions with like denominators without simplification.
6th	Compare magnitudes and relative magnitudes of positive rational numbers, including fractions.
	Explain the interrelationship of fractions, decimals, and percents.
	Convert between decimals and fractions.
	Add, subtract, multiply, and divide simple fractions (including unlike denominators).
7th	Compare magnitudes and relative magnitudes of rational numbers, including fractions.
	Recall the common equivalent fractions, decimals, and percents of halves, fourths, and tenths.
	Add, subtract, multiply, and divide simple fractions
8th	Compare magnitudes and relative magnitudes of rational numbers, including fractions.
	Recall the common equivalent fractions, decimals, and percents of halves, thirds, fourths, fifths, and tenths.

Standard 1: Number and Operation

Goal 1.5: Decimals

Grade	
4th	**Use decimal numbers with money.**
	Add and subtract decimals using money.
5th	Read, write, compare, and order decimal numbers through thousandths.
	Identify and apply place value in decimal numbers to thousandths.
	Add and subtract decimal numbers through thousandths.
	Identify decimal equivalents of commonly used fractions.
6th	Compare magnitudes and relative magnitudes of positive rational numbers, including decimals.
	Explain the interrelationship of fractions, decimals, and percents.
	Add, subtract, multiply, and divide decimals.
	Convert between decimals and fractions
7th	Compare magnitudes and relative magnitudes of rational numbers, including decimals.
	Recall the common equivalent fractions, decimals, and percents of halves, fourths, and tenths.
	Add, subtract, multiply, and divide decimals
8th	Compare magnitudes and relative magnitudes of rational numbers, including decimals.
	Recall the common equivalent fractions, decimals, and percents of halves, thirds, fourths, fifths, and tenths.

Standard 2: Measurement

Goal 2.1: Understand and use U.S. customary and metric measurements.

Grade	Length, vol., wt.	Units/tools	Time	Estimation	Conversions/Equivalences
K	Compare the lengths or sizes of objects (e.g., longer, shorter, larger, smaller)		Name the day of the week and the days' date using a calendar	Estimate measurement using concrete objects	
1st	Use non-standard tools and units for measuring length, vol., and wt.		Tell time to the hour.	Estimate measurement using non-standard units.	
			Recite the days of the week, in order, and identify yesterday and tomorrow on a calendar.		
2nd		Select a tool that can measure a given attribute (e.g. ruler- length, cup – vol., clock – time)	Tell time using both digital and analog clocks to the half hour.	Estimate length and time using standard units.	
			Recite the months of the year in order.		
			Select the most appropriate unit to measure the time of a given situation (mins. hrs.)		
3rd		**Select and use appropriate units and tools to make formal measurements of length and temp. in both systems.**	**Tell time using digital and analog clocks using quarter hour and 5-minute intervals**	**Estimate length, time, and weight in real-world problems using standard units.**	**Identify relationships of length and time within the U.S. customary system and within the metric system**.
			State that there are 24 hrs in a day, 7 days in a week, and 12 mths. in a yr.		
4th		**Select and use appropriate units and tools to make formal measurements of length, temp., and wt. in both systems.**	**Tell time to the nearest minute using analog and digital clocks.**	**Estimate length, time, weight, and temp. in real-world problems using standard units.**	**Convert units of length and time within the U.S. customary system.**
			State that there are 365 days in a year and 52 weeks in a year.		**Recall length and volume equivalences involving inches, feet, yards, cups, pints, quarts, and gallons.**

Grade	Length, vol., wt.	Units/tools	Time	Estimation	Conversions/Equivalences
5th		**Select and use appropriate units and tools to make formal measurements of length, temp., wt., and vol. in both systems.**	**Tell time to the nearest second.**	**Estimate length, time, weight, temp. and vol. in real-world problems using standard units.**	**Convert units of length within each system.**
			Convert days into weeks and years and years into decades and centuries.		**Recall length, volume, and mass equivalences involving millimeters, centimeters, meters, milliliters, liters, grams, and kilograms.**
6th		**Select and use appropriate units and tools to make formal measurements in both systems.**		Apply estimation of measurement to real-world and content problems using standard measuring devices.	**Convert units of measurement within each system in one-step problems (e.g., quarts to gallons and gallons to quarts**)
7th		**Select and use appropriate units and tools to make formal measurements in both systems.**		Apply estimation of measurement to real-world and content problems using standard measuring devices	**Convert units of measurement in each system.**
8th		**Select and use appropriate units and tools to make formal measurements in both systems.**		Apply estimation of measurement to real-world and content problems using standard measuring devices	**Convert units of measurement in each system in problem solving situations.**

Standard 2: Measurement

Goal 2.2: Apply the concepts of rates, ratios, and proportions. Goal 2.3: Apply dimensional analysis

6th	**Identify and write ratios and scales (on a map).**	
7th	Explain rates and their relationships to ratios, and use proportions to solve problems represented with a diagram.	**Identify properly constructed dimensional analysis conversions.**
	Reduce rates to unit rates.	
8th	**Use rates, proportions, ratios, and map scales in problem-solving situations.**	**Illustrate the interrelationship of measurement units through dimensional analysis conversions.**
	Determine unit rates in real-world situations.	

Standard 3: Concepts and Language of Algebras and Functions

Goal 3.1: Use algebraic symbolism as a tool to represent mathematical relationships.

Grade	Voc./Symbols	Form	Variables	Write/Translate	Relationship
K					
1st	Compare numbers to 99 using vocabulary (less than, greater than, equal to, more, less, same, fewer	Write an addition problem in both vertical and horizontal form.		Draw a picture and/or write a number sentence when given an addition word problem	
2nd	Compare numbers to 999 using the vocabulary words/phrases of less than, greater than, equal to	Write addition and subtraction problems vertically and horizontally.		Write a number sentence from an addition or subtraction problem-solving situation.	Show the relationship between addition and subtraction using fact families.
3rd	**Read and use symbols (<,>, =) to express relationships with numbers through 9,999.**	**Write multiplication problems vertically and horizontally.**		**Write a number sentence using simple geometric shapes as symbols to represent an unknown number.**	**Write a fact family when given two addends.**
4th	**Read and use symbols (<,>, =) to express relationships with numbers through 1,000,000.**	Write a division problem using a bracket (/) and or the division symbol ( ).		Write a number sentence using simple geometric shapes or letters of the alphabet as symbols to represent an unknown number.	Show the relationship between multiplication and division using fact families.
5th	**Read and use symbols (<,>, =) to express relationships.**	**Write a division problem as a proper and an improper fraction.**		**Translate simple word statements for addition and multiplication into numeric expressions.**	**Write a fact family when given two factors.**
6th	**Read and use symbols (<,>, =) to express relationships.**		Discuss the meaning and use of variables in simple expressions and equations.	**Translate simple word statements into algebraic equations.**	
7th	**Use symbols (<, >, =, ≠, ≤, ≥) to express relationships.**		**Use variables in simple expressions and equations.**	**Translate simple word statements into algebraic expressions and equations.**	
8th	**Use symbols (<, >, =, ≠, ≤, ≥) to express relationships.**		**Use variables in expressions, equations, and inequalities.**	**Translate simple word statements and story problems into algebraic expressions and equations.**	

Standard 3: Concepts and Language of Algebras and Functions
Goal 3.2: Evaluate algebraic expressions

Grade	
2nd	Use the commutative property of addition.
	Solve addition problems using the commutative property.
3rd	**Use the commutative property of multiplication.**
	Solve multiplication problems using the commutative property
4th	**Use the identity and zero properties of multiplication.**
5th	**Use the following properties as they relate to addition and multiplication: commutative, associative, and distributive.**
6th	**Use the following properties as they relate to addition and multiplication: commutative, associative, identity, zero, inverse, distributive, and substitution properties.**
	Evaluate simple algebraic expressions using substitution.
7th	**Evaluate simple numeric and algebraic expressions using commutative, associative, identity, zero, inverse, distributive, and substitution properties.**
	Use the order of operations in evaluating simple algebraic expressions.
8th	**Use and apply the following properties in evaluating algebraic expressions: commutative, associative, identity, zero, inverse, distributive, and substitution.**
	Use the order of operations in evaluating simple algebraic expressions.
	Simplify algebraic expressions.

Standard 3: Concepts and Language of Algebras and Functions
Goal 3.3: Solve algebraic equations and inequalities Goal 3.4 Understand the concept of functions

Grade		
K		Replicate and extend simple repeating patterns (e.g., ABAB)
1st		Describe and extend a repeating pattern (e.g., ABACABAC)
2nd		Translate a repeating pattern from one representation to another e.g., even, odd, even, odd translates to ABAB).
3rd	**Solve missing addend equations.**	**Extend a growing arithmetic, numerical pattern when given a rule with a single operation of one digit addition (e.g., add 3).**
4th	**Solve missing factor equations.**	**Identify the rule (function0 for a pattern using whole numbers and addition and then extend the pattern.**
5th	**Solve missing factor equations.**	**Identify the rule for a pattern using whole numbers and extend the pattern.**
6th	**Solve one-step equations with whole numbers.**	**Extend simple patterns and state a rule (function) that generates the pattern using whole numbers, decimals, and fractions as input.**
		Describe and extend patterns by using manipulatives and pictorial representations.
		Use mathematical models to show change in a real world context.

7th	**Solve one-step equations**.	**Extend patterns involving rational numbers and describe the rule that generates the pattern.**
		Explain how a change in one quantity impacts a change in another quantity.
8th	**Solve one-and two-step equations and inequalities.**	**Extend patterns and identify a rule (function) that generates the pattern using rational numbers.**
	Match graphical representations with simple linear equations.	Use relationships to explain how a change in one quantity may result in a change in another, and identify the relationship as positive, negative, or neither.

Standard 3: Concepts and Language of Algebras and Functions

Goal 3.5: Represent equations, inequalities, and functions Goal 3.6: Apply functions to a variety of problems in a variety of formats.

Grade		
5th		Use patterns to represent problems.
6th		**Use patterns to represent and solve simple problems.**
7th	**Represent a simple set of data in a table, as a graph, and as a mathematical relationship.**	**Use patterns and linear functions to represent and solve simple problems.**
8th	**Represent a set of data in a table, as a graph, and as a mathematical relationship.**	**Use patterns and linear functions to represent and solve problems**

Standard 4: Concepts and Principles of Geometry

Goal 4.1: Apply concepts of size, shape and spatial relationship.

Grade	Shapes	Points, lines, rays, angles	Spatial Relationships	Formulas
K	Recognize, name, compare, and sort two-and three-dimensional shapes (triangle, rectangle, square, circle, cone, cube).			
1st	Recognize, name, build, draw and sort two- and three-dimensional shapes (triangle, rectangle, square, circle, cone, cube, cylinder).			
2nd	Recognize, name, build, compare, and sort the two- and three-dimensional shapes of triangles, rectangles, squares, circles, cones, cubes, spheres, cylinders, and pyramids.		Draw a line of symmetry.	
3rd	**Identify, compare, and analyze attributes of two- and three-dimensional shapes, including right angles, squares, and three-dimensional shapes in environment, and develop vocabulary to describe the attributes.**		Discuss sliding and flipping of two-dimensional shapes.	
			Identify vertical and horizontal lines of symmetry.	
4th	**Identify, compare, and analyze attributes of two- and three-dimensional shapes, including parallel, perpendicular, and intersecting lines, and develop vocabulary to describe the attributes.**		**Predict the results of sliding and flipping two-dimensional shapes.**	
			Identify multiple lines of symmetry in two-dimensional shapes.	
			Discuss perimeters of polygons and areas and perimeters of rectangles and squares, using concrete objects	
5th	**Identify, compare, and analyze attributes of polygons and polyhedra and develop vocabulary to describe the attributes.**	**Classify angles without formal measures as acute, right, obtuse, and/or straight.**	**Discuss and predict the results of sliding, flipping, and turning two-dimensional shapes.**	**Calculate the perimeter of polygons and the area of rectangles and squares.**
		Identify and label points, lines, line segments, rays, and angles.	**Identify shapes as congruent, similar, or symmetrical.**	
			Explain the difference between	

			perimeter and area of a polygon.	

Grade	Shapes	Points, lines, rays, angles	Spatial Relationships	Formulas
6th	Describe relationships among types of one- and two-dimensional geometric figures, using their defining properties.	Draw and measure various angles and shapes using appropriate tools.	**Describe reflections, translations, and rotations on various shapes.**	**Given the formulas, find the perimeter or circumference and area of triangles, circles, and parallelograms.**
		Apply fundamental concepts, properties, and relationships among points, lines, rays, and angles.	**Identify congruence, similarities, and line symmetry of shapes.**	
			Discuss the spatial relationship between two- and three-dimensional objects.	
7th	**Classify relationships among types of one- and two-dimensional geometric figures, using their defining properties.**	Draw and measure various angles and shapes using appropriate tools.	**Explain and model the effects of reflections, translations, and rotations on various shapes.**	**Given the formulas, find the perimeter, circumference, or area of triangles, circles, and quadrilaterals.**
		Apply fundamental concepts, properties, and relationships among points, lines, rays, planes and angles.	**Identify congruence, similarities, and line symmetry of shapes.**	
			Describe the concept of surface area and volume (capacity).	
			Explain the differences between perimeter, area, and volume and their measures.	
8th	**Describe and classify relationships among types of one-, two-, and three dimensional geometric figures, using their defining properties.**	**Draw and measure various angles and shapes using appropriate tools**.	**Identify and model the effects of reflections, translations, rotations, and scaling on various shapes.**	**Given the formulas, find the circumference, perimeter, or area of triangles, circles, and quadrilaterals, and the volume and surface area of rectangular prisms.**
		Apply fundamental concepts, properties, and relationships among points, lines, rays, planes and angles.	**Identify congruence, similarities, and line symmetry of shapes.**	
			Explain the concept of surface area and volume.	

			Compare the differences and relationships among measures of perimeter, area, and volume.	

Standard 4: Concepts and Principles of Geometry
Goal 4.3: Apply graphing in two dimensions

Grade	
K	Apply graphing in two dimensions.
1st	Indicate whether a number is above or below a benchmark number (100 or less0 on a number line.
2nd	Indicate whether a number is above or below a benchmark number of 1000 or less on a number line.
3rd	**Identify the point of final destination given directions for movement on a positive number line.**
4th	**Use ordered pairs to identify the position of a point in the first quadrant on a coordinate grid.**
5th	**Use ordered pairs to identify and plot points in the first quadrant on a coordinate grid.**
6th	**Identify and plot points in the first quadrant on a coordinate plane.**
7th	**Identify and plot points on a coordinate plane.**
8th	**Identify and plot points on a coordinate plane.**

Standard 5: Data Analysis, Probability, and Statistics

Grade	Goal 5.1: Understand data analysis	Goal 5.2: Collect, organize, and display data
K	Interpret information from real object graphs and simple pictographs.	Create a graph using real objects or pictorial representations.
1st	Interpret information found in real object graphs and in pictographs to answer questions.	Gather and display data in real object graphs and pictographs to answer questions.
2nd	Interpret information found in simple tables, charts, bar graphs, and pictographs.	Gather and display data in tables, charts, and bar graphs in order to answer a question.
3rd	**Interpret information found in tables, bar graphs, and charts.**	**Collect, organize, and display data in tables, charts, or bar graphs in order to answer a question.**
4th	**Read and interpret simple tables, charts, bar graphs, and line graphs.**	**Collect, organize and display data in tables and charts to answer a question.**
5th	**Read and interpret tables, charts, bar graphs, and line graphs.**	**Collect, organize, and display data with appropriate notation in tables, charts, bar graphs, and line graphs.**
6th	**Read and interpret tables, charts, graphs, including broken line graphs, bar graphs, frequency tables, line plots, and circle graphs.**	**Collect, organize and display data with appropriate notation in tables, charts, and graphs, including broken line graphs, bar graphs, frequency tables, and line plots.**
	Explain and justify stated conclusions drawn from tables, charts, and graphs.	
7th	**Read and interpret tables, charts, and graphs, including frequency tables, scatter plots, broken line graphs, line plots, bar graphs, histograms, circle graphs, and stem-and-leaf plots.**	**Collect, organize and display data with appropriate notation in tables, charts, and graphs, including scatter plots, broken line graphs, line plots, bar graphs, histograms, and stem-and-leaf plots.**
	Explain conclusions drawn from tables, charts, and graphs.	
8th	**Analyze and interpret tables, charts, and graphs, including frequency tables, scatter plots, broken line graphs, line plots, bar graphs, histograms, circle graphs, and stem-and-leaf plots.**	**Collect, organize and display data with appropriate notation in tables, charts, and graphs, including scatter plots, broken line graphs, line plots, bar graphs, histograms, and stem-and-leaf plots.**
	Explain and justify conclusions drawn from tables, charts and graphs.	

Standard 5: Data Analysis, Probability, and Statistics

Grade	Goal 5.4: Understand basic concepts of probability	Goal 5.5: Make predictions or decisions based on data
3rd		Make predictions based on data.
4th	**Predict the results of simple probability experiments using coins or spinners.**	**Make predictions based on data.**
5th	**Predict, perform, and record results of simple probability experiments using fraction notation.**	**Make predictions and decisions based on data.**
	Use the language of probability.	
6th	**Predict, perform, and record results of simple probability experiments**	**Make predictions based on data.**
	Use the language of probability.	
7th	**Predict, perform, and record results of simple probability experiments**	**Make predictions based on simple theoretical probabilities.**
	Recognize equally likely outcomes.	
	Explain that probability ranges from impossible to certain (0% to 100%)	
	Use the language of probability.	
8th	Model situations of probability using simulations.	**Make predictions based on experimental and theoretical probabilities.**
	Recognize equally likely outcomes.	Conduct statistical experiments and interpret results using tables, charts, or graphs.
	Explain that probability ranges from 0% to 100% and identify a situation as having high or low probability.	
	Use the language of probability.	

Problem Solving

Grade	Number and Operation	Estimation	Measurement	Geometry
K	Select strategies appropriate for solving a problem.			
	Use concrete objects to identify and show a solution to a problem.			
1st	Select strategies appropriate for solving a problem.			
2nd	Recognize mathematical information and select strategies appropriate for solving a problem.			
	Choose addition or subtraction to solve word problems and explain the choice.			
3rd	Recognize mathematical information and select strategies appropriate for solving a multi-step problem.		**Solve real world problems related to time.**	
	Use appropriate operations to solve word problems and show or explain work.			
4th	Select strategies appropriate for solving a problem.		**Solve real world problems related to elapsed time.**	
	Select and use appropriate operations to solve word problems and show or explain work.			
5th	Select strategies appropriate for solving a problem.	Formulate conjectures and discuss why they must be or seem to be true.	**Solve real world problems related to elapsed time.**	
	Use a variety of strategies to solve real life problems.			
6th	Solve problems using the 4-step process of explore, plan, solve, and examine.	Formulate conjectures and discuss why they must be or seem to be true.	**Apply understanding of relationships to solve real-world problems related to elapsed time.**	**Solve problems involving perimeter and area of rectangles**
	Use a variety of strategies to solve real life problems.			
	Describe the use of integers in real-world situations.			
7th	**Recognize pertinent information for problem solving.**	Formulate conjectures and discuss why they must be or seem to be true.		**Solve problems involving perimeter and area of rectangles and triangles.**
	Use a variety of strategies including common mathematical formulas to compute problems drawn			

	for real life situations.			
	Solve problems requiring the conversion between decimals, fractions ratios, and percents			
	Describe the use of integers in real-world situations.			
8th	**Recognize pertinent information for problem solving.**	Identify when estimation is appropriate and apply to problem solving situations.		**Solve problems involving area of circles and the perimeter and area of rectangles and triangles.**
	Use a variety of strategies including common mathematical formulas to compute problems drawn for real life situations.	Formulate conjectures and justify (short of formal proof) why they must be or seem to be true.		
	Use rational numbers, including percents and rations, and π to solve problems.			
	Apply integers in one- and two-step common real-world situations.			