

Kindergarten Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Number and Numeration				
	Whole number	Read numbers to 100			
		write numbers to 20			
		Intro place value to 100			
		Order numbers 0-20			
		Addition: intro with manipulative to 10 with manipulative, language & process			
		Subtraction: intro with manipulative language & process			
		Word problems			
	Rational Number	Intro: 1/2			
	Operations and Computation				
	Addition and Subtraction Procedures	Understand meaning of addition and subtraction: model addition and subtraction using concrete objects.			
		investigate the inverse relationships between addition and subtraction			
		Use mental arithmetic or fact strategies to add/subtract			
		make up and/or solve addition/subtraction number stories; determine operation needed to solve a problem			
	Models for Operations	Solve comparison number stories/diagrams			

Kindergarten Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Data and Chance				
	Data Collection and Representation	Collect data by counting			
		Collect data by interviewing			
		conduct a survey			
		make a tally chart			
		record data in a table or chart			
		record day/events on a timeline			
		create/interpret a bar graph, pictograph or Venn diagram			
	Data Analysis	Read tables, graphs and maps			
		summarize and interpret data			
		Make predictions about data			
		identify "more" or "less" from pictographs and bar graphs			
	Qualitative and Quantitative Probability	Understand the language of probability to discuss likelihood of a given situation (using words such as certain, likely, unlikely, always, maybe, sometimes, never, possible, impossible)			
		Explore equal-chance events			
		participate in games or activities based on chance			

Kindergarten Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Measurement and Reference Frames				
	Length, Weight and Angles	Name tools used to measure length			
		Estimate, compare, and order lengths/ heights of objects			
		Measure lengths with nonstandard units			
		Measure to the nearest foot			
		Estimate, compare, and order weights			
		Name tools used to measure weights use a pan balance			
	Area, Perimeter, Volume and Capacity	Estimate volume/capacity			
		Compare and order the capacities of containers			
	Units and Systems of Measurement	Estimate and investigate the duration of a minute and an hour			
	Money	Recognize pennies, nickels, dimes quarters			
		Identify equivalencies and make coin exchanges			
	Temperature	Compare situations or objects according to temp			
		Use a thermometer			
		Use the Fahrenheit temperature scale			
	Time	Demonstrate understanding of the concepts of time (before, after, yesterday, today, tomorrow, morning, afternoon, hour, half-hour)			
		Order or compare events according to duration			
		Name tools used to measure time			
		Investigate A.M. and P.M.			
		Name the seasons of the year			
		Use the calendar, identify today's date			
		Number and name the months in a year or days in the week			
		Use an analog or digital clock to tell time on the hour			
		Use digital notation			

Kindergarten Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Geometry				
	Plane and Solid Figures	Explore shape relationships Identify 2 and 3 dimensional shapes; sort and compare			
		construct models of polygons using manipulative describe objects in the environment			
	Transformations and Symmetry	Identify symmetrical figures or symmetry in the environment Fold cut symmetrical shapes create/complete a symmetrical design			
	Spatial	Arrange or describe objects by proximity, position or direction over, under, above, below, inside, outside, beside, in front of behind identify left hand and right			
	Patterns, Functions, and Algebra				
		Identify different types of physical and visual patterns			
		Identify and use patterns on a number grid			
		investigate even and odd number patterns; create describe			
		Solve "What's My Rule?" function machine			
	Algebraic Notation and Solving Number Sentences	Use symbols +, -, =			
		Write/ solve addition and subtraction number stories			
	Properties of Arithmetic Operations	Investigate properties of addition/subtraction			

Grade 1 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Number and Numeration				
	Rote Counting	Count by 1s, 2s, 5s, and 10s past 100 and back by 1s from any number less than 100 with and without number grids, number lines and calculators.			
	Rational Counting	Count collections of objects accurately and reliably; estimate the number of objects in a collection.			
	Place Value and notation	Read, write and model with manipulative whole numbers up to 100; identify places in such numbers and the values of the digits in those places.			
	Meanings and uses of fractions	Use manipulative and drawings to model halves, thirds, and fourths as equal parts of a region or a collection; describe the model.			
		Intro language Numerator, denominator			
	Number theory	Use manipulative to identify and model odd and even numbers.			
	Equivalent names for whole numbers	Use manipulative, drawings, tally marks, and numerical expressions involving addition and subtraction of 1- or 2- digit numbers to give equivalent names for whole numbers up to 100.			
	Comparing and ordering numbers	Compare and order whole numbers up to 100			

Grade 1 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Operations and Computation				
	Addition and subtraction facts	Demonstrate Proficiency with $+0, +/-1$, doubles to 10 plus 10, and facts that equal 10			
	Addition and subtraction procedures	use the count on and count back method, with and without manipulative to add and subtract.			
	Computational estimation	Estimate reasonableness of answers to basic fact problems			
		identify and solve missing addend problems			
	Data and Chance				
	Data collection and representation	Collect/organize data to construct bar graphs, lone plots, tables, and tally charts			
	Data Analysis	Use graphs to answer simple questions and draw conclusions			
	Qualitative probability	Describe events using certain, likely, unlikely, impossible and other basic probability terms.			
	Measurement and Reference Frames				
	Length, Wight and angles	Use nonstandard and standard tools and techniques to estimate and compare weight and length			
	Money	Know and compare the value of pennies, nickels, dimes, quarters, and dollar bills, make exchanges between coins.			
	Temperature	Identify a thermometer as tool for measuring temperature; read temperatures on Fahrenheit and Celsius thermometers to the nearest 10 degrees			
	Time	Use a calendar to identify days, weeks, months, and dates; tell and show time to the nearest half and quarter hour on an analog clock			

Grade 1 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Geometry				
	Plane and solid figures	Identify and describe two and three dimensional figures: circles, triangle, square, rectangle, sphere, cylinders, rectangle prism, pyramid, cone cube, trapezoid, and rhombus			
	Transformations and symmetry	Identify shapes having line symmetry; complete line-symmetric shapes and designs			
	Patterns Functions, and Algebra				
	Patterns and functions	Extend, describe, and create numeric, visual, and concrete patterns; solve problems involving function machines.			
	Algebraic notation and solving number sentences	Read, write and explain number sentences using the symbols +, -, =, and the symbols <, > with cues; solve equations using addition and subtraction.			
	Properties of the arithmetic operations	Apply the commutative Property of addition and +0, +1 addition facts.			

Grade 2 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Number and Numeration				
	Rote counting	Count on by 1s, 2s, 5s, 25s, and 100s past 1,000 and back by 1s, from any number less than 1,000 with and without number grids, number lines, and calculators.			
	Rational counting	Read, write, and model with manipulative whole numbers up to 10,000; identify places in such numbers and the values of the digits in those places; read and write money amount in dollars and cents notation.	N&O -2-1		
	Place value and notation				
	Meanings and use of fractions	Use manipulative and drawings to model fractions as equal parts of a region or a collection; describe the models and name the fractions; 1/2, 1/4, 1/3 and intro to 1/6, 2/8			
	Number theory	Recognize numbers as odd or even	N&O -2-2		
	Equivalent names for whole numbers	Use tally marks, arrays, and numerical expression involving addition and subtraction to give equivalent names for whole numbers.			
	Equivalent names for fractions, decimals, and percents	Use manipulative and drawings to model equivalent names for 1/2	N&O 2-1		
		Compare and order whole numbers up to 10,000 use area models to compare fractions.	N&O -2-1		
	Comparing and ordering numbers	Demonstrate automaticity with +/- 0, +/- 1, doubles and math facts to 20 and proficiency with all addition and subtraction through 20.	N&O -2-2		

Grade 2 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Operations and Computation				
	Addition and subtraction facts	Use manipulative, number grids, tally marks, mental arithmetic, paper & pencil, and calculators to solve problems involving the addition and subtraction of 2- digit whole numbers; describe the strategies used; calculate and compare values of coin and bill combinations.	N&O -2-1		
	Addition and subtraction procedures		N&O -2-3		
	Multiplication and division facts	Introduction to multiplication with 0, 1, 2 and 5.	N&O - 2-3		
	Multiplication and division procedures	Introduction to the use of arrays for simple multiplication			
			N&O - 2-3		
	Computational estimation	Make reasonable estimates for whole number addition and subtraction problems; explain how the estimates were obtained.			
	Models for the operations	Identify and describe change, comparison, and parts-and-total situations; use repeated addition arrays, and skip counting to model multiplication; use equal sharing and equal grouping to model division.	N&O -2-1		

Grade 2 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Data and Chance				
	Data collection and representation	Collect and organize data or use given data to create tally charts, tables, bar graphs, and line plots.	DSP -2-1		
	Data analysis	Use graphs to ask and answers simple questions and draw conclusions; find the maximum, mode, and median of a data set.	DSP 2-2		
	Qualitative probability	Describe events using certain, likely, unlikely, impossible and other basic probability terms; explain the choice of language.			
	Measurement and Reference Frames				
	Length, weight and angles	Estimate length with and without tools; measure length to the nearest inch and centimeter; use standard and non standard tools to measure and estimate weight.			
	Area, perimeter, volume and capacity	Count unit squares to find the area of rectangles.			
	Units and systems of measurement	Describe relationships between days in a week and hours in a day.	G&M2-6		
	Money	Make exchanges between coins and bills.	G&M 2-7		
	Temperature	Read temperature on both Fahrenheit and Celsius scales.	N&O -2-5		
	Time	Tell and show time to the nearest five minutes on an analog clock; tell and write time in digital notation.	G&M 2-7		

Grade 2 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Geometry				
	Lines and angles	Draw line segments and identify parallel line segments.	G&M 2-7		
	Plane and solid figures	Identify, describe and model 2 dimensional and 3 dimensional figures including circles, triangles, squares, rectangles, hexagons, trapezoids, rhombuses, spheres, cylinders, rectangular prisms, pyramids, cones, and cubes.	G&M -2-1		
	Transformations and symmetry	Create and complete two-dimensional symmetric shapes or designs.	G&M -2-1		
	Patterns, Functions, and Algebra				
	Patterns and functions	Extend, describe, and create numeric, visual, and concrete patterns; describe rules for patterns and use them to solve problems; use words and symbols to describe and write rules for functions involving addition and subtraction and use those rules to solve problems.	N&O-2-1		
	Algebraic notation and solving number sentences	Read, write, and explain expressions and number sentences using the symbols $+$, $-$, $=$, $<$ and $>$; solve number sentences involving addition and subtraction; write expressions and number sentences to model number stories.	N&O-2-1		
	Properties of arithmetic operations	Describe the Commutative and Associative Properties for Addition and apply them to mental arithmetic problems.	N&O-2-1		

Grade 3 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Number and Numeration				
	Place Value and Notation	read, write, model whole numbers to a million	N&O 3.1		
		order numbers to a million			
		identify number value from place value			
	Meaning & Use of Fractions	language - numerator, denominator	N&O 3.1		
		read, write, model fractions to tenths			
		recognize equivalent fractions			
		identify, name, read mixed numbers			
	Meaning & Use Decimals	read, write, model decimal to hundredths	N&O 3.1		
		introduction to language of decimals			
	Number Theory	Find multiples of 2,5,10			
	Equivalent names for whole numbers	Use 4 math processes to give equivalent names	F&A 3.4		
	Equivalent names for fractions, decimals	Use drawings and manipulatives to show number			
	Compare & order numbers	compare and order whole numbers to 1,000,000			
		compare and order fractions with like numerators or denominators			
		compare and order decimals to hundredths	N&O 3.2		
			N&O 3.3		

Grade 3 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Operations and Computation				
		automaticity with math facts to 10, addition, subtraction			
	Addition & Subtraction Facts	Use basic facts to compute fact extensions commutative property +, x			
	Addition & Subtraction procedures	Use manipulatives, mental math, algorithms, calculators to solve adding and subtracting problems using money in whole numbers and decimals			
	Multiplication and division facts	show automaticity in times facts 0 to 10	N&O 3.3		
		Use basic facts to compute facts to 10x10	N&O 3.4		
	Multiplication and division procedures	Use manipulatives, mental math, algorithms, calculators to solve multiplication problems 2 by 2 digit numbers			
		add, subtract 3-digit numbers			
		multiply 2 digit numbers			
	Computational Estimation	Make and explain reasonable estimation in +, -			
	Models for operations	recognize change, comparison, parts-total situations			
		model times with arrays and repeated addition			
		model division in equal grouping & sharing			

Grade 3 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Data and Chance				
	Data Collection and representation	collect and organize data to make charts, tables, bar graphs, line plots	DSP 3.1, 3.3		
	Data Analysis	Find mode, median, range, maximum, minimum	DSP 3.2		
		Use graphs to ask and answer questions and draw conclusions	DSP 3.1		
	Qualitative Probability	Describe events using certain, very likely, likely, unlikely, very unlikely, impossible or other basic terms	DSP 3.5		
	Quantative Probability	predict outcomes of simple experiments then test prediction (dice, e.g.)	DSP 3.1		
		use language " ___ out of ___ " to inform	DSP 3.5		
	Measurement and Reference Frames				
	Length, weight & angles	estimate length with & without tools			
		measure length to nearest 1/2 inch and 1/2 centimeter			
		describe angles as record of rotation	G&M 3.1		
	Area, perimeter, volume	Use strategies to measure perimeter	G&M 3.6		
		Count unit squares to find area of rectangle			
	Units, systems of measurement	describe relationship among inch, feet, yard	G&M 3.7		
		describe relationship among minutes, hour, days, week	G&M 3.7		
	Money	identify coins and value			
		add, subtract, share money			
		solve problems of equivalency of coins			
	Temperature	solve temperature problems involving highs and lows			
		compare & differentiate Celsius/ Fahrenheit			
	Time	read time to nearest minute on analog clock			
		read and show time to quarter to, half-past			
		write time in digital notation			

Grade 3 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Geometry				
	Lines and angles	draw and describe angles to record rotation	G&M 3.1		
		identify and draw points, intersecting and parallel line segments and lines, rays, right angles	G&M 3.1		
	Plane & solid figures	identify, describe, model plane shapes: circle and polygons: square, rectangle, quadrangles, kite, rhombus, triangle, up to 8-sided shapes	G&M 3.1		
		identify, describe, model solid shapes: cones, spheres, prisms, pyramids, cylinders, cube	G&M 3.1		
		recognize geometric terms: vertices, faces, edges, base	G&M 3.1		
		calculate area, perimeter, volume	G&M 3.6		
	Transformations & symmetry	create and complete 2-d symmetric shapes or designs			
		locate lines of symmetry in 2-d shape			

Grade 3 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Patterns, Functions and Algebra				
		symbols: +, -, =, x, division, /, <, >, (,)			
		extend, describe, create numeric patterns	F&A 3.1		
	Pattern & function				
		describe rules for patterns and solve problems	F&A 3.1		
		use words and symbols to describe and write rules for +, -, x functions; use to solve problems			
	Algebraic notation	read, write and explain number sentences to solve word problems			
	Solving number sentences				
	Order of operations	work equations with parentheses			
		solve missing addend problems, +, -, x	F&A 3.4		
	Properties of arithmetic operations	describe and apply commutative and associative property of addition			
		describe and apply commutative property of multiplication			
		describe and apply Multiplicative Identity			

Grade 4 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Number and Numeration				
	Place value and notation	Read and write numbers to hundred millions	N&O 4-1		
		Read and write decimals through thousandths	N&O 4-1		
	Meaning and uses of fractions	Identify fractional parts	N&O 4-1		
		Identify fractions on a number line	N&O 4-1		
		Find a fraction of a number	N&O 4-1		
		Solve percent problems			
	Number theory	Find multiples of whole numbers less than 10			
		Find whole-number factors of numbers			
	Equivalent names for whole	Find equivalent names for numbers			
	Equivalent names for fractions, decimals, and percents	Find equivalent fractions			
		Rename fractions as decimals			
		Convert between fractions, mixed numbers, decimals and percents			
	Comparing and Ordering Numbers	Compare and order whole numbers up to a billion	N&O 4-2		
		Compare and order decimals through thousandths	N&O 4-2		
		Compare and order integers between -100 and 0	N&O 4-2		

Grade 4 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Operations and Computation				
	Addition and Subtraction Facts	Demonstrate automaticity with facts	N&O 4-3		
	Addition and Subtraction Procedures	Add/subtract multidigit numbers and decimals	N&O 4-4		
		Solve addition/subtraction number stories	N&O 4-4		
	Multiplication and division facts	Demonstrate automaticity with multiplication facts through 10×10 and related division facts	N&O 4-3		
	Multiplication and division procedures	Use mental arithmetic and algorithms (Lattice, Partial-Products, Partial Quotients, and Traditional)	N&O 4-4		
		Multiply multidigit numbers by 2-digit whole numbers.	N&O 4-4		
		Divide multidigit numbers by 1-digit whole numbers	N&O 4-4		
	Procedures for addition and subtraction of fractions	Add and subtract fractions with like and unlike denominators	N&O 4-3		
	Procedures for multiplication and division of fractions				
	Computational estimation	Round whole numbers and decimals to a given place			
		Use estimation to add/subtract and multiply divide			
	Models for the operations	Use repeated addition, skip counting, arrays, area, and scaling to model multiplication and division			

Grade 4 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Data and Chance				
	Data collection and representation	Collect data from print sources and maps			
		Find locations on a map or globe			
		Create and interpret bar graphs, broken line graphs, circle graphs, and line plots	DSP 4-1		
		Create and interpret Venn diagrams			
	Data Analysis	Find and use the maximum, minimum, range, median, mode, and graphs	DSP 4-2		
		Ask and answer questions, draw conclusions, and make predictions about data	DSP 4-1		
	Qualitative Probability	Explore likelihood of events using basic probability terms.	DSP 4-5		
	Quantative Probability	Solve problems involving chance outcomes	DSP 4-5		
		Compute probability of equally likely outcomes	DSP 4-5		
		Calculate and express the probability of simple events	DSP 4-5		
	Measurement and Reference Frames				
	Length, weight, and angles	Estimate length with and without tools	G&M 4-7		
		Measure length to the nearest 1/4 inch and 1/2 centimeter	G&M 4-7		
		Estimate and measure the size of angles without tools	G&M 4-1		
		Estimate and compare distances			
	Area, Perimeter, Volume, and Capacity	Find the perimeter and area of polygons	G&M 4-6		
		Find the volume of rectangular prisms			
	Units and systems of measurement	Describe relationships between US Customary and metric units of length	G&M 4-7		
	Time				
	Coordinate systems	Use ordered pairs of numbers to name, locate, and plot points in the first quadrant of a coordinate grid			

Grade 4 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Geometry				
	Lines and angles	Identify, draw, and describe points, intersecting and parallel line segments.			
		Identify, draw, and describe lines, rays, and right, acute, and obtuse angles.	G&M 4-1		
		Use protractors to measure and draw angles			
	Plane and solid figures	Describe, compare, and classify plane and solid figures (circles, spheres, cylinders, rectangular prisms, cones, cubes, pyramids)	G&M 4-1, G&M 4-3		
		Use appropriate geometric terms (vertex, base, face, edge, and congruent)	G&M 4-3		
	Transformations and symmetry	Identify, describe, and sketch reflections, translations, and rotations	G&M 4-4*		
	Patterns, Functions, and Algebra				
	Patterns and functions	Find and extend numerical and visual patterns	F&A 4-1		
		Make/complete a sequence with a number line			
		Find a rule for a set of problems	F&A 4-1		
	Algebraic Notation and Solving Number Sentences	Compare numbers using $<$, $>$, and $=$ symbols			
		Write and solve number sentences	F&A 4-3		
		Determine the value of a variable	F&A 4-3		
		Determine if number sentences are true or false	F&A 4-3		
	Order of Operations	Apply the use of parentheses in number sentences	F&A 4-4		
	Properties of Arithmetic Operations	Investigate properties of multiplication/division			
		Apply the Distributive Property	F&A 4-4		

Grade 5 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Number and Numeration				
	Place value and notation	Read and write numbers in the billions	N&O 5-1		
		Read and write decimals through ten-thousandths	N&O 5-1		
	Meaning and uses of fractions	Identify the whole for fractions	N&O 5-1		
		Identify fractions on a number line	N&O 5-1		
		Find a fraction of a number	N&O 5-1		
		Find the percent of a number			
		Solve percent problems			
		Find the unit fraction or unit percent to calculate unit prices			
	Number Theory	Identify prime and composite numbers, factor numbers; find prime factorizations	N&O 5-4		
		Find the multiples of a number or the least common multiple of two numbers	N&O 5-4		
	Equivalent names for whole numbers	Rename numbers in exponential notation			
		Convert between base-10, exponential, and repeated factor notations			
		Find equivalent names for numbers	N&O 5-2		
	Equivalent names for fractions, decimals and percents	Find equivalent fractions, rename fractions and mixed numbers in the simplest forms	N&O 5-2		
		Convert between fractions, mixed numbers, decimals, and/ or percents	N&O 5-2		
		Use a calculator to rename any fraction as a decimal or percent			
	Comparing and Ordering numbers	Compare and order rational numbers	N&O 5-2		
		Describe strategies used to compare fractions and mixed numbers	N&O 5-2		
		Use properties of positive and negative numbers			
		Explore reference points for zero			

Grade 5 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Operations and Computation				
	Addition and Subtraction facts				
	Addition and subtraction procedures	Use estimation or algorithms to add/ subtract money amounts/ decimals; make change	N&O 5-4		
		Add/subtract positive and negative numbers, model addition and subtraction on a number line			
	Multiplication and division facts	Demonstrate automaticity with multiplication and proficiency with division facts and fact extensions			
		Use mental arithmetic, paper and pencil algorithms (lattice, partial products, partial quotients, traditional) to solve multi-digit multiplication and division problems	N&O 5-4		
		Use divisibility tests to determine if a number is divisible by another number			
	Multiplication and division procedures	Solve problems involving the multiplication of whole numbers and decimals	N&O 5-4		
		Solve problems involving division of multi-digit whole numbers and decimals	N&O 5-4		
		Interpret/ express remainders as fractions or decimals	N&O 5-3		
	Procedures for addition and subtraction of fractions	Addition and subtraction of fractions and mixed numbers	N&O 5-4		
	Procedure for multiplication and division of fractions	Find common denominators			
		Use algorithms to multiply fractions and mixed numbers			
	Computational Estimation	Round whole numbers and decimals to given place			
		Use estimation to multiply and divide			
		Estimate sums/ differences of fractions			
		Estimate the quotient and divide a decimal by a whole number			
	Models for the operations	Use repeated addition, arrays, area, and scaling to model multiplication and division			

Grade 5 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
		Use ratios expressed as words, fractions, percents, and with colons; solve problems involving ratios of parts of a set to the whole set			
	Data and Chance				
	Data collection and representation	Record data in a chart/ graph			
		Create/interpret bar graphs, broken line graphs and line plots	DSP 5-1, DSP 5-3		
		Create/ interpret Venn diagrams			
		create/ interpret number-line plots, stem-and-leaf plots, and mystery graph	DSP 5-1, DSP 5-3		
	Data analysis	Use the maximum, minimum, range, median, mode, mean, and graphs to ask questions, draw conclusions and make predictions	DSP 5-2		
	Qualitative probability	Explore likelihood of event using basic probability terms	DSP 5-5		
		Explore fair and unfair games	DSP 5-5		
	Quantitative probability	Calculate and express the probability of simple events	DSP 5-5		
		Express the probability of an event as a fraction, decimal or percent	DSP 5-5		

Grade 5 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Measurement and Reference Frames				
	Length, weight, and angles	Estimate length with and without tools to the nearest 1/8 inch, and millimeter			
		Estimate the measure of angles with and without tools			
		Draw angles with given measures within 2 degrees			
		Estimate and compare distances			
	Area, perimeter, volume and capacity	Find the area/ perimeter of polygons	G&M 5-6		
		Find the area of circles	G&M 5-6		
		Use formulas to calculate the area of triangles, and the area of rectangles, parallelograms, and triangles	G&M 5-6		
		Find the volume of a prism	G&M 5-6		
		Define π as the ratio of a circle's circumference			
	Units and systems of measurement	Describe relationships among US customary units of length and capacity, among metric units of length	G&M 5-7		
	Time				
	Coordinate systems	Use ordered pairs of numbers to name, locate, and plot points in all four quadrants of a coordinate grid			

Grade 5 Math

Time Frame	Content	Skills	GLE	Assessment	Resource
	Geometry				
	Lines and angles	Identify, describe, compare, name and draw right, acute, obtuse, straight, and reflex angles	G&M 5-1		
		Determine angle measures in vertical and supplementary angles by applying properties of sums of angle measures in triangles and quadrangles	G&M 5-1		
	Plane and solid figures	Describe, compare and classify plane and solid figures using appropriate geometric terms, identify congruent figures and describe their properties	G&M 5-1, G&M 5-3		
	Transformations and symmetry	Identify, describe, and sketch examples of reflections, translations, and rotations			
	Patterns, Functions, and Algebra				
	Patterns and functions	Explore and extend visual and numerical patterns	F&A 5-1		
		Write and identify equivalent expressions and equivalent equations	F&A 5-3		
		Make/ complete a sequence with a number line			
	Algebraic notation and solving number stories	Compare numbers and evaluate expressions using $<$, $>$ and $=$ symbols			
		Translate number stories into expressions			
		Write and solve number stories/ sentences	F&A 5-3		
		Determine the value of a variable	F&A 5-3		
		Write and solve open sentences or number sentences with variables	F&A 5-3		
		Evaluate formulas and use them to solve problems	F&A 5-3		
	Order of operations	Use parentheses			
		Understand and apply the order of operations to evaluate expressions and solve number sentences	F&A 5-4		
	Properties of arithmetic operations	Investigate properties of multiplication/ division			
		Understand and apply the Commutative Property for addition and multiplication	F&A 5-4		

Grade 6 Math

text/program: Holt Mathematics Grade 6

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	Assessment	Resource	
Q1		Number-Place Value & Notation				
	5A.1.a		5 Place Value and Number Notation from ten million to hundredths R			
	5A.1.b	Number/Whole Number	5 Round numbers to the place value appropriate for given contexts R			
	5A.1.c	Number/Whole Number	5 Compare and order numbers up to ten million R			
	A.6.1.c	Number/Whole Number	Place Value--expanded notation with powers of 10; scientific notation; exponential notation I			
		Number-Prime & Composite				
	A.6.1.a	Number/Whole Number	Prime and Composite Numbers--define and identify; use properties to solve problems R			
	A.6.1.b	Number/Whole Number	Use the property that every integer greater than one is prime number or can be written as a unique product of prime numbers; factor trees,			
		Number-Factors & Multiples				
	A.6.1.d	Number/Whole Number	Factors and Multiples--list factors and multiples; find common factors; find Least Common Multiple and Greatest Common Factor for two or more numbers M			
		Number-Exponential & Scientific Notation				
	A.6.1.c	Number	Interpret and use exponential notation as repeated multiplication; scientific notation I			
	5th	Number/Whole Number	5 Multiply and divide whole numbers up to four digits by numbers up to two digits, and by tens, hundreds, and thousands and interpret remainders appropriate to the context M			
	A.6.5	Number/Rational Number	Add, subtract, multiply, and divide decimals with up to three decimal places by tens, hundreds, and thousands M			

Grade 6 Math

text/program: Holt Mathematics Grade 6

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	Assessment	Resource
Q2,Q3		Algebra-Properties			
		Algebra	Properties--commutative, additive identity, multiplicative identity, zero property M; associative, distributive E		
		Algebra-Expressions			
	D.6.1	Algebra/Symbols and Expressions	Create and evaluate expressions using whole numbers E		
	D.6.3.a.b	Algebra/functions and Relations	Recognize from a table whether a relationship has a constant rate of change		
		Communication			
		Communication	Vocabulary		
		Communication	Computation Strategies--make a 10, doubles, doubles +/- 1, +/- 2, neighbors, turn around facts, square numbers, inverse operations, times 2, 5, or 10 facts, wonderful 1		
		Communication	Problem Solving Strategies--Say it Outloud, Look for Patterns, Work Backwards, Eliminate, Make a Model or Diagram, Make a Table, Chart, or List, Consider a Simpler Case, Compute or Simplify, Use a Formula, Guess, Check, and Revise		
		Number/Rational			
	A.6.3	Number/Rational Number	Add, subtract, multiply, and divide numbers expressed as fractions and mixed numbers.		
	A.6.5	Number/Rational	Multiply and divide decimals with to three decimals places by tens, hundreds, and thousands		

Grade 6 Math

text/program: Holt Mathematics Grade 6

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	Assessment	Resource
		Geometry/Meanurement			
	C.6.2.a.b.c	Number/Geometric Measurement	Find the perimeter and area of quadrilaterals, triangles, and circles using whole numbers, and decimals--units in standard and metric systems		
	5.C.2.a	Geometric Measurement	5 Use the formula $A = 1/2 bh$ for the area of a triangle		
	5.C.2.b	Geometric Measurement	5 Find the area of parallelograms using formulas		
	C.6.3	Geometric Measurement	5 Find the surface area of rectangular prisms		
		Measurement/Units			
	B.6.1.a	Data/Measurement	Solve problems where different units of measurement are used; convert within metric and traditional systems		
	5	Data/Measurement	5 Solve problems requiring multiple operations using order of operations (no exponents)		
		Number/Rational			
	A.6.4.a	Number/Rational Number	Use ratios to describe relationships between quantities		
	5	Number/Rational Number	Understand, name, compare, and illustrate fractions R		
	A.6.2	Number/Rational Number	Express fractions greater than zero as decimals		
	A.6.2	Number/Rational Number	Compare positive numbers written as fractions and decimals; place on a number line		
	A.6.3	Number/Rational Number	Add, subtract, multiply, and divide fractions with like and unlike denominators I		

Grade 6 Math

text/program: Holt Mathematics Grade 6

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	Assessment	Resource
Q4		Algebra/Symbols & Expressions			
	D.6.1.b	Algebra	Create and evaluate expressions using fractions and decimals I		
	C.6.2.a.b.c	Geometry	Find the perimeter and area of quadrilaterals, triangles, and circles using whole numbers, decimals, and fractions		
		Number/Rational			
	A.6.4.b	Number/Geometric Measurement	Express and interpret relative quantities as decimals, fractions, and percentages		
		Communication	Problem Solving Strategies		
		Data/Data Analysis			
	B.6.2	Data	Read and interpret pie charts		
	B.6.3	Data	Find and compare mean, median, mode, and range for a set of data		
		Number/Real Number			
	A.6.	Number	Experience approximations for pi and square root (no performance indicator)		
		Algebra/Functions & Relations			
		Algebra	Use tables, formulas, and graphs to analyze constant ratio--multiplicative relationships		
	D.6.2.	Algebra	Use tables, formulas, and graphs to analyze constant difference--additive relationships		
		Algebra/Equations & Inequalities			
	D.6.2.a	Algebra	Solve equations in the form $ax \pm b = c$ (whole numbers)		
		Geometry/Geometric Figures			
C.6.1	Geometry	Represent solid figures in two dimensional nets; cubes, prisms, pyramids			
C.6.1.b	Geometry	Recognize and classify solids presented in picture views			
C.6.1.c	Geometry	Sketch three-dimensional figures			

Grade 6 Math

text/program: Holt Mathematics Grade 6

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	Assessment	Resource	
		Geometry/Geometric Measurement				
		Geometric Measurement	5 Use the formula $l \cdot w \cdot h$ to find volume of a rectangular prism			
	C.6.3	Geometric Measurement	Find the volume and surface area of right prisms with bases that are triangles and quadrilaterals			
	5.C.4.a	Geometric Measurement	5 Locate points on the Cartesian plane			
	5.C.4.b	Geometric Measurement	5 Determine horizontal and vertical distance on the coordinate plane			
		Geometric Measurement	Apply the understanding of congruency			
		Geometric Measurement	5 Measure angles in degrees			
	C.6.4	Geometric Measurement	Define and identify congruent plane figures using reflections, rotations, and translations			
		Data/Measurement & Approximation				
	C.6.5	Data Measurement	Use proportional relationships to make indirect linear measurements and use scale drawings to make linear measurements			
		Data/Probability				
		Probability	Experience probability			

Grade 7 Math

text/program: Holt Math, Course 2

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	Resource	Assessment
		Patterns			
		Algebra	Identify and extend number patterns		
	A72	Exponents			
	A72a	Number/ Rational Number	Use and interpret exponents		
	A72b		Follow conventions of order of operations including exponents		
		Simplifying Expressions			
		Algebra	apply the distributive property, combine like terms, resolve powers in expressions, add coefficients of like terms		
		Algebra	apply Order of Operations including parentheses and exponents		
	D7	One Step Equations			
		Properties			
			Apply properties of arithmetic operations when simplifying expressions and solving equations: Commutative, Associative, Distributive, Identity (Mult. Prop of 1), Zero (Additive Prop of 0)		

Grade 7 Math

text/program: Holt Math, Course 2

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	Resource	Assessment
	A71 & A72	Integers			
		Number/ Rational Number	Add, subtract, multiply and divide signed whole numbers		
	A71b	Number/ Rational Number	Compare signed rational numbers and put them on the number line		
		Algebra	Solve equations containing integers		
		Number Theory			
		Number/ Whole Number	Use rules of divisibility to determine if a number is divisible by 2, 10, 5, 3, 6, 9, 4		
		Number/ Whole Number	Learn two methods for finding prime factorization: factor tree & ?????		
		Number/ Whole Number	Find the GCF and LCM of two or more numbers		
	A71 & A72	Computation & Operations			
		Number/ Rational Number	Add, Subtract, Multiply and Divide Fractions, Mixed Numbers and Decimals		
	A71	Rational Numbers			
	A71	Number/Rational Number	Students use negative and positive rational numbers expressed as integers, fractions, and decimals.		
		Number/Rational Number	convert between fractions, mixed numbers, decimals and percents		
	A71a	Number/ Rational Number	Recognize rational numbers as quotients of integers with a non-zero denominator and recognize that rational numbers can be negative or positive		
	A71b	Number/ Rational Number	Compare signed rational numbers and place them on the number line		

Grade 7 Math

text/program: Holt Math, Course 2

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	Resource	Assessment
		Solving Equations			
		Algebra	Equations with Integers		
		Algebra	One and Two Step Equations		
	A73	Ratios & Proportions			
		Number/ Rational Number	Three ways of writing ratios		
	A73b	Number/ Rational Number	Identify proportional relationships		
			Use cross product to determine if ratios are in proportion		
	A73		Understand that when the ratio of two varying quantities is constant, the two quantities are in direct proportion		
	A73c	Number/ Rational Number	Students use proportions to solve problems		
	A73a	Number/ Rational Number	Use ratios to compare quantities and use comparison to solve problems		
	A71 & A72	Rates			
		Number/ Rational Number	Students solve problems using ratios containing different units		

Grade 7 Math

text/program: Holt Math, Course 2

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	Resource	Assessment
	A74	Percent			
	A74	Number/ Rational Number	Interpret and use percents to solve problems		
	A74a	Number/ Rational Number	Use percents when comparing fractional parts of sets of unequal size		
	A74b	Number/ Rational Number	Solve practical problems involving percents.		
	C73	Similar Figures			
	C73	Geometry/ Transformations	Understand and use the concept of scale drawings to enlarge or reduce two-dimensional plane figures	Comic Strip project	
	C73a	Geometry/ Transformations	Use the concept of scale factors when enlarging or reducing and recognize the invariance of the shape		
	C73b	Geometry/ Transformations	Apply the understanding that enlargement or reduction by a scale factor leaves angle measures unchanged		
	C73c	Geometry/ Transformations	Identify similar figures and name corresponding parts		
	B71	Graphing			
	B71	Data/ Data Analysis	Use graphs and charts to represent, organize, <i>interpret</i> and draw inferences from data		
	B71a	Data/ Data Analysis	Create tables, pictograms, bar graphs, line graphs, pie charts, stem and leaf plots, box and whiskers plots and histograms using pencil and paper and electronic technologies.		
	B71b	Data/ Data Analysis	Draw conclusions based on the above listed charts and graphs		

Grade 7 Math

text/program: Holt Math, Course 2

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	Resource	Assessment	
		Geometry				
	C71	Geometry/ Geometric Figures	Understand angle properties of lines in the plane			
	C71a	Geometry/ Geometric Figures	Classifying Angles- Identify and name straight angles, angles at a point and vertical angles and use these measures to find the measures of unknown angles.			
	C71b	Geometry/ Geometric Figures	Angle Relationships - recognize that the measures that form straight angles add to 180 degrees and the measures of angles at a point add to 360 degrees and apply this property to solve problems.			
	C71c	Geometry/ Geometric Figures	Recognize that vertical angles are congruent and apply this property to solve problems.			
		Geometry/ Geometric Figures	Circles, polygons, triangles, quadrilaterals, angles of polygons, congruent figures, translation, reflection, rotations, symmetry			
		Percents				
	A74	Number/ Rational Number	Students interpret and use percents to solve problems			
	A74a	Number/ Rational Number	Use percents when comparing fractional parts of sets of unequal size			
	A74b	Number/ Rational Number	Solve practical problems involving percents			

Grade 7 Math

text/program: Holt Math, Course 2

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	Resource	Assessment
	B72	Probability			
	B72	Data/ Probability	students understand and apply concepts of probability to simple events		
	B72a	Data/ Probability	Describe events as likely or unlikely and discuss the concept of likelihood using such words and phrases as "certain", "equally likely", and "impossible".		
	B72b	Data/ Probability	Predict the probability of outcomes of simple experiments and verify predictions using the understanding that the probability of occurrence is the ratio of the number of actual occurrences to the number of possible occurrences		
	B72c	Data/ Probability	Interpret probabilities between and including zero and one and explain why zero and one are the upper and lower limits for probability values		
	C72	Perimeter and Area			
	C72	Geometry/ Geometric Measurement	Students solve problems involving perimeter and area		
	C72a	Geometry/ Geometric Measurement	Solve problems involving the area and perimeter of regions in the plane bounded by line segments and circular arcs		
	C72b	Geometry/ Geometric Measurement	Solve problems involving the area of combined figures.		
	D71	Symbols and Expressions			
	D71	Algebra/ Symbols and Expressions	Students create and evaluate expressions		
	D71a	Algebra/ Symbols and Expressions	Create and evaluate expressions using integers		
	D71b	Algebra/ Symbols and Expressions	Create and evaluate expressions using rational numbers		

Grade 7 Math

text/program: Holt Math, Course 2

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	Resource	Assessment
	D72	Linear Equations			
	D72	Algebra/ Equations and Inequalities	Students understand and solve problems involving linear equations and know that a linear equation can be written in the form $0=ax+b$		
	D72a	Algebra/ Equations and Inequalities	Solve equations of the form $ax+b=c$ where a , b , and c are positive rational numbers or positive or negative integers		
	D72b	Algebra/ Equations and Inequalities	Convert equations to $0=ax+b$ form		
	D73	Proportional Relationships			
	D73	Algebra/ Functions and Relations	Students understand and use directly proportional relationships, $y=kx$		
	D73a	Algebra/ Functions and Relations	Recognize directly proportional relationships y information in a table, graph, or formula		
	D73b	Algebra/ Functions and Relations	Translate common directly proportional relationships into symbolic statements and graphs		
	D73c	Algebra/ Functions and Relations	Interpret the slope and y -intercept of $y=kx$ in terms of a given context		

Grade 8 Math

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	MLR	Resource	Assessment	
	A	NUMBER					
			Students use numbers in every day and mathematical contexts to quantify or describe phenomena, develop concepts of operations with different types of numbers, use the structure and properties of numbers with operations to <i>solve</i> problems, and perform mathematical computations. Students develop number sense related to magnitude, estimation, and the effects of mathematical operations on different types of numbers. It is expected that students use numbers flexibly, using forms of numbers that best match a situation. Students compute efficiently and accurately. <i>Estimation</i> should always be used when computing numbers or solving problems.				
	A	Rational Number					
			Students <i>express</i> or <i>interpret</i> numbers using scientific notation from real-life contexts.				
	A		Use positive and negative integer exponents for powers of ten.	1a			
A		Convert between standard and scientific notation forms and compare the relative size of numbers including the <i>interpretation</i> of numbers as displayed on calculators and computers.	1b				
A		Fractions, decimals, percents					

Grade 8 Math

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	MLR	Resource	Assessment
		Real Number				
	A		Students <i>understand</i> the set of real numbers as containing the rational numbers and the irrational numbers.			
	A		Know that there are real numbers that are not rational numbers.	1a		
	A		Know some common examples of irrational numbers including pi or those arising from square roots.	1b		
	A		Use square roots	1c		
	A		Be able to <i>estimate</i> the value of the square roots of whole numbers and place them on the number line.	1d		
	B		Students make measurements and collect, display, evaluate, analyze, and compute with data to describe or model phenomena and to make decisions based on data. Students compute statistics to summarize data sets and use concepts of probability to make predictions and describe the uncertainty inherent in data collection and measurement.			
			It is expected that when working with measurements students:			
			Understand that most measurements are approximations and that taking repeated measurements reveals this variability			
			Understand that a number without a unit is not a measurement, and that an appropriate unit must always be attached to a number to provide measurement			
			Understand that the precision and accuracy of a measurement depends on selecting the appropriate tools and units			
			Use estimation comparing measures to benchmarks appropriate to the type of measure and units.			

Grade 8 Math

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	MLR	Resource	Assessment	
		DATA					
		Data Analysis					
	B		Students <i>understand</i> and use <i>derived measures</i> (measurements expressed as rates).				
	B		Calculate measures using multiple attributes including speed (distance per time).	1a			
	B		Solve for an unknown component of a measure including finding time given average speed and distance.	1b			
	B		Students convert across measurement systems and within a system for different <i>units</i> in <i>derived measures</i> .				
	B		Approximate metric and customary equivalents given a conversion factor.	2a			
	B		Convert <i>derived measures</i> , including feet per second to miles per hour.	2b			
	B		Box & whisker				
	B		Histograms				
	B		Stem & leaf				
	B		Mean, median, mode				
	B		Students use mean, median, mode, range, and quartiles to <i>solve</i> problems involving raw data and information from data displays				
		Data Probability					
	B		Students <i>understand</i> and apply concepts of probability.				
	B		Use appropriate terminology to describe complementary and mutually exclusive events.	4a			
	B		Use an <i>understanding</i> of relative frequency to make and test conjectures about results of experiments and simulations.	4b			
	B		Compute probabilities for compound events, using methods as organized lists, tree diagrams, and area models.	4c			
	B		Theoretical				
	B		Experimental				

Grade 8 Math

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	MLR	Resource	Assessment
		GEOMETRY				
	C		Students use measurement and observation to describe objects based on their sizes and shapes; <i>model</i> or construct two-dimensional and three-dimensional objects; <i>solve problems involving geometric properties; compute areas and volumes based on object properties and dimensions; and perform transformations on geometric figures. When making or calculating measures students use estimation to check the reasonableness of results.</i>			
		Geometric Figures				
	C		Students know and use properties of polygons.			
	C		Apply the triangle inequality.	1a		
	C		Find the sum of the measures of the interior angles of a polygon.	1b		
	C		Apply the property that the sum of the measure of the exterior angles of a polygon is 360 degrees.	1c		
	C		Students know and use angle properties of parallel lines to <i>solve</i> problems and determine <u>geometric relationships</u> .			
	C		Know and use properties of angles created when parallel lines are cut by a transversal.	2a		
	C		Use angle properties to determine whether lines are parallel.	2b		
	C		Know and use properties of angles created by parallel lines and transversals to determine the angle properties of trapezoids and parallelograms, and apply these properties in problem situations.	2c		
	C		Students know and use the Pythagorean Theorem.			

Grade 8 Math

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	MLR	Resource	Assessment
		Measurement				
	C		Students find the volume and surface area of prisms, pyramids, cylinders, and other figures <i>composed</i> of these solids.			
	C		Apply the <i>understanding</i> that the volume of prisms and cylinders can be found by multiplying the area of a base by the height of the solid.	4a		
	C		Apply the <i>understanding</i> that the volume of pyramids can be found by multiplying the area of a base by 1/3 the height of the solid.	4b		
	C		Apply the <i>understanding</i> that the surface area of a figure is the sum of the areas of its faces and find the surface areas of cylinders.	4c		
	C		Triangle Sum Theorem			
	C		Alternate Interior			
	C		Alternate Exterior			
	C		Corresponding			
		Transformations				
	C		Students are expected to continue to use prior concepts and skills in new and familiar contexts.			
		ALGEBRA				
	D		Students use symbols to represent or <i>model</i> quantities, patterns, relationships and use symbolic manipulation to <i>evaluate</i> expressions and <i>solve</i> equations. Students <i>solve</i> problems using symbols, tables, graphs, and verbal rules choosing the most effective representation and converting among representations.			

Grade 8 Math

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	MLR	Resource	Assessment
		Symbols & Expressions				
	D		Students <i>create, evaluate,</i> and manipulate expressions.			
	D		Create and evaluate expressions using real numbers.	1a		
	D		Add and subtract linear expressions.	1b		
	D		Apply the properties of the real number system, including distributive and associative laws, to create equivalent expressions.	1c		
		Equations & Inequalities				
	D		Students <i>understand</i> and <i>solve</i> problems involving linear equations.			
	D		<i>Solve</i> any linear equation including linear equations of the form $ax + b = cx + d$	2a		
	D		Recognize that, in general, linear equations have just one solution ~ but know also that some linear equations can have no solution and those linear equations that are identities have every value of x as a solutions.	2b		
	D		Use graphs to <i>estimate</i> solutions to equations and systems of equations, check algebraic approaches, provide alternative solution paths, and communicate the solution to a problem.	2c		
	D		Students <i>understand</i> and <i>solve</i> linear inequalities in one unknown.			
	D		Represent problem situations as inequalities.	3a		
	D		<i>Solve</i> linear inequalities.	3b		
	D		<i>Interpret</i> the solutions to linear inequalities.	3c		

Grade 8 Math

Time Frame	Standard/ Performance Indicator	Strand	Skills/Concepts	MLR	Resource	Assessment	
		Functions & Relations					
	D		Students <i>understand</i> and use the basic properties of linear relationships, $y = kx + b$.				
	D		<i>Understand</i> that linear relationships are characterized by a constant rate of change, k .	4a			
	D		<i>Understand</i> that the graph of a linear relationship $y = kx + b$ is a line where the slope is k and b is the y -coordinate of the point where the graph crosses the y -axis (I.e., value of y when $x = 0$).	4b			
	D		Translate common linear phenomena into symbolic statements and graphs, and interpret the slope and y -intercept of the graph of $y = kx + b$ in terms of the original situation.	4c			
			Lines of best fit		Stock Market Activity		

Algebra 1

text:Prentice Hall Algebra 1

Time Frame	Content	Skills	GLE	Assessment	Resource
Q1	Tools of Algebra				
	Properties of Real Numbers	Classify and Order Real Numbers; Add, Subtract. Multiply and Divide Signed Numbers; Order of Operations			
	Graphs	Graph points on the coordinate plane; Analyze data using scatter plots	B2a, B2b, B2c		
Q1	Solving Equations				
	Equations in One Variable	Solve One Step, Two Step, and Multi Step Equations			
	Write Equations in One Variable	Write and Solve Equations in One Variable to Model Real-World Problems (such as distance rate time)			
	Measures of Central Tendency	Compute Mean, Median, and Mode; Find missing data point when mean is known			
Q1-Q2	Solving Inequalities				
	Inequalities in One Variable	Graph Simple and Compound Inequalities: Solve Inequalities using Addition, Subtraction, Multiplication, and Division			
	Write Inequalities in One Variable	Write and Solve Inequalities in One Variable to Model Real-World Problems (such as income and expense problems)			
	Absolute Value Equations and Inequalities	Solve Absolute Value Equations and Inequalities in One Variable	D2d		
Q2	Solving and Applying Proportions				
	Ratios and Rates	Compute, Simplify and Interpret Ratios and Rates			
	Proportions	Solve Proportions	D2c		
	Percentages	Solve Equations involving Percentages; Calculate Percent of Change			
	Probability	Calculate Theoretical and Experimental Probability; Find the Probability of Independent Events: Find the Probability of Dependent Events	B5a, B5c		

Algebra 1

text:Prentice Hall Algebra 1

Time Frame	Content	Skills	GLE	Assessment	Resource
Q2	Rational Numbers				
	Graphs of Functions	Interpret, Sketch, and Analyze Graphs	D4d		
	Relations and Functions	Differentiate Relations from Functions, Evaluate Functions, Model Functions, and Write Function Rules	D4c		
	Direct Variation Number Patterns	Write and Solve Equations for Direct Variation Define and Generate Arithmetic Sequences; Express Arithmetic Sequences in relation to tem number.	D5a, D5b		
Q2	Linear Equations and Their Graphs				
	Slope	Determine Slope of Lines			
	Linear Equations in Slope Intercept Form	Write Equations of Lines in Slope Intercept Form; Graph Equations in Slope Intercept Form; Write Equations of Lines in Slope Intercept Form	D4a, D4b		
Q3	Linear Equations and Their Graphs				
	Linear Equations in Point Slope Form	Graph Equations in Point Slope Form; Write Equations of Lines in Point Slope Form	D4c		
	Linear Equations in Standard Form	Write Equations of Lines in Standard Form; Graph Equations in Standard Form; Write Equations of Lines in Standard Form	D4c		
	Parallel Lines and Perpendicular Lines	Identify Parallel and Perpendicular Lines; Write Equations for Parallel Lines; Write Equations for Perpendicular Lines	D4a, D4b		
	Equations in Two Variables	Write and Solve Equations in Two Variables to Model Real-World Problems	D4b		
	Literal Equations	Transform Literal Equations into Different Forms			
	Lines of Best Fit	Write Equations for Lines of Best Fit for Scatter Plots; Utilize Lines of Best Fit to Make Predictions	D4a, D4b		

Algebra 1

text:Prentice Hall Algebra 1

Time Frame	Content	Skills	GLE	Assessment	Resource
Q3	Systems of Equations and Inequalities				
	Systems of Equations	Solve Systems of Equations by Graphing, Substitution and Elimination	D2a, D2f		
	Systems of Inequalities	Solve Systems of Inequalities by Graphing	D2a		
	Write Linear Systems of Equations	Write and Solve Systems of Equations in Two Variables to Model Real-World Problems (such as Break Even Analysis)	D2a, D2e, D2f		
	Write Systems of Inequalities	Write and Solve Systems of Inequalities in Two Variables to Model Real-World Problems (Linear Programming)	D2a		
Q3-Q4	Exponents and Exponential Problems				
	Exponential Expressions	Evaluate Exponential Expressions; Apply Multiplication, Power and Division Properties of Exponents	A1a,A1c,		
	Scientific Notation	Apply Laws of Exponents to Scientific Notation Computations	A1d		
	Number Patterns	Define and Generate Geometric Sequences; Express Geometric Sequences in relation to tem number.	D5a, D5b		
	Exponential Functions	Evaluate Exponential Functions; Graph Exponential Functions	D4a		
	Exponential Growth and Decay	Apply Exponential Functions to Growth and Decay	D4b		
	Simplify Radicals	Compute Square Roots: Calculate Square and Cube Roots Using a Calculator	A1a, A1b		
	Simplify Radicals	Write square roots in simplified radical form	A1a		

Algebra 1

text:Prentice Hall Algebra 1

Time Frame	Content	Skills	GLE	Assessment	Resource
Q4	Polynomials and Factoring Polynomials				
	Polynomials	Add and Subtract Polynomials	D1a,D1b		
	Multiply Polynomials	Multiply Polynomials by monomials, multiply binomials (including special cases), multiply polynomials by binomials	D1a,D1b		
	Factoring	Determine Greatest Common Factors of Polynomials, Factor Trinomials, Factor, Factor Special Polynomials, Factor by Grouping	D1a,D1c		
Q4	Quadratic Equations and Functions				
	Quadratic Graphs	Graph Quadratic Functions	D4a, D4b,D4c		
	Solve Quadratic Equations	Solve Quadratic Equations by Graphing, Finding Square Roots, Factoring, and using the Quadratic Formula	A1e, D2b, D4a, D4b, D4c		

Algebra II

Standard	Content/Skills/Concepts	Competency	Assessment
Tools of Algebra			
D2a	Inequalities	Solve and graph inequalities	
D2d	Absolute Value	Solve equations involving absolute value	
D2d	Absolute Value Inequalities	Solve compound inequalities	
B5a, B5b	Probability	Find experimental and theoretical probabilities	
Functions, Equations & Graphs			
D4a,D4c	Relations and Functions	Recognize types of equations, domain, range	
D4a	Linear Equations	Identify and graph lines	
D4d	Direct Variation	Identify linear equations as direct variation	
B2a, B2b,B2c	Data, Scatter Plots, Regression Lines	Graph data and predicting equations	
D2e	Translations of Functions	Analyze horizontal and vertical translations of functions	
D2e, D4b	Graphing Linear Inequalities & Absolute Value Inequalities	Graph linear & absolute value inequalities & use to solve problems	
Linear Systems			
D2e	Solve Systems of Equations	Solve systems by graphing, elimination & substitution	
D2a	Solve Systems Of Inequalities	Solve systems of inequalities by graphing	
D2f	Linear Programming	Solve problems with linear programming, maximum and minimum values	
D2f	Systems with Three Variables	Solve systems of 3 equations and 3 variables	
Quadratic Equations & Functions			
D4a	Modeling Data with Quadratic Functions	Find quadratic models from a table of values	
D4c	Parabolas	Graph parabolas using vertices and axis of symmetry	
D4a	Quadratic Equations	Identify quadratic functions and graphs	
D2b	Factoring Quadratics	Solve equations by factoring.	
D2b	Completing the Square	Use completing the square to graph parabolas and solve equations.	
D2b	Quadratic Formula	Use quadratic formula to solve equations and classify roots using the discriminant	
A1e	Complex Numbers	Simplify roots with negatives numbers. Solve quadratic	
Polynomials & Polynomial Functions			
D4a	Polynomial Functions	Classify polynomials & model data using polynomial functions	

Algebra II

Standard	Content/Skills/Concepts	Competency	Assessment
D1d	Polynomials & Linear Factors	Analyze the factored form of a polynomial, write a polynomial from its zeros, use long & synthetic division	
D2b,A1e	Solving Polynomial Equations	Use the Fundamental Theorem of Algebra to find roots of polynomial equations with complex roots	
	Permutations & Combinations	Count permutations and combinations	
D5a	The Binomial Theorem	Use the Binomial Theorem to solve probability problems. Use Pascals's Triangle to expand binomials.	
Radical Functions & Rational Exponents			
A1a, A1b	Roots & Radical Expressions	Simplify radicals	
D1b	Multiplying & Dividing Rational Expressions	Multiply & divide rationals and rationalize denominators	
A1a, A1c	Binomial Radical Expressions	Perform number operations with radical expressions	
A1c	Rational Exponents	Simplify expressions with rational exponents	
D2c	Solving Radical Equations	Solve equations with radicals	
D4b	Function Operations	Perform number operations with functions and find the composite of two functions	
D4b	Inverse Relations & Functions	Find inverses of relations and functions	
D4a,D5b	Graphing Radical Functions	Graph radical functions and use the graphs to solve problems	
Exponential & Logarithmic Functions			
D4b	Exploring Exponential Models	Model exponential growth and decay from data	
D4b	Properties of Exponential Functions	Identify the role of constants in and exponential equation and use base e	
D3a	Logarithmic Functions & Inverses	Write, graph and evaluate logarithmic expressions	
D3a	Properties of Logarithms	Use properties of logarithms	
D3c,D5b	Exponential & Logarithmic Equations	Solve exponential and logarithmic equations	
D3c,D5b	Natural Logarithms	Solve equations using natural logarithms	

Algebra II

Standard	Content/Skills/Concepts	Competency	Assessment
	Rational Functions		
D4a	Inverse Variation	Identify, graph and model with inverse variation	
D4a,D4c	Rational Functions & Their Graphs	Graph rational functions and identify properties of rational functions	
D1a	Rational Expressions	Simplify, multiply and divide rational expressions	
D1b	Adding & Subtracting Rational Expressions	Add and subtract rational expressions, simplify complex fractions	
D2c	Solving Rational Equations	Solve rational equations and use to solve problems	
B5c	Probability of Multiple Events	Find the probability of dependent and independent events	
	Conic Sections		
	Parabolas	Write equations	
	Circles	Write equations	
	Ellipses	Write equations	
	Hyperbolas	Write equations	
	Translating Conic Sections	Identify and write equations of translated conic sections	

Geometry

text: Geometry by Bass et al, Pearson Prentice Hall, 2007

Time Frame	Content	Skills	Learning outcomes	Standards
Q1	Tool of Geometry - Ch. 1			
	inductive reasoning	recognize patterns	make conjectures based on observed patterns	
	vocabulary and symbols	identify points, lines, rays, segments planes and angles	understand the basic terms of geometry	
	angle measurement	identify and compare angles	find angle measures and name special angle pairs	
	segment measurement	identify and compare segments	find segment lengths	
	constructions	use compass and straight edge to construct basic figures	demonstrate construction of congruent segments, congruent angles and bisectors of segments and angles	
	segments on the coordinate plane	use the midpoint & distance formulas	calculate the distance between points and determine the midpoint of a segment	C.1.d
	Reasoning & Proof - Ch. 2			
	logic statements	recognize conditional statements and write biconditionals, converses and good definitions	use deductive reasoning to reach logical conclusions. Recognize the distinction between inductive and deductive reasoning	

Geometry

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Time Frame	Content	Skills	Learning outcomes	Standards
	Parallel & Perpendicular Lines - Ch. 3			
	parallel lines	identify angles formed by 2 lines and a transversal	use the properties of lines to find angle measures and prove that 2 lines are parallel	
	lines on the coordinate plane	graph lines using equations and write equations of lines	identify parallel, perpendicular and oblique lines from their graphs and/or equations	
	polygons	classify triangles and other polygons and find their angle measures	identify polygons and determine interior and exterior angle measures	C.1.a
	Congruent Triangles - Ch. 4			
Q2	congruency	recognize congruent polygons	apply rules of congruency to polygons to identify angle measures and segment lengths	C.1.b
	proof	formulate proofs to illustrate that triangles are congruent	use SSS, SAS, ASA, AAS theorems to write proofs and draw conclusions from those proofs to determine congruency including the congruency of corresponding triangle parts.	C.1.a
	Relationships Within Triangles - Ch. 5			
	special segments in a triangle	recognize and distinguish the difference between midsegments, altitudes, medians, perpendicular bisectors and angle bisectors	find segment lengths and angle measures using the properties of the special segments of a triangle	
	triangle centers	differentiate between centroids, incenters, circumcenters and orthocenters	find the centers of a triangle by constructing the special triangle segments	

Geometry

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Time Frame	Content	Skills	Learning outcomes	Standards
	Quadrilaterals - Ch.6			
	define and classify quadrilaterals	identify quadrilaterals by the defining characteristics	recognize the differences between parallelograms, kites and trapezoids	
	properties of parallelograms	describe properties that distinguish one type of parallelogram from another	use the properties of special quadrilaterals to solve problems that involve find lengths and angle measures	
	Similarity - Ch.7			
Q3	similar polygons	identify corresponding sides & angles in similar polygons	apply properties of similar polygons to find missing sides & angles	C.1.b
	similar triangles	recognize similar triangles by AA, SAS & SSS and use proportions to solve triangles	use similar triangles to find indirect measurements	C.1.b
	Right Triangles & Trigonometry - Ch.8			
	relationships in similar right triangles	set up proportions for similar right triangles	solve for missing sides of similar right triangles	C.1.a, 1.b
	Pythagorean theorem	understand the relationship between the legs & hypotenuse of a right triangle	calculate the missing side of a right triangle	C.1.c
	special right triangles	use properties of 45-45-90 & 30-60-90 triangles	find missing sides of special right triangles	C.1.b
	right triangle trigonometry	use sine, cosine & tangent	solve right triangles using trig. Ratios	C.3.a.,3.b,3.c
	Transformations - Ch.9			
	isometries of geometric figures	identify isometries	draw images of figures using translation, rotation & reflection	
	symmetry	identify types of symmetry	draw lines of symmetry and find angles of rotational symmetry	

Geometry

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Time Frame	Content	Skills	Learning outcomes	Standards
Q4	Circles - Ch. 12			
	lines, segments & angles in circles	recognize relationships between radii, diameters, chords, tangents, secants and angles	find angle measures and segments lengths using properties of circle parts	
	angles & arcs in circles	find central & inscribed angle measures and arc measures	solve for angles & arcs using circle properties	C.2.a
	circles on the coordinate plane	use the equation of a circle to find centers & radii	write equations of circles & graph on the coordinate plane	
	measurements of parts of circles	use formulas for area and circumference of circles	calculate area, circumference, area of sectors & arc lengths	C.2.b
	Area - Ch.10			
	area & perimeter of polygons	find area & perimeter of polygons	use area & perimeter formulas to solve problems	
	Surface Area & Volume - Ch.11			
	3-dimensional figures	recognize solids	classify solids according to their properties	
	surface area & volume of 3-D figures	apply surface area & volume formulas to a variety of solids	find surface area & volume of cones, spheres, prisms, cylinders and pyramids	C.4.a
	surface area & volume of similar solids	calculate surface area & volume of similar solids	compare surface area & volume of similar solids	C.4.b