	MATH			
	PK3			
DOMAIN	**ARCHDIOCESAN EXPECTATIONS**	**PRIORITY EXPECTATION**	**CURRENTLY TAUGHT IN THIS GRADE LEVEL (yes or no)?**	**LIST ADDITIONAL RESOURCES (IF NEEDED) FOR STUDENTS TO MASTER THIS EXPECTATION**
Number Sense	*Use numbers to show quantity*	☑		
	Show interest in counting and quantity			
	Participate in experiences that involve counting			
	Develop an increasing ability to rote count in sequence to 10	☑		
	Count up to 8 objects with understanding	☑		
	Uses language to represent number of objects			
	Combine and name how many			
	Separate and name how many			
	Use language to compare number (i.e. more/less, greater/fewer, equal to)			
	Solve problem using numbers			
	Name how many there are in a group (up to eight objects)	☑		
	Use one-to-one correspondence when counting objects	☑		
	Use one-to-one correspondence to compare the size of a group of objects			
	Use numerical representation			
	Trace numerals 1-10			
Relationships & Algebraic Thinking	*Use language to represent number of objects*			
	Combine and separate groups and name how many			
	Use numerical representations			
	Use drawings to represent number			
Geometry, Measurement, & Data	*Make comparisons using measurement*			
	Explore, compare, and describe objects using measurable features	☑		
	Order three or more objects according to length or size differences			
	Investigate positions and locations			
	Take apart, create, and build	☑		
	Use actions and words to indicate position, location, movement, and orientation	☑		
	Explore shapes in the environment			
	Investigate and talk about the characteristics of shapes	☑		
	Identify and trace shapes and symbols (line, x, circle, square, triangle)	☑		
	Demonstrate an understanding of time through classroom routine			
	Verbally name the days of the week by rote and by cueing from a calendar or song			
	PK4			
DOMAIN	**ARCHDIOCESAN EXPECTATIONS**	**PRIORITY EXPECTATION**	**CURRENTLY TAUGHT IN THIS GRADE LEVEL (yes or no)?**	**LIST ADDITIONAL RESOURCES (IF NEEDED) FOR STUDENTS TO MASTER THIS EXPECTATION**
Number Sense	*Use numbers to show quantity*			
	Show interest in counting and quantity			

	Participate in experiences that involve counting	☑		
	Develop an increasing ability to rote count in sequence to 50	☑		
	Develop an increasing ability to count by tens to 50	☑		
	Count up to 10 objects with understanding	☑		
	Use language to represent number of objects			
	Combine, seperate, and name number of objects	☑		
	Use language to compare numbers (i.e. more/less, greater/fewer, equal to)	☑		
	Solve problem using numbers			
	Name how many there are in a group (up to ten objects)			
	Use one-to-one correspondence when counting objects			
	Use one-to-one correspondence to compare the size of a group of objects			
	Use numerical representation			
	Write numerals 1-10			
Relationships & Algebraic Thinking	*Use language to represent number of objects*			
	Combine and separate groups and name how many	☑		
	Use numerical representations			
	Use drawings to represent number	☑		
Geometry, Measurement, & Data	*Make comparisons using measurement*			
	Explore, compare, and describe objects using measurable features			
	Order three or more objects according to length or size and differences	☑		
	Investigate positions and locations			
	Take objects apart and put them together			
	Use actions and words to indicate position, location, movement, and orientation			
	Explore shapes in the environment			
	Investigate and talk about the characteristics of shapes			
	Identify and trace shapes and symbols (line, x, circle, square, triangle, rectangle, diamond, and rhombus)	☑		
	Demonstrate an understanding of time through classroom routine			
	Verbally name the days of the week by rote and by cueing from a calendar or song	☑		

Kindergarten

DOMAIN	ARCHDIOCESAN EXPECTATIONS	PRIORITY EXPECTATION	CURRENTLY TAUGHT IN THIS GRADE LEVEL (yes or no)?	LIST ADDITIONAL RESOURCES (IF NEEDED) FOR STUDENTS TO MASTER THIS EXPECTATION
Number Sense	*Know number names and count sequence*			
	Count to 100 by ones, fives, and tens	☑		
	Count forward beginning from a given number between 10 and 1			
	Count backwards from any given number between 10 and 1			
	Understand the relationship between numbers and quantities; connect counting to cardinality			
	Read and write numerals and represent a number of objects from 0 to 20	☑		
	Say the number names when counting objects, in standard order, pairing each object with one and only one number name and each number name with one and only object			
	Understand that the last number name said tells the number of objects counted and the number of objects is the same regardless of arrangement or the order in which were counted			

	Understand that each successive number name refers to a quantity that is one larger than the previous number			
	Recognize, without counting, the quantity of groups up to 5 objects arranged in common patterns			
	Understand that a number can be used to represent "how many" are in a set	☑		
	Compare Numbers			
	Compare two or more sets of objects and identify which set is equal to, more than, or less than the other	☑		
	Compare two numerals, between 1 and 10, and determine which is more than or less than the other	☑		
Number Sense & Operations in Base Ten	*Work with numbers 11-19 to gain foundations for place value*			
	Work with numbers 11-19 to gain foundations for place value (Compose and decompose numbers from 11 to 19 into sets of tens with additional ones)	☑		
Relationships & Algebraic Thinking	*Understand addition as putting together or adding to, and understand subtraction as taking apart or taking from*			
	Represent additon and subtraction within 10	☑		
	Demonstrate fluency for addition and subtraction within 5			
	Decompose numbers less than or equal to 10 in more than one way			
	Construct 10 for any number from 1 to 9			
Geometry & Measurement	*Reason with shapes and their attributes*			
	Describe several measureable attributes of objects			
	Compare the measurable attributes of two objects	☑		
	Work with time and money			
	Demonstrate an understanding of concepts of time and devices that measure time, on a clock to the hour and half hour	☑		
	Name the days of the week, months of the year, seasons of the year, and understand that there are 24 hours in a day			
	Identify pictures, values, and verbally name pennies, nickels, dimes, and quarters	☑		
	Analyze squares, circles, triangles, hexagons, cubes, cones, cylinders, and spheres			
	Identify shapes and describe objects in the environment using names of shapes, recognizing the name stays the same regardless of orientation or size	☑		
	Describe the relative positions of objects in space			
	Identify and describe attributes of shapes, and use the attributes to sort a collection of shapes	☑		
	Construct simple 2-dimensional shapes			
	Compose simple shapes to form larger shapes using manipulatives	☑		
Data & Statistics	*Classify objects and count the number of objects in each category*			
	Classify objects into given categories; count the number of objects in each category			
	Compare catergory counts using appropriate language	☑		

1st Grade

DOMAIN	ARCHDIOCESAN EXPECTATIONS	PRIORITY EXPECTATION	CURRENTLY TAUGHT IN THIS GRADE LEVEL (yes or no)?	LIST ADDITIONAL RESOURCES (IF NEEDED) FOR STUDENTS TO MASTER THIS EXPECTATION
Number Sense	*Understand and use numbers up to 120*			
	Count to 120, starting at any number less than 120	☑		
	Read and write numerals and represent a number of objects with a written numeral	☑		
	Count backwards from a given number from 20			

	Count by 2's, 5's, and 10's starting at any number	☑		
Number Sense & Operations in Base Ten	*Understand place value of two-digit numbers*			
	Understand that 10 can be thought of as a bundle of 10 ones-called a ten			
	Round numbers to the nearest 10			
	Understand two-digit numbers are composed of ten(s) and one(s) within 100	☑		
	Compare two two-digit numbers using symbols <,=, or >	☑		
	Use place value understanding to add and subtract			
	Add and subtract within 100 without regrouping	☑		
	Calculate 10 more or 10 less than a given number mentally			
	Add or subtract a multiple of 10 from another two-digit number and justify			
Relationships & Algebraic Thinking	*Represent and solve problems involving additon and subraction*			
	Use addition and subtraction within 20 to solve word problems	☑		
	Solve problems that call for addition of three whole numbers whose sum is within 20			
	Use the equal sign to determine if equations are true or false			
	Determine the unknown whole number in an equation relating 3 whole numbers	☑		
	Understand and apply properties of operations and relationship between add and sub			
	Use properties as strategies to add and subtract			
	Demonstrate that subtraction can be solved as an unknown addend problem			
	Demonstrate fluency with addition and subtraction within 10			
Geometry & Measurement	*Reason with shapes and their attributes*			
	Distinguish between defining attributes; build and draw shapes			
	Compose and decompose 2D and 3D shapes			
	Recognize 2D and 3D shapes from different perspectives			
	Partition shapes into equal shares and describe verbally	☑		
	Measure lengths using non-standard and standard units	☑		
	Order and compare lengths of two or more objects			
	Work with time and money			
	Understand that there are 12 am hours and 12 pm hours in a day			
	Tell and write time in hours, half-hours, and quarter hours using analog and digital clock	☑		
	Know the value of a penny, nickel, dime, quarter, and dollar			
	Add coins to create amounts within one dollar	☑		
Data & Statistics	*Represent and interpret data*			
	Collect, organize, and represent data with up to three categories	☑		
	Draw conclusions from objects using a variety of graphs			
	2nd Grade			
DOMAIN	**ARCHDIOCESAN EXPECTATIONS**	**PRIORITY EXPECTATION**	**CURRENTLY TAUGHT IN THIS GRADE LEVEL (yes or no)?**	**LIST ADDITIONAL RESOURCES (IF NEEDED) FOR STUDENTS TO MASTER THIS EXPECTATION**
Number Sense & Operations in Base Ten	*Understand place value of three digit numbers*	☑		

	Understand three-digit numbers are composed of hundreds, tens, and ones			
	Understand that 100 can be thought of as 10 tens- called a "hundred"			
	Count within 1000 by 1s, 2s, 3s, 4s, 5s, 10s, and 100s starting with any number	☑		
	Make reasonable estimates for addition and subtraction problems			
	Round whole numbers to the nearest 10 and 100	☑		
	Read and write numbers to 1000 using number names, base-ten numerals, and expanded form			
	Compare two three-digit numbers using the symbols >, =, or <	☑		
	Use place value understanding and properties of operations to add and subtract	☑		
	Demonstrate knowledge of adding and subtracting two digit numbers with and without regrouping	☑		
	Add up to four two-digit numbers			
	Demonstrate knowlege of adding and subtracting three digit numbers with and without regrouping	☑		
	Use the relationship between addition and subtraction to solve problems			
	Add or subtract mentally 10 or 100 to form a given number within 1000			
	Represent and solve problems involving addition and subtraction	☑		
	Use knowledge of adding and subtracting within 100 to solve word problems	☑		
Relationships & Algebraic Thinking	*Add and subtract within 20*	☑		
	Demonstrate fluency with addition and subtraction within 20	☑		
	Develop foundations for multiplication and division	☑		
	Determine if a set of objects has an odd or even number of members			
	Express even numbers as being composed of equal groups and write an expression to represent the number with 2 equal addends			
	Solve multiplication problems using a rectangular array	☑		
	Determine the unknown whole number in an equation			
Geometry & Measurement	*Reason with shapes and their attributes*	☑		
	Recognize and draw shapes having specified attributes, such as a given number of angles and sides	☑		
	Count unit squares to determine the area of a rectangle			
	Partition circles and rectangles into two, three, or four equal shares, and describe the shares and the whole	☑		
	Measure and estimate lengths in standard units	☑		
	Measure the length of an object by selecting and using appropriate tools			
	Analyze the results of measuring the same object with different units			
	Estimate lengths using units of inches, feet, yards, centimeters, and meters	☑		
	Measure to determine how much longer one object is than another			
	Estimate and measure the perimeter of a figure			
	Relate addition and subtraction to length			
	Use addition and subtraction within 100 to solve problems involving lengths that are given in the same units			
	Represent whole numbers as lengths on a number line, and represent whole-number sums and differences within 100 on a number line			
	Work with time and money	☑		
	Tell and write time from analog and digital clocks to the nearest five minutes	☑		
	Analyze times as A.M. and P.M.			
	Describe a time shown on a digital clock as representing hours and minutes, and relate a time shown on a digital clock to the same time on an analog clock			
	Demonstrate the ability to represent a certain value of money up to 99 cents in various ways			

	Find the value of combinations of dollar bills, quarters, dimes, nickels, and pennies using $ and cents appropriately			
	Find combinations of coins that equal a given amount up to five dollars	☑		
	Make exchange between coins			
Data & Statistics	*Represent and interpret data*	☑		
	Create a line plot to represent a set of numeric data, given a horizontal scale marked in whole numbers			
	Take surveys and collect data and display the data in a line plot			
	Draw a picture graph or a bar graph to represent a data set with up to four categories			
	Draw conclusions and solve problems using line plots, picture graphs, and bar graphs	☑		
	Find the range, median, and mode of a set of data with single digits			

3rd Grade

DOMAIN	ARCHDIOCESAN EXPECTATIONS	PRIORITY EXPECTATION	CURRENTLY TAUGHT IN THIS GRADE LEVEL (yes or no)?	LIST ADDITIONAL RESOURCES (IF NEEDED) FOR STUDENTS TO MASTER THIS EXPECTATION
Number Sense & Operations in Base Ten	*Use place value understanding and properties of operations to perform multi-digit arithmetic*			
	Round whole numbers, up to the nearest 10,000	☑		
	Read, write, and identify whole numbers within 100,000 using base ten numerals, number names and expanded form			
	Skip count by 6-9			
	Demonstrate fluency with addition and subtraction within the thousands period	☑		
	Multiply whole numbers by multiples of 10 in the range of 10-120			
Number Sense & Operations in Fractions	*Develop understanding of fractions as numbers*			
	Understand a unit fraction as the quantity formed by one part when a whole is partitioned into equal parts			
	Understand that when a whole is partitioned equally, a fraction can be used to represent a portion of the whole			
	Represent fractions on a number line	☑		
	Recognize and generate equivalent fractions using visual models and number lines; justify why they are equivalent			
	Compare two fractions with the same numerator or denominator using the symbols >, =, or < and justify	☑		
	Explain why fraction comparisons are only valid when the two fractions refer to the same whole			
Relationships & Algebraic Thinking	*Represent and solve problems involving multiplication and division*			
	Interpret and model products of whole numbers	☑		
	Interpret and model quotients of whole numbers	☑		
	Use multiplication and division within 144 to solve problems			
	Determine the unknown number in a multiplication or division equation relating three whole numbers			
	Understand properties of multiplication and the relationship between multiplication and division			
	Apply properties of operations as strategies to multiply and divide			
	Multiply and divide within 144			
	Multiply and divide with numbers and results within 144 using different strategies			
	Demonstrate fluency with products within 144	☑		
	Use the four operations to solve word problems			

	Write and solve two-step word problems involving variables using any of the four operations	☑		
	Intrepret the reasonableness of answers using mental computation and estimation strategies including rounding	☑		
	Identify and explain arithmetic patterns			
	Identify arithmetic patterns and explain the patterns using properties of operations			
Geometry & Measurement	*Reason with shapes and their attributes*			
	Understand that shapes in different categories may share attributes	☑		
	Distinguish rhombuses and rectangles as examples of quadrilaterals			
	Partition shapes into parts with equal areas and express that area			
	Solve problems involving the measurement of time, money, capacity, and weights of objects			
	Tell and write time to the nearest minute	☑		
	Solve problems involving addition and subtraction of minutes			
	Round money to the nearest dollar	☑		
	Measure, estimate, and solve problems involving length, capacity, and weight of objects	☑		
	Use the four operations to solve problems involving lengths, capacity, or weights given in the same units			
	Understand concepts of area			
	Calculate area by using unit squares with no gaps or overlaps			
	Label area measurements with squared units			
	Demonstrate that tiling a rectangle to find the area and multiplying the side lengths result in the same value			
	Measure, estimate, and solve problems involving area, perimeter, and angles given in the same units	☑		
	Multiply whole-number side lengths to solve problems involving the area of rectangles			
	Find rectangular arrangements that can be formed for a given area			
	Understand concepts of perimeter			
	Solve problems involving perimeters of polygons			
	Understand that rectangles can have equal perimeters but different areas, or rectangles can have equal areas but different perimeters			
	Classify angles			
	Classify angles as acute, obtuse, and right angles			
Data & Statistics	*Represent and analyze data*			
	Create frequency tables, scaled picture graphs, and bar graphs to represent a data set with several categories	☑		
	Solve one- and two-step problems using information presented in bar and/or picture graphs	☑		
	Find the median, mode, and range for a set of up to ten 2-digit numbers	☑		

4th Grade

DOMAIN	ARCHDIOCESAN EXPECTATIONS	PRIORITY EXPECTATION	CURRENTLY TAUGHT IN THIS GRADE LEVEL (yes or no)?	LIST ADDITIONAL RESOURCES (IF NEEDED) FOR STUDENTS TO MASTER THIS EXPECTATION
Number Sense & Operations in Base Ten	*Use place value understanding and properties of operations to perform multi-digit arithmetic with numbers up to hundred million*			
	Round multi-digit whole numbers to 10,000,000	☑		
	Read, write, and identify multi-digit whole numbers up to hundred million using number names, base ten numerals, and expanded form			
	Compare two multi-digit numbers up to 100,000,000 using the symbols >, =, <, and justify the solution	☑		

	Understand that in a multi-digit whole number, a digit represents 10 times what it would represent in the place to its right			
	Demonstrate fluency with addition and subtraction of whole numbers within the millions	☑		
	Multiply a whole number of up to 4 digits by a one-digit whole number, and multiply two two-digit numbers, and justify the solution	☑		
	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, and justify the solution	☑		
Number Sense & Operations in Fractions	*Extend understanding of fraction equivalence and ordering*			
	Recognize, generate, explain, and illustrate why two fractions are equivalent			
	Compare two fractions with like and unlike denominators using the symbols >, <, or = and justify the solution	☑		
	Extend understanding of operations on whole numbers to fraction operations			
	Understand addition and subtraction of fractions by decomposing a fraction into a sum of fractions with the same denominator			
	Solve problems involving multiplication of a fraction by a whole number	☑		
	Understand decimal notation for fractions, and compare decimal fractions (denominators of 10 or 100)			
	Use decimal notation for fractions with denominators of 10 or 100			
	Understand that fractions and decimals are equivalent representations of the same quantity	☑		
	Read, write, and identify decimals to the hundredths place using number names, base ten numerals, and expanded form			
	Compare two decimals to the hundredths place using the symbols >,<, or = and justify the solution	☑		
Relationships & Algebraic Thinking	*Use the four operations with whole numbers to solve problems*			
	Multiply or divide to solve problems involving a multiplicative comparison			
	Solve multi-step whole number problems involving the four operations and variables and using estimation to interpret the reasonableness of the answer	☑		
	Solve whole number division problems involving variables in which remainders need to be interpreted and jusitfy the solution			
	Work with factors and multiples			
	Recognize that a whole number is a multiple of each of its factors and find the multiples for a given whole number			
	Determine if a whole number within 100 is composite or prime, and find all factor pairs for whole numbers within 100			
	Generate and analyze patterns			
	Generate a number pattern that follows a given rule			
	Use words or mathematical symbols to express a rule for a given pattern			
Geometry & Measurement	*Classify 2-dimensional shapes by properties of their lines and angles*			
	Draw and identify points, lines, line segments, rays, angles, perpendicular lines, and parallel lines	☑		
	Classify two-dimensional shapes by their sides and/or angles			
	Construct lines of symmetry for a two-dimensional figure			
	Understand the concepts of angle and measure angles			
	Identify and estimate angles and their measure			
	Draw and measure angles in whole-number degrees using a protractor			
	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit			

	Know relative sizes of measurement units within one system of units; convert measurements in a larger unit in terms of a smaller unit	☑		
	Use the four operations to solve problems involving distances, intervals of time, capacity, weight of objects, and money	☑		
	Apply the area and perimeter formulas for rectanlges to solve problems			
Data & Statistics	*Represent and analyze data*			
	Create a line plot, bar graph, double bar graph, or line graph to display measurement data	☑		
	Solve problems involving addition and subtraction by using iinformation presented in a data display	☑		
	Analyze the data in a frequency table, line plot, bar graph, double bar graph, or picture graph	☑		
	Analyze data from graphs to find the mean, median, mode, and range	☑		

5th Grade

DOMAIN	ARCHDIOCESAN EXPECTATIONS	PRIORITY EXPECTATION	CURRENTLY TAUGHT IN THIS GRADE LEVEL (yes or no)?	LIST ADDITIONAL RESOURCES (IF NEEDED) FOR STUDENTS TO MASTER THIS EXPECTATION
Number Sense & Operations in Base Ten	*Use place value system understanding to perform operations with multi-digit whole numbers to billions and decimals to thousandths*			
	Read, write, and identfy numbers from billions to thousandths using number names, base ten numerals, and expanded form			
	Compare two numbers from billions to thousandths using the symbols >, =, or < and justify the solution	☑		
	Understand that in a multi-digit number, a digit represents 1/10 times what it could represent in the place to its left			
	Evaluate the value of powers of 10 and understand the relationship to the place value system			
	Round numbers from billions to thousandths place	☑		
	Add/Subtract/Multiply/Divide multi-digit whole numbers and decimals to the thousandths place, and justify the solution	☑		
Number Sense & Operations in Fractions	*Understand the relationship between fractions and decimals (denominators that are of 100)*			
	Understand that parts of a whole can be expressed as fractions and/or decimals	☑		
	Convert decimals to fractions and fractions to decimals	☑		
	Compare and order fractions and/or decimals to the thousandths place using the symbols >, =, or < and justify the solution			
	Perform operations and solve problems with fractions and decimals			
	Estimate results of sums, differences, and products with fractions and decimals to the thousandths			
	Justify the reasonableness of a product when multiplying with fractions	☑		
	Solve problems involving addition and subtraction of fractions and mixed numbers with unlike denominators, and justify the solution	☑		
	Multiply and divide a fraction or whole number by a fraction using models and equations	☑		
	Divide unit fractions and whole numbers by using visual fraction models and equations			
Relationships & Algebraic Thinking	*Represent and analyze patterns and relationships*			
	Investigate the relationship between two numeric patterns			
	Write a rule to describe or explain a given numeric pattern			
	Write and interpret numerical expressions			
	Write, evaluate, and interpret numeric expressions using the order of operations	☑		
	Translate written expressions into algebraic expressions	☑		

	Use the four operations to represent and solve problems			
	Solve and justify multi-step problems involving variables, whole numbers, fractions, and decimals when given the value of the variable			
Geometry & Measurement	*Classify geometric shapes based on their attributes*			
	Classify figures in a hierarchy based on properties			
	Analyze and describe the properties of prisms and pyramids			
	Identify a circle and its parts (radius, diameter, chord, central angle)			
	Understand and compute volume			
	Understand the concept of volume and recongnize that volume is measured in cubic units	☑		
	Apply the formulas V=l x w x h and V = B x h for volume of right rectangular prisms with whole-number edge lengths	☑		
	Graph points on the Cartesian coordinate plane within the first quadrant to solve problems			
	Define a first quadrant Cartesian coordinate system	☑		
	Plot and interpret points in the first quadrant of the Cartesian coordinate plane	☑		
	Solve problems involving measurement and conversions within a measurement system			
	Convert measurements of capacity, length, and weight within a given measurement system	☑		
	Solve multi-step problems that require measurement conversions	☑		
	Calculate the time lapsed based on beginning and end time			
	Determine a given cost based on the price and given tax			
Data & Statistics	*Represent and analyze data*			
	Create a line graph to represent a set of data	☑		
	Analyze the data to answer questions and solve problems	☑		
	Create a graph to represent a given or generated set of data	☑		
	Analyze the data to answer questions and solve problems, recognizing the outliers and generating the mean, median, mode, and range	☑		
	Interpret circle graphs that involve data in whole-number and fraction form			
	6th Grade			
DOMAIN	**ARCHDIOCESAN EXPECTATIONS**	**PRIORITY EXPECTATION**	**CURRENTLY TAUGHT IN THIS GRADE LEVEL (yes or no)?**	**LIST ADDITIONAL RESOURCES (IF NEEDED) FOR STUDENTS TO MASTER THIS EXPECTATION**
Ratios & Proportional Relationships	*Understand and use ratios to solve problems*			
	Understand a ratio as a comparison of two quantities and represent these comparisons	☑		
	Understand the concept of a unit rate associated with ratio, and describe the meaning of the unit rate			
	Solve problems involving ratios and rates a. Create tables of equivalent ratios, find missing values in the tables, and plot the pairs of values on the Cartesian coordinate plane b. Solve unit rate problems c. Solve percent problems (finding whole given part, the part given the whole, and percentage) d. Convert measurement units within and between two systems of measurements (use ratios to compare sizes of similar figures with different units)	☑		
Number Sense & Operations	*Apply and extend previous understandings of multiplication and division to divide fractions by fractions*			
	Compute and interpret quotients of positive fractions	☑		
	Compute with non-negative multi-digit numbers and find common factors and multiples			
	Demonstrate fluency with division of multi-digit whole numbers	☑		

	Demonstrate fluency with addition, subtraction, multiplication, and division of decimals	☑		
	Find common factors and multiples a. Find the greatest common factor and the least common multiple b. Use distributive property to express a sum of two whole numbers with a common factor as a multiple of a sum of two whole numbers	☑		
	Apply and extend previous understanding of numbers to the systems of rational numbers			
	Use positive and negative numbers to represent quantities			
	Locate a rational number as a point on a horizontal and vertical number line			
	Write, interpret, and explain problems of ordering rational numbers			
	Understand that a number and its opposite (additive inverse) are located on opposite sides of zero on the number line			
	Understand that the absolute value of a rational number is its distance from 0 on the number line	☑		
	Extend prior knowledge to generate equivalent representations of rational numbers between fractions, decimals, and percentages (limited to terminating decimals and/or benchmark fractions of 1/3 and 2/3)	☑		
	Solve problems involving the four arithmetic operations with integers, fractions, and decimals including order of operations	☑		
Expressions, Equations, & Inequalities	*Apply and extend previous understandings of arithmetic to algebraic expressions*			
	Describe the difference between an expression and an equation			
	Create and evalute expressions involving variables and whole number exponents a. Identify parts of an expression using mathematical terminology b. Evaluate expressions at specific values of the variables c. Evaluate non-negative rational number expressions d. Write and evaluate algebraic expressions e. Understand the meaning of the variable in the context of a situation	☑		
	Identify and generate equivalent algebraic expressions using mathematical properties			
	Reason about and solve one-variable equations and inequalities			
	Use substitution to determine whether a given number in a specified set makes a one-variable equation and/or inequality true			
	Understand that if any solutions exist, the solution set for an equation or inequality consists of values that make the equation or inequality true			
	Write and solve equations using variables to represent quantities, and understand the meaning of the variable in the context of the situation	☑		
	Solve one and two-step equations in one variable involving rational numbers	☑		
	Recognize that inequalities may have infinitely many solutions a. Write an inequality of the form x>c , x>c , x ≥ c, or x ≤ c to represent a constraint or condition b. Graph the solution set of an inequality	☑		
	Solve one and two-step inequalities in one variable involving rational numbers	☑		
	Represent and analyze quantitative relationships between dependent and independent variables			
	Identify and describe relationships between two variables that change in relationship to one another a. Write an equation to express one quantity, the dependent variable, in terms of the other quantity, the independent variable b. Analyze the relationship between the dependent and independent variables using graphs, tables, and equations, and relate these representations to each other	☑		
Geometry & Measurement	*Solve problems involving area, surface area, and volume*			
	Find the area and perimeter of polygons by composing or decomposing the shapes into rectangles or triangles	☑		
	Find the volume of prisms a. Understand that the volume of a right rectangular prism can be found by filling the prism with multiple layers of the base b. Apply V = l * w * h and V = Bh to find the volume of right rectangular prisms			

	Solve problems by graphing points in all four quadrants of the Cartesian coordinate plane a. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the Cartesian coordinate plane b. Recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes c. Find distances between points with the same first coordinate or the same second coordinate d. Construct polygons in the Cartesian coordinate plane	☑		
	Solve problems using nets a. Represent three-dimensional figures using nets made up of rectangles and triangles b. Use nets to find the surface area of three-dimensional figures whose sides are made up of rectangles and triangles			
Data Analysis, Statistics, & Probability	*Develop unerstanding of statistical variability*			
	Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers			
	Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape			
	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary from a single number			
	Summarize and describe distributions			
	Display and interpret data a. Use dot plots, histograms, and box plots to display and interpret numerical data b. Create and interpret circle graphs	☑		
	Summarize numerical data sets in relation to the context a. Report the number of observations b. Describe the nature of the attribute under investigation, including how it was measured and its units of measurement c. Give quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), and describe any overall pattern and any striking deviations from the overall pattern with reference to the context of the data d. Analyze the choice of measures of center and variability based on the shape of the data distribution and/or the context of the data			
	7th Grade			
DOMAIN	**ARCHDIOCESAN EXPECTATIONS**	**PRIORITY EXPECTATION**	**CURRENTLY TAUGHT IN THIS GRADE LEVEL (yes or no)?**	**LIST ADDITIONAL RESOURCES (IF NEEDED) FOR STUDENTS TO MASTER THIS EXPECTATION**
Ratios & Proportional Relationships	*Analyze proportional relationships and use them to solve problems*			
	Compute unit rates, including those that involve complex fractions, with like or different units	☑		
	Recognize and represent proportional relationships between quantities a. Determine when two quantities are in a proportional relationship b. Identify and/or compute the constant proportionality (unit rate); interpret the unit rate as the slope of the graph c. Explain what a point (x,y) on the graph of a proportional relationship means in terms of the situation d. Recognize that the graph of any proportional relationship will pass through the origin	☑		
	Solve problems involving ratios, rates, percentages, and proportional relationships			
	Graph proportional relationships a. Interpret the unit rate as the slope of the graph b. Compare two different proportional relationships			
Number Sense & Operations	*Apply and extend previous understandings of operations to add, subtract, multiply, and divide rational numbers*			

	Apply and extend previous understandings of numbers to add and subtract rational numbers a. Add and subtract rational numbers b. Represent addition and subtraction on a horizontal or vertical number line c. Describe situations and show that a number and its opposite have a sum of 0 (additive inverses) d. Understand subtraction of rational numbers as adding the additive inverse e. Determine the distance between two rational numbers on the number line is the absolute value of their difference f. Interpret sums and differences of rational numbers	☑		
	Apply and extend previousunderstandings of numbers to multiply and divide rational numbers a. Multiply and divide rational numbers b. Determine that a number and its reciprocal have a product of 1 (multiplicative inverse) c. Understand that every quotient of integers (with non-zero divisor) is a rational number d. Convert a rational number to a decimal e. Understand that all rational numbers can be written as fractions or decimal numbers that terminate or repeat f. Interpret products and quotients of rational numbers by describing real-world contexts	☑		
	Explore the real number system a. Know the differences between rational and irrational numbers b. Understand that all rational numbers have a decimal expansion that terminates or repeats			
Expressions, Equations, & Inequalities	*Use of properties of operations to generate equivalent expressions*			
	Apply properties of operations to simplify and to factor linear algebraic expressions with rational coefficients	☑		
	Understand how to use equivalent representation of the same number to clarify quantites in a problem			
	Solve problems using numerical and algebraic expressions and equations			
	Solve multi-step problems posed with rational numbers a. Convert between equivalent forms of the same number b. Assess the reasonableness of answers using mental computation and estimation strategies	☑		
	Write and/or solve linear equations in one variable and justify the solution a. Write and solve one-, two-, and multi-step equations (using distributive property and combining like terms) b. Write and solve one-, two-, and multi-step equations with variables on both sides	☑		
	Write and/or solve linear inequalities in one variable and justify the solutions a. Write, solve, and graph one-, two-, and multi-step inequalities (using distributive property and combining like terms) b. Write, solve, and graph one-, two-, multi-step inequalities with variables on both sides	☑		
Geometry & Measurement	*Draw and describe geometrical figures and describe the relatioships between them*			
	Solve problems involving scale drawings of real objects and geometric figures, including computing actual lengths and areas from a scale drawing at a different scale			
	Use a variety of tools to construct geometric shapes a. Determine if provided constraints will create a unique triangle through construction b. Construct special quadrilaterals given specific parameters			
	Understand concepts of circles a. Analzye the relationships among the circumference, the radius, the diameter, the area, and Pi in a circle b. Know and apply the formulas for circumference and area of circles to solve problems			
	Apply and extend previous understanding of angle measure, area, and volume			
	Use angle properties to write and solve equations for an unknown angle			
	Understand the relationship between area, surface area, and volume a. Find the area of triangles, quadrilaterals, and other polygons composed of triangles and rectangles b. Find the area and perimeter of triangles, rectangles, and circles c. Find the volume and surface area of prisms, pyramids, and cylinders			

Data Analysis, Statistics, & Probability	*Use random sampling to draw inferences about a population*			
	Understand that statistics can be used to gain information about a population by examining a sample of the population a. Understand that a sample is a subset of a population b. Understand that generalizations from a sample are valid only if the sample is representative of the population c. Understand that random sampling is used to produce representative samples and support valid inferences			
	Use data from multiple samples to draw inferences about a population and investigate variability in estimates of the characteristics of interest			
	Draw informal comparative inferences about two populations			
	Analyze different data distributions using statistical measures			
	Compare the numerical measures of center, measures of frequency, and measures of variability from two random samples to draw inferences about the population	☑		
	Develop, use, and evaluate probability models			
	Investigate the probability of chance events a. Determine probabilities of simple events b. Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring			
	Investigate the relationship between theoretical and experimental probabilities for simple events a. Predict outcomes using theoretical probability b. Perform experiments that model theoretical probability c. Compare theoretical and experimental probabilities			
	Explain possible discrepancies between a developed probability model and observed frequencies a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process			
	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulations a. Represent the sample space of a compound event b. Design and use a simulation to generate frequencies for compound events			
	8th Grade (Pre-Algebra)			
DOMAIN	**ARCHDIOCESAN EXPECTATIONS**	**PRIORITY EXPECTATION**	**CURRENTLY TAUGHT IN THIS GRADE LEVEL (yes or no)?**	**LIST ADDITIONAL RESOURCES (IF NEEDED) FOR STUDENTS TO MASTER THIS EXPECTATION**
Number Sense & Operations	*Explore the Real Number System*			
	Generate equivalent representations of rational numbers, including converting decimals which repeat into fractions and fractions into repreating decimals			
	Estimate the value and compare the size of irrational numbers and approximate their locations on a number line			
Expressions, Equations, & Inequalities	*Work with radicals and integer exponents*			
	Know and apply the properties of integer exponents to generate equivalent expressions	☑		

	Investigate concepts of square and cube roots a. Solve equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number b. Evaluate square roots of perfect squares less than or equal to 625 and cube roots of perfect cubes less than or equal to 1000 c. Recognize that square roots of non-perfect squares are irrational	☑		
	Express very large and very small quantities in scientific notation and approximate how many times the larger one is than the other			
	Use scientific notation to solve problems a. Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used b. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities			
	Understand the connections between proportional relationships, lines, and linear equations			
	Graph proportional relationships a. Compare two different proportional relationships b. Interpret and draw conclusions of the unit rate as slope			
	Apply concepts of slope and y-intercept to graphs, equations, and proportional relationships a. Explain why the slope (m) is the same between any two distinct points on a non-vertical line in the Cartesian coordinate plane b. Derive the equation y=mx for a line through the origin and the equation y=mx + b for a line intercepting the vertical axis at b	☑		
	Write linear equations in point-slope form { $y- y_1 = m(x - x_1)$ } and standard form { ax + by = c } using points and slope in the Cartesian coordinate plane a. Find slope using the slope formula as change in y over change in x	☑		
	Analyze and solve linear equations and inequalities and pairs of simultaneous linear equations			
	Solve linear equations and inequalities in one variable a. Create and identify linear equations with one solution, infinitely many solutions, or no solutions b. Apply linear equations and inequalities with rational number coefficients, including equations and inequalities whose solutions require expanding expressions using the distributive property and combining like terms	☑		
	Identify parallel and perpendicular lines in the Cartesian coordinate plane by assessing their slopes			
	Analyze and solve systems of linear equations a. Graph systems of linear equations and recognize the intersection as the solution of the system b. Explain why solution(s) to a system of two linear equations in two variables correspond to point(s) of intersection of the graphs c. Explain why systems of linear equations can have one solution, no solution, or infinitely many solutions d. Solve systems of two linear equations	☑		
Geometry & Measurement	*Understand congruence and similarity using physical models, transparencies, or geometry software*			
	Verify experimentally the congruence properties of rigid transformations a. Verify that angle measure, betweeness, collinearity, and distance are preserved under rigid transformations b. Investigate if orientation is preserved under rigid transformations			
	Understand that two-dimensional figures are congruent if a series of rigid transformations can be performed to map the pre-image to the image a. Describe a possible sequence of rigid transformations between two congruent figures			
	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates			
	Understand that two-dimensional figures are similar if a series of transformations (rotations, reflections, translations, and dilations) can be performed to map the pre-image to the image a. Describe a possible sequence of transformations between two similar figures	☑		

	Explore angle relationships and establish informal arguments a. Derive the sum of the interior angles of a triangle b. Explore the relationship between the interior and exterior angles of a triangle c. Construct and explore the angles created when parallel lines are cut by a transversal d. Use the properties of similar figures to solve problems			
	Understand and apply the Pythagorean Theorem			
	Use models to demonstrate a proof of the Pythagorean Theorem and its converse			
	Use the Pythagorean Theorem to determine unknown side lengths in right triangles in problems in two- and three-dimensional contexts	☑		
	Use the Pythagorean Theorem to find the distance between points in a Cartesian coordinate system			
	Solve problems involving volume of cones and spheres			
	Solve problems involving surface area and volume a. Understand the concept of surface area and find surface area of cones b. Understand the concepts of volume and find the volume of cones and spheres			
Data Analysis, Statistics, & Probability	*Investigate patterns of association in bivariate data*			
	Construct and interpret scatter plots of bivariate measurement data to investigate patterns of association between two quantities	☑		
	Generate and use a trend line for bivariate data, and informally assess the fit of the line			
	Interpret the parameters of a linear model of bivariate measurement data to solve problems			
	Understand the patterns of association in bivariate categorical data displayed in a two-way table a. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects b. Use relative frequencies calculated for rows or columns to describe possible association between the two variables			
Functions	*Define, evaluate, and compare functions*			
	Explore the concept of functions (the use of function notation is not required) a. Understand that a function assigns to each input exactly one output b. Determine if a relation is a function c. Graph a function			
	Compare characteristics of two functions each represented in a different way			
	Investigate the differences between linear and nonlinear functions a. Interpret the equation y = mx + b as defining a linear function, whose parameters are the slope (m) and the y-intercept (b) b. Recognize that the graph of a linear function has a constant rate of change c. Give examples of nonlinear functions	☑		
	Use functions to model relationships between quantities			
	Use functions to model linear relationships between quantities a. Explain the parameters of a linear function based on the context of a problem b. Determine the parameters of a linear function c. Determine the x-intercept of a linear function	☑		
	Describe the functional relationship between two quantities from a graph or a verbal description			
	(Algebra)			
Number & Quantity (NQ)	Extend and use properties of rational exponents			
	Explain how the meaning of rational exponents extends from the properties of integer exponents			
	Rewrite expressions involving radicals and rational exponents using the properties of exponents. Limit to rational exponents with a numerator of 1			
	Use units to solve problems			
	Use units of measure as a way to understand and solve problems involving quantities. a) Identity, label, and use appropriate units of measure within a problem. b) Convert units and rates. c) Use units within problems. d) Choose and interpret the scale and the origin in graphs and data displays			

	Define and use appropriate quantities for representing a given context or problem			
	Choose a level of accuracy appropriate to limitations on measurement when reporting quantities			
Seeing Structure in Expressions (SSE)	Interpret and use structure			
	Interpret the contextual meaning of individual terms or factors from a given problem that utilizes formulas or expressions			
	Analyze the structure of polynomials to create equivalent expressions or equations			
	Choose and produce equivalent forms of a quadratic expression or equations to reveal and explain properties. a) Find the zeros of a quadratic function by rewriting it in factored form. b) Find the maximum or minimum value of a quadratic function by completing the square			
Creating Equations (CE)	Create equations that describe linear, quadratic, and exponential relationships			
	Create equations and inequalities in one variable and use them to model and/or solve problems			
	Create and graph linear, quadratic, and exponential equations in two variables			
	Represent constraints by equations or inequalities and by systems of equations or inequalities, and interpret the data points as a solution or non-solution in a modeling context			
	Solve literal equations and formulas for a specified variable that highlights a quantity of interest			
Reasoning with Equations & Inequalities (REI)	Understand solving equations as a process, and solve equations and inequalities in one variable			
	Explain how each step taken when solving an equation or inequality in one variable creates an equivalent equation or inequality that has the same solution(s) as the original			
	Solve problems involving quadratic equations. a) Use the method of completing the square to create an equivalent quadratic equation. b) Derive the quadratic formula. c) Analyze different methods of solving quadratic equations			
	Solve systems of equations			
	Solve a system of linear equations algebraically and/or graphically			
	Solve a system consisting of a linear equation and a quadratic equation algebraically and/or graphically			
	Justify that the technique of linear combination produces an equivalent system of equations			
	Represent and solve linear and exponential equations and inequalities graphically			
	Explain that the graph of an equation in two variables is the set of all its solutions plotted in the Cartesian coordinate plane			
	Graph the solution to a linear inequality in two variables			
	Solve problems involving a system of linear inequalities			
Arithmatic with Polynomials & Rational Expressions (APR)	Perform operations on polynomials			
	Add, subtract, and multiply polynomials and understand that polynomials follow the same general rules of arithmetic and are closed under these operations			
	Divide polynomials by monomials			
Interpreting Functions (IF)	Understand the concept of a function and use function notation			
	Understand that a function from one set (domain) to another set (range) assigns to each element of the domain exactly one element of the range. a) Represent a function using function notation. b) Understand that the graph of a function labeled f is the set of all ordered pairs (x, y) that satisfy the equation $y=f(x)$			
	Use function notation to evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context			

	Interpret linear, quadratic, and exponential functions in terms of the context			
	Using tables, graphs, and verbal descriptions, interpret key characteristics of a function that models the relationship between two quantities			
	Relate the domain and range of a function to its graph and, where applicable, to the quantitative relationship it describes			
	Determine the average rate of change of a function over a specified interval and interpret the meaning			
	Interpret the parameters of a linear or exponential function in terms of the context			
	Analyze linear, quadratic, and exponential functions using different representations			
	Graph functions expressed symbolically and identify and interpret key features of the graph			
	Translate between different but equivalent forms of a function to reveal and explain properties of the function and interpret these in terms of a context			
	Compare the properties of two functions given different representations			
Building Functions (BF)	Build new functions from existing functions (linear, quadratic, and exponential)			
	Analyze the effect of translations and scale changes on functions			
Linear, Quadratic, & Exponential Models (LQE)	Construct and compare linear, quadratic, and exponential models and solve problems			
	Distinguish between situations that can be modeled with linear or exponential functions. a) Determine that linear functions change by equal differences over equal intervals. b) Recognize exponential situations in which a quantity grows or decays by a constant percent rate per unit interval			
	Describe, using graphs and tables, that a quantity increasing exponentially eventually exceeds a quantity increasing linearly or quadratically			
	Construct linear, quadratic, and exponential equations given graphs, verbal descriptions, or tables			
	Use arithmetic and geometric sequences			
	Write arithmetic and geometric sequences in recursive and explicit forms, and use them to model situations and translate between the two forms			
	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the set of integers			
	Find the terms of sequences given an explicit or recursive formula			
Data & Statistics (DS)	Summarize, represent, and interpret data			
	Analyze and interpret graphical displays of data			
	Use statistics appropriate to the shape of the data distribution to compare center and spread of two or more different data sets			
	Interpret differences in shape, center, and spreads in the context of the data sets, accounting for possible effects of outliers			
	Summarize data in two-way frequency tables			
	a. Interpret relative frequencies in the context of the data			
	b. Recognize possible associations and trends in the data			
	Construct a scatter plot of bivariate quantitative data describing how the variables are related; determine and use a function that models the relationship			
	a. Construct a linear function to model bivariate data represented on a scatter plot that minimizes residuals			
	b. Construct an exponential function to model bivariate data represented on a scatter plot that minimizes residuals			
	Interpret the slope (rate of change) and the y-intercept (constant term) of a linear model in the context of the data			
	Determine and interpret the correlation coefficient for a linear association			
	Distinguish between correlation and causation			