Mathematics

Mathematics reflects the order and unity in God's universe and deals with truth; therefore, it plays an integral role in the Catholic schools.

Mathematics also contributes to the development of the whole person by enriching one's life and providing a practical tool for daily living.

Every student needs an understanding and knowledge of the basics of mathematics which play a role in the pursuit of other academic career subjects.

Contemporary society demands mathematical knowledge which helps students develop their ability to reason, to think critically and logically, as well as to discover creative ways to solve problems.

PROGRAM GOAL I: **NUMBERS, NUMERATION, OPERATIONS**

PROGRAM OBJECTIVES:

A. Learns the basics of whole numbers
B. Adds whole numbers
C. Subtracts whole numbers
D. Multiplies whole numbers
E. Divides whole numbers
F. Learns the basics of fractions
G. Adds fractions
H. Subtracts fractions
I. Multiplies fractions
J. Divides fractions
K. Learns the basics of decimals
L. Adds decimals
M. Subtracts decimals
N. Multiplies decimals
O. Divides decimals
P. Learns the basics of percents
Q. Understands and uses the properties of numbers
R. Learns the basics of exponents
S. Understands and uses a calculator

SKILL LEVELS:
I-Introduce
D-Develop
M-Master/Maintain

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
A.	**LEARNS THE BASICS OF WHOLE NUMBERS**									
A1.	Recognizes groups of objects with the same number of objects or the group which has more or less	I/D	M	M						
A2.	Recognizes and writes numbers to 20	I/M	M	M						
A3.	Orders numbers to 20	I/M	M							
A4.	Recognizes and uses ordinal numbers	I	D	M						
A5.	Recognizes and writes numbers to 100	I/D	M	M						
A6.	Identifies which number is greater or less using numbers to 100	I	D	M	M					
A7.	Composes and decomposes numbers 11-19 into tens and ones using objects or drawings	D/M								
A8.	Understands the numbers 11-99 are composed of bundles of tens and ones	I/D	M							

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SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
A9.	Writes the standard form for numbers up to 1000	I	D	M	M					
A10.	Counts by ones to 100	D/M	M							
A11.	Counts by ones to 120	D	M							
A12.	Counts within 1000		I/D	M	M					
A13.	Counts forward beginning from a given number within the known sequence (instead of beginning with 1)	D	M							
A14.	Counts objects recognizing that each number represents an object and the last number named tells the number of objects	D/M								
A15.	Counts up to 20 objects to answer "how many" arranged in various configurations	D/M	M							
A16.	Compares two numbers between 1 and 10 presented as written numerals	D/M								
A17.	Orders two numbers to 99		I/D	M	M					
A18.	Recognizes and writes the standard form and expanded form for numbers greater than 1000		I	D	D	M	M			
A19.	Orders or compares numbers greater than 100		I/D	D	D	M	M			
A20.	Rounds numbers to the nearest 10 or 100		I	D	M					
A21.	Differentiates between odd and even numbers		I	D/M	M					
A22.	Recognizes and understands symbols +, -, and =	I	D/M	M						
A23.	Recognizes and understands symbols x and ÷			I	D	M				
A24.	Recognizes and understands symbols < and >			I	D	M				
A25.	Compares 2 two-digit numbers using <, >, and =			I	D/M	M				
A26.	Compares 3 two-digit numbers using <, >, and =			I	D/M	M				
A27.	Understands place value	I	D	D	M	M				
A28.	Understands 10 ones equals a "ten"	I	D/M							

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
A29.	Understands 10 tens equals a "hundred"		I	D/M						
A30.	Predicts numbers in a pattern		I	D	M	M	M	M		
A31.	Recognizes I, V, X, L, C, M as Roman Numerals				I	D	D	M	M	
A32.	Reads and writes Roman Numerals through M					I	D	M	M	
A33.	Learns appropriate names for all operations		I	D	D	D	D	M	M	M
A34.	Counts to 120 starting at any number	I	M	M						
A35.	Recognizes that in a multi-digit whole number a digit in one place represents ten times what it represents in the place to its right					I	D/M	M			
A36.	Recognizes that in a multi-digit number, a digit in one place represents 1/10 of what it represents in the place to its left						I	D/M	M		
A37.	Determines whether a whole number is prime or composite					I/M	M	M			
B.	**ADDS WHOLE NUMBERS**									
B1.	Understands that when counting each successive number refers to a quantity that is one larger	D/M	M							
B2.	Understands basic concepts of addition	I	D	M	M					
B3.	Solves addition word problems by adding within 10 by using objects to represent the problem	D/M	M							
B4.	For numbers 1-9, able to find the number that when added to it will make 10 (may use drawings or pictures)	D/M	M							
B5.	With numbers less than or equal to 10 able to decompose in more than one way (e.g. 6=2+4 and 6=1+5)	D/M	M							
B6.	Adds two or three numbers with sums to 10	I	D/M							
B7.	Adds two or three numbers with sums to 20, using strategies if necessary (e.g. making 10, using known problems to make it easier-6+7=6+6+1=12+1=13)	I	M	M						

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
B8.	Determines if equations involving addition are true or false (e.g. 5+2=2+5 or 4+1=5+2)		I/D	M						
B9.	Adds a 2-digit and 1-digit number		I/D	M	M					
B10.	Adds three or more 1-digit numbers		I/D	M	M					
B11.	Adds two or three 2-digit numbers with no regrouping		I/D	M	M					
B12.	Fluently adds numbers to 1000		I/D	M	M	M				
B13.	Adds two or more 2-digit numbers with regrouping			I/D	D	M				
B14.	Adds two or three 3-digit numbers with no regrouping			I	D	M	M			
B15.	Solve word problems using addition of 3 whole numbers whose sum is less than or equal to 20 by using objects, drawings, and equations with a symbol for the unknown number	I	D/ M	M						
B16.	Adds two or more 3 to 6-digit numbers with regrouping			I	D/ M	M				
B17.	Adds 10 more to any 2-digit number mentally			I	D	M	M			
B18.	Adds 10 more to any number 100-900 mentally				I	D	M	M		
B19.	Fluently adds within 20 using mental strategies			I	D/ M	M				
B20.	Uses addition to solve one- and two-step word problems			I/M	M					
C.	**SUBTRACTS WHOLE NUMBERS**									
C1.	Understands basic concepts of subtraction	I	D	M						
C2.	Solves subtraction word problems within 10 by using objects to represent the problem	D/ M	M							
C3.	Subtracts from numbers to 10	I	M	M						
C4.	Subtracts from numbers 11-20	I	D	M	M					
C5.	Understands concept of subtraction as an unknown addend problem (e.g. 15-5 can be found by what added to 5 equals 15)	I	D/ M	M						
C6.	Subtracts two 2-digit numbers with no regrouping			I	M	M				

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
C7.	Subtracts two 2-digit numbers with regrouping			I	D	M				
C8.	Subtracts a 1-digit number from a 2-digit number		I	M	M					
C9.	Subtracts two 3-digit numbers with no regrouping		I	D	M	M				
C10.	Subtracts two 3 to 6-digit numbers with regrouping			I	D	M	M			
C11.	Find 10 less than any 2-digit number mentally		I/M	M	M					
C12.	Subtracts 10 or 100 from any number 100-900 mentally		I	D/M	M	M				
C13.	Fluently subtracts within 20 using mental strategies		I	D/M	M					
C14.	Uses subtraction to solve one- and two-step word problems			I/M	M	M				
D.	**MULTIPLES WHOLE NUMBERS**									
D1.	Understands basic concept of multiplication	I	D	D	M	M	M			
D2.	Counts by tens to 100	D/M	M							
D3.	Counts by tens to 1000		I	D/M						
D4.	Counts by fives to 100	I	D	M						
D5.	Counts by fives to 1000		I/D	M						
D6.	Counts by twos to 100	I	D	D	M					
D7.	Counts by hundreds to 1000		I	D/M	M					
D8.	Uses addition to develop multiplication facts and understands relationship		I	D	D	M				
D9.	Multiplies a 1-digit number by a 1-digit number from memory			I	D/M	M				
D10.	Multiplies a 1-digit number by 2, 3, or 5 using facts to 20			I	D/M	M				
D11.	Multiplies a 2-, 3-, or 4-digit number by a 1-digit number with regrouping				I/D	M	M			
D12.	Uses an array to multiply			I	D	M	M			

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SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
D13.	Multiplies a 2-digit number by a 2-digit number					I/M	M			
D14.	Multiplies a 3-digit number by a 2-digit number					I	D/M	M		
D15.	Multiplies a 3- or 4-digit number by a 3-digit number					I	D/M	M		
D16.	Multiplies by 10, 100, and 1000				I	D/M	M			
D17.	Uses multiplication to solve word problems				I/M	M	M	M		
E.	**DIVIDES WHOLE NUMBERS**									
E1.	Understands basic concepts of division			I	D	M	M	M		
E2.	Uses subtraction to develop division concept and understands relationship between division and multiplication				I	D	M	M		
E3.	Divides using facts within 100				I	D	M	M		
E4.	Divides a 2-digit number by a 1-digit number with a remainder				I	D	M	M		
E5.	Divides a 3- to 5-digit number by a 1-digit number with a remainder				I	D/M	M	M		
E6.	Uses short division method with a 1-digit divisor				I	D	M	M		
E7.	Divides a 2- to 4-digit number by a 2-digit number					I	M	M		
E8.	Divides a multi-digit number by a multi-digit number					I	D/M	M		
E9.	Checks a division problem using multiplication				I	D	M	M		
E10.	Divides by 10, 100, 1000					I	D	M		
E11.	Learns rules for divisibility by 2, 3, 4, 5, 6, 7, 8, 9 10						I	M		
E12.	Writes a remainder as a fraction						I	M		
E13.	Writes a remainder as a decimal						I	M		
E14.	Uses division to solve word problems				I/M	M	M	M		
F.	**LEARNS THE BASICS OF FRACTIONS**									
F1.	Understands basic concept of fractions	I	D	D	D	D	M	M	M	

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
F2.	Identifies and defines mathematical terminology	I	D	D	D	D	D	D	M	M
F3.	Writes a fraction or mixed number for the shaded parts of regions or the indicated parts of groups or objects		I	D	D	M	M			
F4.	Identifies the numerator and the denominator of a fraction					I	M	M		
F5.	Finds the least common multiple of two or more numbers						I	D	M	M
F6.	Finds the factors and multiples of a number, determines if a number is prime or composite, or writes the prime factorization of a number						I	M	M	M	M
F7.	Finds the greatest common factor of two or more numbers less than 100						I	D	M	
F8.	Writes the simplest form for a fraction						I	D	M	M
F9.	Lists equivalent fractions					I	M	M	M	
F10.	Understands two fractions are equivalent if they are the same size and explain why they are equivalent					I	M	M		
F11.	Compares fractions with like denominators					I/M	M	M	M	
F12.	Compares fractions with unlike denominators						I/M	M	M	
F13.	Writes a whole number as a fraction					I/M	M			
F14.	Writes a mixed number as a fraction						I	D	M	
F15.	Writes a fraction as a mixed number						I	D	M	
F16.	Locates fractions or mixed numbers on a number line					I	D	M	M	
F17.	Interprets a fraction as division of the numerator by the denominator						I/M	M		
G.	**ADDS FRACTIONS**									
G1.	Adds fractions with like denominators					I/M	M			
G2.	Adds fractions with unlike denominators						I/M	M		
G3.	Adds mixed numbers with like denominators						I/M	M	M	
G4.	Adds mixed numbers with unlike denominators							I/M	M	

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
H.	**SUBTRACTS FRACTIONS**									
H1.	Subtracts fractions with like denominators				I	M	M			
H2.	Subtracts fractions with unlike denominators					I	M	M		
H3.	Subtracts mixed numbers with like denominators					I	M	M		
H4.	Subtracts a fraction or a mixed number from a whole number						I	M		
H5.	Subtracts mixed numbers with unlike denominators						I	M		
I.	**MULTIPLIES FRACTIONS**									
I1.	Finds the fractional part of a whole number					I/D	M	M		
I2.	Multiplies a whole number and a fraction					I/M	M	M		
I3.	Multiplies two fractions						I/M	M		
I4.	Multiplies a mixed number by a fraction, whole number, or another mixed number						M	M		
I5.	Interprets multiplication as scaling (resizing)					I	M	M		
I6.	Solve word problems involving multiplication of a fraction					I	D	M	M	
J.	**DIVIDES FRACTIONS**									
J1.	Finds the reciprocal of a fraction and relates division by a whole number to multiplication by its reciprocal						I	D	M	
J2.	Divides a fraction by a fraction						I	D	M	
J3.	Divides a fraction or mixed number by a whole number						I	D	M	
J4.	Simplifies complex fractions						I	M	M	
J5.	Divides a mixed number by a fraction						I	M	M	
J6.	Divides a fraction or mixed number by a whole number						I	M	M	
J7.	Divides a mixed number or a whole number by a mixed number						I	M	M	
J8.	Solve word problems involving division of a fraction						I	M	M	

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
K.	**LEARNS THE BASICS OF DECIMALS**									
K1.	Reads and writes decimals to thousandths					I	D	M	M	
K2.	Identifies and defines mathematical terminology					I	D	M	M	
K3.	Writes a fraction or mixed number with denominators of 10, 100, 1000 as a decimal					I/M	M			
K4.	Writes a decimal as a fraction or a mixed number					I	D	D	M	
K5.	Rounds decimals					I	D	M	M	M
K6.	Compares and orders decimals to thousandths					I	D	M	M	
L.	**ADDS DECIMALS**									
L1.	Adds multi-digit numbers which contain decimals					I	D	M	M	
M.	**SUBTRACTS DECIMALS**									
M1.	Subtracts multi-digit numbers which contain decimals					I	D	M	M	
N.	**MULTIPLIES DECIMALS**									
N1.	Multiplies a decimal by a whole number						I/M	M		
N2.	Multiplies two decimals to hundredths						I/M	M	M	
N3.	Writes a number in scientific notation and writes the standard form for a number in scientific notation						I/M	M	M	
O.	**DIVIDES DECIMALS**									
O1.	Divides a decimal by a whole number					I	M	M	M	
O2.	Divides a whole number or a decimal by a decimal					I	M	M	M	
O3.	Divides multi-digit decimals numbers						I/D	M	M	
O4.	Writes a fraction as a terminating decimal, repeating decimal, or as a decimal rounded to the nearest hundredth						I/D	M	M	

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
P.	**LEARNS THE BASICS OF PERCENTS**									
P1.	Writes fractions with denominators of 100 as percents						I	D	M	M
P2.	Identifies and defines mathematical terminology						I	D	M	M
P3.	Writes decimals as percents						I	D	M	
P4.	Writes percents as fractions or decimals						I	D	M	
P5.	Finds a percent of a number						I	D	M	
P6.	Finds the percent one number is of another number						I	D	M	
P7.	Finds a number if the percent of the number is known						I	D	M	M
P8.	Finds the percent of change between two numbers							I	D	M
P9.	Understands the relationship between fractions, decimals, and percents						I	D	D	M
Q.	**UNDERSTANDS AND USES THE PROPERTIES OF NUMBERS**									
Q1.	Identifies and defines mathematical terminology					I	D	M	M	M
Q2.	Recognizes and uses identity property (one and zero)		I	D	M	M				
Q3.	Recognizes and uses commutative property (order)		I/M	M	M	M				
Q4.	Recognizes and uses associative property (grouping)		I/D	M	M	M	M			
Q5.	Recognizes and uses distributive property				M	M	M	M	M	
Q6.	Recognizes and uses inverse property						I	D	M	M
Q7.	Understands and uses positive/negative numbers to represent real-world quantities						I	D	M	M
R.	**LEARNS THE BASICS OF EXPONENTS**									
R1.	Identifies and defines mathematical terminology						I	D	M	M
R2.	Understands raising a base to a positive						I	D	M	M
R3.	Understands raising a base to a negative							I	D	M
R4.	Recognizes and finds the powers of 10						I/M	M		
R5.	Multiplies and divides by the powers of 10						I/M	M		

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
R6.	Writes the standard form for numbers in exponential notation						I/M	M	M	M
R7.	Writes numbers in expanded notation for numbers in standard notation and vice versa						I	D	D	M
R8.	Finds perfect squares and their square roots					I	D	D	D	M
R9.	Writes numbers in scientific notation						I	D	D	M
R10.	Use square root and cube root symbols to represent solutions to equations of the form X² where p is a positive rational number							I	D	M
R11.	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notations are used							I	D	M
S.	**UNDERSTANDS AND USES A CALCULATOR**									
S1.	Uses a calculator for whole number operations			I	D	M	M	M		
S2.	Uses a calculator for decimal number operations					I	D	M	M	M
S3.	Uses a calculator for fraction operations					I	D	D	M	M
S4.	Uses a calculator for percent operations						I	D	M	M

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PROGRAM GOAL II: **MEASUREMENTS**

PROGRAM OBJECTIVES:

SKILL LEVELS:

A.   Learns units of measurements

I-Introduce

B.   Measures various items

D-Develop

C.   Learns basics of telling time

M-Master/Maintain

D.   Recognizes parts of a calendar

E.   Learns basics of temperature

F.   Recognizes money and solves consumer math problems

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
A.	**LEARNS UNITS OF MEASUREMENT**									
A1.	Identifies and defines mathematical terminology	I	D	D	D	D	D	D	M	M
A2.	Describe objects using measurable attributes such as length and height	D/M								
A3.	Compare 2 objects with a measurable attribute in common	D/M								
A4.	Decides which of 3 objects is largest, smallest, longest, or shortest	I/D	D	D	D	D	M	M	M	M
A5.	Determines the appropriate metric unit for measuring length using centimeter, meter, or kilometer		I	D	D	D	M	M	M	M
A6.	Determines the appropriate metric unit for measuring length using decimeter or millimeter			I	D	D	D	D	M	M
A7.	Determines the appropriate metric unit for liquid measure using liter		I	D	D	D	M	M	M	M
A8.	Determines the appropriate metric unit for liquid measure using milliliter				I	D	M	M	M	M
A9.	Determines which object is lighter or heavier by comparison	I	D	M	M					
A10.	Determines the appropriate metric unit for measuring mass (weight) using gram or kilogram		I	D	D	D	M	M	M	M

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SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
A11.	Determines the appropriate unit for measuring length using inch, foot, yard, or mile		I	D	D	M	M	M		
A12.	Determines the appropriate unit for measuring liquid using cup, pint, quart, or gallon	I	D	D	D	M	M			
A13.	Determines the appropriate unit for measuring mass (weight) using ounces or pounds	I	D	D	D	M	M	M		
A14.	Determines the appropriate unit for measuring mass (weight) using tons				I	D	M	M		
A15.	Estimates lengths in metric and customary systems	I	D	D	D	D	M	M		
A16.	Converts between different units of measurement within the same system				I	D	D	D	M	M
A17.	Uses ratio reasoning to convert measurement units						I/D	D	M	M
B.	**MEASURES VARIOUS ITEMS**									
B1.	Measures length using informal units	I/D	D	D	M	M				
B2.	Measures length using centimeters or millimeters		I	D	D	D	M	M	M	M
B3.	Measures length using inches	I	D	D	D	M	M	M		
B4.	Measures length using fractions of inches			I	D	D	D	D	M	M
B5.	Measures and draws angles						I/D	D	M	M
C.	**LEARNS BASICS OF TELLING TIME**									
C1.	Identifies and defines mathematical terminology	I	D	D	D	M	M	M		
C2.	Tells time using digital clock	I	M							
C3.	Identifies hour and minute hand	I/D	M							
C4.	Tells time to the hour and half hour	I	D/ M	M						
C5.	Tells time to the quarter hour interval		I/D	M						
C6.	Tells time to the five minute interval		I	D/ M	M					
C7.	Tells time using minutes	I	D	D	M	M				

SUBJECT OBJECTIVES:		K	1	2	3	4	5	6	7	8
						GRADE LEVEL				
C8.	Identifies the use of AM, PM		I	D	D	M	M	M		
C9.	Identifies hours in a day, minutes in an hour, seconds in a minute		I	D	D	M	M	M		
C10.	Tells elapsed time			I	D	D	M	M		
C11.	Measures volumes						D	M	M	M
C12.	Relates volume to multiplication						D	M	M	M
D.	**RECOGNIZES PARTS OF A CALENDAR**									
D1.	Names the four seasons	I	D/M	M						
D2.	Names the days and months	I/D	M							
D3.	Recognizes days, weeks, months	I/D	M	M						
D4.	Completes an outline of a given month	I	D	M						
D5.	Understands and uses a calendar	I/D	D	M	M					
E.	**LEARNS BASICS OF TEMPERATURE**									
E1.	Identifies and defines mathematical terminology	I	D	D	D	D	M	M		
E2.	Relates temperature to weather outdoors	I	D	D	M	M				
E3.	Identifies a thermometer	I	D	M						
E4.	Recognizes the Fahrenheit and Celsius thermometers			I	D	M	M	M		
E5.	Uses a thermometer to measure temperature to degrees Fahrenheit or Celsius	I	D	D	D	D	M	M		
F.	**RECOGNIZES MONEY AND SOLVES CONSUMER MATH PROBLEMS**									
F1.	Identifies and defines mathematical terminology	I	D	D	D	D	D	M	M	M
F2.	Recognizes the value of pennies, nickels, dimes, quarters, half dollars, and dollars	I	D	M	M					
F3.	Recognizes the value of a mixed coin amount	I	D	D	M					
F4.	Recognizes and uses the cent and dollar sign	I	D	M	M					

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
F5.	Rounds money to the nearest dollar			I	D	M	M			
F6.	Adds or subtracts with money and makes change			I	D	M	M			
F7.	Multiplies or divides with money				I	D	M	M		
F8.	Solves discount and tax problems						I	D	M	
F9.	Solves problems involving price comparison or cost analysis						I	D	M	

PROGRAM GOAL III: **PROBLEM SOLVING AND CRITICAL THINKING**

PROGRAM OBJECTIVES:

    A. Uses basic operations to solve problems

    B. Uses critical thinking skills to solve problems

    C. Uses strategies to solve problems

    D. Learns and applies formulas

SKILL LEVELS:

I-Introduce

D-Develop

M-Master/Maintain

	SUBJECT OBJECTIVES:	GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
A.	**USES BASIC OPERATIONS TO SOLVE PROBLEMS**									
A1.	Adds or subtracts to solve word problems to 20	I	D/M	M	M					
A2.	Adds or subtracts to solve word problems to 100		I	D/M	M					
A3.	Multiplies or divides to solve word problems			I	D	M	M	M		
A4.	Solves word problems involving fractions, mixed numbers, factoring, decimals, percents,			I	D	D	D	M	M	
A5.	Explains why addition and subtraction strategies work, using place value and the properties of operation				I	D	M			
A6.	Solves word problems involving time intervals using a number line diagram if needed			I	D	D	M	M		
A7.	Solves word problems involving money	I	D	D	D	M	M			
B.	**USES CRITICAL THINKING SKILLS TO SOLVE PROBLEMS**									
B1.	Classifies objects into given categories and counts the objects	D/M								
B2.	Finds more than one answer			I	D	D	D	D	M	M
B3.	Uses data to solve word problems	I	D	D	D	D	D	D	M	M
B4.	Chooses correct operations to solve word problems	I	D	D	D	M	M	M	M	M
B5.	Determines if a problem has sufficient information or unnecessary information, or if an answer is reasonable or not			I	D	D	D	D	D	M	M

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
B6.	Able to explain how a problem is worked and the reasoning of the answer	I	D	D	D	D	D	D	D	D
C.	**USES STRATEGIES TO SOLVE PROBLEMS**									
C1.	Uses a plan to solve problems	I	D	D	D	D	D	D	M	M
C2.	Acts out or uses models	I	D	D	D	M	M	M		
C3.	Uses guess and check to solve problems	I	D	D	D	D	D	M	M	M
C4.	Makes a model, diagram, table, graph, or list in order to solve problems	I	D	D	D	D	M	M		
C5.	Substitutes simpler numbers in order to check operation						I	D	M	M
C6.	Finds a pattern to solve problems	I	D	D	D	D	D	D	M	M
C7.	Works backwards to solve problems				I	D	D	D	M	M
C8.	Writes and solves an equation		I	D	D	D	D	D	M	M
C9.	Generates and identifies features of a pattern				I	D	D	M	M	M
C10.	Solves problems by graphing points in all 4 quadrants of coordinate plane and by using absolute value							D	M	M
C11.	Understands concept of a ratio, uses ratio language to describe a relationship between two quantities							D	M	M
D.	**LEARNS AND APPLIES FORMULAS**									
D1.	Solves interest problems							I	D	M
D2.	Writes ratios as fractions						I	D	M	M
D3.	Finds a rate or a unit rate						I	D	M	M
D4.	Solves a proportion						I	D	M	M
D5.	Solves problems involving rate, time, and distance						I	D	M	M
D6.	Estimates lengths		I	D	D	D	M	M	M	M

PROGRAM GOAL IV: **ESTIMATION**

PROGRAM OBJECTIVES:

A.   Solves problems using estimation

SKILL LEVELS:

I-introduce

D-Develop

M-Master/Maintain

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
A.	**SOLVES PROBLEMS USING ESTIMATION**									
A1.	Understands concept of estimation	I	D	D	D	M	M	M		
A2.	Estimates a sum, difference, product, or quotient of whole numbers			I	D	D	D	M	M	
A3.	Estimates a sum, difference, product, or quotient of decimals or of a whole number and					I	D	M	M	
A4.	Estimates to determine if an answer is reasonable				I	D	M	M	M	M
A5.	Estimates sums, differences, products, and quotients using money			I	D	D	M	M		
A6.	Estimates a sum, difference, product, or quotient of fractions						I	D	M	
A7.	Estimates percents						I	D	M	M
A8.	Solves problems using rounding, compatible numbers, front-end estimation, patterns, clustering, and mental math			I	D	D	D	D	M	M

PROGRAM GOAL V: **GRAPHS AND CHARTS**

PROGRAM OBJECTIVES:

A. Makes graphs and charts

B. Interprets graphs and charts

SKILL LEVELS:

I-Introduce

D-Develop

M-Master/Maintain

	SUBJECT OBJECTIVES:	GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
A.	**MAKES GRAPHS AND CHARTS**									
A1.	Constructs a graph from given data	I	D	D	D	D	M	M	M	
A2.	Collects data and constructs appropriate type of graph	I	D	D	D	D	M	M	M	
A3.	Understands the number line as a dense set of points representing numbers				I	D	M	M	M	
A4.	Graphs a set of numbers (points) on the number line				I	D	M	M		
A5.	Graphs inequities on the number line					I	D	M		
B.	**INTERPRETS GRAPHS AND CHARTS**									
B1.	Interprets a picture graph	I	D	D	M	M	M	M		
B2.	Interprets a table or chart	I	D	D	D	D	M	M	M	
B3.	Interprets a bar graph, pictograph, or line graph	I	D	D	D	M	M	M	M	
B4.	Interprets a scale drawing						I	D	M	
B5.	Interprets a circle graph	I	D	D	D	D	D	M	M	
B6.	Writes the number pair for a point or names the point for a number pair			I	D	D	M	M	M	
B7.	Names the point for an ordered pair on the number plane and graphs ordered pairs				I	D	M			
B8.	Interprets misleading information from a graph						I	D	M	
B9.	Makes predictions from a graph						I	D	M	
B10.	Represents problems by graphing points in first quadrant				I	D	M			

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
B11.	Graphs with negative coordinates (2nd, 3rd, and 4th quadrants)							I/D	M	M
B12.	Constructs and interprets scatter plots for bivariate measurement data to investigate							I	D	M

PROGRAM GOAL VI: **STATISTICS AND PROBABILITY**

PROGRAM OBJECTIVES:

A. Learns basics of statistics

B. Learns basics of probability

SKILL LEVELS:

I-Introduce

D-Develop

M-Master/Maintain

	SUBJECT OBJECTIVES:	GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
A.	**LEARNS BASICS OF STATISTICS**									
A1.	Identifies and defines mathematical terminology					I	D	M	M	M
A2.	Finds the range of a group of numbers						I	M	M	M
A3.	Finds the mode of a group of numbers						I	M	M	M
A4.	Finds the average/mean of a group of numbers					I	D	M	M	M
A5.	Finds the median of a group of numbers						I	M	M	M
A6.	Constructs and interprets scatter plots for bivariate measurements data to investigate patterns of association between two quantities							I	D	M
A7.	Displays data on a number line (data, box plot, histogram)							M		
A8.	Uses measure of center to summarize data							M		
B.	**LEARNS BASICS OF PROBABILITY**									
B1.	Identifies and defines mathematical terminology					I	D	M	M	M
B2.	Understands basic concepts of probability					I	D	M	M	M
B3.	Predicts an outcome based on probability					I	D	D	M	M
B4.	Finds the probability of an outcome using experiments, tree diagrams, and models					I	D	D	M	M

PROGRAM GOAL VII: **GEOMETRY**

PROGRAM OBJECTIVES:

A. Learns geometric words

B. Identifies geometric shapes

C. Solves problems involving shapes

D. Constructs geometric shapes

SKILL LEVELS:

I-Introduce

D-Develop

M-Maintain/Master

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
A.	**LEARNS GEOMETRIC WORDS**									
A1.	Identifies and defines geometric terminology	I	D	D	D	D	D	D	D	M
A2.	Names types of polygons	I	D	D	D	D	M	M	M	M
A3.	Uses simple geometric terms	I	D	D	D	D	D	M	M	M
B.	**IDENTIFIES GEOMETRIC SHAPES**									
B1.	Identifies everyday objects are geometric shapes	D/M	M							
B2.	Models geometric shapes by drawing or using everyday materials	D	D	D	M					
B3.	Identifies circles, triangles, rectangles, squares, and describes attributes of each	I	D	D	D	D	M	M	M	M
B4.	Recognize that squares, rectangles, rhombuses are examples of quadrilaterals			I	D/M	M				
B5.	Compose geometric shapes by combining 2 or more geometric shapes	D	M							
B6.	Identifies points, line segments, angles, lines, rays, planes, perpendicular lines, or perpendicular planes					I	M	M	M	
B7.	Determines if an angle is a right angle, acute angle, or obtuse angle					I	D	D	D	M	M
B8.	Classifies triangles, special quadrilaterals, and regular polygons					I/D	M	M		
B9.	Identifies and describes characteristics of spheres, rectangular boxes, cubes, cones, cylinders, pyramids, or prisms	I	D	D	D	D	M	M		

	SUBJECT OBJECTIVES:	GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
B10.	Identifies shapes that are symmetrical	I	D	D	D	D	M	M	M	M
B11.	Identifies congruent shapes			I	D	D	D	M	M	M
B12.	Identifies similar shapes	I	D	D	D	D	M	M	M	M
B13.	Determines the difference between congruent shapes and similar shapes					I	D	D	M	M
B14.	Identifies base and corresponding altitude height for triangles and special quadrilaterals						I	D	M	M
C.	**SOLVES PROBLEMS INVOLVING SHAPES**									
C1.	Finds the perimeter of a polygon			I	D	D	M	M	M	M
C2.	Finds the area and circumference of a circle						I	D	M	M
C3.	Finds the measurements of vertical, adjacent, supplementary, and complementary angles							I	D	M
C4.	Finds the sum of the angles in a triangle or polygon							I	D	M
C5.	Finds the area of geometric shapes			I	D	D	D	M		
C6.	Finds the surface area of geometric solids using nets						I	D	M	M
C7.	Finds the volume of geometric solids right triangular prisms				I	D	D	D	M	M
C8.	Finds the missing length of a right triangle by using the rule of Pythagoras							I	D	M
C9.	Finds the missing length of a similar shape							D	M	M
C10.	Locates points outside, inside, and on a plane shape		I	D	M	M	M	M		
C11.	Knows geometric formulas by memory				I	D	D	D	M	M
D.	**CONSTRUCTS GEOMETRIC SHAPES**									
D1.	Draws plane and space figures	I	D	D	D	D	M	M		
D2.	Draws polygons in the coordinate plane and uses to solve problems	I	D	D	D	D	M	M	M	
D3.	Constructs a perpendicular bisector to a line segment						I/D	M	M	M
D4.	Constructs an angle bisector							I	D	M

	SUBJECT OBJECTIVES:	GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
D5.	Constructs congruent angles							I	D	D	M
D6.	Creates tessellations								I	D	M
D7.	Divides a shape into 2, 3, or 4 equal pieces		I	D	M	M	M				
D8.	Reproduces scale drawings at a different scale								I	D	M
D9.	Computes actual lengths from scale drawing						I	D	M	M

PROGRAM OBJECTIVES:
SKILL LEVELS:

A. Uses fundamentals of algebra   I-Introduce

B. Ratios and proportional relationships   D-Develop

C Writes expressions and solves equations   M-Maintain/Master

D. Functions

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
A.	**USES FUNDAMENTALS OF ALGEBRA**									
A1.	Identifies and defines mathematical terminology					I	D	D	D	D
A2.	Finds the square root of a number							I	D	M
A3.	Finds the opposite of a number						I	M		
A4.	Understands absolute value as distance from zero on a number line						I	M		
A5.	Finds the absolute value of a number and simplifies expressions using absolute values							I	M	M
A6.	Writes inequalities using integers to represent real- world situations and locates on a number line							I	M	M
A7.	Adds integers							I	M	M
A8.	Subtracts integers							I	M	M
A9.	Multiplies and divides integers							I	M	M
A10.	Compares, adds, subtracts, multiplies, or divides two rational numbers							I	D	M
A11.	Simplifies an expression							I	M	M
A12.	Finds the value of an expression with exponents							I	M	M
A13.	Simplifies an expression by combining like terms								I	M
A14.	Understands and uses the order of operations						I	D	M	M
A15.	Applies properties of operations as strategies to add, subtract, multiply and divide rational numbers including negative numbers		I	D	D	D	D	M	M	M

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
A16.	Finds factors of whole numbers					I/M	M	M		
B.	**RATIOS AND PROPORTIONAL RELATIONSHIPS**									
B1.	Understands the concept of a ratio and uses ratio language to describe a ratio relationship between two quantities							I/M	M	M
B2.	Understands the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship							I/M	M	M
B3.	Uses ratio and rate reasoning to solve real-world and mathematical problems by reasoning							I/M	M	M
B4.	Finds a percent of a quantity as a rate per 100; solves problems involving finding the whole, given a part and the percent							I/M	M	M
B5.	Makes tables of equivalent ratios relating quantities with whole number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios							I/M	M	M
B6.	Solves unit rate problems including those involving unit pricing and constant speed							I/M	M	M
B7.	Uses ratio reasoning to convert measurement units; manipulates and transforms units appropriately when multiplying or dividing quantities							I/M	M	M
B8.	Uses addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions		I/D	M							
B9.	Determines if equations involving addition or subtraction are true or false		I	D	D	M	M			
B10.	Solves equations using addition and subtraction of non-negative rational numbers		I	D	D	D	M	M	M	M

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
B11.	Solves equations using multiplication and division of non-negative rational numbers						I	M	M	M
B12.	Solves addition and subtraction equations by combining like terms						I	D	M	M
B13.	Uses parenthesis, brackets, or braces in numerical expressions, and evaluate these expressions with these symbols					I	D	D	M	M
B14.	Uses a variable to represent an unknown quantity		I	D	D	M				
B15.	Reads, writes, and evaluates expression with variables						I	M	M	
B16.	Identifies when 2 expressions are equivalent						I	D	M	
B17.	Computes unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units									I/M	M
B18.	Recognizes and represents proportional relationships between quantities									I/M	M
B19.	Decides whether two quantities are in a proportional relationship by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin									I/M	M
B20.	Explains what a point (x,y) on the graph of a proportional relationship means in terms of the situation									I/M	M
B21.	Identifies the constant of proportionality in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships									I/M	M
B22.	Uses proportions relationships to solve multi-step ratio and percent problems									I/M	M
B23.	Represents proportional relationships by equations									I/M	M

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
C.	**WRITES EXPRESSIONS AND SOLVES EQUATIONS**									
C1.	Uses addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions		I/D	M						
C2.	Determines if equations involving addition or subtraction are true or false		I	D	D	M	M			
C3.	Solves equations using addition and subtraction of non-negative rational numbers		I	D	D	M	M			
C4.	Solves equations using multiplication and division of non-negative numbers					I/M	M	M		
C5.	Solves addition and subtraction equations by combining like terms						I	D	M	M
C6.	Uses parenthesis, brackets, or braces in numerical expressions, and evaluates these expressions with these symbols					I	D	M	M	M
C7.	Uses a variable to represent an unknown quantity		I	D	D	M	M			
C8.	Reads, writes, and evaluates expressions with variables				I	D	M			
C9.	Identifies when 2 expressions are equivalent				I	D	M			
C10.	Writes simple expressions that record calculations with numbers, and interprets						I/M	M		
C11.	Writes and evaluates numerical expressions involving whole-number exponents					I	D	M		
C12.	Writes, reads and evaluates expressions in which letters stand for numbers in statements involving one or more operations					I	D	M		
C13.	Evaluates expressions at specific values of their variables including expressions that arise from formulas used in real-world problems					I	D	M		
C14.	Performs arithmetic operations using the Order of Operations			I	D	D	D	M		
C15.	Applies the properties of operations to generate equivalent expressions				I	D	M	M		

SUBJECT OBJECTIVES:		GRADE LEVEL									
		K	1	2	3	4	5	6	7	8
C16.	Identifies when two expressions are equivalent						I	M	M		
C17.	Uses substitution to determine whether a given number makes an equation of inequality true								I/M	M	
C18.	Understands that that a variable can represent an unknown number								I/M	M	
C19.	Uses variables to represent numbers and write expressions when solving a real-world or mathematical problem								I/M	M	
C20.	Solves real-world and mathematical problems by writing and solving one-step equations involving non-negative rational numbers								I/M	M	
C21.	Writes an inequality to represent a constraint or condition in a real-world or mathematical problem								I/M	M	
C22.	Recognizes that inequalities such as $x>c$ have infinitely many solutions								I/M	M	
C23.	Represents solutions of inequalities on number line diagrams								I/M	M	
C24.	Uses variables to represent dependent and independent quantities in real-world problems.								I/M	M	
C25.	Analyzes the relationship between dependent and independent variables by relating graphs, tables and equations								I/M	M	
C26.	Applies properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients									I/M	M
C27.	Understands that rewriting an expression in different forms can shed light on the problem and how the quantities in it are related									I/M	M
C28.	Solves multi-step real-life and mathematical problems posed with positive and negative rational numbers using tools (calculator, spreadsheets, etc.) strategically									I/M	M
C29.	Applies properties of operations to calculate with numbers in any form									I/M	M
C30.	Converts between forms of numbers as appropriate									I/M	M

M30

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
C31.	Assess the reasonableness of answers using mental computation and estimation strategies								I/M	M
C32.	Fluently solves word problems leading to equations of the form *px+q=r* and *p(x+q)=r* where *p,q,* and *r* are rational numbers								I/M	M
C33.	Solves word problems leading to inequalities of the form *px+q>r or* px+q<r where *p,q,* and *r* are rational numbers								I/M	M
C34.	Graphs the solution set of an inequality and interprets it in the context of the problem								I/M	M
C35.	Knows and applies the properties of integer exponents to generate equivalent numerical expressions									I/M
C36.	Uses square root and cube root symbols to represent solutions to equations									I/M
C37.	Evaluates square roots of small perfect squares and cube roots of small perfect cubes									I/M
C38.	Knows that $\sqrt{2}$ is an irrational number									I/M
C39.	Uses scientific notation to estimate very large or very small quantities and to express how many times as much one is than the other									I/M
C40.	Performs operations with numbers expressed in scientific notation where decimal and scientific notations are used									I/M
C41.	Uses scientific notation and choose units of appropriate size for measurements of very large or very small quantities									I/M
C42.	Interprets scientific notation that has been generated by technology									I/M
C43.	Graphs proportional relationships, interpreting the unit rate as the slope of the graph									I/M
C44.	Compares two different proportional relationships represented in different ways (graphs, tables, equations))									I/M
C45.	Uses similar triangles to explain why the slope *m* is the same between any two distinct points on a non-vertical line in the coordinate plane									I/M

	SUBJECT OBJECTIVES:	GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
C46.	Derives 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*									I/M
C47.	Gives examples of linear equations in one variable with one, infinitely many or no solutions									I/M
C48.	Transforms a given equation into simpler forms, until an equivalent equation of the form x=a, a=a,or a=b results									I/M
C49.	Solves linear equations with rational number coefficients, including using the distributive property and combining like terms									I/M
C50.	Understands that the solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs which is the point that satisfies both equations									I/M
C51.	Solves systems of two linear equations in two variables algebraically									I/M
C52.	Estimates the solutions of a system of two linear equations in two variables by graphing the equations									I/M
C53.	Solves real-world and mathematical problems leading to two liner equations in two variables									I/M
D.	**FUNCTIONS**									
D1.	Understands that a function is a rule that assigns to each input exactly one output									I/M
D2.	Understands that the graph of a function is the set of ordered pairs (input, output)									I/M
D3.	Compares properties of two functions represented in different ways (graphs, tables, verbal descriptions)									I/M
D4.	Interprets the equation *y=mx+b* as defining a linear function whose graph is a straight line									I/M
D5.	Constructs a function to model a linear relationship between two quantities									I/M

SUBJECT OBJECTIVES:		GRADE LEVEL								
		K	1	2	3	4	5	6	7	8
D6.	Determines the rate of change (m) and initial value (b) of the function from a description of the relationship or from two *(x,y)* values from a table or graph									I/M
D7.	Analyzes a graph to describe the functional relationship between two quantities (e.g. increasing, decreasing, linear, non-linear, etc.)									I/M
D8.	Sketches a graph that exhibits the qualitative features of a function that has been described verbally									I/M