

CURRICULUM OBJECTIVES

NUMBER RECOGNITION			
Arabic Numbers	1	understand and use correctly the word “digit”	
	2	recognize Arabic numbers: 0 – 1,000	
	3	recognize Arabic numbers: 1,000 +.....	
<u>Roman Numerals</u>	4	recognize Roman numerals: I – XXXIX (1 – 39)	
	5	recognize Roman numerals: XL – M (40 – 1,000)	
	6	read dates in Roman numerals (i.e. MCMLXXI – 1971)	
NUMBER/WORD RECOGNITION			
Number Words	1	write the number words for 0 -10	
	2	write the number words for 10 – 1,000	
	3	write the number words for 1,000 – 1,000,000	
Conventions	4	use of comma to separate thousands, (i.e. 1,000, etc.)	
	5	use of hyphen to separate number words (e.g. forty-one)	
	6	use of zero as a place holder	
PLACE VALUE			
Place Value	1	identify place value in numbers 0 – 1,000	
	2	demonstrate an understanding of “place value”	
	3	identify place value in numbers 1,000 – 1,000,000	
	4	place value in whole numbers is found from right to left	
	5	explain expanded notation	
	6	value of expanded notation for identifying numbers	
Rounding Off	7	round off whole numbers (to the nearest one, ten, hundred, thousand, million)	
COUNTING			
Counting	1	orally from 0 – 1,000, starting any place in between	
	2	drill and practice counting by 1’s, 2’s, 5’s, and 10’s (0 – 100)	
	3	orally from 1,000 – 1,000,000, starting any place between	
	4	drill and practice counting by 1’s, 2’s, 5’s, 10’s (1,000 – 1,000,000)	
Other	5	recognize “<” and “>” signs	
	6	compare numbers with , and . signs	
	7	explain even and odd numbers	
	8	order numbers from least to greatest and greatest to least	
ADDITION			
Terms	1	use the terms “addend” and “sum”	
	2	explain relationship between adding and counting	
	3	recognize and use “+” sign and the “=” sign	

	4	explain “whole number”	
Addition	5	demonstrate an understanding of addition	
	6	master addition facts up to and including 18	
	7	find sum of four whole numbers up to 3 digits	
	8	find sum of four whole numbers up to 6 digits	
	9	add numbers in columns	
	10	add numbers written in equation form	
	11	regroup ones, tens, hundreds, thousands	
	12	insert zero in blank spaces to make addition easier	
	13	the order in which numbers are added doesn’t change the sum	
SUBTRACTION			
Terms	1	use “find the difference between” to signify subtraction	
	2	know the meaning of the subtraction sign “-“	
Subtraction	3	demonstrate an understanding of subtraction	
	4	master subtraction facts up to and including 18	
	5	find the difference in 2 whole numbers up to 3 digits	
	6	find the difference in 2 whole numbers up to 6 digits	
	7	subtract numbers written in columns	
	8	borrow numbers	
	9	regroup ones, tens, hundreds, thousands, etc.	
	10	subtract numbers written in equation format	
	11	insert zeros in blank spaces to make subtraction easier	
	12	explain the relation between addition and subtraction	
	13	solve addition/subtraction equations ($37 - ? = 14$)	
MULTIPLICATION			
Terms	1	understand and use the term “factor”	
	2	understand and use the term “multiple”	
	3	understand and use the term “product”	
	4	recognize and use the multiplication sign “x”	
Multiplication	5	demonstrate an understanding of multiplication	
	6	relation between addition and multiplication	
	7	memorize times table to 12 x 12; use a chart showing relation between numbers	
	8	carry numbers	
	9	regroup ones, tens, hundreds, and thousands	
	10	multiply by zero	
	11	multiply numbers in columns	
	12	multiply numbers written in equation format	
	13	importance of accuracy	
	14	double checking for computational errors	
	15	neatness in recording columns	
	16	printing legibly	
	17	order in which numbers are multiplied doesn’t affect the answer	

DIVISION			
Terms	1	understand and use the term dividend	
	2	understand and use the term divisor	
	3	understand and use the term quotient	
	4	understand and use the term remainder	
	5	understand and use the term prime number	
	6	understand and use the term average (mean)	
	7	use the division signs “÷”, “-“, and “/”	
	8	divide using horizontal format “ $\overline{\hspace{1cm}}$ ”	
Division	9	demonstrate an understanding of division	
	10	carrying numbers	
	11	dividing numbers in horizontal format	
	12	dividing numbers in equation format	
	13	dividing with zero	
	14	expressing remainders using “r”	
	15	explain relation between multiplication and division	
Factoring	16	explain factoring	
	17	find the factors of a given list of products	
	18	identify prime numbers from a given list	
Average	19	how to calculate average	
	20	when to use averages	
WORD PROBLEMS WITH WHOLE NUMBERS			
Problems	1	demonstrate ability to solve word problems with whole numbers	
Strategies	2	develop good work habits	
	3	read all parts of question carefully	
	4	determine what is asked for or required	
	5	separate information given from question being asked	
	6	record information given and solution required separately	
	7	decide what arithmetic process will solve the problem	
	8	work neatly and arrange work in rows where possible	
	9	label the answer in terms of values given in question	
	10	estimate an answer	
	11	check every step	
	12	compare estimated answer with answer found	
	13	use clue words to solve word problems (e.g. total, sum, how much, how many, increased, altogether, less, fewer, more, difference, left, remains, times, at)	
UNDERSTANDING AND COMPARING FRACTIONS			
Terms	1	explain fraction	

	2	explain numerator and denominator	
	3	explain proper and improper fraction	
	4	explain equivalent fractions	
	5	explain mixed number	
	6	lowest common denominator (LCM)	
Fractions	7	demonstrate an understanding of fractions	
	8	visualize fractions: divide circle or line into correct number of segments to represent a given fraction	
	9	compare fractions: order list of fractions from greatest to least	
	10	compare fractions: order list of fractions from least to greatest	
	11	compare 2 fractions using “<” and “>” (like denominators)	
	12	read “<” and “>” left to right and right to left	
	13	provide equivalent fractions for each fraction in a given list	
	14	identify fractions in their lowest terms	
	15	reduce fractions to their lowest terms	
	16	express improper fractions as mixed numbers	
	17	express mixed numbers as improper fractions	
	18	find lowest common denominator for group of 2 or 3 fractions	
	19	express these fractions using lowest common denominator	
ADDITION OF FRACTIONS			
Adding Fractions	1	add fractions with like denominators	
	2	reduce fractions to lowest terms	
	3	change improper fractions to mixed numbers	
	4	report answers as mixed numbers	
	5	add fractions with unlike denominators	
	6	find common denominators	
	7	fractions that equal 1	
	8	add mixed numbers	
	9	change mixed numbers to improper fractions	
SUBTRACTION OF FRACTIONS			
Subtracting Fractions	1	subtract fractions with like denominators	
	2	reduce fractions to lowest terms	
	3	change improper fractions to mixed numbers	
	4	report answers as mixed numbers	
	5	subtract fractions with unlike denominators	
	6	find common denominators	
	7	fractions that equal one	
	8	subtract mixed numbers	
	9	borrowing	

	10	change mixed numbers to improper fractions	
	11	subtract fractions from whole numbers	
	12	change whole numbers to fractions	
MULTIPLICATION OF FRACTIONS			
Terms	1	explain greatest common factor (GCF)	
	2	explain lowest common multiple (LCM)	
	3	explain cancelling	
Multiplying Fractions	4	demonstrate an understanding of cancelling	
	5	find GCF and LCM	
	6	find factors for each number	
	7	find greatest factor common to both	
	8	find multiples of two numbers	
	9	find LCM common to both	
	10	reduce fractions and/or cancel before multiplying	
	11	multiplication of numerator and denominator by same number	
	12	multiply fractions by whole numbers	
	13	multiply mixed numbers	
	14	reduce answers to lowest common denominator	
	15	change improper fractions to mixed numbers	
	16	report answers as mixed numbers	
DIVISION OF FRACTIONS			
Dividing Fractions	1	review cancelling	
	2	finding GCF and LCM	
	3	find factors for each number	
	4	find greatest factor common to both	
	5	find multiples	
	6	find the LCM	
	7	division of numerator and denominator by the same number	
	8	divide with fractions and whole numbers	
	9	division rule: cancel; invert 2 nd fraction; multiply	
	10	divide mixed numbers	
	11	express remainders as fractions	
	12	reduce fractions to lowest terms	
	13	change improper fractions to mixed numbers	
	14	report answers as mixed numbers	
WORD PROBLEMS WITH FRACTIONS			
Problems	1	demonstrate ability to solve word problems with fractions	
Strategies	2	develop good work habits	
	3	read all parts of question carefully	

	4	determine what is asked for or required	
	5	separate information given from question being asked	
	6	record information given and solution required separately	
	7	decide what arithmetic process will solve the problem	
	8	work neatly and arrange work in rows where possible	
	9	label the answer in terms of values given in question	
	10	estimate an answer	
	11	check every step	
	12	compare estimated answer with answer found	
	13	use clue words to solve word problems (e.g. total, sum, how much, how many, increased, altogether, less, fewer, more, difference, left, remains, times, at, divide , and each)	
UNDERSTANDING AND COMPARING DECIMALS			
Decimal System	1	demonstrate and understanding of the decimal system	
	2	explain the decimal system	
	3	use of decimal point	
	4	compare: decimals	
	5	compare: mixed decimals	
	6	compare: decimals and fractions	
	7	read decimals from left to right	
	8	translate decimal as “and” in English	
	9	decimal point is expressed as a comma in many countries	
	10	convert mixed numbers to mixed decimals	
	11	compare decimal values by adding zeros to right of decimal	
	12	place value of each digit in a decimal through thousandths	
	13	convert fractions to decimals	
	14	convert decimals to fractions (excluding repeating decimals)	
ADDITION OF DECIMALS			
Adding Decimals	1	review addition number facts to 18	
	2	estimate answer before adding	
	3	add decimals and mixed decimals	
	4	placement of decimal points under one another	
	5	use of zero as a place holder	
	6	carrying numbers	
	7	round off decimals to the hundredths place	
SUBTRACTION OF DECIMALS			
Subtracting Decimals	1	review subtraction number facts to 18	
	2	estimate answer before subtracting	
	3	subtract decimals and mixed decimals	
	4	placement of decimal points under one another	

	5	use of zero as a place holder	
	6	borrowing numbers	
	7	round off decimals to the hundredths place	
MULTIPLICATION OF DECIMALS			
Multiplying Decimals	1	review multiplication facts	
	2	estimate answer before multiplying	
	3	multiply decimals and mixed decimals	
	4	placement of decimal point in final answer	
	5	no need to line up decimal points in question	
	6	use of zero as a place holder	
	7	carry numbers	
	8	round off decimals to the hundredths place	
	9	multiply decimals by 10, 100, 1,000 (decimal to right)	
DIVISION OF DECIMALS			
Dividing Decimals	1	review division number facts	
	2	estimate answer before dividing	
	3	divide decimals and mixed decimals	
	4	use zero as a place holder in dividing	
	5	place decimal point in answer directly above that in problem	
	6	zero as a place holder in expressing answer (i.e. 0.98)	
	7	express remainder as decimals	
	8	divide whole numbers and decimals by decimals moving the decimal point in divisor and dividend	
	9	add zeros to divide	
	10	round off decimals	
WORD PROBLEMS WITH DECIMALS			
Problems	1	demonstrate an understanding of problem solving with decimals	
Strategies	2	develop good work habits	
	3	read all parts of question carefully	
	4	determine what is asked for or required	
	5	separate information given from question being asked	
	6	record information given and solution required separately	
	7	decide what arithmetic process will solve the problem	
	8	work neatly and arrange work in rows where possible	
	9	label the answer in terms of values given in question	
	10	estimate an answer	
	11	check every step	
	12	compare estimated answer with answer found	
	13	use clue words to solve word problems (e.g. total, sum, how	

		much, how many, increased, altogether, less, fewer, more, difference, left, remains, times, at, divide, and each)	
UNDERSTANDING AND COMPARING PERCENTS			
Terms	1	explain percent	
	2	explain use of the “%”	
Percents	3	demonstrate an understanding of percent	
	4	introduce percent through use of grids or pie charts	
	5	shade in portions of figure to represent percentage of that figure	
	6	100% of a number = all of that number	
	7	0% of a number = none of that number	
	8	convert fractions to percent (multiply by 100)	
	9	convert decimals to percent (multiply by 100 or move decimals 2 places to right)	
	10	convert percent to fractions (divide percent over 100 and reduce fraction)	
	11	convert percent to decimals (divide percent by 100 or move decimal 2 places to left)	
USING PERCENTS			
Using Percents	1	use $r/100 = P/W$ to find percent of a number, what percent one number is of another, and a number when a percent is given	
SIMPLE INTEREST			
Terms	1	explain simple interest	
	2	explain the interest formula $I = Prt$ (where P = principal, r = rate, t = time)	
Simple Interest	3	demonstrate an understanding of simple interest	
	4	discuss when simple interest is charged	
	5	relationship between percentage and interest	
	6	gather information needed to use $I = Prt$ (implied multiplication between P and r and t)	
	7	calculate simple interest	
WORD PROBLEMS WITH PERCENT			
Problems	1	demonstrate an understanding of problem solving with percent	
Strategies	2	develop good work habits	
	3	read all parts of question carefully	
	4	determine what is asked for or required	
	5	separate information given from question being asked	
	6	record information given and solution required separately	

	7	decide what arithmetic process will solve the problem	
	8	work neatly and arrange work in rows where possible	
	9	label the answer in terms of values given in question	
	10	estimate an answer	
	11	check every step	
	12	compare estimated answer with answer found	
	13	use clue words to solve word problems (e.g. total, sum, how much, how many, increased, altogether, less, fewer, more, difference, left, remains, times, at, divide, and each)	
TIME			
Using Time Divisions	1	60 seconds in a minute	
	2	60 minutes in an hour	
	3	24 hours in a day	
	4	7 days in a week	
	5	approximately four weeks in a month	
	6	name the days of the week	
	7	name months of the year	
	8	correctly use a.m. and p.m.	
	9	calculate the number of seconds in a given number of minutes	
	10	calculate the number of minutes in a given number of hours	
	11	calculate the number of hours in a given number of days	
	12	state the number of days in a given month	
	13	explain the term "leap year"	
	14	calculate the leap years between two given dates	
	15	express time in words	
	16	use timetables (e.g. bus, train, school)	
Clocks	17	tell time with an analog clock to the nearest minute	
	18	recognize times (e.g. quarter past four, ten to six)	
	19	tell time with a digital clock (e.g. 1:50 is ten to one)	
	20	briefly describe the "twenty-four hour" clock	
	21	discuss where the twenty-four hour clock might be found	
	22	recognize written time (e.g. half hour, quarter hour)	
	23	use of the colon in writing time (e.g. 2:53)	
Calendars	24	numeric dating: various styles (d/m/y; y/m/d; m/d/y)	
Calculating with Time	25	add time	
	26	subtract time	
MONEY			
Coin Values	1	identify value of coins: penny (cent), nickel, dime, quarter, loonie, and toonie	
	2	use of the "\$" and "¢" signs	
	3	use of decimal point to write dollar/cent amounts	
	4	convert cents to dollars and dollars to cents	
Calculating with	5	use knowledge of decimals to add and subtract money	

Money			
	6	use knowledge of decimals to multiply and divide money	
	7	practice counting money and making change	
	8	find cost of several items, given the unit cost	
	9	find unit cost, given number of items and total cost	
	10	calculate tax payable (HST)	
	11	calculate discount, given regular price and % discount	
	12	buying on credit	
	13	round off to the nearest cent	
	14	procedure for developing a budget	
CHARTS AND GRAPHS			
Chart	1	explain chart/table	
	2	interpret information in distance tables (map)	
	3	interpret information in weight/height charts	
	4	interpret information in nutritive value charts	
Graphs	5	explain graph	
	6	interpret information in circle graphs	
	7	interpret information in bar graphs	
	8	interpret information in pictographs	
	9	interpret information in line graphs	
METRIC MEASUREMENT			
Terms	1	linear, volume, mass measurement	
	2	gram (mass), litre (volume), metre (linear)	
	3	prefixes: milli, centi, deci, (metre, gram, litre), deka, hecto, kilo	
	4	abbreviations linear measure: mm, dm, m, dam, km, cm, hm	
	5	abbreviations volume measure: ml, dl, L, dal, hl, kl, cl	
	6	abbreviations mass measure: mg, cg, g, dag, hg, kg, dg	
	7	faces, edges, vertex, vertices	
	8	square, rectangle, triangle	
	9	perimeter	
	10	area	
Using Metric Measurement	11	estimate and measure accurately: linear measurement	
	12	estimate and measure accurately: volume measurement	
	13	estimate and measure accurately: mass measurement	
	14	identify geometric figures by counting faces, edges, and vertices	
	15	formula: calculate perimeter of rectangle ($2l + 2w$) and use the correct units: (mm, cm, dm, m, km)	
	16	formula: calculate area of rectangle ($l \times w$)	
	17	use correct area units: (e.g. square centimetres, square kilometres, etc.)	

	18	formula: calculate volume of rectangular prism ($l \times w \times h$)	
	19	use correct volume units: (e.g. cubic centimetres, cubic metres, etc.)	
WORD PROBLEMS WITH MEASUREMENT			
Problems	1	demonstrate ability to solve word problems with addition, subtraction, multiplication, and division of whole numbers, fractions, decimals, percentages, time, money, temperature, and metric measurement	
Strategies	2	develop good work habits	
	3	read all parts of question carefully	
	4	determine what is asked for or required	
	5	separate information given from question being asked	
	6	record information given and solution required separately	
	7	decide what arithmetic process will solve the problem	
	8	work neatly and arrange work in rows where possible	
	9	label the answer in terms of values given in question	
	10	estimate an answer	
	11	check every step	
	12	compare estimated answer with answer found	
	13	use clue words to solve word problems (e.g. total, sum, how much, how many, increased, altogether, less, fewer, more, difference, left, remains, times, at)	