Mathletics British Columbia Program of Studies

Skill Quests



Grades 3 – 6



May, 2022

Mathletics

British Columbia Program of Studies Skill Quests May 2022

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Grade 3

1 Number

Outcome	Quests	Content
Number concepts to 1000	Number concepts to 1000	Reading and writing numbers, up to 3 digits
		Identifying numbers before and after within 1000
		Comparing and ordering up to 4-digit numbers
		Counting by hundreds, tens and ones to 1000
		Counting by tens, off the decade
		Place value, 3-digit numbers
		Using a number line to round
		to nearest 10
		Using a number line to round to nearest 100
		Solving place value number problems
Fraction concepts	Fraction concepts	Finding halves (no symbols)
		Finding halves
		Finding fourths (no symbols)
		Finding fourths
		Finding halves and fourths
		Finding thirds
		Finding sixths
		Finding thirds and sixths
		Finding halves, thirds, fourths

2 Computational Fluency

Outcome	Quests	Content
Addition and subtraction to 1000	Addition and subtraction to 1000	Adding up to 3-digit numbers: number line
		Adding up to 3-digit numbers: using models
		Adding up to 3-digit numbers: place value
		Adding up to 3-digit numbers: split strategy
		Adding up to 3-digits: bridging to ten
		Adding up to 3-digits: rounding and compensating
		Subtracting up to 3-digit numbers: number line
		Subtracting up to 3-digit numbers: using models
		Subtracting up to 3-digit numbers: place value
		Subtracting up to 3-digit numbers: split strategy
		Subtracting up to 3-digit numbers: bridging to ten
		Subtract up to 3-digits: rounding and compensating
		Add/subtract up to 3-digit: number line
		Add/subtract up to 3-digit: bridging to ten
		Add/subtract up to 3-digit: place value
		Add/subtract up to 3-digit: split strategy
		Add/subtract: rounding and compensating
		Solving addition and subtraction word problems
		Estimating sums and differences to 1000
Addition and subtraction facts to	Addition and	Adding and subtracting to 20
20 (emerging computational fluency)	subtraction facts to 20	Adding and subtracting to 20 using a bar model
Multiplication and division concepts	Multiplication and	Introducing multiplication
	division concepts	through arrays
		Skip counting by 2s
		Skip counting by 3s
		Skip counting by 45

		Skip counting by 5s
	[Skip counting by 10s
		Using repeated addition to multiply
		Using repeated subtraction to divide
		Exploring multiplication by 2
		Exploring multiplication by 3
		Exploring multiplication by 4
		Exploring multiplication by 5
		Exploring multiplication by 10
		Dividing by 2
		Dividing by 3
		Dividing by 4
		Dividing by 5
		Dividing by 10
		Multiplication and division
		problems (x2, x5, x10)
One-step addition and subtraction equations with an unknown	Add & subtract: one- step equations	One-step number problems with unknowns: 2-digits
number		Modelling odd and even numbers

3 Patterning

Outcome	Quests	Content
Increasing and decreasing patterns	Increasing and decreasing patterns	Increasing and decreasing number patterns
		Increasing and decreasing shape patterns
Pattern rules using words and numbers, based on concrete experiences	Pattern rules	Pattern rules based on concrete experiences

4 Geometry and Measurement

Outcome	Quests	Content
Measurement, using standard units	Measurement, using	Measuring in standard units:
(linear, mass, and capacity)	standard units	cm
		Selecting units of
		measurement: km, m, cm
		Ordering lengths in metres
		and centimetres
		Introducing capacity: litres and
		millilitres
		Selecting units of measure:
		capacity
		Measuring mass: kilograms
		and grams
		Selecting units of measure:
		mass
		Measuring area
Time concepts	Time concepts	Introducing months of the year
		Introducing seasons
		Using calendars
		Introducing time in hours,
		minutes and seconds
Construction of 3D objects	3D objects	Introducing the attributes of
		3D objects
		Introducing cubes
		Introducing cylinders
		Introducing spheres
		Introducing cones
		Introducing prisms
		Introducing pyramids
		Describing the attributes of 3D
		objects
		Sorting 3D objects

5 Data and Probability

Outcome	Quests	Content
One-to-one correspondence with	One-to-one	Introducing bar graphs
bar graphs, pictographs, charts,	correspondence	Introducing pictographs
and tables		Introducing tally charts
		Introducing tables
		Interpreting results
Likelihood of simulated events,	Probability	Exploring the language of
using comparative language		probability

6 Financial Literacy

Outcome	Quests	Content
Financial literacy – fluency with coins and bills to 100 dollars, and earning and payment	Money	Recognizing and using bills and coins

Grade 4

1 Number

Outcome	Quests	Content
Number concepts to 10 000	Number concepts to 10 000	Reading and writing numbers, up to 4 digits
		Identifying numbers before and after within 10 000
		Comparing and ordering numbers to 10 000
		Understanding place value, 4-
		digit numbers
		Rounding to the nearest 1000
		Skip counting by 3s
		Skip counting by 4s
		Skip counting by 100s
		Skip counting by 50s
		Skip counting by 20s
		Skip counting by 25s
		Skip counting by 1000s
Decimals to hundredths	Decimals to hundredths	Introducing decimal tenths
		Introducing decimal
		hundredths
		Connecting fractions and
		decimals
Ordering and comparing fractions	Order and compare	Ordering and comparing
	fractions	fractions

2 Computational Fluency

Outcome	Quests	Content
Addition and subtraction to 10 000	Addition and	Adding up to 4-digit numbers:
	subtraction to 10 000	number line
		Adding up to 4-digit numbers:
		place value
		Adding up to 4-digit numbers:
		split strategy
		Adding up to 4-digit numbers:
		round and compensate
		Subtracting up to 4-digit
		numbers: number line
		Subtracting up to 4-digit
		numbers: place value
		Subtract up to 4-digit
		numbers: split strategy
		Subtract up to 4-digit
		Chapting mixed addition
		choosing mixed addition
		Choosing mixed subtraction
		strategies
		Solving addition and
		subtraction word problems
Multiplication and division of two-	Multiplication and	Multiplying up to 3-digits by 1-
or three-digit numbers by one-digit	division	digit, place value
numbers		Multiplying up to 3-digits by 1-
		digit, doubling
		Multiplying up to 3-digits by 1-
		digit, area model
		Multiplying up to 3-digits by 1-
		digit, factorizing
		Multiplying by 10 or 100
		Dividing up to 3-digits by 1-
		digit, models
		Dividing up to 3-digits by 1-
		digit, halving
		Interpreting word problems:
		mult/div
		Solving word problems:
Addition and subtraction of	Add and subtract	Adding docimals to touth
decimals to hundred the	Aud and subtract	Auding decimals to tenths
		Adding decimals to tenths
		hundredths
		Subtracting decimals to
		hundredths
		nunureutiis

		Estimating decimal sums and
		differences
		Adding and subtracting
		decimal word problems
Addition and subtraction facts to	Addition and	Finding fact families:
20 (developing computational	subtraction facts to 20	multiplication/division
fluency)		Understanding number bonds to 20
		Adding doubles to 20
		Adding near doubles
		Using doubles to subtract
		Addition and subtraction word
		problems within 20
		Addition problems with start
		or change unknown
		Subtraction problems with
		start or change unknown
Multiplication and division facts to	Multiplication & division	Exploring multiplication by 2
100 (introductory computational	facts to 100	Exploring multiplication by 3
strategies)		Exploring multiplication by 4
		Exploring multiplication by 5
		Exploring multiplication by 6
		Exploring multiplication by 7
		Exploring multiplication by 8
		Exploring multiplication by 9
		Exploring multiplication by 10
		Recalling multiplication facts
		for 2
		Recalling multiplication facts for 5
		Recalling multiplication facts for 10
		Recalling the division facts for 2
		Recalling the division facts for 5
		Recalling the division facts for 10
		Multiplying and dividing by 2
		Multiplying and dividing by 5
		Multiplying and dividing by 10
		Multiplying by 2s, 5s and 10s
		Dividing by 2s, 5s and 10s
		Multiplying and dividing by 2s,
		5s and 10s
Algebraic relationships among	Algebraic relationship	Matching equations to word
quantities	among quantities	problems
		Describing pattern rules
	One-step equations	One-step equations: addition
	using all operations	and subtraction

One-step equations with an	One-step equations:
unknown number, using all	multiplication and division
operations	

3 Patterning

Outcome	Quests	Content
Increasing and decreasing patterns, using tables and charts	Increasing and decreasing patterns	Exploring increasing and decreasing patterns
		Using increasing and decreasing number patterns

4 Geometry and Measurement

Outcome	Quests	Content
How to tell time with analog and digital clocks, using 12- and 24-	How to tell time	Telling time to the hour and half hour
hour clocks		Telling time to the quarter hour
		Relating halves and quarters to telling time
		Telling time to five minutes
		Telling time to the minute
		Recalling relationships
		between units of time
		Using am and pm notation
		Matching 12-hour and 24-
		hour times
Regular and irregular polygons	Regular and irregular	Understanding regular and
	polygons	irregular polygons
Perimeter of regular and irregular	Perimeter: regular and	Measuring perimeter: regular
shapes	irregular shapes	and irregular shapes
Line symmetry	Line symmetry	Recognizing line symmetry

5 Data and Probability

Outcome	Quests	Content
One-to-one correspondence and	Bar graphs and	Using pictographs
many-to-one correspondence,	pictographs	Using bar graphs
using bar graphs and pictographs		
Probability experiments	Probability experiments	Introducing probability (with
		unequal outcomes)

6 Financial Literacy

Outcome	Quests	Content
Financial literacy – monetary	Money	Estimating and calculating
calculations, including making		change
change with amounts to 100		Using decimals in money
dollars and making simple financial		Solving word problems
decisions		involving money

Grade 5

1 Number

Outcome	Quests	Content
Number concepts to 1 000 000	Number concepts to 1 000 000	Reading and writing numbers, up to 6 digits
		Comparing and ordering numbers up to 6 digits
		ldentifying place value, 6-digit numbers
		Skip counting to 1 000 000
		Rounding 6-digit numbers
Decimals to thousandths	Decimals to	Understanding decimals to
	thousandths	thousandths
		Rounding decimal
		thousandths
Equivalent fractions	Equivalent fractions	Finding equivalent fractions with models
		Finding equivalent fractions using multiplication
Whole-number, fraction, and	Fraction and decimal	Comparing and ordering
decimal benchmarks	benchmarks	fractions
		Comparing and ordering
		decimals to thousandths

2 Computational Fluency

Outcome	Quests	Content
Addition and subtraction of whole numbers to 1 000 000	Addition and subtraction to 1 000	Adding numbers up to 1 000 000
	000	Subtracting numbers up to 1 000 000
		Estimating sums and
		differences to 10 000
		subtraction word problems
Multiplication and division to three digits, including division with	Multiplication and division to 3 digits	Multiplying 3-digits by 1-digit, split method
remainders	, , , , , , , , , , , , , , , , , , ,	Multiplying 3-digits by 1-digit, area model
		Multiplying up to 3-digits, area model
		Multiplying 2-digits by 2- digits, factorizing
		Multiplying 2-digits by 2- digits, facts
		Multiplying up to 3-digits, commutative property
		Solving multiplication word problems
		Dividing 2 and 3 digits by 1- digit, partitioning
		Dividing 2 and 3 digit numbers by 1-digit, models
		Dividing 2 and 3 digit numbers by 2-digits, models
		Finding the remainder, 2 digits by 1 digit
		Solving division word problems
Addition and subtraction of	Add/subtract: decimals	Adding decimals to
		Subtracting decimals to
		thousandths
		Adding and subtracting
		Estimating sums and
		differences to thousandths
		Adding decimals to
		thousandths, models
		Adding decimals to
		Subtracting decimals to
		thousandths, models

		Subtracting decimals to
		thousandths, compensation
Addition and subtraction facts to	Addition and	Using addition and subtraction
20 (extending computational	subtraction facts to 20	facts to 20
fluency)		
Multiplication and division facts to	Multiplication and	Finding the missing number
100 (emerging computational	division facts to 100	Recalling and using
fluency)		multiplication facts for 2
		Recalling and using
		multiplication facts for 10
		Recalling and using
		multiplication facts for 5
		Multiplying by 2s, 5s and 10s
		Recalling and using
		multiplication facts for 3
		Recalling and using
		multiplication facts for 4
		Multiplying by 2, 5, 3 and 4
		Recalling multiplication facts
		to 5 x 5
		Relating multiplication and
		division facts
		Recalling and using
		multiplication facts for 6
		Recalling and using
		multiplication facts for 7
		Recalling and using
		multiplication facts for 8
		Recalling and using
		multiplication facts for 9
		Using multiplication properties
		Representing and using
		Known facts to multiply
		Multiplying using doubling
		Recalling and using division
		Decelling and using division
		facts for 10
		Decalling and using division
		facts for E
		Dividing by 2s. Es and 10s
		Dividing by 2s, 5s and 10s
		facts for 3
		Recalling and using division
		facts for 4
		Dividing by 2 5 3 and 4
		Becalling and using division
		facts for 6
		Recalling and using division
		facts for 7

		Recalling and using division facts for 8
		Recalling and using division facts for 9
		Representing and using known facts to divide
One-step equations with variables	One-step equations with variables	Writing 1-step equations using variables
		Solving 1-step equations
		Introducing variables

3 Patterning

Outcome	Quests	Content
Rules for increasing and decreasing patterns with words, numbers,	Rules for increasing/decreasing	Describing and continuing patterns
symbols, and variables	patterns	Writing pattern rules as algebraic expressions

4 Geometry and Measurement

Outcome	Quests	Content
Area measurement of squares and	Area measurement of	Area of a rectangle, additive
rectangles	squares & rectangles	formula
		Estimating & measuring area
		of rectangles
Relationships between area and	Relationships between	Solving perimeter and area
perimeter	area and perimeter	problems
Duration, using measurement of	Duration, using	Calculating elapsed time
time	measurement of time	Using timetables (12-hour and
		24-hour time)
Classification of prisms and	Classification of prisms	Classifying quadrilaterals
pyramids	and pyramids	Identifying prisms and
		pyramids in the environment
		Introducing rectangular prisms
		Investigating properties of
		prisms and pyramids
Single transformations	Single transformations	Introducing slides/translations
		Introducing flips/reflections
		Introducing turns/rotations

5 Data and Probability

Outcome	Quests	Content
One-to-one correspondence and many-to-one correspondence, using double bar graphs	Double bar graphs	Interpreting/representing data, double bar graphs
Probability experiments, single events or outcomes	Probability experiments, single events	Probability experiments, single events

6 Financial Literacy

Outcome	Quests	Content
Financial literacy – monetary	Financial mathematics	Solving money problems
calculations, including making		Creating simple financial plans
change with amounts to 1000		
dollars and developing simple		
financial plans		

Grade 6

1 Number

Outcome	Quests	Content
Small to large numbers	Number concepts to	Reading and writing numbers
(thousandths to billions)	billions	up to billions
		Comparing and ordering
		numbers up to millions
		Identifying place value,
		numbers up to billions
Small to large numbers	Decimal concepts to	Comparing and ordering
(thousandths to billions)	thousandths	decimals to thousandths
		Understanding decimal
		concepts to thousandths
Small to large numbers	Operations,	Solving add/sub word
(thousandths to billions)	thousandths to billions	problems: decimals
		Multiplying up to 4 digits by 1
		and 2 digits
		Multiplying 4 digits by 2 digits,
		algorithm
		Dividing up to 4 digits by 1
		digit
		Dividing 3 digits by 2 digits,
		algorithm
		Dividing up to 4 digits by 2
		digits, place value
		Dividing up to 4 digits by 2
		algits, algorithm
		Solving multiplication and
		Adding designate to
		Adding decimals to
		Subtracting desimple to
		thousandths
Eactors and multiples – areatest	Prime and composite	Introducing prime and
common factor and least common	numbers	composite numbers
multiple	Eactors and multiples	Einding multiples up to 100
multiple	Fuctors and mattples	including I CM
		Finding factors up to 100
		including GCE
	Divisibility rules	Introducing divisibility rules for
		dividing by 2
		Introducing divisibility rules for
		dividing by 3
		Introducing divisibility rules for
		dividing by 4

		Introducing divisibility rules for
		Introducing divisibility rules for
		dividing by 6
		Introducing divisibility rules for
		dividing by 8
		Introducing divisibility rules for
		dividing by 9
		Introducing divisibility rules for
		dividing by 10
	Prime factors	Using prime factors
Improper fractions and mixed	Improper fractions and	Comparing and ordering
numbers	mixed numbers	fractions
		Comparing and ordering
		mixed numbers
		Comparing and ordering
		improper fractions
		Comparing and ordering
		fractions and mixed numbers
Introduction to ratios	Introduction to ratios	Introducing ratios
		Simplifying ratios
		Dividing a quantity into a
		given ratio
		Identifying equivalent ratios
Whole-number percents and	Introducing whole-	Introducing percents
percentage discounts	number percents	Representing percent and
		fraction equivalents
		Representing percent and
		decimal equivalents
		Fraction, decimal and percent
		equivalents
Whole-number percents and	Calculating percentage	Calculating percentage
percentage discounts	discounts	discounts

2 Computational Fluency

Outcome	Quests	Content
Multiplication and division facts to	Multiplication and	Multiplying using doubling and
100 (developing computational	division facts to 100	repeated doubling
fluency)		Multiplying using place value understanding
		Dividing using the inverse relationship
		Dividing using halving and repeated halving
Order of operations with whole numbers	Order of operations with whole numbers	Order of operations, addition and subtraction
		Order of operations, multiplication and division
		Order of operations, 4 operations
		Order of operations, grouping symbols
		Applying order of operations to real-life contexts
Multiplication and division of decimals	Multiply decimals to thousandths	Multiplying decimals and whole numbers
		Multiplying decimals by 10 and 100
		Multiplying decimals to thousandths, base 10
	Divide decimals to thousandths	Dividing decimals to thousandths, base 10
		Dividing whole numbers and decimals to thousandths
		Dividing decimals by 10 and 100
One-step equations with whole	Solve one-step	Solving 1-step equations
number coefficients and solutions	equations	Solving 1-step equations using
		Solving 1-step equations using algebra tiles

3 Patterning

Outcome	Quests	Content
Increasing and decreasing patterns, using expressions, tables, and	Increasing and decreasing patterns	Recording number patterns with shapes using tables
graphs as functional relationships		number patterns
		Representing linear growing patterns, rules

4 Geometry and Measurement

Outcome	Quests	Content
Perimeter of complex shapes	Perimeter of complex	Calculating the perimeter of
	shapes	rectilinear shapes
Area of triangles, parallelograms,	Area: triangle,	Calculating area of a triangle
and trapezoids	parallelogram,	Calculating area of a
	trapezoid	parallelogram
		Calculating area of a trapezoid
Angle measurement and	Angle measurement	Classifying angles
classification	and classification	Finding the missing angle of a
		triangle
		Finding the missing angle of a
		quadrilateral
		Exploring interior angles in
		regular polygons
Volume and capacity	Volume and capacity	Using unit cubes to measure
		volume
		Using millilitres and litres as
		references
		Using cubic
		metres/centimetres as
		references
Triangles	Triangles	Classifying triangles by their
		sides and angles
Combinations of transformations	Combinations of	Investigating translations in
	transformations	the first quadrant
		Identifying reflections in the
		first quadrant
		Identifying rotations in the first
		quadrant
		Identifying combinations of
		transformations
		Plotting points in the first
		quadrant
		Finding the missing coordinate
		of a figure
Line graphs	Line graphs	Constructing a line graph
		Interpreting data in a line
		graph

5 Data and Probability

Outcome	Quests	Content
Single-outcome probability, both theoretical and experimental	Theoretical and experimental	Comparing observed and expected frequencies
	probability	Describing probability, fraction/decimal/percent

6 Financial Literacy

Outcome	Quests	Content
Financial literacy – simple	Creating simple	Creating simple budgets
budgeting and consumer math	budgets	

7 Reasoning and Analyzing

Outcome	Quests	Content
Use logic and patterns to solve	Logic and patterns	Introducing coding concepts
puzzles and play games		Introducing logical reasoning



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