Mathletics New Zealand Curriculum Understanding Practice and Fluency (UPF)





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Mathletics

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Level 2 – Year 3 (Early Stage 5)

1 Number and Algebra

1.1 Number strategies

Outcome	Quests	Content
NA2-1 Use simple additive	Addition and	Bridging to 10 with 1 and
strategies with whole numbers and	subtraction strategies	2-digit numbers
fractions.		Adding doubles or near
		doubles
		Adding using bonds to 10
		Adding 1 and 2-digit numbers
		using place value
		Add and subtract with fluency
		up to 18
		Adding using mental
		strategies up to 100
		Adding & subtracting with
		number line (max 100)
		Adding & subtracting using
		place value & models
		Add & subtract 2-digit
		numbers using place value
		Solving addition problems
		Using bar models to add and
		Subtract
		Adjusting addenus to add
		compensate
	Multiply with arrays &	Introducing arrays and
	repeated addition	repeated addition
	Commutative property	Commutative property of
	of multiplication	multiplication
	Division by sharing and	Dividing by sharing and
	grouping	grouping (up to 50)
		Using repeated subtraction to
		divide
	Exploring multiplication	Multiplication and division
	by 2, 5 and 10	problems (2,5,10)
		Multiply by 1 or 0
		Exploring multiplication and
		division by 2
		Exploring multiplication and
		division by 10
	Working with halves	Finding halves & quarters of
	and quarters	objects, shapes, sets
		Count in halves and quarters
		up to 1 using models

	Order and compare halves
	and quarters using models
	Finding halves using doubles
	knowledge
	Finding quarters of quantities
Finding fifths and thirds	Finding fifths of quantities
of quantities	Finding thirds of quantities
Using NZ notes and	Identifying and using NZ notes
coins	and coins

1.2 Number knowledge

Outcome	Quests	Content
NA2-2 Know forward and backward counting sequences with	Counting sequences within 1000	Counting forwards and backwards within 1000
whole numbers to at least 1000		Numbers before and after within 1000
		Reading and writing 3-digit numbers
		Counting in tens with 2- and 3-digit numbers
		Counting in hundreds, tens and ones up to 1000
		Find numbers 10 or 100 before and after up to 1000
	Skip counting by 2, 5 and 10	Skip count by 2,5, 10 from any multiple up to 100
NA2-3 Know the basic addition and subtraction facts.	Addition and subtraction facts to 20	Addition and subtraction fact families up to 20
NA2-4 Know how many ones, tens, and hundreds are in whole	Place value of 3-digit numbers	Using place value with 3-digit numbers
numbers to at least 1000.		Comparing and order numbers to 1000
		Rounding numbers to nearest 10 (up to 1000)
NA2-5 Know simple fractions in everyday use.	Work with simple fractions	Compare and order fractions with like denominators
		Introducing thirds
		Introducing fifths
		Introducing fraction parts and
		fraction types

1.3 Equations and expressions

Outcome	Quests	Content
NA2-6 Communicate and interpret simple additive strategies, using words, diagrams (pictures), and symbols	Write number sentences with equality	Use equality to write and solve number sentences

1.4 Patterns and relationships

Outcome	Quests	Content
NA2-7 Generalise that whole	Partition whole	Partitioning numbers to
numbers can be partitioned in	numbers	explore equality
many ways.		
NA2-8 Find rules for the next	Explore sequential	Exploring simple number
member in a sequential pattern.	patterns	patterns

2 Geometry and Measurement

2.1 Measurement

Outcome	Quests	Content
GM2-1 Create and use appropriate units and devices to measure	Formal units of length (cm and m)	Introducing formal units (cm)
length, area, volume and capacity, weight (mass), turn (angle),	Measuring area with informal units	Measure, compare, order area (informal units)
temperature, and time.	Exploring area with square units	Measure area of rectangles (square units)
	Formal units of mass (kg)	Introducing formal units (kg)
	Tell time to the quarter hour	Telling time to the quarter hour
	Formal units of time (hr, min, sec)	Units of time (hours, minutes, seconds)
	Compare and order volume (blocks)	Comparing and ordering volume (blocks)
GM2-2 Partition and/or combine like measures and communicate them, using numbers and units.	Solve problems with units of measurement	Solving add/subtract measurement problems

2.2 Shape

Outcome	Quests	Content
GM2-3 Sort objects by their spatial	Sort, describe,	Sorting, describing,
redures, with justification.	France advise wortlines	letre ducing freese adres
	of 3D shapes	Introducing faces, edges,
	Sort and compare 3D	Sorting 3D shapes
	objects	

2.3 Position and orientation

Outcome	Quests	Content
GM2-5 Create and use simple maps	Create and use simple	Creating and using simple
to show position and direction.	maps	maps
GM2-6 Describe different views	Pathways on maps	Pathways on simple maps
and pathways from locations on a	(N,E,S,W)	(half and quarter turns)
map.		Introducing cardinal compass
		directions

2.4 Transformation

Outcome	Quests	Content
GM2-7 Predict and communicate	Identify line symmetry	Identifying line symmetry
the results of translations,	Flips, slides and turns	Introducing slides, flips & turns
reflections, and rotations on plane		
shapes.		

3 Statistics

3.1 Statistical investigation

Outcome	Quests	Content
S2-1 Conduct investigations using	Introducing statistical	Introducing statistical
the statistical enquiry cycle:	investigations	investigation
*posing and answering questions	Sorting data	Two way tables and Venn
*gathering, sorting, and displaying	-	diagrams
category and whole-number data	Data displays	Pictograph
*communicating findings based on		Bar graphs
the data.		Tables or lists

3.2 Statistical literacy

Outcome	Quests	Content
S2-2 Compare statements with the	Interpret simple data	Interpreting simple data
features of simple data displays	displays	displays
from statistical investigations or		
probability activities undertaken by		
others.		

3.3 Probability

Outcome	Quests	Content
S2-3 Investigate simple situations that involve elements of chance, recognising equal and different likelihoods and acknowledging uncertainty.	Use the language of probability	Using the language of probability

Level 2 – Year 4 (Stage 5)

1 Number and Algebra

1.1 Number strategies

Outcome	Quests	Content
NA2-1 Use simple additive strategies with whole numbers and fractions.	Addition and subtraction word problems	Creating and solving word problems (within 100)
	Addition and subtraction strategies (1)	Adding 3 or more single-digit numbers
	Adding multiples of 100, 1000 and 10 000	Add & subtract multiples of 100, 1000, 10 000
	Addition and subtraction strategies (2)	Rounding to add & subtract using 2-digit numbers
	Multiplication facts for 2, 5 and 10	Multiplication and division facts for 2
	Explore multiplication/division by 3 & 4	Exploring multiplication by 3
	Multiplication and division by 2,5,3,4	Multiplying and dividing by 2,5,3, 4
	Explore multiplication/division by 6 & 7	Exploring multiplication by 6 and 7
	Multiplication fact families	Relating multiplication and division facts
	Use sharing/grouping to multiply/divide	Multiplication problems using sharing/grouping
	Properties of multiplication	Commutative property of multiplication
	Finding fractions (½, ¼, ½, ¼, ½, ¼,	Finding halves, quarters, eighths of shapes
	Represent fractions (denominators 1-12)	Representing fractions of shapes or objects
	Finding simple fractions of sets	Unit fractions (denominators 2, 3, 4, 5, 6, 8)
	Add/subtract fractions same denominator	Adding and subtracting unit fractions
	Simple calculations with money	Using money and calculating change

1.2 Number knowledge

Outcome	Quests	Content
NA2-2 Know forward and backward counting sequences with	Counting sequences to at least 1000	Numbers to at least 1000 (max 10 000)
whole numbers to at least 1000	Skip counting by 3s and 4s	Skip counting forwards and backwards by 3s
NA2-3 Know the basic addition and subtraction facts.	Recall basic add/subtract facts	Adding and subtracting within 20 fluently
NA2-4 Know how many ones, tens, and hundreds are in whole numbers to at least 1000.	Know place value to at least 3-digits	Identify and use place value to at least 3-digits
NA2-5 Know simple fractions in everyday use.	Relate halves, quarters and eighths	Relating halves, quarters and eighths
	Fractions on a number line	Identifying/counting in thirds on a number line
	Mixed numbers and improper fractions	Introducing mixed numbers and improper fractions
	Introduction to tenths	Identifying, counting, ordering tenths
	Compare and order fractions	Compare/order fractions with like denominators

1.3 Equations and expressions

Outcome	Quests	Content
NA2-6 Communicate and interpret simple additive strategies, using words, diagrams (pictures), and	Inverse nature of addition/subtraction	Using the inverse nature of addition/subtraction
symbols.	Solve number sentences/word problems	Using equivalence to solve problems

1.4 Patterns and relationships

Outcome	Quests	Content
NA2-7 Generalise that whole numbers can be partitioned in many ways.	Properties of numbers	Property of zero and 1 in multiplication
NA2-8 Find rules for the next member in a sequential pattern.	Repeating patterns	Creating, extending, describing repeating patterns
	Additive and subtractive number patterns	Identify & create additive/subtractive patterns
	Record patterns - diagrams, lists, tables	Record visual patterns in diagrams, lists, tables

2 Geometry and Measurement

2.1 Measurement

Outcome	Quests	Content
GM2-1 Create and use appropriate	Measure in cm and m	Measuring in m and cm
units and devices to measure	Order/compare lengths	Ordering/comparing lengths in
length, area, volume and capacity,	in m and cm	m and cm
weight (mass), turn (angle),	Convert between m	Converting between m and cm
temperature, and time.	and cm	(whole numbers)
	Measure in cm, m and	Introducing kilometres
	km	
	Measure area (square	Measuring area using formal
	centimetres)	units (square cm)
	Measure temperature	Measuring temperature
	(Celsius)	
	Measure mass (g and	Measuring mass in g and kg
	kg)	
	Measure volume (litres)	Exploring mass and measuring
		in litres
	Measure volume using	Comparing volume using
	blocks	blocks
	Understand metric	Know simple metric measures
	measures	(length, mass, volume)
GM2-2 Partition and/or combine	Partition/combine	Adding and subtracting
like measures and communicate	measures	measures
them, using numbers and units.		

2.2 Shape

Outcome	Quests	Content
GM2-3 Sort objects by their spatial	Compare spatial	Compare/sort by angles,
features, with justification.	features-quadrilaterals	number/nature of sides
	Explore regular and	Exploring regular and irregular
	irregular shapes	shapes
	Explore congruent &	Exploring congruent shapes
	similar shapes	
	Introduce prisms	Introducing & exploring prisms
	Compare spatial	Comparing spatial features -
	features - 3D objects	3D objects
	Introduction to	Introducing nets of rectangular
	rectangular prisms nets	prisms
GM2-4 Identify and describe the	Describe plane shapes	Comparing faces of 3D objects
plane shapes found in objects.	in 3D objects	with 2D shapes

2.3 Position and orientation

Outcome	Quests	Content
GM2-5 Create and use simple maps	Interpret and use grid	Interpreting and using grid
to show position and direction.	references	referenced maps
GM2-6 Describe different views	Pathways on maps	Drawing and describing
and pathways from locations on a	(cardinal points)	pathways on maps
map.		

2.4 Transformation

Outcome	Quests	Content
GM2-7 Predict and	ldentify	Identifying transformations
communicate the results of	translation/reflection/rotation	
translations, reflections, and	Introduction to tessellation	Recognising & predicting
rotations on plane shapes.		tessellation

3 Statistics

3.1 Statistical investigation

Outcome	Quests	Content
S2-1 Conduct investigations using	Read/represent data in	Read/represent picture graphs
the statistical enquiry cycle:	simple displays	with simple scales
*posing and answering questions		
*gathering, sorting, and displaying		
category and whole-number data		
*communicating findings based on		
the data.		

3.2 Statistical literacy

Outcome	Quests	Content
S2-2 Compare statements with the	Compare data with	Comparing data with
features of simple data displays	conclusions	statements made by others
from statistical investigations or		
probability activities undertaken by		
others.		

3.3 Probability

Outcome	Quests	Content
S2-3 Investigate simple situations	Use the language of	Use basic probability
that involve elements of chance,	probability	language with chance events
recognising equal and different	Simple chance	Chance experiments with
likelihoods and acknowledging	situations	equal and unequal outcomes
uncertainty.		

Level 3 – Year 5 (Early Stage 6)

1 Number and Algebra

1.1 Number strategies

Outcome	Quests	Content
NA3-1 Use a range of additive and simple multiplicative strategies with	Add/subtract up to 3- digits	Adding & subtracting using a jump strategy
whole numbers, fractions, decimals, and percentages		Adding & subtracting using a split strategy
		Adding & subtracting using rounding
		Add & subtract using non- standard partitioning
		Choosing efficient mental strategies
	Add/subtract multiples of 100	Add & subtract multiples of 100 up to 5 digits
	Add/subtract using estimation	Estimating addition & subtraction
	Multiply/divide using mental strategies	Multiplying & dividing using place value knowledge
		Division with remainders
		Multiplying using place value
		Dividing using place value
		strategies
		Multiplying using round &
		compensate
		Multiplying using doubling
		Dividing using halving & related facts
		Using partitioning to double and halve
		Multiplying using factorising
		Multiplying using an area model
		Using efficient strategies to divide
		Solving multiplication &
	Find fractions of	Finding unit fractions of
	shapes & sets	quantities
		Finding simple fractions of quantities
		Using visual patterns to find fractions

	Improper fractions & mixed numbers	Exploring fractions greater than 1
		Converting improper fractions & mixed numbers
	Operations with fractions	Adding/subtracting fractions - like denominators
		Add/subtract mixed numbers - like denominators
		Dividing unit fractions by whole numbers
	Add/subtract decimals to tenths	Adding & subtracting decimals using place value
		Adding & subtracting decimals using rounding
		Adding & subtracting decimals using bridging to 10

1.2 Number knowledge

Outcome	Quests	Content
NA3-2 Know basic multiplication	cation Multiplication & division facts	Multiplication & division facts
and division facts.		Multiplication & division facts for 7
		Multiplication & division facts for 8
		Multiplication & division facts for 9
		Multiply/divide using inverse multiplication facts
NA3-3 Know counting sequences for whole numbers.	Counting sequences up to 1 000 000	Counting by 1s, 10s, 100s, 1000s, 10 000s
NA3-4 Know how many tenths, tens, hundreds, and thousands are in whole numbers.	Place value up to 5- digits	Read/write, compare/order numbers up to 5-digits
		Knowing the number of 10s or 100s in a number
		Partitioning 5-digit numbers
	Place value up to 6- digits	Read/write, compare/order numbers up to 6-digits
		Partitioning 6-digit numbers
		Rounding 5 and 6-digit
		numbers
		Understanding the place value of decimal tenths
NA3-5 Know fractions and	Know fractions	Equivalent proper fractions
percentages in everyday use.	including hundredths	(incl beyond 1)
		Introducing hundredths
		Counting in simple fractions (beyond 1)
		Comparing fractions

		Comparing improper fractions and mixed numbers
	Know decimals including tenths	Understanding decimal tenths
	Equivalent simple	Introducing percentages
	frac/dec/percentages	Representing common fractions as percentages

1.3 Equations and expressions

Outcome	Quests	Content
NA3-6 Record and interpret	Write/use additive	Recording & interpreting
additive and simple multiplicative	strategies	additive strategies
strategies, using words, diagrams,	Write/use multiplicative	Recording & interpreting
and symbols, with an	strategies	multiplicative strategies
understanding of equality.	Find missing numbers	Finding missing numbers
	in number sentences	using inverse properties
	Represent/solve word	Representing & solving word
	problems	problems
	Order of operations	Introducing order of
		operations

1.4 Patterns and relationships

Outcome	Quests	Content
NA3-7 Generalise the properties of	Properties of	Properties of operations with
addition and subtraction with	operations	whole numbers
whole numbers.		
NA3-8 Connect members of	Record/represent terms	Recording & representing
sequential patterns with their	in patterns	number patterns
ordinal position and use tables,		Record & represent patterns
graphs, and diagrams to find		with shapes
relationships between successive		Solving problems involving
elements of number and spatial		patterns
patterns.		

2 Geometry and Measurement

2.1 Measurement

Outcome	Quests	Content
GM3-1 Use linear scales and whole numbers of metric units for length,	Length in mm, cm, m,	Working with lengths in mm,
	km	cm, m
area, volume and capacity, weight		Measuring & recording in mm,
(mass), angle, temperature, and		cm, m, km
time.		Converting between mm, cm,
		m, km
		Comparing & ordering lengths
		in mm, cm, m, km
	Calculate perimeter	Calculating perimeter
	Mass in g, kg	Measuring & recording in g, kg
		Comparing & ordering mass in
		g and kg
		Solving mass problems
	Temperature in Celsius	Measuring & recording
		Tetting atting & magneturing in mel
	Volume in mL and L	and L
		Converting between mL and L
		Solving problems with mL and
		L
	Volume in cubic m and	Estimating volume
	cubic cm	Solving volume & capacity word problems
	Read time incl am/pm	Telling time to the minute and
	notation	second
	Solve time problems &	Solving elapsed time problems
	read timetables	Using timetables
	Conversion problems	Solving conversion
		measurement problems
	Understand & measure anales	Angle concepts
	Classify angles	Classifying angles
	Measure angles	Estimating & measuring
GM3-2 Find greas of rectangles	Calculate	Perimeter & grea of rectangles
and volumes of cuboids by applying	perimeter/area of	and squares
multiplication.	rectangles	
	Calculate area of non-	Calculating areas of non-
	rectilinear shapes	rectilinear shapes
	Calculate volume using	Calculating volumes using
	DIUCKS	DIOCKS

2.2 Shape

Outcome	Quests	Content
GM3-3 Classify plane shapes and	Classify/sort plane	Classifying & sorting shapes
prisms by their spatial features.	shapes	by spatial features
	Classify/sort prisms	Classifying & sorting prisms by
		spatial features
GM3-4 Represent objects with	Nets of prisms	Exploring nets of
drawings and models.		rectangular/triangular prisms

2.3 Position and orientation

Outcome	Quests	Content
GM3-5 Use a co-ordinate system or	Use coordinates &	Cardinal compass directions
the language of direction and	directional language	Using grid references
distance to specify locations and		Using simple scales on maps
describe paths.		

2.4 Transformation

Outcome	Quests	Content
GM3-6 Describe the	Identify & complete	1-step & 2-step
transformations (reflection, rotation,	transformations	transformations
translation, or enlargement) that	Tessellation	Identifying tessellation
have mapped one object onto		
another.		

3 Statistics

3.1 Statistical investigation

Outcome	Quests	Content
S3-1 Conduct investigations using	Represent/read data in	Using tables & pictographs to
the statistical enquiry cycle:	various displays	display data
gathering, sorting, and displaying		Representing/reading data in
multivariate category and whole		line graphs
number data and simple time-		Represent/read bar graphs
series data to answer questions;		(many-to-one scale)
identifying patterns and trends in		Representing/reading data in
context, within and between data		strip graphs
sets;		Representing/reading data in
communicating findings, using data		pie charts
displays.		Representing/reading data in
		dot plots
		Representing/reading data in
		stem-&-leaf graphs
	Collect/sort data	Understanding how to collect
		& sort data

3.2 Statistical literacy

Outcome	Quests	Content
S3-2 Evaluate the effectiveness of	Evaluate data displays	Using & evaluating data
different displays in representing		displays
the findings of a statistical		
investigation or probability activity		
undertaken by others.		

3.3 Probability

Outcome	Quests	Content
S3-3 Investigate simple situations that involve elements of chance by	Investigate simple chance situations	Describing chance
comparing experimental results with expectations from models of	Interpret/use tree diagrams	Interpreting & using tree diagrams
all the outcomes, acknowledging that samples vary.	Investigate simple chance experiments	Investigating chance experiments
		Understanding fair/unfair in chance experiments

Level 3 – Year 6 (Stage 6)

1 Number and Algebra

1.1 Number strategies

Outcome	Quests	Content
NA3-1 Use a range of additive and	Add/subtract strategies	Adding & subtracting using
simple multiplicative strategies with	up to 5-digits	partitioning
whole numbers, fractions, decimals,		Rounding to estimates
and percentages		sums/differences
		Subtracting using equal
		adjustments
		Adding & subtracting using
		algorithms
		Choose efficient mental
		strategies to add/subtract
	Strategies for	Multiplying using doubling and
	multiplying & dividing	related facts
		Multiplying using factors
		Dividing using factors
		Dividing using arrays
		Multiplying using rounding &
		compensating
		Doubling & halving using
		partitioning
		Multiplying - doubling/halving
		& trebling/thirding
		Rounding to estimate products
		Dividing using partitioning
		Dividing using known facts
	Solve multiplication/division problems	Choosing efficient strategies
		to multiply
		Choosing efficient strategies
		to divide
		Solving multiplication word
		problems
		Division with no remainders -
		3-digit by 1-digit
		Division with remainders - 2-
		digit by 1-digit
	Operations with	Adding fractions with
	tractions	denominators 10/100
		Multiplying unit fractions by
		whole numbers
		Multiplying fractions by whole
		numbers
		Dividing with unit fractions

	Understanding fractions as division
Find fractions of a	Using fractions as operators
quanitity	Finding fraction of quantities using equivalence
	Solving word problems with non-unit fractions
	Solve word problems incl fractions greater than 1
Equivalent fractions-	Find equivalent fractions -
related denominators	related denominators
Use mental strategies to add tenths	Using mental strategies to add tenths
Multiply decimals by whole numbers	Multiplying decimals by whole numbers
Introduce ratios	Understanding simple ratio problems

1.2 Number knowledge

Outcome	Quests	Content
NA3-2 Know basic multiplication	Multiplication/division	Using multiplication/division
and division facts.	up to 10 x 10	facts for 6 up to 60
		Using multiplication/division
		facts for / up to /0
		Using multiplication/division
		facts for 8 up to 80
		Using multiplication/division
		facts for 9 up to 90
		Recalling facts to 10 x 10 with
	Countrainen aluea	automaticity
NA3-3 Know counting sequences		
for whole numbers.	value up to 10 000 000	10 000 000
		Counting in 1000 and 10 000
	Final accession	Linding numbers up to 10 000
	Find numbers	Finding numbers up to 10 000
NA2 4 Know how many tonths	Multiply/divide	Multiplying/dividing 2 digit
tens bundreds and thousands are	multiples of 10	multiples of 10
in whole numbers	Multiples of 10	Multiplying/dividing 2 digit
in whole numbers.	multiples of 10/100	multiples of 10/100
	Multiply by 1000	Multiplying by 1000
	Place value - numbers	Reading/writing
	of any size	comparing/ordering numbers
	of driv size	Identifying place value of
		numbers of any size
		Bounding numbers of any size
		Using place value to partition
		numbers
		Understanding numbers of
		any size

		Place value of tenths
NA3-5 Know fractions and	Order & compare	Order/compare fractions -
percentages in everyday use.	proper fractions	different denominators
		Order/compare - different
		numerators/denominators
	Equivalent fractions	Multiplying to find equivalent
		fractions
	Understand	Reading/writing tenths and
	tenths/hundredths	hundredths
	Understand decimals	Understanding decimal
	including hundredths	hundredths
		Comparing & ordering
		decimals
		Converting decimal
		hundredths to fractions
		Rounding decimal hundredths
	Understand decimal	Understanding decimal
	thousandths	thousandths
		Ordering decimal thousandths
		Partitioning decimal
		thousandths
		Rounding decimals to
		hundredths
	Convert	Converting percentages to
	frac/dec/percentages	decimals
		Converting
		frac/dec/percentages

1.3 Equations and expressions

Outcome	Quests	Content
NA3-6 Record and interpret	Record/interpret	Using the bar model for
additive and simple multiplicative	additive strategies	addition/subtraction
strategies, using words, diagrams,	Use equality to solve	Solving equations involving
and symbols, with an	add/sub problems	fractions/decimals
understanding of equality.	Use equality to solve	Multiply/divide to solve multi-
	mult/div problems	step problems
		Solving equations involving
		fractions/decimals
	Use equality to solve	Solving multi-step problems
	problems	with the 4 operations
	Write & solve multi-	Writing & solving multi-step
	step expressions	expressions
	Order of operations	Solving equations using order
		of operations

1.4 Patterns and relationships

Outcome	Quests	Content
NA3-7 Generalise the properties of	Use multiplicative laws	Using the multiplicative laws
addition and subtraction with		up to 10 x 10
whole numbers.		
NA3-8 Connect members of	Number patterns using	Recording/interpreting number
sequential patterns with their	add/subtract	patterns - add/sub
ordinal position and use tables,		Add/subtract number patterns
graphs, and diagrams to find		including frac/dec
relationships between successive	Number patterns using	Recording/interpreting number
elements of number and spatial	multiplying/dividing	patterns - mult/div
patterns.	Use tables of values	Model/record patterns using
		tables of values
	Represent linear	Representing linear patterns in
	patterns	a variety of ways

2 Geometry and Measurement

2.1 Measurement

Outcome	Quests	Content
GM3-1 Use linear scales and whole	Length in mm, cm, m,	Recording km and m in
numbers of metric units for length,	km	decimals
area, volume and capacity, weight		Converting between units of
(mass), angle, temperature, and		length, km, m, cm, mm
time.		Solving 2-step length
		problems
	Mass in kg, g, mg	Measuring mass using
		appropriate tools
		Solving problems involving
		mass
		Converting between units of
		mass, kg, g, mg
	Volume and capacity in	Solving problems involving
	mL, L	capacity/volume
		Choose appropriate unit for
		length, mass, capacity
	Temperature in Celsuis	Solving temperature problems
	Understand units of	Converting between units of
	time	time
		Converting 12 and 24-hour
		time
		Calculating elapsed time
		Interpreting timelines
		Using timetables in context
	Understand angles	Measuring angles up to 360°
		Classifying angles
		Drawing angles
GM3-2 Find areas of rectangles	Area of rectangles	Develop/use the formula for
and volumes of cuboids by applying		area of a rectangle
multiplication.	Area/perimeter of	Calculate area and perimeter
	rectilinear shapes	of rectilinear shapes
	Measure volume in	Measuring volume using cubic
	cubic cm and m	centimetres
		Measuring volume using cubic metres

2.2 Shape

Outcome	Quests	Content
GM3-3 Classify plane shapes and	Compare spatial	Classifying quadrilaterals
prisms by their spatial features.	features of 2D shapes	Classifying triangles
		Classifying 2D shapes
		Naming pyramids

	Compare features - prisms/pyramids	Comparing prisms and pyramids
GM3-4 Represent objects with drawings and models.	Connect 3D objects with 2D shapes	Connecting 3D objects with 2D shapes
		Connecting prisms with their nets
		Connecting 3D objects with plan views

2.3 Position and orientation

Outcome	Quests	Content
GM3-5 Use a co-ordinate system	Use	Using simple scales on maps
or the language of direction and	scale/direction/coordinates	Using cardinal compass
distance to specify locations and	on maps	directions
describe paths.		Using grid references and
		coordinates

2.4 Transformation

Outcome	Quests	Content
GM3-6 Describe the	Understand rotation	Identify shapes & designs with
transformations (reflection, rotation,		rotational symmetry
translation, or enlargement) that		Understanding the order of
have mapped one object onto		rotational symmetry
another.	Understand translation	Creating patterns using
		translation
	Combinations of	Identifying combinations of
	transformations	transformations
	Understand	Enlarging 2D shapes using
	enlargement	scale factors

3 Statistics

3.1 Statistical investigation

Outcome	Quests	Content
S3-1 Conduct investigations using the statistical enquiry cycle: gathering, sorting, and displaying multivariate category and whole number data and simple time- series data to answer questions; identifying patterns and trends in context, within and between data sets; communicating findings, using data displays.	Represent/read data in various displays	Represent/read data in strip graphs (percentages)
		Representing/reading data in bar graphs
		Representing/reading data in line graphs
		Representing/reading data in dot plots
		Represent/read data in pie charts (percentages)
	Use side-by-side bar	Represent/read data in side-
	graphs	by-side bar graphs
	Use back-to-back	Represent/read back-to-back
	stem-and-leaf graphs	stem-and-leaf graphs
	Interpret data from tables: 2-way tables	Interpreting data from tables
		Represent/read bivariate data and 2-way tables
	Data collection methods	Investigating data collection methods
	Conduct statistical	Interpreting data from
	investigations	statistical investigations

3.2 Statistical literacy

Outcome	Quests	Content
S3-2 Evaluate the effectiveness of	Evaluate data displays	Choosing appropriate data
different displays in representing		displays
the findings of a statistical		Examining data displays for
investigation or probability activity		misleading information
undertaken by others.		

3.3 Probability

Outcome	Quests	Content
S3-3 Investigate simple situations that involve elements of chance by	Simple chance experiments	Compare experimental and theoretical probabilities
comparing experimental results with expectations from models of all the outcomes, acknowledging that samples vary.		Describing chance events using fractions



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