

Mathletics

New Zealand Program of Studies

Skill Quests

Year 3 – 6

May, 2022

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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 strategies with whole numbers and fractions.	Addition and subtraction strategies	Bridging to 10 with 1 and 2-digit numbers
		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 addends to add
		Add or subtract tens then compensate
	Multiply with arrays & repeated addition	Introducing arrays and repeated addition
	Commutative property of multiplication	Commutative property of multiplication
	Division by sharing and grouping	Dividing by sharing and grouping (up to 50)
		Using repeated subtraction to divide
	Exploring multiplication by 2, 5 and 10	Multiplication and division problems (2,5,10)
		Multiply by 1 or 0
		Exploring multiplication and division by 2
Working with halves and quarters	Exploring multiplication and division by 10	
	Finding halves & quarters of 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 of quantities	Finding fifths of quantities
		Finding thirds of quantities
	Using NZ notes and coins	Identifying and using NZ notes and coins

1.2 Number knowledge

Outcome	Quests	Content
NA2-2 Know forward and backward counting sequences with whole numbers to at least 1000	Counting sequences within 1000	Counting forwards and backwards within 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 numbers to at least 1000.	Place value of 3-digit numbers	Using place value with 3-digit numbers
		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 numbers can be partitioned in many ways.	Partition whole numbers	Partitioning numbers to explore equality
NA2-8 Find rules for the next member in a sequential pattern.	Explore sequential patterns	Exploring simple number patterns

2 Geometry and Measurement

2.1 Measurement

Outcome	Quests	Content
GM2-1 Create and use appropriate units and devices to measure length, area, volume and capacity, weight (mass), turn (angle), temperature, and time.	Formal units of length (cm and m)	Introducing formal units (cm)
	Measuring area with informal units	Measure, compare, order area (informal units)
	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 features, with justification.	Sort, describe, represent 2D shapes	Sorting, describing, representing 2D shapes
	Faces, edges, vertices of 3D shapes	Introducing faces, edges, vertices
	Sort and compare 3D objects	Sorting 3D shapes

2.3 Position and orientation

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

2.4 Transformation

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

3 Statistics

3.1 Statistical investigation

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

3.2 Statistical literacy

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

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 ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{3}$, $\frac{1}{6}$)	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 whole numbers to at least 1000	Counting sequences to at least 1000	Numbers to at least 1000 (max 10 000)
	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 symbols.	Inverse nature of addition/subtraction	Using the inverse nature of addition/subtraction
	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 units and devices to measure length, area, volume and capacity, weight (mass), turn (angle), temperature, and time.	Measure in cm and m	Measuring in m and cm
	Order/compare lengths in m and cm	Ordering/Comparing lengths in m and cm
	Convert between m and cm	Converting between m and cm (whole numbers)
	Measure in cm, m and km	Introducing kilometres
	Measure area (square centimetres)	Measuring area using formal units (square cm)
	Measure temperature (Celsius)	Measuring temperature
	Measure mass (g and kg)	Measuring mass in g and kg
	Measure volume (litres)	Exploring mass and measuring in litres
	Measure volume using blocks	Comparing volume using blocks
	Understand metric measures	Know simple metric measures (length, mass, volume)
GM2-2 Partition and/or combine like measures and communicate them, using numbers and units.	Partition/combine measures	Adding and subtracting measures

2.2 Shape

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

2.3 Position and orientation

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

2.4 Transformation

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

3 Statistics

3.1 Statistical investigation

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

3.2 Statistical literacy

Outcome	Quests	Content
S2-2 Compare statements with the features of simple data displays from statistical investigations or probability activities undertaken by others.	Compare data with conclusions	Comparing data with statements made 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	Use basic probability language with chance events
	Simple chance situations	Chance experiments with equal and unequal outcomes

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 whole numbers, fractions, decimals, and percentages	Add/subtract up to 3-digits	Adding & subtracting using a jump strategy	
		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	Multiply/divide using mental strategies	Multiplying & dividing using place value knowledge
			Division with remainders
			Multiplying using place value strategies
			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 & division problems
	Find fractions of shapes & sets	Find fractions of shapes & sets	Finding unit fractions of 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 and division facts.	Multiplication & division facts	Multiplication & division facts for 6
		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 percentages in everyday use.	Know fractions including hundredths	Equivalent proper fractions (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 frac/dec/percentages	Introducing percentages
		Representing common fractions as percentages

1.3 Equations and expressions

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

1.4 Patterns and relationships

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

2 Geometry and Measurement

2.1 Measurement

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

2.2 Shape

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

2.3 Position and orientation

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

2.4 Transformation

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

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	Using tables & pictographs to display data
		Representing/reading data in line graphs
		Represent/read bar graphs (many-to-one scale)
		Representing/reading data in strip graphs
		Representing/reading data in pie charts
		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 different displays in representing the findings of a statistical investigation or probability activity undertaken by others.	Evaluate data displays	Using & evaluating data displays

3.3 Probability

Outcome	Quests	Content
S3-3 Investigate simple situations that involve elements of chance by comparing experimental results with expectations from models of all the outcomes, acknowledging that samples vary.	Investigate simple chance situations	Describing chance
	Interpret/use tree diagrams	Interpreting & using tree diagrams
	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 simple multiplicative strategies with whole numbers, fractions, decimals, and percentages	Add/subtract strategies up to 5-digits	Adding & subtracting using partitioning
		Rounding to estimates sums/differences
		Subtracting using equal adjustments
		Adding & subtracting using algorithms
		Choose efficient mental strategies to add/subtract
	Strategies for multiplying & dividing	Multiplying using doubling and 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 fractions	Adding fractions with 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 quantity	Using fractions as operators
		Finding fraction of quantities using equivalence
		Solving word problems with non-unit fractions
		Solve word problems incl fractions greater than 1
	Equivalent fractions-related denominators	Find equivalent fractions - 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 and division facts.	Multiplication/division up to 10 x 10	Using multiplication/division facts for 6 up to 60
		Using multiplication/division facts for 7 up to 70
		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 automaticity
NA3-3 Know counting sequences for whole numbers.	Count using place value up to 10 000 000	Counting by 1, 10, 100 up to 10 000 000
		Counting in 1000 and 10 000 up to 10 000 000
NA3-4 Know how many tenths, tens, hundreds, and thousands are in whole numbers.	Find numbers before/after	Finding numbers up to 10 000 000 before/after
	Multiply/divide multiples of 10	Multiplying/dividing 2-digit multiples of 10
		Multiplying/dividing 2-digit multiples of 10/100
		Multiplying by 1000
	Place value - numbers of any size	Reading/writing, comparing/ordering numbers
		Identifying place value of numbers of any size
		Rounding numbers of any size
Using place value to partition numbers		
	Understanding numbers of any size	

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

1.3 Equations and expressions

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

1.4 Patterns and relationships

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

2 Geometry and Measurement

2.1 Measurement

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

2.2 Shape

Outcome	Quests	Content
GM3-3 Classify plane shapes and prisms by their spatial features.	Compare spatial features of 2D shapes	Classifying quadrilaterals
		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 or the language of direction and distance to specify locations and describe paths.	Use scale/direction/coordinates on maps	Using simple scales on maps
		Using cardinal compass directions
		Using grid references and coordinates

2.4 Transformation

Outcome	Quests	Content
GM3-6 Describe the transformations (reflection, rotation, translation, or enlargement) that have mapped one object onto another.	Understand rotation	Identify shapes & designs with rotational symmetry
		Understanding the order of rotational symmetry
	Understand translation	Creating patterns using translation
	Combinations of transformations	Identifying combinations of transformations
	Understand enlargement	Enlarging 2D shapes using 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 graphs	Represent/read data in side-by-side bar graphs
	Use back-to-back stem-and-leaf graphs	Represent/read back-to-back 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 investigations	Interpreting data from statistical investigations	

3.2 Statistical literacy

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

3.3 Probability

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



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