Mathletics

NZ Curriculum Mathematics and Statistics (2025)

Activities (Courses) and Skill Quests

Phase 2, Years 4-6

February, 2025

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Year 4

1 Number

1.1 Number structure

Skip count from any multiple of 100, forwards or backwards in 25s and 50s	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Count sequences	Counting in 25s & 50s
	Counting in 10s & 100s

Identify, read, write, compare, and order whole numbers up to 10,000, and represent them using base 10 structure	
Course Topics	**Activities**
Number structure: Whole number & place value	Place Value – Thousands
	Place Value 3
	Numbers in Words
	Expanding Numbers
	Partition and Rename 1
	Greater Than or Less Than 1
	Which Is Greater?
	Which Is Less?
	Ascending Order
	Descending Order
	Smallest and largest numbers
Topics	**Skill Quests**
Review: 3-digit numbers	Using place value with 3-digit numbers
	Reading & writing 3-digit numbers
	Comparing & ordering numbers to at least 1000
	Partitioning 3- & 4- digit numbers
Numbers up to 10 000	Reading & writing numbers up to 10 000
	Partitioning numbers up to 10 000
	Finding numbers before & after
	Ordering & comparing numbers to 10 000

1.2 Operations

Use rounding, estimation, and inverse operations to predict results and to check the reasonableness of calculations	
Course Topics	**Activities**
Teacher directed	

Topics	Skill Quests
Estimate addition & subtraction	Rounding & estimating with addition
	Rounding & estimating with subtraction

Round whole numbers to the nearest thousand, hundred, or ten	
Course Topics	**Activities**
Number structure: Whole number & place value	Missing Numbers 1
	Nearest Ten?
	Nearest Hundred?
	Nearest Thousand?
Topics	**Skill Quests**
Round to nearest 10, 100 or 1000	Rounding whole numbers to 10 000

Add and subtract two- and three-digit numbers	
Course Topics	**Activities**
Operations: Addition & subtraction	Addictive Addition
	Subtracting from 20
	Doubles and Halves to 20
	Doubles and near doubles
	Related Facts 1
	Add 3 Single Digit Numbers
	Add 3 Numbers: Bonds to Multiples of 10
	Complements to 10, 20, 50
	Complements to 50 and 100
	Bar Model Problems 2
	Bump add and subtract
	Jump add and subtract
	Magic mental addition
	Magic mental subtraction
	Repartition to Subtract
	Add Two 2-Digit Numbers
	2-Digit Differences
	Add 3-digit Numbers
	3-Digit Differences
Equations & relationships	Bar Model Problems 1
Topics	**Skill Quests**
Addition & subtraction strategies (1)	Adding & subtracting within 20 fluently
	Adding using associative property
	Adding & subtracting multiples of 10
	Adding & subtracting multiples of 100
	Add & subtract multiples of 100, 1000, 10 000
	Adding to make 100
Addition & subtraction strategies (2)	Add/sub using place value on a number line
	Add/sub using place value with models
Addition & subtraction strategies (3)	Add/sub using bridging to 10 with models
	Add/sub using bridging to 10
	Add/sub up to 3-digits using bridging to 10
	Rounding to add & subtract using 2-digit numbers

Add & subtract vertically	Vertical addition (no renaming)
	Vertical addition (with renaming)
	Vertical subtraction (no renaming)
	Vertical subtraction (with renaming)

Recall multiplication and corresponding division facts for 4s and 6s	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Recall mult & div facts for 2, 3, 5 & 10	Reviewing multiplication & division facts for 2
	Reviewing multiplication & division facts for 10
	Reviewing multiplication & division facts for 5
	Multiplying & dividing by 2, 5, 10
	Reviewing multiplication & division facts for 3
Explore mult & div facts for 4 & 6	Exploring multiplication by 4
	Exploring division by 4
	Exploring multiplication by 6
	Exploring division by 6
Recall mult & div facts for 4 & 6	Recalling mult & div facts for 4
	Recalling mult & div facts for 6

Multiply a two-digit by one-digit number and two one-digit whole numbers (e.g., 23 x 5; 8 × 7)	
Course Topics	**Activities**
Operations: Multiplication & division	Arrays 2
	Model multiplication to 5 × 5
	Frog Jump Multiplication
Topics	**Skill Quests**
Multiplication strategies	Multiplying 1-digit by tens using place value
	Using strategies to multiply 1-digit numbers
	Multiplying using the associative property
	Multiplying 2-digit by 1-digit using place value
	Multiplying 2-digit by 1-digit using doubling

Divide up to three-digit whole number by a one-digit divisor, with no remainder (e.g., 65 ÷ 5)	
Course Topics	**Activities**
Operations: Multiplication & division	Bar Model ×÷
	Frog Jump Division
	Related Facts 2
Topics	**Skill Quests**
Division strategies	Relating multiplication & division facts
	Exploring division to 10 x 10 using models
	Dividing using place value & known facts
Multiplication & division problems	Solving mult/div problems using sharing/grouping
	Multiplying & dividing word problems (2,5,10,3,4)

1.3 Rational numbers

Identify, read, write, and represent tenths as fractions and decimals	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Represent & find tenths	Representing & counting in tenths
Introduction to decimal tenths	Understanding decimal tenths
	Connecting decimals & fractions

Compare and order tenths as fractions and decimals, and convert decimals to fractions (e.g. 0.3 = 3/10)	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Compare & order tenths	Ordering tenths
	Rounding tenths to nearest whole number

Divide whole numbers by 10 to make decimals	
Course Topics	**Activities**
Divide whole numbers by 10	Dividing whole numbers by tens to create decimals
Topics	**Skill Quests**
Teacher directed	

For fractions with related denominators of 2, 4, and 8, 3 and 6, or 5 and 10: – compare and order the fractions – identify when two fractions are equivalent by directly comparing them, noticing the simplest form (e.g., 3/6 = 1/2, which is the simplest form)	
Course Topics	**Activities**
Rational numbers: Fractions & decimals	Thirds and Sixths
	Model Fractions
	Identifying Fractions on a Number Line
	Comparing Fractions 1
	Compare fractions 1b
	Partition into equal parts
	Equivalent Fractions on a Number line 1
Topics	**Skill Quests**
Review: Find fractions (½, ¼, ⅛, ⅓, ⅙)	Finding halves, quarters, eighths of shapes
	Finding thirds & sixths of shapes or sets
Compare & order fractions	Comparing & ordering unit fractions
	Comparing fractions with the same numerators
Equivalent fractions	Finding equivalent fractions using models

Convert (using number lines) between improper fractions and mixed numbers for fractions with denominators of 2, 3, 4, 5, 6, 8 and 10	
Course Topics	**Activities**
Rational numbers: Fractions & decimals	What Mixed Number Is Shaded?
	Mixed and Improper Fractions on a Number Line
Topics	**Skill Quests**
Improper fractions & mixed numbers	Converting improper fractions & mixed numbers

- Find a unit fraction of a whole number, using multiplication or division facts and where the answer is a whole number (e.g., 1/5 of 40) - Identify, from a unit fraction part of a set, the whole set	
Course Topics	**Activities**
Rational numbers: Fractions & decimals	Fraction Length Models 1
	Unit fractions
	Fractions of a Collection 1
Topics	**Skill Quests**
Find unit fractions of sets	Finding unit fractions of sets
Identify whole from a fraction	Finding the whole from the part

Add and subtract fractions with the same denominators to make up to one whole or less than one whole (e.g., 3/8 + 3/8 + 2/8 = 8/8 = 1)	
Course Topics	**Activities**
Rational numbers: Fractions & decimals	Add: Common Denominator
Topics	**Skill Quests**
Add/subtract fractions same denominator	Adding & subtracting fractions same denominator

Add and subtract decimals to one decimal place (e.g., 1.3 + 0.2 = 1.5)	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Add/subtract decimal tenths	Adding & subtracting decimals using place value
	Adding & subtracting decimals using bridging to 10

Use doubling or halving to scale a quantity (e.g., to double or half a recipe)	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Teacher directed	

1.4 Financial maths

Make amounts of money using dollars and cents (e.g., to make 3 dollars and 70 cents)	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Make money amounts	Using money

Estimate and calculate the total cost and change for items costing whole dollar amounts	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Calculate change	Calculating change

2 Algebra

2.1 Equations and relationships

Form and solve true or false number sentences and open number sentences involving multiplication and division, using understanding of the equal sign (e.g., 5 × _ = 20; _ ÷ 3 = 6)	
Course Topics	**Activities**
Operations: Addition & subtraction	Problems: Addition and Subtraction
Operations: Multiplication & division	Fact Families: Multiply and Divide
Equations & relationships	Composing Additions to 20
Topics	**Skill Quests**
Solve number sentences/ word problems	Using equivalence to solve problems
	Solving two-step word problems

Recognise and describe the rule for a growing pattern using words, tables, and diagrams, and predict further elements in the pattern	
Course Topics	**Activities**
Equations & relationships	Increasing patterns
Topics	**Skill Quests**
Repeating patterns	Creating, extending, describing repeating patterns
Growing number patterns	Identifying & creating additive patterns
	Record visual patterns in diagrams, lists, tables

2.2 Algorithmic thinking

Create and use an algorithm for generating a pattern or pathway.	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Teacher directed	

3 Measurement

3.1 Measuring

Measure body parts (e.g., the arm) or familiar objects and use these as benchmarks to estimate and then measure length, mass (weight), capacity, and duration, using appropriate metric or time-based units	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Measure in cm & m	Measuring in m & cm
Length in mm, cm & m	Introducing millimetres
Measure mass (g & kg)	Measuring mass in g & kg

Use appropriate units to describe length, mass (weight), capacity, and time	
Course Topics	**Activities**
Measuring, perimeter, area, volume & time	Which unit of Measurement?
	Using a Litre
	How Long is That?
	Measure to the Nearest Half Centimetre
	How Heavy is it?
	Using a Calendar
	Months After and Before
	Seasons (AU/NZ)
Topics	**Skill Quests**
Select appropriate units of length	Selecting appropriate units of length
Select appropriate units of mass	Selecting appropriate units of mass
Measure capacity (litres)	Measuring in litres
Formal units of time (hr, min, sec)	Exploring units of time (hours, minutes, seconds)
Apply metric measures	Using appropriate metric measures
Calendars	Using calendars
Simple timetables	Reading simple timetables

Use the metric measurement system to explore relationships between units	
Course Topics	**Activities**

Measuring, perimeter, area, volume & time	Grams and kilograms
	Millilitres and litres
	Centimetres and millimetres
Topics	**Skill Quests**
Order/compare lengths in m & cm	Ordering/comparing lengths in m & cm
Convert between m & cm	Converting between m & cm (whole numbers)
Order/compare lengths in cm & mm	Comparing & ordering length (cm & mm)
Partition/combine measures	Adding & subtracting measures
	Comparing measures of length
	Solving measurement problems

Recognise that angles can be measured in degrees, using 90, 180, and 360 degrees as benchmarks	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Compare & classify angles	Comparing & classifying angles

Tell the time to the nearest 5 minutes, using the language of 'minutes past the hour' and 'to the hour'	
Course Topics	**Activities**
Measuring, perimeter, area, volume & time	Set Time to the Hour
	Set Time to the Half-Hour
	Five Minute Times
Topics	**Skill Quests**
Tell the time	Telling time to 5 minutes

3.2 Perimeter, area and volume

Visualise, estimate, and calculate: – the perimeter of polygons using metric units (cm and m) – the area of shapes covered with squares or half squares – the volume of shapes filled with centicubes, taking note of layers and stacking	
Course Topics	**Activities**
Measuring, perimeter, area, volume & time	Perimeter of shapes
	Biggest Shape
Topics	**Skill Quests**
Perimeter	Measuring perimeter in cm
Measure area (squares & half squares)	Measuring area using formal units (square cm)
Measure volume using blocks	Comparing volume using blocks

4 Geometry

4.1 Shape

Identify, classify, and describe the attributes of polygons (including triangles and quadrilaterals) using properties of shapes, including line and rotational symmetry	
Course Topics	**Activities**
Shape, space & pathways	Collect More Shapes
Topics	**Skill Quests**
Compare spatial features- quadrilaterals	Compare/sort by angles, number/nature of sides
Explore regular & irregular shapes	Exploring regular & irregular shapes
Symmetry in shapes	Identifying line symmetry (1 or more)
	Identifying rotational symmetry

Compare angles in 2D shapes, classifying them as equal to, smaller than, or larger than a right angle	
Course Topics	**Activities**
Shape, space & pathways	Right Angle Relation
Topics	**Skill Quests**
Compare angles to right angles	Comparing angles to right angles

4.2 Spatial reasoning

Identify the 2D shapes that compose 3D shapes (e.g., a triangular prism is made up of two triangles and three rectangles)	
Course Topics	**Activities**
Shape, space & pathways	Select the Objects
	Relate Shapes and Solids
	How Many Faces?
	How many Edges?
	Count the Corners
Topics	**Skill Quests**
Introduce prisms	Introducing & exploring prisms
Compare spatial features - 3D objects	Comparing spatial features - 3D objects
Describe plane shapes in 3D objects	Comparing faces of 3D objects with 2D shapes

Visualise, predict, and identify which shape is a reflection, rotation, or translation of a given 2D shape

Course Topics	Activities
Shape, space & pathways	Symmetry
	Flip, Slide, Turn
Topics	**Skill Quests**
Identify translation/ reflection/ rotation	Identifying transformations
Introduction to tessellation	Recognising & predicting tessellation

4.3 Pathways

- Use grid references to identify regions and to plot positions on a grid map - Interpret and describe pathways, including half and quarter turns and the distance travelled	
Course Topics	**Activities**
Shape, space & pathways	Using a Key
	Map Coordinates
Topics	**Skill Quests**
Interpret & use grid references	Interpreting & using grid referenced maps
Pathways on maps	Drawing & describing pathways on maps

5 Statistics

5.1 Problem

Use multivariate data to investigate summary and comparison situations with categorical and discrete numerical data, by: - posing an investigative question that can be answered with data - making conjectures or assertions about expected findings	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Teacher directed	

5.2 Plan

Plan how to collect primary data to support answering an investigative question, including: – deciding on the group of interest – deciding the variable(s) for which data will be collected – taking account of ethical practices in data collection	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Ask questions & recording data	Asking questions, collecting & recording data

5.3 Data

Use a variety of tools to collect data, and check for errors in the data	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Record bivariate data in two-way tables	Recording data in two-way tables

5.4 Analysis

Create and describe data visualisations to make meaning from the data, with statements including the name of the variable	
Course Topics	**Activities**
Statistics & probability	Tally Charts
	Pictographs
	Picture Graphs: with scale & half symbols
	Bar Chart
	Interpreting Tables
Topics	**Skill Quests**
Read/represent data in simple displays	Read/represent picture graphs with simple scales
	Read/represent bar graphs with simple scales
	Comparing basic data displays

5.5 Conclusion

Choose descriptive statements that best answer the investigative question, reflecting on findings and how they compare with initial conjectures or assertions	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**

Stem & leaf graph	Read/represent data in a stem & leaf graph
Side-by-side graphs	Read/represent data in a side-by-side graph

5.6 Statistical literacy

Check the statements that others make about data to see if they make sense, using information to clarify or correct statements where needed	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Teacher directed	

6 Probability

6.1 Probability investigations

Engage in chance-based investigations with equally likely outcomes by: – posing investigative questions - anticipating and then identifying possible outcomes for the investigative question – generating all possible ways to get each outcome (a theoretical approach) or undertaking a probability experiment and recording the occurrences of each outcome – creating data visualisations for possible outcomes – describing what these visualisations show – finding probabilities as fractions – answering investigative questions – reflecting on anticipated outcomes	
Course Topics	**Activities**
Statistics & probability	Possible Outcomes
	Fair Games
Topics	**Skill Quests**
Chance sample recognition	Listing combinations in chance situations
Explore & describe chance events	Chance experiments with equally likely outcomes
Describe probability using fractions	Describing probability with simple fractions

6.2 Critical thinking in probability

Agree or disagree with others' conclusions about chance-based investigations	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Teacher directed	

Year 5

1 Number

1.1 Number structure

Identify, read, write, compare, and order whole numbers up to 100,000, and represent them using base 10 structure	
Course Topics	**Activities**
Number structure: Whole numbers & place value	Numbers from Words to Digits 1
	Place Value to Millions
	Expanded Notation
	Place Value Partitioning
	Partition and Rename 2
Topics	**Skill Quests**
Review numbers up to 10 000	Read, write, compare & order numbers up to 10 000
	Partitioning up to 10 000
Numbers up to 100 000	Read, write, compare & order numbers up to 100 000
	Partitioning up to 100 000

Identify factors of numbers up to 100	
Course Topics	**Activities**
Operations: Multiplication & division	Factors
Topics	**Skill Quests**
Factors up to 100	Factors up to 100

1.2 Operations

Use rounding, estimation, and inverse operations to predict results and to check the reasonableness of calculations	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Add & subtract using estimation	Rounding & estimating with addition
	Rounding & estimating with subtraction
	Rounding & estimating with addition & subtraction
Multiply & divide using estimation	Rounding & estimating multiplication & division

Round whole numbers to the nearest ten thousand, thousand, hundred, or ten, and round tenths to the nearest whole number	
Course Topics	**Activities**
Number structure: Whole numbers & place value	Rounding Numbers
Topics	**Skill Quests**
Round whole numbers	Rounding whole numbers up to 100 000
Round tenths	Rounding tenths

Add and subtract whole numbers up to 10 000	
Course Topics	**Activities**
Operations: Addition & subtraction	Add 3 Numbers: Bonds to 100
	Complements to 50 and 100
	Magic Mental Addition
	Magic mental subtraction
	Add Two 2-Digit Numbers
	Add Two 2-Digit Numbers: Regroup
	Add 3-Digit Numbers
	Bump add and subtract
	Jump Add and Subtract
	Split Add and Subtract
	Compensation – Add
	Compensation – Subtract
	Repartition to Subtract
	Number Sequences Up to 1 Million
Topics	**Skill Quests**
Add/subtract to 10 000 mental strategies	Add & subtract multiples of 100 up to 5 digits
	Adding & subtracting using a jump strategy
	Adding & subtracting using a split strategy
	Adding & subtracting using bar models
	Adding & subtracting using rounding
	Choosing efficient mental strategies
Add & subtract to 10 000 vertically	Add & subtract vertically
	Subtracting vertically (with and without renaming)
	Addition & subtraction word problems
Properties of addition	Using the commutative property of addition
	Using the associative property of addition

Recall multiplication facts for 7s, 8s, and 9s and corresponding division facts	
Course Topics	**Activities**
Operations: Multiplication & division	Grouping in Sixes
	Grouping in Eights
	Grouping in Nines
	Dividing Sixes
	Dividing Eights
	Dividing Nines
	Multiples of
	Times Tables

Topics	Skill Quests
Review multiplication facts for 4 and 6	Reviewing multiplication & division facts for 4
	Reviewing multiplication & division facts for 6
Multiplication facts for 7, 8 & 9	Exploring multiplication & division facts for 7
	Exploring multiplication & division facts for 8
	Exploring multiplication & division facts for 9
Multiplication facts to 10 x 10	Recalling multiplication facts for 7
	Recalling multiplication facts for 8
	Recalling multiplication & division facts for 9
	Recalling multiplication facts to 10 x 10

Multiply a three-digit by one-digit number and two two-digit whole numbers (e.g., 6 × 245; 34 × 83)	
Course Topics	**Activities**
Operations: Multiplication & division	Multiply 3 single-digit numbers
	Multiply Multiples of 10
	Multiplying by 10, 100, 1000
	Double and Halve to Multiply
	Mental Methods Multiplication 1
	Grid Methods 1
	Multiply: 1-Digit Number
	Multiply and Divide Problems 1
Equations & relationships	Problems: Multiply and Divide
Topics	**Skill Quests**
Multiplication mental strategies	Multiplying using split method
	Multiplying using an area model
	Multiplying using factorising
Multiplication written strategies	Multiplying using extended algorithm
	Multiplying using contracted algorithm
Properties of multiplication	Using the commutative property of multiplication
	Using the associative property of multiplication
Multiply & divide mental strategies	Multiplying & dividing multiples of 10
	Solving multiplication & division problems

Divide up to three-digit whole numbers by a one-digit divisor, with a remainder (e.g., 83 ÷ 5 = 16, remainder 3)	
Course Topics	**Activities**
Operations: Multiplication & division	Halve it!
	Remainders by Arrays
	Multiply and Divide Problems 1
Topics	**Skill Quests**
Remainders in division	Introducing remainders in division
Division mental strategies	Dividing using halving & repeated halving
	Dividing using partitioning
Division written strategies	Dividing using extended algorithm
	Dividing using contracted algorithm
Multiply & divide mental strategies	Multiplying & dividing multiples of 10
	Solving multiplication & division problems

1.3 Rational numbers

Identify, read, write, and represent tenths and hundredths as fractions and decimals	
Course Topics	**Activities**
Rational numbers: Fractions	Uneven partitioned shapes 2
Rational numbers: Decimals & money	Decimal Place Value
	Decimals from Words to Digits 1
Topics	**Skill Quests**
Understand tenths & hundredths	Reviewing tenths as fractions & decimals
	Introducing hundredths as fractions & decimals
	Representing tenths & hundredths
	Connecting tenths & hundredths

Compare and order tenths and hundredths as fractions and decimals, and convert decimal tenths and hundredths to fractions	
Course Topics	**Activities**
Rational numbers: Decimals & money	Decimal Order 1
	Comparing Decimals 1
Topics	**Skill Quests**
Compare & order decimals	Comparing & ordering tenths & hundredths

Divide whole numbers by 10 and 100 to make decimals and whole numbers	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Divide whole numbers by 10 & 100	Dividing whole numbers by 10 & 100

For fractions with denominators of 2, 3, 4, 5, 6, 8, 10, 12, or 100: – compare and order the fractions – identify when two fractions are equivalent	
Course Topics	**Activities**
Rational numbers: Fractions	What Fraction is Shaded?
	Compare Fractions 2
	Equivalent Fraction Wall 1
Topics	**Skill Quests**
Compare & order fractions	Comparing & ordering unit fractions
	Comparing fractions with the same numerators
	Comparing & ordering fractions
Equivalent fractions	Find equivalent fractions up to & greater than 1

Convert between improper fractions and mixed numbers for fractions with denominators up to 10	
Course Topics	**Activities**
Rational numbers: Fractions	Counting with Fractions on a Number Line
	Mixed and Improper Fractions on a Number Line
Topics	**Skill Quests**
Improper fractions & mixed numbers	Exploring fractions greater than 1
	Converting improper fractions & mixed numbers

- Find a fraction of a whole number, using multiplication and division facts and where the answer is a whole number (e.g., 2/3 of 24) - Identify, from a fractional part of a set, the whole set	
Course Topics	**Activities**
Rational numbers: Fractions	Part-Whole Rods 2
	Fraction Fruit Sets 1
	Fractions of a Collection 2
	Fraction Length Models 2
	Unit Fractions
Topics	**Skill Quests**
Find fractions of a whole number	Finding fractions of a whole number
Identify whole set from a fraction	Identifying a whole set from a fraction

Add and subtract fractions with the same denominators, including to make more than one whole	
Course Topics	**Activities**
Rational numbers: Fractions	Common Denominator
	Subtract Like Fractions
Topics	**Skill Quests**
Add/subtract fractions same denominator	Reviewing add & subtract fractions up to 1
	Adding/subtracting fractions over 1 whole (models)
	Adding/subtracting fractions - same denominators
	Add/subtract mixed numbers - same denominators

Add and subtract decimals to two decimal places (e.g., 32.55 – 21.21 = 11.34)	
Course Topics	**Activities**
Rational numbers: Decimals & money	Magic Symbols 2
Topics	**Skill Quests**
Add & subtract decimals	Reviewing add/subtract decimals to 1 place
	Adding & subtracting decimals to 2 places
	Adding & subtracting decimals word problems

Use known multiplication facts to scale a quantity	
Course Topics	**Activities**
Rational numbers: Fractions	Simplify Fractions
Topics	**Skill Quests**
Use mult facts to scale a quantity	Using multiplication facts to scale a quantity

1.4 Financial maths

Represent money values in multiple ways using notes and coins	
Course Topics	**Activities**
Rational numbers: Decimals & money	Money - Counting (NZ)
Topics	**Skill Quests**
Financial maths represent money	Representing money

Estimate to the nearest dollar and calculate the total cost of items costing dollars and cents, and the change from the nearest ten dollars	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Financial maths estimate cost	Estimating costs of items & change

2 Algebra

2.1 Equations and relationships

Form and solve true or false number sentences and open number sentences involving all four operations (e.g., 674 + 56 – k = 671)	
Course Topics	**Activities**
Equations & relationships	Missing Numbers
	Find the Missing Number 1
	Fact Families: Multiply and Divide
	Missing Numbers: x and ÷ facts
	I am Thinking of a Number!
	Partition Puzzles 1
	Pyramid Puzzles 1
Topics	**Skill Quests**
Solve open number sentences	Solving open number sentences
Equations & number sentences	Representing & solving problems
	Representing & solving word problems

Use tables to recognise the relationship between the ordinal position and its corresponding element in a growing pattern, develop a rule for the pattern in words, and make conjectures about further elements or terms in the pattern	
Course Topics	**Activities**
Equations & relationships	Pick the Next Number
	Fit the Conditions 1
Topics	**Skill Quests**
Patterns & relationships	Recording & representing terms in patterns

2.2 Algorithmic thinking

Create and use an algorithm for generating a pattern, procedure, or pathway	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Teacher directed	

3 Measurement

3.1 Measuring

Estimate and then accurately measure length, mass (weight), capacity, temperature, and duration, using appropriate metric or time-based units or a combination of units	
Course Topics	**Activities**
Measuring, perimeter, area, volume & time	Measuring Length
	What's the Temperature (Celsius)?
	How Heavy?
Topics	**Skill Quests**
Measure in mm, cm, m & km	Introducing kilometres
	Measuring & recording in mm, cm, m, km
	Comparing & ordering lengths in mm, cm, m, km
Mass in g, kg	Measuring & recording in g, kg
	Comparing & ordering mass in g & kg
	Solving mass problems
Temperature in Celsius	Measuring & recording temperature
Capacity in mL, L	Estimating & measuring in mL & L
	Solving problems with mL & L

Use the appropriate tool for a measurement and the appropriate unit for the attribute being measured	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Select appropriate units of length	Selecting appropriate units (cm, m, km)
Mass in g, kg	Measuring & recording in g, kg
	Comparing & ordering mass in g & kg
	Solving mass problems
Temperature in Celsius	Measuring & recording temperature
Capacity in mL, L	Estimating & measuring in mL & L
	Solving problems with mL & L

Use the metric measurement system to explore relationships between units, including relationships represented by benchmark fractions and decimals	
Course Topics	**Activities**
Measuring, perimeter, area, volume & time	Metres and Kilometres
Topics	**Skill Quests**
Relationship between metric units	Solving conversion measurement problems
	Converting between mm, cm, m, km
	Converting between mL & L

Describe an angle using the terms acute, right, obtuse, straight, and reflex, by comparing the angle with benchmarks of 90, 180, and 360 degrees	
Course Topics	**Activities**
Measuring, perimeter, area, volume & time	Comparing Angles
	Right Angle Relation
	What Type of Angle 2?
Topics	**Skill Quests**
Identify & classify angles	Understanding angle concepts
	Introducing right angles
	Classifying angles

- Describe the differences in duration between units of time (e.g., days and weeks, months and years) - Solve duration-of-time problems involving 'am' and 'pm' notation	
Course Topics	**Activities**
Measuring, perimeter, area, volume & time	What is the Time?
	Time Conversions: Whole Numbers 1
Topics	**Skill Quests**
Work with units of time	Telling time to the minute & second
	Converting units of time
Solve duration of time problems	Solving elapsed time problems
	Using timetables

3.2 Perimeter, area and volume

Visualise, estimate, and calculate: – the perimeter of polygons using metric units (in m, cm and mm) – the area of shapes covered with squares or half squares – the volume of rectangular prisms filled with centicubes, taking note of layers and stacking	
Course Topics	**Activities**
Measuring, perimeter, area, volume & time	Perimeter
	Area of Shapes
	How many Blocks?
Topics	**Skill Quests**
Calculate perimeter & area	Calculating perimeter
	Perimeter & area of rectangles & squares
	Calculating areas of non-rectilinear shapes
Calculate volume of rectangular prisms	Calculating volumes using blocks
	Estimating volume

4 Geometry

4.1 Shape

Identify, classify, and describe the attributes of: – regular and irregular polygons, using edges, vertices, and angles – prisms, using the cross section, faces, edges, and vertices	
Course Topics	**Activities**
Shape, space & pathways	Collect More Shapes
	Collect the Objects 2
	Faces, Edges and Vertices
	Lines of Symmetry
Topics	**Skill Quests**
Properties of regular/ irregular polygons	Classifying & sorting polygons by features
Properties of prisms	Classifying & sorting prisms by features

Identify and describe parallel and perpendicular lines, including those forming the sides of polygons	
Course Topics	**Activities**
Shape, space & pathways	What Line am I?
Topics	**Skill Quests**
Parallel & perpendicular lines	Identify & describe parallel & perpendicular lines

4.2 Spatial reasoning

Visualise 3D shapes and connect them with nets, 2D diagrams, verbal descriptions, and the same shapes drawn from different perspectives	
Course Topics	**Activities**
Shape, space & pathways	Transformations
	Rotational Symmetry of Shapes
Topics	**Skill Quests**
Connect 3D shapes with nets & diagrams	Exploring nets of prisms

Resize (enlarge or reduce) a 2D shape	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Resize a 2D shape	Resizing 2D shapes

4.3 Pathways

Interpret and create a grid map to plot positions and pathways, using grid references and directional language, including the four main compass points	
Course Topics	**Activities**
Shape, space & pathways	What Direction was That?
	Coordinate Meeting Place
Topics	**Skill Quests**
Positions & pathways on maps	Cardinal compass directions
	Using grid references
	Using simple scales on maps

5 Statistics

5.1 Problem

Use multivariate data to investigate summary and comparison situations with categorical and discrete numerical data, by: - posing an investigative question that can be answered with data - making conjectures or assertions about expected findings"	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Collect & sort data	Understanding how to collect & sort data

5.2 Plan

Plan how to collect primary data to support answering an investigative question, including: – deciding on the group of interest – deciding the variable(s) for which data will be collected – taking account of ethical practices in data collection	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Collect & sort data	Understanding how to collect & sort data

5.3 Data

Use a variety of tools to collect data, check for errors in the data, and correct errors by re-collecting the data, if possible	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Collect & sort data	Understanding how to collect & sort data
Create & describe data visualisations	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
Evaluate data displays	Using & evaluating data displays

5.4 Analysis

Create and describe data visualisations to make meaning from the data, with statements including the names of the variable and group of interest	
Course Topics	**Activities**
Statistics & probability	Interpreting Tables
	Making Picture Graphs: With Scale
	Bar Graphs 1
Topics	**Skill Quests**
Create & describe data visualisations	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
Evaluate data displays	Using & evaluating data displays

5.5 Conclusion

Answer the investigative question, comparing findings with initial predictions or assertions and their existing knowledge of the world	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Create & describe data visualisations	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
Evaluate data displays	Using & evaluating data displays

5.6 Statistical literacy

Check and, if needed, improve the statements others make about data, including data from two or more sources	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Teacher directed	

6 Probability

6.1 Probability investigations

Engage in chance-based investigations, including those with not equally likely outcomes by: – posing investigative questions – anticipating and then identifying possible outcomes for the investigative question – generating all possible ways to get each outcome (a theoretical approach) or undertaking a probability experiment and recording the occurrences of each outcome – creating data visualisations for possible outcomes – describing what these visualisations show – finding probabilities as fractions – answering investigative questions – reflecting on anticipated outcomes	
Course Topics	**Activities**
Statistics & probability	Line Graphs: Reading
	Will it Happen?
	Counting Principle

Topics	Skill Quests
Probability investigations	Describing chance
	Interpreting & using tree diagrams
	Investigating chance experiments
	Understanding fair/unfair in chance experiments
	Ordering chance outcomes
	Representing probability outcomes with fractions

6.2 Critical thinking in probability

Agree or disagree with others' conclusions about chance-based investigations, with justification	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Probability investigations	Describing chance
	Interpreting & using tree diagrams
	Investigating chance experiments
	Understanding fair/unfair in chance experiments
	Ordering chance outcomes
	Representing probability outcomes with fractions

Year 6

1 Number

1.1 Number structure

Identify, read, write, compare, and order whole numbers up to 1,000,000, and represent them using base 10 structure	
Course Topics	**Activities**
Number structure: Whole number & place value	Place Value – Millions
	Numbers from Words to Digits 2
	Expanded Notation
	Partition and Rename 3
Topics	**Skill Quests**
Numbers up to 1 000 000	Read, write, compare & order numbers to 1 000 000

Identify square numbers and factors of numbers up to 125	
Course Topics	**Activities**
Operations: Multiplication & division	Multiples of
	Factors
Topics	**Skill Quests**
Identify square numbers & factors	Identifying square numbers

1.2 Operations

Use rounding, estimation, and inverse operations to predict results and to check the reasonableness of calculations	
Course Topics	**Activities**
Operations: Addition & subtraction	Estimate Sums
	Estimate Differences
Operations: Multiplication & division	Estimation: Multiply and Divide
Topics	**Skill Quests**
Round & estimate to check calculations	Rounding & estimating with addition & subtraction
Use inverse operations - mult/div	Using inverse operations to solve problems
Multiply & divide using estimation	Rounding & estimating multiplication & division

Round whole numbers to a specified multiple of powers of 10, and round tenths and hundredths to the nearest whole number or one decimal place	
Course Topics	**Activities**
Number structure: Whole number & place value	Rounding Numbers
	Nearest 1000?

Rational numbers: Fractions & decimals	Nearest Whole Number
Topics	**Skill Quests**
Round whole numbers to powers of 10	Rounding whole numbers to powers of 10

Add and subtract any whole numbers	
Course Topics	**Activities**
Operations: Addition & subtraction	Split Add and Subtract
	Bump Add and Subtract
	Jump Add and Subtract
	Compensation – Add
	Compensation – Subtract
	Add Numbers: Regroup a Ten
	Add Multi-Digit Numbers 2
	2-Digit Differences: Regroup
	Column Subtraction
	Addition Properties
Topics	**Skill Quests**
Add & subtract any whole numbers	Adding & subtracting using partitioning
	Subtraction using formal algorithm
	Addition & subtraction word problems

Recall multiplication facts to at least 10 × 10 and corresponding division facts.	
Course Topics	**Activities**
Operations: Multiplication & division	Times Tables
	Division Facts to Twelve
Topics	**Skill Quests**
Recall mult/div facts to 10 x 10	Recall multiplication & division facts to 10 x 10

Multiply multi-digit whole numbers (e.g., 54 × 112)	
Course Topics	**Activities**
Operations: Multiplication & division	Mental Methods Multiplication 1
	Double and Halve to Multiply
	Multiply More Multiples of 10
	Multiply: 1-Digit Number
	Grid Methods 2
	Grid Methods 3
	Multiplication Properties
Topics	**Skill Quests**
Use mental strategies to multiply	Multiplying using an area model
	Multiply by doubling/halving & tripling/thirding
	Multiplying using factorising
Use written strategies to multiply	Multiplying using contracted algorithm
	Multiplying using extended algorithm
Solve multiplication word problems	Solving multiplication word problems

Properties of multiplication	Using the commutative property
	Using the associative property
	Using the identity property
	Using the distributive property
Use inverse operations - mult/div	Using inverse operations to solve problems

Divide up to four-digit whole numbers by a one-digit divisor, with a remainder (e.g., 198 ÷ 7; 4154 ÷ 8)	
Course Topics	**Activities**
Operations: Multiplication & division	Mental Methods Division 1
	Multiply and Divide Problems 1
	Remainders by Tables
	Fact Families: Multiply and Divide
	Rounding Numbers for Division
Topics	**Skill Quests**
Division mental strategies	Division with remainders - 3-digit by 1-digit
	Dividing using factors
	Dividing using partitioning
Division written strategies	Dividing using extended algorithm
	Dividing using contracted algorithm 1
	Division using contracted algorithm 2
Solve division problems	Choosing efficient strategies to divide
	Solving division word problems
Use inverse operations - mult/div	Using inverse operations to solve problems

Use the order of operations rule with grouping, addition, subtraction, multiplication, and division	
Course Topics	**Activities**
Operations: Multiplication & division	Order of operations 1
Topics	**Skill Quests**
Use the order of operations rule	Solving equations using order of operations

1.3 Rational numbers

Identify, read, write, and represent fractions, decimals (to two places), and related percentages	
Course Topics	**Activities**
Rational numbers: Fractions & decimals	Decimals from Words to Digits 1
	Decimal place value
Topics	**Skill Quests**
Use fractions, decimals & percentages	Reviewing tenths & hundredths
	Introducing percentages

Compare and order fractions, decimals (to two places), and percentages and convert decimals, and percentages to fractions	
Course Topics	**Activities**
Rational numbers: Fractions & decimals	Ordering Fractions 1
	Decimal Order 1
Rational numbers: Fractions, decimals & percents	Match Decimals and Percentages
	Fractions to Percentages (Non-Calculator)
	Percentages to Fractions (with and without simplification)
	Decimals to percentages
	Percentages to Decimals
Topics	**Skill Quests**
Convert fractions, decimals & percents	Converting fractions & decimals to percentages
	Compare & order fractions, decimals & percentages
	Relationship - fractions, decimals & percentages

Multiply and divide numbers by 10 and 100 to make decimals and whole numbers (e.g., 1.3 x 10 = 13)	
Course Topics	**Activities**
Operations: Multiplication & division	Multiplying Whole Numbers by 10, 100, and 1000
	Dividing by 10, 100, 1000
Topics	**Skill Quests**
Multiply & divide numbers by 10 & 100	Dividing whole numbers by 10 & 100
	Multiplying whole numbers by 10 & 100

For fractions with denominators of 2, 3, 4, 5, 6, 8, 10, 12, or 100: – compare and order the fractions – identify when two fractions are equivalent – represent the fractions in their simplest form	
Course Topics	**Activities**
Rational numbers: Fractions & decimals	The Equivalent Fraction
	Simplify Fractions
Topics	**Skill Quests**
Compare & order fractions	Comparing & ordering unit fractions
	Comparing fractions with the same numerators
	Comparing & ordering fractions
Equivalent fractions	Find equivalent fractions up to & greater than 1
Simplify fractions	Simplifying fractions

Convert between improper fractions and mixed numbers	
Course Topics	**Activities**
Rational numbers: Fractions & decimals	Identifying Fractions Beyond 1
	Mixed and improper fractions on the number line
Topics	**Skill Quests**
Improper fractions & mixed numbers	Exploring fractions greater than 1
	Converting improper fractions & mixed numbers

- Find a fraction or percentage of a whole number where the answer is a whole number (e.g., 3/8 of 48; 30% of $150) - Identify, from a fractional part of a set, the whole set	
Course Topics	**Activities**
Rational numbers: Fractions & decimals	Fraction Word Problems
Rational numbers: Fractions, decimals & percents	Calculating percentages (Mental)
	Percentage of an amount using Fractions (<100%)
Topics	**Skill Quests**
Find a fraction of a whole number	Finding a fraction of a whole number
Find a percentage of a whole number	Finding a percentage of a whole number
Identify a whole set from a fraction	Identifying a whole set from a fraction

Add and subtract fractions with the same or related denominators (e.g., 1/4 + 1/8)	
Course Topics	**Activities**
Rational numbers: Fractions & decimals	Add: Common Denominator
	Subtract: Common Denominator
	Add: No Common Denominator
	Subtract: No Common Denominator
Topics	**Skill Quests**
Add/subtract fractions same denominator	Adding/subtracting fractions over 1 whole (models)
	Adding/subtracting fractions - same denominators
	Add/subtract mixed numbers - same denominators
Add & subtract fractions	Add & subtract fractions - related denominators
	Add & subtract mixed num - related denominators

Add and subtract whole numbers and decimals to two decimal places (e.g., 250.11 + 135.29 = 385.4)	
Course Topics	**Activities**
Rational numbers: Fractions & decimals	Decimal Complements
	Add decimals 1
	Subtract decimals 1
Topics	**Skill Quests**
Add/sub whole numbers & decimals	Adding & subtracting whole numbers & decimals
	Adding/subtracting decimals word problems

Use known multiplication and division facts to scale a quantity	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Use known mult/div facts to scale	Using known facts to scale a quantity

1.4 Financial maths

- Solve problems involving purchases (e.g., ensuring they have enough money) - Create simple financial plans (e.g., shopping lists, a family budget)	
Course Topics	**Activities**
Operations: Addition & subtraction	Budgeting
Topics	**Skill Quests**
Financial maths	Solving problems involving purchases
	Creating simple financial plans

Calculate 10%, 25%, and 50% of whole dollar amounts (e.g., 50% of $280)	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Calculate percents of amounts	Calculating 10%, 25% & 50% of whole dollar amounts

2 Algebra

2.1 Equations and relationships

Form and solve true or false number sentences and open number sentences involving all four operations, using equality or inequality (e.g., 8 x 7 < 8 x 5 (T or F?))	
Course Topics	**Activities**
Equations & relationships	Missing Numbers: x and ÷ facts
	Equivalent Facts: Multiply
	Find the Missing Number 2
	Missing Values
	Magic Symbols 1
Topics	**Skill Quests**
Use equality & inequality	Review: Representing & solving problems
	Using equality & inequality to solve problems

Use tables, XY graphs, and diagrams to recognise relationships in a linear pattern, develop a rule for the pattern in words (i.e., that there is a constant amount of change between consecutive elements or terms), and make conjectures about further elements in the pattern	
Course Topics	**Activities**
Equations & relationships	Table of Values
	Pick the Next Number
Topics	**Skill Quests**
Use tables of values	Model/record patterns using tables of values

Identify & represent linear patterns	Identifying & representing linear patterns

2.2 Algorithmic thinking

Create and use algorithms for making decisions that involve clear choices	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Create & use algorithms	Manipulating numbers using a given rule
	Designing flowcharts to solve add/sub of fractions
	Factors & multiples

3 Measurement

3.1 Measuring

Estimate and then accurately measure length, mass (weight), capacity, temperature, and duration, using appropriate metric or time-based units or a combination of units	
Course Topics	**Activities**
Measuring, perimeter, area, volume & time	What's the Temperature (Celsius)?
	Measuring Length
	Perimeter: Squares and Rectangles
Topics	**Skill Quests**
Length in mm, cm, m, km	Working with lengths in mm, cm, m
	Measuring & recording in mm, cm, m, km
	Comparing & ordering lengths in mm, cm, m, km
Mass in g, kg, & t	Measuring & recording in g, kg & t
	Comparing & ordering mass in g & kg
	Solving mass problems
Temperature in Celsius	Measuring & recording temperature
Volume in mL & L	Estimating & measuring in mL & L
	Solving problems with mL & L

Select and use the appropriate tool for a measurement and the appropriate unit for the attribute being measured	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Select appropriate units of length	Selecting appropriate units of length
Mass in g, kg, & t	Measuring & recording in g, kg & t
	Comparing & ordering mass in g & kg

	Solving mass problems
Temperature in Celsius	Measuring & recording temperature
Volume in mL & L	Estimating & measuring in mL & L
	Solving problems with mL & L

Convert between common metric units for length, mass (weight), and capacity; and use decimals to express parts of wholes in measurements	
Course Topics	**Activities**
Measuring, perimeter, area, volume & time	Centimetres and Metres
	Converting cm and mm
	Grams and Kilograms Conversion
Topics	**Skill Quests**
Convert metric units of measure	Solving conversion measurement problems
	Converting between mm, cm, m, km
	Converting between g & kg
	Converting between mL & L

Visualise, measure, and draw (to the nearest degree), the amount of turn in angles up to 360 degrees	
Course Topics	**Activities**
Measuring, perimeter, area, volume & time	What Type of Angle?
	Measuring Angles
Topics	**Skill Quests**
Measure & draw turn in angles	Review: classifying angles
	Measuring & drawing turn in angles

Convert between units of time and solve duration-of-time problems, in both 12- and 24-hour time systems	
Course Topics	**Activities**
Measuring, perimeter, area, volume & time	24 Hour Time
	Time Conversions: Whole Numbers 2
	Time Conversions: Simple Fractions
	Using Timetables
Topics	**Skill Quests**
Convert units of time	Review: Converting units of time
	Converting units of time using 24-hour time
Solve elapsed time problems	Solving elapsed time problems
	Using timetables

3.2 Perimeter, area and volume

Visualise, estimate, and calculate the area of rectangles and right-angled triangles (in cm2 and m2) and the volume of rectangular prisms (in cm3), by applying multiplication	
Course Topics	**Activities**
Measuring, perimeter, area, volume & time	Area: Squares and Rectangles
	Volume of Solids and Prisms - 1cm³ blocks

	Volume: Rectangular Prisms 1
Topics	**Skill Quests**
Use multiplication to calculate area	Calculating area of rectangles
	Calculating area of right-angled triangles
Use multiplication to calculate volume	Using multiplication to calculate volume

4 Geometry

4.1 Shape

Identify, classify and explain similarities and differences between: – 2D shapes, including different types of triangle – prisms and pyramids	
Course Topics	**Activities**
Shape, space & pathways	Collect More Shapes
	Collect the Objects 2
	Faces, Edges and Vertices of 3D Shapes
	Sides, Angles and Diagonals
	Triangle - Tasters
Topics	**Skill Quests**
Identify & classify 2D shapes	Classifying quadrilaterals
	Classifying 2D shapes
Identify & classify prisms & pyramids	Comparing & naming prisms
	Comparing & naming pyramids
	Comparing prisms & pyramids

Identify and describe the interior angles of triangles and quadrilaterals	
Course Topics	**Activities**
Shape, space & pathways	Angles of Revolution: Unknown Values
Topics	**Skill Quests**
Classify triangles by angles	Classifying triangles

4.2 Spatial reasoning

Visualise and draw nets for rectangular prisms	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Explore nets of rectangular prisms	Exploring nets of rectangular prisms

Visualise, create, and describe 2D geometric patterns and tessellations using rotation, reflection, and translation, and identifying the properties of shapes that do not change	
Course Topics	**Activities**
Shape, space & pathways	Symmetry or Not?
	Rotational Symmetry
	Transformations
	Scale Factor
Topics	**Skill Quests**
Rotation, reflection & translation	Identify shapes & designs with rotational symmetry
	Understanding the order of rotational symmetry
	Recognising tessellations
	Creating patterns using translation
	Identifying combinations of transformations

4.3 Pathways

- Interpret and create grid references and simple scales on maps - Use directional language, including the four main compass points, turn (in degrees), and distance (in m, km), to locate and describe positions and pathways	
Course Topics	**Activities**
Shape, space & pathways	What direction was that?
	More Directions!
	Coordinate Graphs: 1st Quadrant
	Scale
Topics	**Skill Quests**
Grid references & scales on maps	Using simple scales on maps
	Using grid references & coordinates
Positions & pathways	Using cardinal compass directions

5 Statistics

5.1 Problem

Use multivariate data to investigate summary, comparison, and time-series situations, by: - posing an investigative question that can be answered with data - making conjectures or assertions about expected findings	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Collect & sort data	Understanding how to collect & sort data

5.2 Plan

Plan how to collect primary data or how to use provided data, including identifying the variables of interest and, for provided data: – identifying who the data was collected from – identifying the original investigator's purpose for collecting the data – deciding if the source is reputable, by checking if any survey questions appear to be biased towards a particular point of view	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Collect & sort data	Understanding how to collect & sort data
Evaluate data displays	Using & evaluating data displays
	Examining data displays for misleading information

5.3 Data

Collect primary data and check for errors, and provide information about variables in secondary data (e.g., how data was collected for them and possible outcomes for them)	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Collect & sort data	Understanding how to collect & sort data
Create & describe data visualisations	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)
	Represent/read data in side-by-side bar graphs
	Represent/read back-to-back stem-and-leaf graphs
Evaluate data displays	Using & evaluating data displays
	Examining data displays for misleading information

5.4 Analysis

Create and describe a variety of data visualisations that make meaning from the data, identifying features, patterns, and trends in context, including the variable and group of interest	
Course Topics	**Activities**
Statistics & probability	Making Picture Graphs: With Scale
	Reading from a Column Graph
	Histograms
	Line Graphs: Reading
	Pie Charts

Topics	Skill Quests
Create & describe data visualisations	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)
	Represent/read data in side-by-side bar graphs
	Represent/read back-to-back stem-and-leaf graphs
Introduce mean & mode	Introducing finding the mean
	Introducing finding the mode
Evaluate data displays	Using & evaluating data displays
	Examining data displays for misleading information

5.5 Conclusion

Answer the investigative question, comparing findings with initial predictions or assertions and their existing knowledge of the world	
Course Topics	**Activities**
Statistics & probability	Reading from a Column Graph
	Histograms
	Line Graphs: Reading
	Pie Charts
Topics	**Skill Quests**
Create & describe data visualisations	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)
	Represent/read data in side-by-side bar graphs
	Represent/read back-to-back stem-and-leaf graphs
Interpret data in tables	Interpreting data from tables
	Represent/read bivariate data & 2-way tables
Evaluate data displays	Using & evaluating data displays
	Examining data displays for misleading information

5.6 Statistical literacy

Identify, explain, check, and, if needed, improve features in others' data investigations (e.g., survey questions, misleading information or statements)	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Teacher directed	

6 Probability

6.1 Probability investigations

Engage in chance-based investigations, including those with not equally likely outcomes by: – posing investigative questions – anticipating and then identifying possible outcomes for the investigative question – generating all possible ways to get each outcome (a theoretical approach) or undertaking a probability experiment and recording the occurrences of each outcome – creating data visualisations for possible outcomes – describing what these visualisations show – finding probabilities as fractions – answering investigative questions – reflecting on anticipated outcomes (at year 6) comparing findings from the probability experiment and associated theoretical probabilities, if the theoretical model exists	
Course Topics	**Activities**
Statistics & probability	Chance Dial
	How many Combinations?
	Simple Probability 1
	Complementary Events
Topics	**Skill Quests**
Chance based investigations	Investigating chance experiments
	Understanding fair/unfair in chance experiments
	Comparing experimental & theoretical probabilities
	Describing chance events using fractions

6.2 Critical thinking in probability

Identify, explain, and check others' statements about chance-based investigations, referring to evidence	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Chance based investigations	Investigating chance experiments
	Understanding fair/unfair in chance experiments
	Comparing experimental & theoretical probabilities
	Describing chance events using fractions

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