Mapping

National Standards Year 7 In contexts that require them to solve problems or model situations, students will be able to: **Note: The year 7 National Standards are fully covered by NZ Mathematics Curriculum – Connecting all strands book 4A.**	 **NZ Curriculum Mathematics – Connecting all strands Level 4A**
Number and Algebra	
Apply additive and multiplicative strategies flexibly to whole numbers, ratios, and equivalent fractions (including percentages).	**1 Working with whole numbers** • Multiples and factors • Multiplcation strategies • Division strategies • Choosing a strategy for multiplication and division • Using all four operations **3 Fractions** • Fraction greater than 1 • Equivalent fractions • Adding and subtracting fractions with the same or similar denominators • Ordering fractions using number lines and benchmarks • Fraction of whole numbers **5 Percentages, fractions and decimals** • Understanding percentages as fractions • Percentages, fractions and decimals • Finding percentages of quantities **6 Introducing ratios** • Understanding ratios • Equivalent ratios • Using ratios
Balance positive and negative amounts.	**2 Integers** • Using negative numbers • Reading integers on scales • Putting integers in order • Adding and subtracting integers
Apply additive strategies to decimals.	**4 Decimals** • Decimal place value • Decimals on the number line • Ordering decimals using place value • Adding and subtracting decimals • Choosing a strategy to add and subtract decimals
Find and represent relationships in spatial and number patterns, using: - tables and graphs - general rules for linear relationships.	**8 Relationships and patterns** • Applying general rules to find unknown numbers • Using tables graphs and rules to describe linear relationships • Number patterns

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New Zealand Curriculum Level 4	NZ Curriculum Mathematics – Connecting all strands Level 4A
Measurement and Geometry	
Measure time and the attributes of objects, using metric and other standard measures.	**9 Time, Timetables and charts** • am/pm time and 24-hour time • Time calculations • Timetables and charts **10 Using measures** • Choosing units and devices • Estimating measurements • Reading scales • Estimating and measuring **14 Angles** • Angles • What is the angle? • Measuring angles • Drawing angles • Naming angles • Angle problems
Make simple conversions between units, using whole numbers.	**11 Converting between units** • Metric conversions Converting larger to smaller units Converting smaller to larger units Mixed conversions
Use side or edge lengths to find the perimeters and areas of rectangles and parallelograms and the volumes of cuboids.	**12 Perimeter and area** • Perimeter • Area • Area by counting squares • Area of rectangles, squares and parallelograms • Areas of shapes made from rectangles and squares **13 Volume** • Volume, mass and capacity
Identify and describe the transformations that have produced given shapes or patterns.	**15 Symmetry and transformations** • Line symmetry • Rotational symmetry • Rotation, translation and reflection • Enlargement • Recognsiing transformations in patterns • Tessellations

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Given whole-number dimensions sort two - and three-dimensional shapes into classes, defining properties and justifying the decisions made.	**16 Shape** • Properties of triangles • Properties of quadrilaterals and polygons • Sorting shapes • Cross-sections • 3-D shapes
Create or identify nets for rectangular prisms and other simple solids. **Draw plan, front, side, and perspective views of objects.**	**17 Nets and 3-D drawings** • Nets • Isometric drawing • Views
Describe locations and give directions, using grid references, simple scales, turns, and points of the compass.	**18 Location** • Grid and coordinate references • Compass directions • Reading maps and plans using scales and compass directions
Statistics	
Interpret results in context, accepting that samples vary and have no effect on one another.	**19 Analysing data** • Mode and range • Mean and median • Using mean, median, mode and range • Analysing data displays
Gather or access multivariate category and measurement data. **Sort data and display it in multiple ways, identifying patterns and variations.**	**20 Displaying data** • Displaying data and analysing the displays • Time-series graphs
Investigate summary, comparison, and relationship questions by using the statistical enquiry cycle.	**21 Statistical investigation** • Designing a data collection sheet • Grouped data • Designing scales for qualitative data • The Enquiry Cycle
Order the likelihoods of outcomes for situations involving chance, checking for consistency between experimental results and models of all possible outcomes.	**22 Probability** • Understanding probability • The probability scale • Outcomes • Probability from experiments • Calculating theoretical probability