NSW Syllabus Content Map

Education Perfect Maths is an online learning resources with scaffolded smart lessons aligned to the NSW Syllabus. This table aligns the lessons provided by Education Perfect to the NSW Syllabus.

Stage 5.2 NSW Syllabus	
Standard	**Education Perfect Lessons**
Number and Algebra	
Financial Mathematics (MA5.24NA) Solves financial problems involving compound interest	
Connect the compound interest formula to repeated applications of simple interest using appropriate digital technologies (ACMNA229)	Compound Interest Basic Formula Compound Interest - Months and Weeks Revision: Profit and Loss Revision: Discounts and Supply Chains Revision: Budgeting and Usage Plans Revision: Percentage Discounts and Unit Pricing
Ratios and Rates (MA5.25NA) Recognises direct and indirect proportion, and solves problems involving direct proportion.	
Solve problems involving direct proportion; explore the relationship between graphs and equations corresponding to simple rate problems (ACMNA208)	Introduction to Graphs Direct Proportion Introduction to Inverse Proportion Applying Inverse Proportion Analysing Graphs Constant Rates Variable Rates Rates of Change Analysing Rates of Change Revision: Rates
Algebraic Techniques (MA5.26NA) Simplifies algebraic fractions, and expands and factorises quadratic expressions.	
Apply the four operations to simple algebraic fractions with numerical denominators (ACMNA232)	Adding Algebraic Fractions Subtracting Algebraic Fractions Multiplying Algebraic Fractions Dividing Algebraic Fractions Revision: Simplifying Algebraic Expressions
Apply the distributive law to the expansion of algebraic expressions, including binomials, and collect like terms where appropriate (ACMNA213)	Expanding and the Distributive Law Expanding Binomial Products Expanding Perfect Squares Expanding Differences of Two Squares Revision: Expanding

Factorise algebraic expressions by taking out a common algebraic factor (ACMNA230)	Connecting Expanding and Factorising Identifying Algebraic Factors Factors Identifying Complicated Algebraic Factors Factorising with Index Laws Revision: Factorising
Expand binomial products and factorise monic quadratic expressions using a variety of strategies (ACMNA233)	Factorisation by Grouping Factorising Quadratic Trinomials Factorising Perfect Squares Factorising Differences of Two Squares Factorising by Completing the Square
Indices (MA5.27NA) Applies index laws to operate with algebraic expressions involving integer indices.	
Apply index laws to algebraic expressions involving integer indices	Integer Indices Fractional Indices Applying Index laws
Equations (MA5.28NA) Solves linear and simple quadratic equations, linear inequalities and linear simultaneous equations, using analytical and graphical techniques.	
Solve linear equations (ACMNA215)	Word Problems Revision: Linear Graphs Revision: Linear Equations
Solve linear equations involving simple algebraic fractions (ACMNA240)	Rearranging and Solving Equations
Solve simple quadratic equations using a range of strategies (ACMNA241)	Factorising Quadratic Expressions Solving Quadratic Equations Using Technology Guess and Check The Quadratic Formula Completing the Square: Method 1 - Using Rearrangement Completing the Square: Method 2 - Using Differences of Two Squares Grouping
Substitute values into formulas to determine an unknown (ACMNA234)	Using Formulas Rearranging and Solving Formulas
Solve problems involving linear equations, including those derived from formulas (ACMNA235)	Solving Word Problems Revision: Finding the Length of a Line Segment Revision: Finding the Midpoint of a Line Segment Revision: Finding the Gradient of a Line Segment
Solve linear inequalities and graph their solutions on a number line (ACMNA236)	Introduction to Inequalities Rearranging Inequalities

	Solving Inequalities Chained Inequalities
Solve linear simultaneous equations, using algebraic and graphical techniques, including with the use of digital technologies (ACMNA237)	Using Graphs to Solve Simultaneous Equations Using Substitution to Solve Simultaneous Equations Using Elimination to Solve Simultaneous Equations
Linear Relationships (MA5.29NA) Uses the gradient-intercept form to interpret and graph linear relationships.	
Interpret and graph linear relationships using the gradient-intercept form of the equation of a straight line	Plotting Linear Graphs Drawing Linear Graphs Using the Gradient Graphing Using Technology - Casio Calculators Linear Patterns and Rules Determining Linear Rules Horizontal and Vertical Lines Revision: Linear Graphs Revision: Linear Equations Revision: Finding the Length of a Line Segment Revision: Finding the Midpoint of a Line Segment Revision: Finding the Gradient of a Line Segment
Solve problems involving parallel and perpendicular lines (ACMNA238)	Parallel Lines Perpendicular Lines
Non-Linear Relationships (MA5.210NA) Connects algebraic and graphical representations of simple non-linear relationships.	
Graph simple non-linear relationships, with and without the use of digital technologies, and solve simple related equations (ACMNA296)	Parabolas Transforming Parabolas Circles Solving Non-Linear Equations Revision: Non-Linear Graphs
Explore the connection between algebraic and graphical representations of relationships such as simple quadratics, circles and exponentials using digital technologies as appropriate (ACMNA239)	Transforming Parabolas - Translation Transforming Parabolas - Dilation and Reflection Transforming Circles Exponential Graphs Applications of Non-Linear Graphs
Measurement and Geometry	
Area and Surface Area (MA5.211MG) Calculates the surface areas of right prisms, cylinders and related composite solids.	
Calculate the surface areas of cylinders and solve related problems (ACMMG217)	Surface Area of Cylinders Revision: Area

	Revision: Area of Circles
Solve problems involving surface area for a range of prisms, cylinders and composite solids (ACMMG242)	Surface Area of Prisms Surface Area of Complex Solids Revision: Area of Composite Shapes
Volume (MA5.212MG) Applies formulas to calculate the volumes of composite solids composed of right prisms and cylinders.	
Solve problems involving the volumes of right prisms (ACMMG218)	Volume of Composite Solids Revision: Volume
Solve problems involving volume for a range of prisms, cylinders and composite solids (ACMMG242)	Volume of Composite Solids
Right-Angled Triangles (Trigonometry) (MA5.110MG) Applies trigonometry to solve problems, including problems involving bearings.	
Apply trigonometry to solve right-angled triangle problems (ACMMG224)	Introduction to Trigonometry Calculating Unknown Sides Using Sine Calculating Unknown Sides Using Cosine Calculating Unknown Sides Using Tangent Using Trigonometry in Real World Applications Inverse Trigonometric Functions Inverse Trigonometric Functions - Real World Examples Extension: Applications of Trigonometry in Coding Revision: Parts of a Right Angled Triangle and Pythagoras' Theorem Revision: Basic Trigonometry Revision: Inverse Trigonometric Functions
Solve right-angled triangle problems, including those involving direction and angles of elevation and depression (ACMMG245)	Introduction to Bearings Using Trigonometry to Solve Problems Involving Bearings Angles of Elevation and Depression
Properties of Geometrical Figures (MA5.214MG) Calculates the angle sum of any polygon and uses minimum conditions to prove triangles are congruent or similar.	
Formulate proofs involving congruent triangles and angle properties (ACMMG243)	Introduction to Congruence Congruence of Squares, Rectangles and Parallelograms Congruence of Rhombuses, Trapeziums and Kites Revision: Angles Revision: Properties of Quadrilaterals
Use the enlargement transformations to explain similarity and to develop the conditions for triangles to be similar (ACMMG220)	Conditions for Congruence: SSS and SAS Conditions for Congruence: ASA, AAS and HL Working with Congruent Triangles

Apply logical reasoning, including the use of congruence and similarity, to proofs and numerical exercises involving plane shapes (ACMMG244)	Rotation and Reflection of Plane Shapes Translation and Congruence of Plane Shapes Revision: Rotation Revision: Reflection Revision: Symmetry Revision: Translation
Statistics and Probability	
Single Variable Data Analysis (MA5.215SP) Uses quartiles and box plots to compare sets of data, and evaluates sources of data.	
Determine quartiles and interquartile range (ACMSP248)	Range Quartiles Interquartile Range Five Point Summary Revision: Measures of Centre and Spread Revision: Shape in Data
Construct and interpret box plots and use them to compare data sets (ACMSP249)	Plotting Box and Whisker Plots Comparing Box and Whisker Plots
Compare shapes of box plots to corresponding histograms and dot plots (ACMSP250)	Box and Whisker Plots, Histograms and Dot Plots
Investigate reports of surveys in digital media and elsewhere for information on how data was obtained to estimate population means and medians (ACMSP227)	
Bivariate Data Analysis (MA5.216SP) investigates relationships between two statistical variables, including their relationship over time.	
Investigate and describe bivariate numerical data where the independent variable is time (ACMSP252)	Introduction to Bivariate Data Introduction to Time Series Analysing Time Series Extra Resources:Time Series Data Revision: Data Sources
Use scatter plots to investigate and comment on relationships between two numerical variables (ACMSP251)	Scatterplots Analysing Scatterplots Extra Resources: Bivariate Data & Scatterplots Revision: Comparing Data Sets and Back-to-Back Stem and Leaf Plots Revision: Comparing Dot Plots and Histograms
Probability (MA5.217SP) Describes and calculates probabilities in multi-step chance experiments.	
List all outcomes for two-step chance experiments, with and without replacement, using tree diagrams or arrays; assign probabilities to outcomes and determine probabilities for events (ACMSP225)	Introduction to Two-Step Experiments Tree Diagrams Using Tree Diagrams Arrays

	Using Arrays Revision: Introduction to Probability Revision:Complementary Events Revision:Describing Probabilities Revision:Tree Diagrams Revision:Arrays Revision:Venn Diagrams Revision:Two-Way Tables Revision:Converting Between Venn Diagrams and Two-Way Tables Revision:Experimental Probability
Describe the results of two- and three-step chance experiments, with and without replacement, assign probabilities to outcomes, and determine probabilities of events; investigate the concept of independence (ACMSP246)	Arrays Probabilities and Three-Step Experiments Building Three-Step Tree Diagrams Tree Diagrams with Unequal Outcomes Probabilities of Unequal Outcomes Three-Step Experiments and Unequal Outcomes
Use the language of 'if ... then', 'given', 'of', 'knowing that' to investigate conditional statements and to identify common mistakes in interpreting such language (ACMSP247)	Introduction to Conditional Probability Investigating Conditional Probability with Venn Diagrams Investigating Conditional Probability with Two-Way Tables Calculating Conditional Probability Using Tree Diagrams Calculating Conditional Probabilities using Arrays Word Problems