



# Fiji Mathematics

## EP Curriculum Map

### Year 9

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## 1. Numbers

### 1.1 Directed Numbers

Content Learning Outcome	Lessons
M9.1.1.1 Explore and describe number system into different components and representations using examples from practical situations	<a href="#">Adding and Subtracting Integers Using the Number Line</a> <a href="#">Ordering Whole Numbers</a> <a href="#">Real Numbers</a> <a href="#">Irrational Numbers</a> <a href="#">Density</a>
M9.1.1.2 Analyse and discuss relative value of negative numbers using practical examples	<a href="#">Introduction to Negative Numbers</a> <a href="#">Negative Numbers on the Number Line</a> <a href="#">Comparing &amp; Ordering Integers with Symbols</a>
M9.1.1.3 Study and determine absolute values of numbers and describe rational numbers using number lines	<a href="#">Adding &amp; Subtracting Integers on the Number Line</a>
M9.1.1.4 Analyse and present algorithms in computing rational numbers using examples from real life situations	<a href="#">Order of Operations</a> <a href="#">Undoing Using BEDMAS</a> <a href="#">Integer Addition</a> <a href="#">Integer Subtraction</a> <a href="#">Negative Integer Multiplication and Division</a> <a href="#">Skill Practice: Mixed Integer Operations</a>

### 1.2 Graphing Inequations on Number Lines

Content Learning Outcome	Lessons
M9.1.2.1 Represent inequations on number lines using integers and real numbers	<a href="#">Introduction to Inequalities</a> <a href="#">Finding Fractions on the Number Line</a>
M9.1.2.2 Explain number line graphs in set builder notation represented using integers and real numbers	<a href="#">Comparing Decimals on the Number Line</a>



## 1.3 Fractions and Decimals

Content Learning Outcome	Lessons
M9.1.3.1 Convert fractions to decimals and vice versa, and apply them in related problems	<a href="#">Types of Fractions</a> <a href="#">Comparing and Ordering Fractions as Decimals</a> <a href="#">Equivalent Fractions Using Fraction Walls</a> <a href="#">Converting Decimals to Fractions</a> <a href="#">Rounding Decimal Numbers</a> <a href="#">Mixed Applications: Fractions, Decimals and Percentages - Town Planning</a>

## 2. Algebra

### 2.1 Algebraic Expressions

Content Learning Outcome	Lessons
M9.2.1.1 Describe numerals and pro numerals	<a href="#">Introduction to Variables and Expressions</a>
M9.2.1.2 Describe different types of algebraic expressions	<a href="#">Creating Algebraic Expressions</a> <a href="#">Algebraic Conventions</a> <a href="#">Translating Between Word Descriptions and Algebraic Expressions</a> <a href="#">Equivalent Algebraic Expressions</a>
M9.2.1.3 Describe algebraic expressions using common multiple and common factor method	<a href="#">Multiples</a> <a href="#">Identifying Factors</a> <a href="#">Highest Common Factor</a> <a href="#">Lowest Common Multiple</a>

### 2.2 Simplifying Algebraic Expressions

Content Learning Outcome	Lessons
M9.2.2.1 Manipulate the addition and subtraction of algebraic expressions	<a href="#">Introduction to Like Terms</a> <a href="#">Simplifying Like Terms</a> <a href="#">Simplifying Like Terms with Powers</a>
M9.2.2.2 Manipulate the multiplication and division of algebraic expressions	<a href="#">Introduction to Algebraic Powers</a> <a href="#">Simplifying Multiplication</a> <a href="#">Expanding Single Brackets</a>
M9.2.2.3 Study and describe numerical and algebraic fractions	<a href="#">Variables in Fractions</a> <a href="#">Simplifying Fractional Terms</a> <a href="#">Adding and Subtracting Algebraic Fractions</a>
M9.2.2.4 Manipulate expressions involving numerical and algebraic fractions	<a href="#">Introduction to Simplifying Algebraic Fractions</a>



[Multiplying Algebraic Fractions](#)  
[Dividing Algebraic Fractions](#)  
[Simplifying Algebraic Fractions](#)  
[Review: Simplifying  \$+-\times\div\$](#)

## 2.3 Solving Equations

Content Learning Outcome	Lessons
M9.2.3.1 Solve equations and inequations, represent the solutions in the set builder notation	<a href="#">Solving Linear Equations</a> <a href="#">Introduction to Inequalities</a> <a href="#">Solving Inequalities</a> <a href="#">Solutions as Decimals and Fractions</a> <a href="#">Rearranging Formulae and Equations</a>

## 3. Functions

### 3.1 Graphing Simple Equations and inequations on Cartesian plane

Content Learning Outcome	Lessons
M9.3.1.1 Represent simple linear equations of the form $x=c$ and $y=c$ on Cartesian plane	<a href="#">Equations of Horizontal and Vertical Lines</a>
M9.3.1.2 Determine the regions indicated by in equations	<a href="#">Graphing Inequalities</a>

## 4. Measurement

### 4.1 Money

Content Learning Outcome	Lessons
M9.4.1.1 Relate use of money calculations by using real life situations. Emphasize on the transition from tradition to current situations	<a href="#">Percentage of an Amount</a>
M9.4.1.2 Recognize and workout ratios, proportions, percentages and rates. Use examples from real life situations	<a href="#">Direct Proportion</a> <a href="#">Increase and Decrease by a Percentage</a> <a href="#">Converting Between Percentages, Decimals and Fractions</a> <a href="#">Mixed Applications of Percentages</a> <a href="#">Applications of Ratios</a>



## 5. Geometry

### 5.1 Angles

Content Learning Outcome	Lessons
M9.5.1.1 Discover and apply properties of shapes, and angles on pairs of intersecting lines	<a href="#">Angles Around Parallel Lines</a> <a href="#">Angles on Straight Lines</a> <a href="#">Angles Around a Point</a> <a href="#">Vertically Opposite Angles</a> <a href="#">Estimating the Size of Angles</a>

### 5.2 Application of Angle Properties and Construction

Content Learning Outcome	Lessons
M9.5.2.1 Show and state the axis of symmetries in a given regular polygon	<a href="#">Line Symmetry</a> <a href="#">Line Symmetry in Life</a> <a href="#">Symmetry in 3D Objects</a>
M9.5.2.2 Discover parts of a circle	<a href="#">Parts of a Circle</a>
M9.5.2.3 Recognize the angle properties of a circle diagrammatically and use then to solve related problems	<a href="#">Central Angle Theorem</a> <a href="#">Proof: Central Angle Theorem</a> <a href="#">Angles Subtended by the Same Arc</a> <a href="#">Thales' Theorem: Angles in a Semicircle</a> <a href="#">Proving Thales' Theorem</a>
M9.5.2.4 Construct the center of a circle using mathematical instruments	<i>At this time, we do not cover this content learning outcome</i>
M9.5.2.5 Identify the angle properties of a cyclic quadrilateral	<a href="#">Cyclic Quadrilaterals</a> <a href="#">Angles in Quadrilaterals</a> <a href="#">Applying Rules to Quadrilaterals</a> <a href="#">Polygons and Interior Angles</a> <a href="#">Polygons and Exterior Angles</a>

### 5.3 Translation

Content Learning Outcome	Lessons
M9.5.3.1 Recognize translations in aspects of real life (use examples from cultural aspects) and perform translation of various object	<a href="#">Introduction to Vectors</a> <a href="#">Describing Translations Using Vectors</a> <a href="#">Adding and Subtracting Vectors</a> <a href="#">Multiplying Vectors by a Scalar</a> <a href="#">Translation on Cartesian Planes</a> <a href="#">Describing and Drawing Translations</a>



## 5.4 Reflection

Content Learning Outcome	Lessons
M9.5.4.1 Discover and use reflection properties and display the application of reflection in real life situations (use examples from cultural aspects). Perform reflection of various objects.	<a href="#">Reflection on Cartesian Planes</a> <a href="#">Describing Reflections</a> <a href="#">Drawing Reflections</a>

## 5.5 Rotation

Content Learning Outcome	Lessons
M9.5.5.1 Investigate and discuss properties of rotation and the application of rotation in real life situations (use examples from cultural aspects). Perform rotation of various objects.	<a href="#">Rotation on Cartesian Planes</a> <a href="#">Describing Rotations</a> <a href="#">Drawing Rotations</a> <a href="#">Combined Transformations</a>

## 5.6 Enlargement and Similarity

Content Learning Outcome	Lessons
M9.5.6.1 Explore the properties of enlargement and the idea of similar figures	<a href="#">Introduction to Scaling and Enlargement</a> <a href="#">Dilations</a> <a href="#">Magnitude</a>
M9.5.6.2 Present an enlargement of a given object using scale factor and center of enlargement	<a href="#">Introduction to Scale Drawings</a> <a href="#">Scale Factors</a> <a href="#">Applying Scale Factors to Objects</a> <a href="#">Scale Models</a> <a href="#">Summary: Creating and Interpreting Scale Drawings</a>
M9.5.6.3 Sketch an image of a given object using area scale factor	<a href="#">Drawing Enlargements</a> <a href="#">Describing Enlargements</a> <a href="#">Scaling on Cartesian Planes</a> <a href="#">Area and Volume Scaling</a>



# Year 10

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## 1. Functions

### 1.1 Linear and Quadratic Functions

Content Learning Outcome	Lessons
M10.1.1.1 Study and describe functions and its related concepts	<a href="#">Plotting Linear Equations Using Tables</a> <a href="#">Linear Graphs</a>

### 1.2 Graphing Linear Equations and Inequations

Content Learning Outcome	Lessons
M10.1.2.1 Evaluate and illustrate the intercepts and gradients of linear functions	<a href="#">Linear Equations</a> <a href="#">Calculating the Gradient</a> <a href="#">Finding the Equation Using the Slope and Intercept</a> <a href="#">Sketching Linear Graphs Using the Gradient-Intercept Method</a> <a href="#">Reading Intercepts from Graphs</a> <a href="#">Analysing Linear Graphs</a>
M10.1.2.2 Shade and explain regions indicated by Inequations	<a href="#">Graphing Inequalities and Finding Feasible Regions</a> <a href="#">Forming the Objective Function</a>

## 2. Algebra

### 2.1 Factorising and Simplifying Algebraic Expressions

Content Learning Outcome	Lessons
M10.2.1.1 Analyse methods of factorising algebraic expressions	<a href="#">Expanding Two Brackets Using the Area Model</a> <a href="#">Introduction to Factorising</a> <a href="#">Factorising Two Brackets Using the Area Model</a> <a href="#">Factorising by Grouping Binomial Coefficients</a> <a href="#">Factorising Monic Quadratics: Perfect Squares</a> <a href="#">Factorising Monic Quadratics: Difference</a>



[of Two Squares](#)

## 2.2 Algebraic Equations

Content Learning Outcome	Lessons
M10.2.2.1 Study and express the formal treatment of square roots	<a href="#">Square Roots</a> <a href="#">Simplifying Surds</a> <a href="#">Adding and Subtracting Surds</a> <a href="#">Multiplying and Dividing Surds</a>
M10.2.2.2 Work out algebraic equations confidently	<a href="#">Introduction to Inequalities</a> <a href="#">Undoing Operations</a> <a href="#">Variables in Fractions</a> <a href="#">Solving Simple Linear Equations</a> <a href="#">Solving Quadratic Equations by Factorisation</a>

## 2.3 Formula Manipulation

Content Learning Outcome	Lessons
M10.2.3.1 Apply operations and their inverses in formula manipulation	<a href="#">Substitution and Evaluation</a>

## 3. Numbers

### 3.1 Rules of Indices and Problem Solving

Content Learning Outcome	Lessons
M10.3.1.1 Discuss numbers in base index form	<a href="#">Converting Between Number Bases</a> <a href="#">Index Notation</a>
M10.3.1.2 Study and apply rules of indices	<a href="#">Index Laws and Fractional Powers</a> <a href="#">Multiplying Numbers in Index Form</a> <a href="#">Dividing Indices</a> <a href="#">Powers of Powers</a> <a href="#">Powers of Multiplied Terms</a> <a href="#">The Power of Zero</a>

## 4. Geometry

### 4.1 Pythagoras Theorem

Content Learning Outcome	Lessons
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M10.4.1.1 Study and discuss Pythagoras Theorem and how it is applied to any given right – angled triangle

[Parts of a Triangle and the Hypotenuse](#)  
[Pythagoras' Theorem](#)

## 4.2 Trigonometric Functions

Content Learning Outcome	Lessons
M10.4.2.1 Discuss properties of Basic Trigonometric functions and use recommended calculator to calculate unknown angles	<a href="#">Introduction to Trigonometry</a> <a href="#">The Unit Circle and Radians</a>
M10.4.2.2 Study and Apply SOHCATOA to right-angled triangles	<a href="#">Finding Side Lengths Using Trigonometry</a> <a href="#">Finding Angles Using Trigonometry</a> <a href="#">Review Lesson: Trigonometric Ratios</a>
M10.4.2.3 Represent and indicate trigonometric functions on the Cartesian Plane	<a href="#">Understanding and Graphing Sine</a> <a href="#">Understanding and Graphing Cosine</a> <a href="#">Understanding and Graphing Tangent</a>
M10.4.2.4 Study and demonstrate a clinometer in practical situation appropriately	<a href="#">Angles of Elevation and Depression</a> <a href="#">Using Trigonometric Functions in Real World Applications</a> <a href="#">Using Inverse Trigonometric Functions in Real World Applications</a>

## 4.3 Construction

Content Learning Outcome	Lessons
M10.4.3.1 Construct angles, mediator of line segment and center of triangles	<a href="#">Common Angles</a> <a href="#">Constructing Triangles Given Three Sides</a> <a href="#">Similarity and Multiple Triangles</a>
M10.4.3.2 Explain the properties of different centers of triangles	<a href="#">Measuring Acute and Obtuse Angles</a> <a href="#">Measuring Reflex Angles</a>

## 4.4 Intersecting Chords

Content Learning Outcome	Lessons
M10.4.4.1 Examine the properties of various intersecting chords	<a href="#">Equal Length Chord Properties</a> <a href="#">Perpendicular Bisector to Chords</a> <a href="#">Tangents, Secants and the Alternate Segment Theorem</a> <a href="#">Intersecting Chords, Secants and Tangents</a>





## 5. Measurement

### 5.1 Money

Content Learning Outcome	Lessons
M10.5.1.1 Study and solve real life problems related to Social Mathematics,	<a href="#">Percentage of an Amount: Common Fractions</a> <a href="#">Percentage of an Amount: Introducing Thirds and Eighths</a> <a href="#">Percentages of an Amount: Multiplying by Decimals</a> <a href="#">Percentage of a Whole</a>
M10.5.1.2 Evaluate the cultural aspect in the use of money and the transition involved.	<a href="#">Value Added Tax</a> <a href="#">Income Tax</a>
M10.5.1.3 Explain and explain the applications of percentages in real life situations or practical problems	<a href="#">Introduction to Interest</a> <a href="#">Calculating Simple Interest</a> <a href="#">Compound Interest Basic Formula</a> <a href="#">Increasing and Decreasing by a Percentage</a> <a href="#">Calculating Discounts</a> <a href="#">Saving for Retirement</a>

## 6. Chance and Data

### 6.1 Data Representation

Content Learning Outcome	Lessons
M10.6.1.1 Analyse and illustrate data extracted from practical situations	<a href="#">Frequency Tables</a> <a href="#">Dot Plots and Column (Bar) Graphs</a> <a href="#">Line Graphs</a> <a href="#">Histograms</a> <a href="#">Introduction to Pie Charts</a>

### 6.2 Measures of Central Tendency

Content Learning Outcome	Lessons
M10.6.2.1 Analyze and determine the measures of Central Tendency of data's represented in various forms	<a href="#">Mean</a> <a href="#">Median</a> <a href="#">Mode</a> <a href="#">Review: Measures of Centre and Spread</a>



## 6.3 Measures of Dispersion

Content Learning Outcome	Lessons
M10.6.3.1 Determine the measures of Dispersion from an ungrouped data	<a href="#">Range</a> <a href="#">Quartiles and Interquartile Range</a> <a href="#">Five Point Summary</a>
M10.6.3.2 Calculate and discuss the measures of Dispersion from a frequency table	<a href="#">Calculating Measures of Centre and Spread</a> <a href="#">Analysis: Measures of Spread</a>

## 6.4 Probability Experiments

Content Learning Outcome	Lessons
M10.6.4.1 Explain basic concepts of probability including cultural aspects.	<a href="#">Probability Terminology</a> <a href="#">Probability Experiments</a> <a href="#">Relative Frequencies</a> <a href="#">Using Relative Frequencies</a> <a href="#">Tree Diagrams</a>

## 6.5 Events of Probability

Content Learning Outcome	Lessons
M10.6.5.1 Discuss and present the probability of different events using practical examples	<a href="#">The Likelihood Scale</a>

## 6.6 Probability Formula

Content Learning Outcome	Lessons
M10.6.6.1 Use formulae to work out probability of events	<a href="#">Introduction to Probability</a> <a href="#">Observed Outcomes vs. Expected Outcomes</a>

## 6.7 Properties of Probability

Content Learning Outcome	Lessons
M10.6.7.1 Investigate and present properties of probability	<a href="#">Probability as a Fraction</a> <a href="#">Probability as a Decimal and a Percentage</a>



# Year 11

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## 1. Basic Mathematics 1

### 1.1 Basic Number Theory

Content Learning Outcome	Lessons
M11.1.1.1 Explore and manipulate Binary number systems	<a href="#">The Commutative Law</a> <a href="#">The Associative Law</a>
M11.1.1.2 Discover the properties and operate with zero	<a href="#">The Power of Zero</a> <a href="#">The Zero Index</a> <a href="#">Undoing Using BEDMAS</a>

### 1.2 Measurement

Content Learning Outcome	Lessons
M11.1.2.1 Investigate and work with measurements.	<a href="#">Ordering Numbers and Estimating</a> <a href="#">Calculations in Scientific Notation</a> <a href="#">Area of Composite Shapes</a> <a href="#">Surface Area of Composite Solids</a> <a href="#">Volume of Composite Solids</a> <a href="#">Converting Units of Length</a> <a href="#">Capacity and Volume</a>
M11.1.2.2 Explore and manage credit purchases (FinED)	<a href="#">Preparing a Personal Budget</a> <a href="#">Comparing Methods of Payment</a> <a href="#">Determining the Best Option</a> <a href="#">Factors that Influence Financial Decisions</a> <a href="#">When a Best Buy isn't the Best Option</a> <a href="#">Term Deposits</a>

### 1.3 Careers

Content Learning Outcome	Lessons
M11.1.3.1 Investigate and record careers related to measurement and finance.	<i>At this time, we do not cover this content learning outcome.</i>



## 2. Algebra

### 2.1 Algebraic Expressions

Content Learning Outcome	Lessons
M11.2.1.1 Study and simplify algebraic expressions	<a href="#">Simplifying Rational Expressions by Factorising Quadratics and Cancelling Linear Terms</a> <a href="#">Monic Factorisation</a> <a href="#">Non-Monic Factorisation</a> <a href="#">Factorising Quadratics with <math>a &gt; 1</math></a> <a href="#">Factorising Monic Quadratics: Completing the Square</a>

### 2.3 Equations and Inequations

Content Learning Outcome	Lessons
M11.2.3.1 Study and simplify equations	<a href="#">Order of Operations in Algebra</a> <a href="#">Solving Linear Equations with Multiple Steps</a> <a href="#">Substituting to Solve Linear (and Non-Linear Equations</a> <a href="#">Solving Inequalities</a> <a href="#">Solving Monic Quadratic Equations with any Method</a> <a href="#">Solving Non-Monic Quadratic Equations by Factorisation</a>
M11.2.3.2 Work out and show linear inequation	<a href="#">Solving Inequalities</a> <a href="#">Rearranging Inequalities</a> <a href="#">Graphing Inequalities</a> <a href="#">Review: Solving Inequalities</a>

### 2.4 Sequences

Content Learning Outcome	Lessons
M11.2.4.1 Express in Sigma notation	<i>At this time, we do not cover this content learning outcome.</i>
M11.2.4.2 Investigate and use properties of sequences	<a href="#">Linear Patterns and Rules</a> <a href="#">Creating Patterns</a> <a href="#">Describing Repeating Patterns</a> <a href="#">Describing Number Patterns – The Start Point and the Difference</a> <a href="#">Describing Number Patterns Using Rules</a> <a href="#">Repeating, Growing, and Shrinking</a>



[Patterns](#)

## 2.5 Matrices

Content Learning Outcome	Lessons
M11.2.5.1 Examine and describe order of matrices	<i>At this time, we do not cover this content learning outcome.</i>

## 3. Relations

Content Learning Outcome	Lessons
M11.3.1.1 Explore and evaluate Functions.	<a href="#">Introduction to Functions</a> <a href="#">Function Notation</a> <a href="#">Inverse Functions</a> <a href="#">Find the Rule for an Inverse Function</a> <a href="#">Find the Rule and Domain for an Inverse Function</a>

## 4. Graphs

### 4.1 Graphs

Content Learning Outcome	Lessons
M11.4.1.1 Study and illustrate graphs.	<a href="#">Applications of Simultaneous Equations</a> <a href="#">Sketching Parabolas</a> <a href="#">Parabola Transformations</a> <a href="#">Plotting Cubic Functions</a> <a href="#">Constructing Circles</a> <a href="#">Introduction to Exponential Functions</a>

## 5. Coordinate Geometry

### 5.1 Coordinates

Content Learning Outcome	Lessons
M11.5.1.1 Explore and analyze two points on a Cartesian plane	<a href="#">Finding the Length of a Line Segment</a> <a href="#">Finding the Midpoint of a Line Segment</a> <a href="#">Calculating the Gradient</a> <a href="#">Equation of a Line</a> <a href="#">Analysing Linear Graphs</a> <a href="#">Review: Slopes and Intercepts</a>



## 5.2 Parallel and Perpendicular Lines

Content Learning Outcome	Lessons
M11.5.2.1 Study and use gradients of parallel and perpendicular lines	<a href="#">Parallel Lines</a> <a href="#">Equations of Parallel Lines</a> <a href="#">Perpendicular Lines</a> <a href="#">Finding the Equation of a Perpendicular Line</a>

## 6. Trigonometry

### 6.1 Trigonometric Ratios

Content Learning Outcome	Lessons
M11.6.1.1 Investigate and solve problems related to 3 Dimensional objects	<a href="#">Parts of a Triangle and the Hypotenuse</a> <a href="#">Pythagoras' Theorem in 3D</a> <a href="#">Trigonometry in 3D</a> <a href="#">3D Problems Using Right-Angled Triangles</a> <a href="#">Review Lesson: Trigonometric Ratios</a>

### 6.2 Trigonometric Equations

Content Learning Outcome	Lessons
M11.6.2.1 Investigate and manipulate properties of trigonometric equations	<a href="#">Comparing Trigonometric Functions</a>

## 7. Statistics

### 7.1 Statistics

Content Learning Outcome	Lessons
M11.7.1.1 Analyze and interpret statistical data	<a href="#">Introduction to Surveys</a> <a href="#">Introduction to Methods for Collecting Data</a> <a href="#">Selecting Appropriate Graphs</a> <a href="#">Measures of Centre in Grouped Data</a> <a href="#">Cumulative Frequency</a> <a href="#">Median, Quartiles and Percentiles</a>

### 7.2 Careers



Content Learning Outcome	Lessons
M11.7.2.1 Explore and explain careers related to Statistics	<i>At this time, we do not cover this content learning outcome.</i>

## 8. Probability

### 8.1 Probability

Content Learning Outcome	Lessons
M11.8.1.1 Explore and interpret probability experiments	<a href="#">Probability of Independent Events</a> <a href="#">Two-Way Tables</a> <a href="#">Using Tree Diagrams</a> <a href="#">Probability of Combined Events</a> <a href="#">Building Three-Step Tree Diagrams</a>

## 9. Calculus

### 9.1 Differentiation and Integration

Content Learning Outcome	Lessons
M11.9.1.1 Study and evaluate derivatives and Integrals	<a href="#">Introduction to Derivatives</a> <a href="#">Differentiating Polynomials</a> <a href="#">Estimating Gradients</a> <a href="#">Rearranging Expressions to Index Form</a> <a href="#">Sketching the Gradient Function from the Original Function</a> <a href="#">Review Lesson: Introduction to Derivatives</a>