

Year 7

Number and Algebra

Number and place value

Content Descriptor	Lesson Names
Investigate index notation and represent whole numbers as products of powers of prime numbers	<ul style="list-style-type: none"> • Applying Prime Factors • Factor Trees • Prime & Composite Numbers • Prime Factors and the HCF • Prime Factors and the LCM
Investigate and use square roots of perfect square numbers	<ul style="list-style-type: none"> • Perfect Squares • Square Roots • Square Roots of Non-Perfect Squares
Apply the associative, commutative and distributive laws to aid mental and written computation	<ul style="list-style-type: none"> • The Associative Law • The Commutative Law • The Distributive Law • Using the Distributive Law
Compare, order, add and subtract integers	<ul style="list-style-type: none"> • Adding Negative Numbers • Comparing & Ordering Integers • Negative Integers • Positive Integers • Subtracting Negative Numbers

Real numbers

Content Descriptor	Lesson Names
Compare fractions using equivalence. Locate and represent positive and negative fractions and mixed numbers on a number line	<ul style="list-style-type: none"> • Equivalent Fractions • Fraction Basics • Fraction Walls • Fractions and Number Lines • Mixed Numbers
Solve problems involving addition and subtraction of fractions, including those with unrelated denominators	<ul style="list-style-type: none"> • Adding Fractions with a Different Denominator • Adding Fractions with the Same Denominator • Adding Mixed Fractions with the Same Denominator • Subtracting Fractions with a Different Denominator • Subtracting Fractions with the Same Denominator • Subtracting Mixed Fractions with a Different Denominator

	<ul style="list-style-type: none"> Subtracting Mixed Fractions with the Same Denominator
Multiply and divide fractions and decimals using efficient written strategies and digital technologies	<ul style="list-style-type: none"> Dividing Fractions Dividing Fractions by Simplifying Multiplying Fractions Numerically Multiplying Fractions Using Models
Express one quantity as a fraction of another, with and without the use of digital technologies	<ul style="list-style-type: none"> Comparing Fractions Comparing Fractions with the Same Denominator Using Fractions - Food Using Fractions - Money Using Fractions - Space
Round decimals to a specified number of decimal places	<ul style="list-style-type: none"> Rounding Decimals
Connect fractions, decimals and percentages and carry out simple conversions	<ul style="list-style-type: none"> Application: Town Planning Converting Between Fractions and Decimals Converting Between Percentages and Fractions: Simplifying Fractions
Find percentages of quantities and express one quantity as a percentage of another, with and without digital technologies.	<ul style="list-style-type: none"> Introduction to Percentages Using Percentages
Recognise and solve problems involving simple ratios	<ul style="list-style-type: none"> Ratios

Money and financial mathematics

Content Descriptor	Lesson Names
Investigate and calculate 'best buys', with and without digital technologies	<ul style="list-style-type: none"> Cost per Item Best Buys Best Buys Using Unit Costs When a Best Buy isn't the Best Option

Patterns and algebra

Content Descriptor	Lesson Names
Introduce the concept of variables as a way of representing numbers using letters	<ul style="list-style-type: none"> Welcome to Algebra Arithmetic in Algebra
Create algebraic expressions and evaluate them by substituting a given value for each variable	<ul style="list-style-type: none"> Simplifying Addition in Algebra Simplifying Division in Algebra Simplifying Multiplication in Algebra Simplifying Subtraction in Algebra Substitution in Algebraic Expressions Evaluating Algebraic Expressions Finding Formulas Using Formulas

Extend and apply the laws and properties of arithmetic to algebraic terms and expressions

- Order of Operations in Algebra
- Order of Operations in Algebraic Equations
- Translating Between Authentic Situations and Algebraic Expressions
- Translating Between Word Descriptions and Algebraic Expressions

Linear and non-linear relationships

Content Descriptor	Lesson Names
Given coordinates, plot points on the Cartesian plane, and find coordinates for a given point	<ul style="list-style-type: none"> • Coordinates • Introduction to Cartesian Planes • Plotting on a Cartesian Plane
Solve simple linear equations	<ul style="list-style-type: none"> • Balancing Equations • Checking Solutions • Concrete Models • Flow Charts • Visual Methods for Solving Linear Equations • Solving Linear Equations with Brackets • Solving One-Step Linear Equations • Solving Two-Step Linear Equations
Investigate, interpret and analyse graphs from authentic data	<ul style="list-style-type: none"> • Analysing Graphs • Drawing Graphs • Reading Graphs

Measurement and Geometry

Using units of measurement

Content Descriptor	Lesson Names
Establish the formulas for areas of rectangles, triangles and parallelograms, and use these in problem-solving	<ul style="list-style-type: none"> • Area of Composite Shapes • Area of Parallelograms • Area of Rectangles & Squares • Area of Triangles
Calculate volumes of rectangular prisms	<ul style="list-style-type: none"> • Volume of Rectangular Prisms

Shape

Content Descriptor	Lesson Names
Draw different views of prisms and solids formed from combinations of prisms	<i>Further development planned</i>

Location and transformation

Content Descriptor	Lesson Names
Describe translations, reflections in an axis and rotations of multiples of 90° on the Cartesian plane using coordinates. Identify line and rotational symmetries	<ul style="list-style-type: none"> • Reflection • Rotation on Cartesian Planes • Translation

Geometric reasoning

Content Descriptor	Lesson Names
Classify triangles according to their side and angle properties and describe quadrilaterals	<ul style="list-style-type: none"> • Angles in a Triangle • Types of Triangles • Angles in Quadrilaterals • Applying Rules to Quadrilaterals • Classifying Quadrilaterals
Demonstrate that the angle sum of a triangle is 180° and use this to find the angle sum of a quadrilateral	<ul style="list-style-type: none"> • Angles in a Triangle • Angles in Quadrilaterals
Identify corresponding, alternate and co-interior angles when two straight lines are crossed by a transversal	<ul style="list-style-type: none"> • Angles around a Point • Angles around Parallel Lines • Introduction to Angles
Investigate conditions for two lines to be parallel and solve simple numerical problems using reasoning	<ul style="list-style-type: none"> • Parallel Lines • Angles around Parallel Lines

Statistics and Probability

Chance

Content Descriptor	Lesson Names
Construct sample spaces for single-step experiments with equally likely outcomes	<ul style="list-style-type: none"> • Calculating Probability • Comparing Probabilities • Probability Terminology • Types of Probability
Assign probabilities to the outcomes of events and determine probabilities for events	<ul style="list-style-type: none"> • Probability as a Decimal and a Percentage • Probability as a Fraction

Data representation and interpretation

Content Descriptor	Lesson Names
Identify and investigate issues involving numerical data collected from primary and secondary sources	<ul style="list-style-type: none"> • Misleading Data and Graphs • Relating Graphs and Tables • Collecting Data - Primary & Secondary Sources
Construct and compare a range of data displays	<ul style="list-style-type: none"> • Stem and Leaf Plots

including stem-and-leaf plots and dot plots	<ul style="list-style-type: none"> • Dot Plots and Column (Bar) Graphs • Pick Your Display Method
Calculate mean, median, mode and range for sets of data. Interpret these statistics in the context of data	<ul style="list-style-type: none"> • Calculating Measures of Centre and Spread • Comparing Measures of Centre • The Mean • The Median • The Mode • The Range
Describe and interpret data displays using median, mean and range	<ul style="list-style-type: none"> • Calculating Measures of Centre and Spread • Comparing Measures of Centre