Year 7	Number	Algebra	Ratio and Proportion (including FDP)	Geometry	Data Handling and Probability
Emerging	Understand and Use directed number. Order directed numbers. Recognise the place value of any Integer. Understand and write Intgers in words (up to a billion). Find intervals on a number line and position numbers on a number line. Round Integers to the nearest power of 10. Use mental strategies and formal methods for addition and subtraction of Integers.	Describe and continue sequences. Understand simple, 1-step function machines. Understanding the meaning of equality.	Represent tenths and hundredths as diagrams and on a number line. Interchange between fractional and decimal number lines. Understand and use fractions and equivalent fractions.	Understand and use letter and labelling conventions for geometric figures. Draw and measure line segments. Understand angles as a measure of turn. Classify angles. Recognise types of triangle and quadrilateral. Understand and use the sum of angles at a point and on a straight line.	Know and use the vocabulary of probability.
Developing	Perform calculations that cross zero. Compare two numbers using inequality symbols. Order a list of Integers. Understand place value for decimals. Use formal methods for addition and subtraction of decimals. Understand and use factors and multiples. Recognise prime numbers.	Predict and check the next terms in a sequence. Substitute values into a single expression. Understand fact families both numerically and algebraically.	Convert between fractions and decimals. Understand the meaning of percentage. Represent any fraction as a diagram or on a number line. Understand fractions as division.	Identify parallel and perpendicular lines.Measure and Draw angles. Identify polygons (up to a decagon). Understand and use the equality of vertically opposite angles	Identify and represent sets. Gnerate sample spaces for single events. Find the range and median of a set of numbers.
Securing	Add, subtract, multiply and divide with directed number. Position decimals on a number line. Compare and order any number (up to a billion). Solve problems involving addition and subtraction in the context of: perimeter, financial maths, tables and timetables, frequency trees and bar charts/line charts. Use formal methods for multiplication and division of Integers and decimals. Use estimation as a method of checking mental calculations. Know how and when to use a mental method, formal method or a calculator for different calculations. Recognise square and triangular numbers.	Use sequences in a table and graphically. Understand and continue linear and non-linear sequences. Understand and use 2-step function machines. Substitute into 2-step expressions. Solve 1-step linear equations using inverse operations.	Use and interpret simple pie charts using proportion. Identify and use simple equivalent fractions. Convert fluently between fractions, decimals and percentages. Find a fraction of a given amount. Use a fraction to find the whole or other fractions. Find a percentage of an amount using mental methods and a calculator. Convert between mixed numbers and improper fractions. Add and subtract fractions with the same denominator and where they share a common multiple.	Know and apply angle rules of triangles and quadrilaterals. Construct SSS, SAS and ASA triangles. . Interpret pie charts using a protractor.	Interpret and create Venn Diagrams. Calcualte the probability of a single event. Understand and use the probability scale.
Advancing	Use a calculator for directed number calculations. Understand and use order of operations (including with directed number). Round a number to 1 significant figure. Convert metric units. Multiply and divide Integers by powers of 10. Find common multiples and the LCM. Find common factors and the HCF. Write a number as a product of its prime factors. Make and test conjectures.	Explain the term-to-term rule of a sequence. Generate sequences given an algebraic rule. Represent 1 and 2-step function machines graphically. Understand the meaning of like and unlike terms. Use fractions in algebraic contexts.	Add and subtract fractions with any denominator. Add and subtract improper fractions and mixed numbers. Use equivalence to add and subtract decimals and fractions.	Solve complex angle problems, including triangles and quadrilaterals. Construct more complex polygons. Draw pie charts. Solve problems using the area of rectangles, parallelograms and triangles.	Understand and use the union and intersection of sets. Know that the sum of probabilities for all possible outcomes is 1. Solve problems using the mean.
Mastering	Find Roots of positive numbers. Explore higher powers and roots. Understand and write positive and negative powers of 10. Write positive integers in standard form. Write decimals in standard form. Add and subtract numbers in standard form. Multiply by 0.1 and 0.01.	Find mising terms of a sequence. Simplify algebraic expressions by collecting like terms. Evaluate algebraic expressions with directed number. Solve two-step equations. Explore multiplication and division of algebraic expressions. Add and subtract simple algebraic fractions.	Convert between fractions and decimals (eighths and thousandths). Explore numbers above 1 as decimals, fractions and percentages. Solve problems with fractions (greater than 1) and percentages (greater than 100%).	Find and use the angle sum of any polgon. Investigate, undersatnd and use angle rules in parallel lines. Use known facts to obtain simple proofs. Solve problems using the area of a trapezium.	Understand and use the complement of a set. Use a Venn Diagram to find the HCF and LCM.