

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Algebraic Thinking						Place Value and Proportion					
	Sequences	Understand and use algebraic notation		Equality and equivalence			Place value and ordering integers and decimals			Fraction, decimal and percentage equivalence		
Spring	Applications of Number						Directed Number			Fractional Thinking		
	Solving problems with addition & subtraction	Solving problems with multiplication and division			Fractions & percentages of amounts		Four operations with directed number			Addition and subtraction of fractions		
Summer	Lines and Angles						Reasoning with Number					
	Constructing, measuring and using geometric notation		Developing geometric reasoning				Developing number sense		Sets and probability		Prime numbers and proof	

Autumn Half Term 1 – Algebraic Thinking		
Block 1 – Weeks 1 and 2	Block 2 – Weeks 3 and 4	Block 3 – Weeks 5 and 6
Exploring sequences <ul style="list-style-type: none"> Describe and continue sequences in diagram and number forms, both linear and non-linear Compare numerical and graphical forms 	Understanding and using algebraic notation <ul style="list-style-type: none"> Use single function machines and series of two function machines with numbers, bar models and letters Use and interpret algebraic notation Understand and use inverse operations Form and substitute into expressions, including to generate sequences. Represent functions graphically 	Equality and equivalence <ul style="list-style-type: none"> Understand equality Use fact families Form and solve one-step equations Understand equivalence of algebraic expressions Collect like terms
Notes/Links/Interleaving <ul style="list-style-type: none"> Calculators should be used throughout this unit, building in teaching efficient use of calculators and informal estimation All material in this unit is revisited and extended in forthcoming units 		Additional Higher Content This introductory unit is designed to be accessed by all students – exemplification documents will illustrate tasks suitable for students of different levels of prior attainment including challenge for higher attainers.

Autumn Half Term 2 – Place Value and Proportion	
Block 4 – Weeks 7 to 9	Block 5 – Weeks 10 to 12
Place value and ordering <ul style="list-style-type: none"> Recognise and use integer place value up to one billion Recognise and use decimal place value to at least hundredths Work out intervals and use number lines Compare and order numbers Use ordered lists to find the range and the median of a set of numbers Round numbers to positive powers of ten Round numbers to one significant figure 	Fraction, decimal and percentage equivalence <ul style="list-style-type: none"> Represent tenths and hundredths on diagrams and number lines Interchange between fractions, decimals and percentages for multiples of one tenths and one quarter Interpret pie charts Equivalent fractions Convert between other fractions, decimals and percentages
Notes/Links/Interleaving <ul style="list-style-type: none"> Solve equations with fractions, including fractional coefficients Consider sequences with fractions 	Additional Higher Content <ul style="list-style-type: none"> Explore and use standard index form Explore fractions above one Convert multiples of one eighth to decimals and percentages

Spring Half Term 1 – Application of Number		
Block 1 – Weeks 1 and 2	Block 2 – Weeks 3 to 5	Block 3 – Week 6
Addition and Subtraction <ul style="list-style-type: none"> Use mental and formal written methods of addition with integers and decimals, including choosing the most appropriate method Solve problems in the context of perimeter, money and frequency trees and tables Solve problems in the context of bar charts and line charts 	Multiplication and division <ul style="list-style-type: none"> Multiply by 10, 100 and 1000, 0.1 and 0.01, and convert metric units Use mental and formal written methods of multiplication and division Find the HCF and LCM of small numbers Evaluate areas of triangles, rectangles and parallelograms Find the mean of a set of numbers Find simple fractions and percentages of amounts Begin to use the order of operations 	Fractions and percentages of amounts <ul style="list-style-type: none"> Work out simple fractions and percentages of amounts, with and without a calculator
Notes/Links/Interleaving <ul style="list-style-type: none"> Perimeter problems to revisit equations and simplifying Tables to include distance charts and simple timetables Revisit rounding Choosing when to use mental, written or calculator methods Order of operations to be revisited with negative numbers 		Additional Higher Content <ul style="list-style-type: none"> Explore addition of numbers given in standard form Evaluate the area of a trapezium Find the HCF and LCM of algebraic expressions Find areas involving algebraic expressions Use fractions greater than 1

Spring Half Term 2 – Directed Number and Fractional Thinking	
Block 4 – Weeks 7 to 9	Block 5 – Weeks 10 to 12
Directed Number <ul style="list-style-type: none"> Order directed numbers, both in contextualised and abstract situations Revisit four operations to include directed number Use a calculator with directed number Solve two-step equations (with and without a calculator) Use the order of operations 	Adding and subtracting fractions <ul style="list-style-type: none"> Represent tenths and hundredths on diagrams and number lines Convert mixed numbers and improper fractions Add and subtracting fractions with <ul style="list-style-type: none"> the same denominator one denominator a multiple of the other different denominators Add and subtract fractions and decimals e.g. $\frac{3}{4} + 0.2$
Notes/Links/Interleaving <ul style="list-style-type: none"> Include inequality number lines Revisit sequences, substitution and equations 	Additional Higher Content <ul style="list-style-type: none"> Negative square roots Higher powers

Summer Half Term 1 – Lines and angles	
Block 1 – Weeks 1 to 3	Block 2 – Weeks 4 to 6
Construction and measuring <ul style="list-style-type: none"> Understand and use letting and labelling notation for lines and angles Draw and measure lines and angles accurately Classify angles Identify and draw parallel and perpendicular lines Recognise types of triangle, quadrilateral and other polygons Construct triangles given SSS, SAS, ASA Draw and interpret pie charts 	Geometric Reasoning <ul style="list-style-type: none"> Calculate and use angles at a point, angles on a straight line and vertically opposite angles Calculate missing angles in triangles and quadrilaterals
Notes/Links/Interleaving <ul style="list-style-type: none"> Revisit simplifying and perimeter in e.g. polygons Form and solve equations in geometric settings Revisit mental and formal methods of addition and subtraction, including with decimals 	Additional Higher Content <ul style="list-style-type: none"> Understand and use parallel lines rules Understand and use the sum of angles in any polygon Derive simple proofs using angles rules

Summer Half Term 2 – Reasoning with number		
Block 3 – Weeks 7 and 8	Block 4 – Weeks 9 and 10	Block 5 – Weeks 11 and 12
Developing Number Sense <ul style="list-style-type: none"> Mental arithmetic strategies Use known facts to derive other facts, Evaluate an algebraic expression given a related fact Use estimation 	Sets and Probability <ul style="list-style-type: none"> Understand and use set notation Draw and interpret Venn diagrams Understand and use the language of probability Calculate the probability of a single event Use the sum of probabilities of an event is 1 	Prime numbers and proof <ul style="list-style-type: none"> Recognise prime, square and triangle numbers Express a number as a product of prime factors Powers and roots Make and test conjectures Understand and use counterexamples
Notes/Links/Interleaving <ul style="list-style-type: none"> Revisit FDP equivalence, and simple FDP addition and subtraction Revisit factors and multiples, both numerically and algebraically 	Additional Higher Content <ul style="list-style-type: none"> Understand and use the complement of a set Use prime factors to find HCFs and LCMs 	

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Proportional Reasoning						Representations					
	Ratio and scale		Multiplicative change		Multiplying and dividing fractions		Working in the Cartesian plane			Representing data		Tables & Probability
Spring	Algebraic techniques						Developing Number					
	Brackets, equations and inequalities				Sequences	Indices	Fractions and percentages			Standard index form	Number sense	
Summer	Developing Geometry						Reasoning with Data					
	Angles in parallel lines and polygons			Area of trapezia and circles		Line symmetry and reflection	The data handling cycle			Measures of location		

Autumn Half Term 1 – Proportional Reasoning		
Block 1 – Weeks 1 and 2	Block 2 – Weeks 3 and 4	Block 3– Weeks 5 and 6
Ratio and Scale <ul style="list-style-type: none"> Understand ratio and its link to multiplication Use ratio notation Reduce ratios to simplest form Solve ratio problems Calculate the circumference of a circle 	Multiplicative Change <ul style="list-style-type: none"> Use scale factors, linking to ratio, to solve simple direct proportion problems Convert between currencies, including using graphs Draw and interpret scale diagrams and maps 	Multiplying and dividing fractions <ul style="list-style-type: none"> Multiply and divide a fraction by an integer Multiply and divide a fraction by a fraction Understand and use the reciprocal
Notes/Links/Interleaving <ul style="list-style-type: none"> Revisit area Revisit equations Revisit converting improper fractions and mixed numbers Link to fractions of an amount 		Additional Higher Content <ul style="list-style-type: none"> Express any ratio in the form $1:n$ Explore direct proportion graphs Multiply and divide mixed numbers Multiply and divide simple algebraic fractions

Autumn Half Term 2 – Representation		
Block 4 – Weeks 7 to 9	Block 5 – Weeks 10 and 11	Block 6– Week 12
Working in the Cartesian plane <ul style="list-style-type: none"> Plot and interpret straight line graphs Understand and use the equations of a straight line, including lines parallel to the axes Make links between direct proportion and straight lines of the form $y = kx$ Model situations by translating them into expressions, formulae and graphs 	Representing data <ul style="list-style-type: none"> Draw and interpret scatter graphs Understand correlation Draw and use lines of best fit Understand grouped and ungrouped, discrete and continuous data Design and use one and two-way tables 	Probability <ul style="list-style-type: none"> List outcomes using sample space diagrams for one and two events Find probabilities using tables and Venn diagrams
Notes/Links/Interleaving <ul style="list-style-type: none"> Revisit calculation with directed number Link to solving one and two-step linear equations Revisiting Venn diagrams and set notation Links to representing data and using graphs in other areas of the curriculum 		Additional Higher Content <ul style="list-style-type: none"> Find the mid-point of a line segment Explore gradient Explore non-linear graphs Use the product rule for counting

Spring Half Term 1 – Algebraic Techniques		
Block 1 – Weeks 1 to 4	Block 2 – Week 5	Block 3 – Week 6
<p>Brackets, equations and inequalities</p> <ul style="list-style-type: none"> Expand, and factorise into, single brackets Form and use expressions, formulae and identities Form and solve equations and inequalities with and without brackets Distinguish between equations, expressions, formulae and identities 	<p>Sequences</p> <ul style="list-style-type: none"> Generate sequences using more complex rules, e.g. with brackets and squared terms, both in words and algebraically 	<p>Indices</p> <ul style="list-style-type: none"> Form expressions using indices Understand and use the addition and subtraction rules
<p>Notes/Links/Interleaving</p> <ul style="list-style-type: none"> Revisit the use of directed number Solve equations set in the context of earlier contexts – shapes, angles, probability, ratio etc. 	<p>Additional Higher Content</p> <ul style="list-style-type: none"> Expand a pair of binomials Solve equations and inequalities with unknowns on both sides Find the rule for the n^{th} term of a linear sequence Explore powers of powers 	

Spring Half Term 2 – Developing number		
Block 4 – Weeks 7 and 8	Block 5 – Weeks 9 and 10	Block 6 – Weeks 11 and 12
<p>Fractions and percentages</p> <ul style="list-style-type: none"> Develop understanding of fractions, decimals and percentages Evaluate percentage increases and decreases Use multipliers to solve percentage problems Express one number as a percentage of another 	<p>Standard index form</p> <ul style="list-style-type: none"> Convert between numbers in ordinary and standard form Compare numbers given in standard form Calculate with numbers given in standard form, with and without a calculator 	<p>Number sense</p> <ul style="list-style-type: none"> Develop mental strategies Convert between metric measures and units Estimation, including rounding to a given number of decimal places Use the order of operations
<p>Notes/Links/Interleaving</p> <ul style="list-style-type: none"> Revisit fraction, decimal and percentage equivalence Revisit formal methods for calculation, for integers and fractions Compare and use ratios in the context of FDP 	<p>Additional Higher Content</p> <ul style="list-style-type: none"> Finding the original given any percentage Understand and use surd notation Understand and use negative and simple fractional indices Convert between units of area and volume Use error interval notation 	

Summer Half Term 1 – Developing geometry		
Block 1 – Weeks 1 and 2	Block 2 – Weeks 3 and 4	Block 3 – Weeks 5 and 6
<p>Angles in parallel lines and polygons</p> <ul style="list-style-type: none"> Review Y7 angles rules Understand and use parallel lines and angles Revisit geometric notation Work out angles in special quadrilaterals Find and use the sum of interior and exterior angles of a polygon Prove simple geometric facts 	<p>Area of a trapezia and circles</p> <ul style="list-style-type: none"> Review area of shapes covered in year 7 Calculate the area of a trapezium Calculate the area of a circle, and the area of parts of a circle Use significant figures Calculate the area of compound shapes 	<p>Line symmetry and reflection</p> <ul style="list-style-type: none"> Recognise line symmetry in polygons and other shapes Reflect shapes in horizontal, vertical and diagonal lines
<p>Notes/Links/Interleaving</p> <ul style="list-style-type: none"> Revisit forming and solving equations Revisit properties of shapes Revisit equations of straight lines 		<p>Additional Higher Content</p> <ul style="list-style-type: none"> Perform standard constructions including perpendiculars Understand and use the properties of diagonals of quadrilaterals

Summer Half Term 2 – Reasoning with data	
Block 4 – Weeks 7 to 10	Block 5 – Weeks 11 and 12
<p>The data handling cycle</p> <ul style="list-style-type: none"> Understand and use primary and secondary sources of data Collect data, including using questionnaires Interpret and construct statistical diagrams, including multiple bar charts Construct and interpret pie charts Compare distributions using charts Identify misleading graphs 	<p>Measures of location and dispersion</p> <ul style="list-style-type: none"> Revisit the median and mean, including finding the total given the mean Find the mean of grouped data Work out the mode and modal class Choose the appropriate average Comparing distributions using measures
<p>Notes/Links/Interleaving</p> <ul style="list-style-type: none"> Revisit finding the range Use algebraic substitution to form lists for averages and the range Links to data collection and representation in other areas of the curriculum 	<p>Additional Higher Content</p> <ul style="list-style-type: none"> Find unknown data values given the mean or changes in the mean Explore histograms for unequal groups Find the median from a table of values