Year: 7
Subject: Mathematics

Term	Week	Focus	Summary	Learning Outcomes	Parental Support	Independent Learning
1A	1	Place value, ordering and rounding	In the section of the course pupils develop a deeper understanding of number lines including deciding intervals on the line and place decimals on a number line	Integers numbers and words Compare and order integers Intervals on a number line Place value for decimals Compare and order decimals Decimals on a number line	Detailed unit overview containing examples of the technique's children are taught	Lesson resources in case you want to finish something at home
	2	Place value, ordering and rounding	In this weeks lessons pupils will use their knowledge of number lines to round numbers to a given degree of accuracy. Pupils exceeding their age related expectations may also move on to writing numbers in standard from	Round to powers of 10 Round to the nearest integer Round to decimal places Powers of 10 Numbers Greater than 1 in standard form Negative powers of 10 Numbers between 0 and 1 in standard form	Detailed unit overview containing examples of the technique's children are taught	Lesson resources in case you want to finish something at home

	3	The four operations	This week pupils will apply their knowledge of place value to allow them to add, multiply and divide integers and decimals	Add and subtract integers Add and subtract decimals Multiply and divide by 10, 100 and 1000 Multiply by 0.1 and 0.01 Multiply Integers	Detailed unit overview containing examples of the technique's children are taught	Lesson resources in case you want to finish something at home
	4	The four operations	In the second week of this topic pupils work on their formal written methods of calculation.	Divide Integers Multiply Decimals Divide decimals by integers Divide by a decimal The order of operations	Detailed unit overview containing examples of the technique's children are taught	Lesson resources in case you want to finish something at home
	5	Averages and range	During this topic pupils learn how to find the mean, median, mode and range of a set of data	Finding the mode Finding the Mean Finding the median Finding the range Solve problems with the averages and range		
	6	Rounding and estimation	Building on their rounding skills from earlier in the course pupils move on to rounding to a given number of significant figure and then learn to apply this skills to	Round to 1 significant figure Round to 2 or more significant figures Estimate answers to calculations		

			estimate the answers to calculations.	Solve problems with estimation		
	7	Buffer, Recap and Review				

Term	Week	Focus	Summary	Learning Outcomes	Parental Support	Independent Learning
1B	1	Sequences	This week pupils explore sequences in both pictorial and numerical form	Describe and continue sequences in pictorial form Find the next term of a sequence Identify Linear and non-linear sequences	Detailed Unit overview providing examples of the techniques children are taught	Lesson resources in case you want to finish something at home
	2	Sequences	In this week pupils continue to expand their knowledge of sequences extending their knowledge to continuing non-linear sequences.	Be able to continue linear sequences Continue non-linear sequences Term to term rules Find missing terms	Detailed Unit overview providing examples of the techniques children are taught	Lesson resources in case you want to finish something at home
	3	Algebraic notation and substitution	This week pupils learn how to use function machines involving one step to find the output given an input. This starts with function machine problems involving numbers and moves on to those with Algebraic expressions.	1 step function machines 2 step function machines 1 step function machines including algebra 2 step function machines including algebra	Detailed unit overview providing examples of the techniques children are taught	Lesson resources in case you want to finish something at home

	4	Algebraic notation and substitution	In the second week of this topic pupils progress to working with function machines requiring 2 steps of calculation leading to them being able to solve problems by substituting into expressions	Find a missing function 1 step Find a function involving 2 steps Substituting into an expression 1 step Substitution 2 step problems	Detailed unit overview providing examples of the techniques children are taught	Lesson resources in case you want to finish something at home
	5	Expressions and equations	This part of the course develops pupils' ability to simplify expressions and their understanding of the concept of equivalence.	Understand the concept of equality and equivalence Understand inverse relationships Identify like and unlike terms Collect like terms	Detailed unit overview providing examples of the technique's children are taught	Lesson resources in case you want to finish something at home
	6	Expressions and equations	Pupils now apply the knowledge they have learnt so far this year to solving 1 and 2 step equations	Solve 1 step equations involving addition and subtraction Solve 1 step equations involving multiplication and division Solve 2 step equations	Detailed unit overview providing examples of the technique's children are taught	Lesson resources in case you want to finish something at home
	7	Recap and Review				

Term	Week	Focus	Summary	Learning Outcomes	Parental Support	Independent Learning
2A	1	Graphing data	This part of the course focuses on representing	Represent data in Pictograms		

			data using pictograms and bar charts	Represent data in bar charts Represent data in dual bar charts Represent data in composite bar charts		
	2	Graphing data	Pupils in the second part of this topic review their knowledge of coronates in the first quadrant and apply to plotting scatter graphs. Then then learn to draw and use a line of best fit.	Plot Coordinates in the first quadrant Plotting scatter graphs Identifying Correlation Plotting a line of best fit		
	3	Graphing data	In the 3rd week of our graphing data unit pupils learn how to plot time series data and non-linear relationships.	Plot and interpret time series data Be able to graph non-linear relationships		
	4	Fractions, decimals and percentages	The first week of this topic concentrates on representing fractions and their corresponding decimals on number lines building on the knowledge gained in the 'Place value and ordering unit'.	Represent 10ths and 100ths Number lines with fractions and decimals 10ths, 100ths, 5ths and quarters 8ths and thousandths		
	5	Fractions, decimals and percentages	This week pupils develop their knowledge of what a percentage is and how to represent fractions on diagrams eventually leading to an understanding of why	Understand percentages Convert between simple fractions, decimals and percentages		

			some fractions are equivalent	Fractions as diagrams Fractions on a number line		
	6	Fractions, decimals and percentages	In the final week of this topic pupils deepen their understanding of fractions including understanding them as a form of division and harder forms of fractions, decimal and percentage conversion	Identify equivalent fractions Compare and order fractions Understand fractions as division (with a calculator) Convert harder fractions, decimals and percentages (with a calculator) Understand fractions, decimals and percentages greater than 1		
	7	Directed number	This week pupils deepen their understanding of directed numbers starting by representing them on number lines the moving on to identifying ‘zero pairs’.	Directed number and number lines Compare and order directed numbers Directed number and zero pairs Calculations that cross zero		
	7	Directed number	In the final week of this half term pupils develop their ability to apply their	Add directed numbers Subtract directed numbers		

			knowledge of directed number to the four operations	Multiply and divide directed numbers Order of operations with directed numbers Use a calculator with directed numbers		

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2B	1	Fractions and percentages of amounts	In this week pupils extend their knowledge of fractions and decimals to find percentages and fractions of amounts	Find a fraction of an amount Use a fraction to find a whole Percentage of an amount (non-calculator) Percentage of an amount using a calculator		
	2	Fractions and percentages of amounts	In the second of this topic pupils further develop their knowledge by learning how to increase and decrease by a given percentage with more able class progressing to finding the whole given a percentage.	Increase or decrease by a given amount Use a percentage to find the whole Solve problems with fractions and multipliers greater than 1.		
	3	Perimeter and area	In this unit pupils develop their understanding of area and perimeter. This week	Convert metric units of length		

			concentrates on units of length and permitter. The concept of area is introduced at the end of the week.	Perimeter of a polygon Perimeter of a compound shape Area of rectangles and parallelograms		
	4	Perimeter and area	This week pupils apply their knowledge of finding simple areas to finding the areas of triangles and trapeziums. They will then move problem solving questions with some pupils learning how to solve area and perimeter problems involving algebra	Area of a triangle Area of a trapezium Solve problems with perimeter and area Form expressions with area and perimeter		
	5	End of term test				
	6	Speed distance and time	In this build their knowledge of mathematical techniques required to solve problems involving Speed, distance and time. This week concentrates on converting units of time and reading timetables.	Convert between milliseconds, seconds, minutes and hours Convert between hours days and years Fractions of time Solve problems with tables and timetables		
	7	Speed distance and time	This week pupils move on to calculating speed, distance and time	Solve problems with time and the calendar		

				Calculate speed Calculate time and distance Solve problems with speed, distance and time		

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3A	1	Speed, distance and time	In the final week of this topic pupils are taught how to draw graphs involving speed, distance and time	Interpret distance – time graphs Draw distance – time graphs Calculate speed from a distance time graph		
	2	Properties of number	During the next 3 weeks pupils will further develop their knowledge of the properties of number starting by looking at prime numbers, multiples, factors and prime factors	Finding the multiples of a number Lowest Common Multiples (LCM) Finding the factors of a number Highest common factors (HCF)		
	3	Properties of number	This week pupils learn about powers and roots. Moving	Identify prime numbers		

			on to finding the Highest Common Factor of two or more numbers	List the prime factors of a number Find the HCF and LCM from venn diagrams Use factors to simplify calculations		
	4	Properties of number	During the final week of this topic we cover how to find the LCM of two or more numbers and how to use prime factorisation to find the HCF and LCM.	Square, cube and triangular numbers Square roots and cube roots Explore higher powers and roots		
	5	Add and subtract fractions	In this unit pupils apply their number skills from earlier units to learn how to add and subtract fractions. This week focuses on adding fractions with the same denominator and simplifying the result.	Simplify a fraction Convert improper fractions to mixed numbers Add and subtract fractions with the same denominator Add and subtract with fractions and integers		
	6	Add and subtract fractions	This week pupils will learn to add and subtract fractions moving on to adding and subtracting mixed numbers	Add and subtract fractions where denominators where a simple common multiple Add and subtract fractions with any denominators		

				Add and subtract improper fractions and mixed numbers		
	7	Add and subtract fractions	In the final week of this topic pupils are introduced to using equivalence to add fractions and decimals with some pupils progressing on to adding and subtracting algebraic fractions	Use equivalence to add decimals and fractions Add and subtract simple algebraic fractions Substitution and solving equations with fractions		

Term	Week	Focus	Summary	Learning Outcomes	Parental Support	Indenpendant Learning
3B	1	Angles and polygons	This week pupils refresh their knowledge of angle notation, measuring angles and basic angle facts.	Draw and measure angles and lines Understand and use geometric notation Angles around a point Angles on a straight line		
	2	Angles and polygons	In the second week of this topic pupils develop their knowledge of basic angle such as vertically opposite angles being equal and use their angles knowledge to	Know Vertically opposite angles are equal Facts about angles in triangles		

			help them classify and name polygons.	Facts about angles in quadrilaterals Solve problems with angles.		
	3	Angles and polygons	During the final week of this topic pupils learn how to solve more complex angles problems involving angles in parallel lines and polygons. Some pupils will progress to writing simple algebraic proofs for angle facts.	Parallel and perpendicular lines Angles in parallel lines Angles in a polygon Simple Proofs		
	4	Revision	A recap of what has been covered so far this year in preparation for the end of year test.			
	5	End of year test				