



Curriculum Overview

MATHEMATICS – YEAR 7 2023/24

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Y7 Autumn Term

Year	Topic	Key Words	Key Skills & Key Knowledge (Small Steps)
7	Sequences (2 weeks)	<div> <div>arithmetic</div> <div>linear</div> </div> <div> <div>ascending</div> <div>non-linear</div> </div> <div> <div>axes</div> <div>position</div> </div> <div> <div>axis</div> <div>rule</div> </div> <div> <div>descending</div> <div>second difference</div> </div> <div> <div>difference</div> <div>sequence</div> </div> <div> <div>Fibonacci</div> <div>table</div> </div> <div> <div>geometric</div> <div>term</div> </div> <div> <div>graph</div> <div>term-to-term</div> </div> <p><u>Word of the Block: Linear</u></p> <ul style="list-style-type: none"> Etymology Discussed Frayer Model Used 	<div>Describe and continue a sequence given diagrammatically</div> <div>Predict and check the next term(s) of a sequence</div> <div>Represent sequences in tabular and graphical forms</div> <div>Recognise the difference between linear and non-linear sequences</div> <div>Continue numerical linear sequences</div> <div>Continue numerical non-linear sequences</div> <div>Explain the term-to-term rule of numerical sequences in words</div> <div>Find missing numbers within sequences</div>
Cultural Capital		Assessment	NC Reference and Links
<p>Literacy Task – Famous Mathematicians Pythagoras</p> <p>Teachers ensure that resources reference a wide range of scenarios reflecting modern society.</p>		<p>1 x Block Assessment <i>All students to complete this assessment, then the scores are to be kept secure. Optional extra assessment to support lower attainers.</i></p> <p>Think Pink Go Green Sheet <i>The Think Pink contains an analysis or strengths, weaknesses, and improvements to be made.</i></p>	<p>National curriculum content covered:</p> <p>move freely between different numerical, algebraic, graphical and diagrammatic representations</p> <p>make and test conjectures about patterns and relationships</p> <p>use a calculator and other technologies to calculate results accurately and then interpret them appropriately</p> <p>recognise geometric sequences and appreciate other sequences that arise</p> <p>generate terms of a sequence from a term - to - term rule</p> <p>recognise arithmetic sequences</p>



Year	Topic	Key Words	Key Skills & Key Knowledge (Small Steps)
7	Understanding and using algebraic notation (2 weeks)	<div> <div>bar model</div> <div>index</div> <div>bracket</div> <div>input</div> <div>coefficient</div> <div>inverse</div> <div>commutative</div> <div>operation</div> <div>equality</div> <div>output</div> </div> <p><u>Word of the Block: Inverse</u></p> <ul style="list-style-type: none"> Etymology Discussed Frayer Model Used 	<ul style="list-style-type: none"> Given a numerical input, find the output of a single function machine Use inverse operations to find the input given the output Use diagrams and letters to generalise number operations Use diagrams and letters with single function machines Find the function machine given a simple expression Substitute values into single operation expressions Find numerical inputs and outputs for a series of two function machines Use diagrams and letters with a series of two function machines Find the function machines given a two-step expression Substitute values into two-step expressions Generate sequences given an algebraic rule Represent one- and two-step functions graphically
Cultural Capital		Assessment	NC Reference and Links
Black History Month		<p>1 x Block Assessment</p> <p><i>All students to complete this assessment, then the scores are to be kept secure. Optional extra assessment to support lower attainers.</i></p> <p>Think Pink Go Green Feedback</p> <p><i>This contains an analysis of strengths, weaknesses, and improvements to be made.</i></p>	<p>National curriculum content covered:</p> <p>move freely between different numerical, algebraic, graphical and diagrammatic representations</p> <p>use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships</p> <p>recognise and use relationships between operations including inverse operations</p>



Year	Topic	Key Words		Key Skills & Key Knowledge (Small Steps)
7	Equality and Equivalence (2 weeks)	equation evaluate expression fact family function	solution solve square substitute variable	<ul style="list-style-type: none"> Understand the meaning of equality Understand and use fact families, numerically and algebraically Solve one-step linear equations involving $+/ -$ using inverse operations Solve one-step linear equations involving \times / \div using inverse operations Understand the meaning of like and unlike terms Understand the meaning of equivalence Simplify algebraic expressions by collecting like terms, using the \equiv symbol
		<u>Word of the Block: Fact Family</u> <ul style="list-style-type: none"> Etymology Discussed Fraye Model Used 		
Cultural Capital		Assessment		NC Reference and Links
Real- life application of mathematical concepts		1 x Block Assessment <i>All students to complete this assessment, then the scores are to be kept secure.</i> <i>Optional extra assessment to support lower attainers.</i> Think Pink Go Green		National curriculum content covered: use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships simplify and manipulate algebraic expressions to maintain equivalence by collecting like terms use approximation through rounding to estimate answers use algebraic methods to solve linear equations in one variable

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	Feedback <i>This contains an analysis or strengths, weaknesses, and improvements to be made.</i>	
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Year	Topic	Key Words	Key Skills & Key Knowledge (Small Steps)																				
7	Place Value and Ordering (3 weeks)	<table><tr><td>approximate</td><td>leading digit</td></tr><tr><td>average</td><td>least</td></tr><tr><td>billion</td><td>less than</td></tr><tr><td>compare</td><td>median</td></tr><tr><td>convention</td><td>middle</td></tr><tr><td>decimal</td><td>number</td></tr><tr><td>decimal point</td><td>numeral</td></tr><tr><td>digit</td><td>place value</td></tr><tr><td>equal</td><td></td></tr><tr><td>division</td><td>placeholder</td></tr></table> <p><u>Word of the Block: Digit</u></p> <ul style="list-style-type: none">• Etymology Discussed• Frayer Model Used	approximate	leading digit	average	least	billion	less than	compare	median	convention	middle	decimal	number	decimal point	numeral	digit	place value	equal		division	placeholder	<div><div></div>Recognise the place value of any number in an integer up to one billion</div> <div><div></div>Understand and write integers up to one billion in words and figures</div> <div><div></div>Work out intervals on a number line</div> <div><div></div>Position integers on a number line</div> <div><div></div>Round integers to the nearest power of ten</div> <div><div></div>Compare two numbers using =, ≠, <, >, ≤, ≥</div> <div><div></div>Order a list of integers</div> <div><div></div>Find the range of a set of numbers</div> <div><div></div>Find the median of a set of numbers</div> <div><div></div>Understand place value for decimals</div> <div><div></div>Position decimals on a number line</div> <div><div></div>Compare and order any number up to one billion</div>
approximate	leading digit																						
average	least																						
billion	less than																						
compare	median																						
convention	middle																						
decimal	number																						
decimal point	numeral																						
digit	place value																						
equal																							
division	placeholder																						

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			<ul style="list-style-type: none"> Round a number to 1 significant figure Write 10, 100, 1000 etc. as powers of ten Write positive integers in the form $A \times 10^n$ Investigate negative powers of ten Write decimals in the form $A \times 10^n$
Cultural Capital	Assessment	NC Reference and Links	
<p>Literacy Task – Engineering Great Pyramid of Giza</p> <p>Teachers ensure that resources reference a wide range of scenarios reflecting modern society.</p>	<p>1 x Block Assessment <i>All students to complete this assessment, then the scores are to be kept secure.</i> <i>Optional extra assessment to support lower attainers.</i></p> <p>Think Pink Go Green Feedback <i>This contains an analysis or strengths, weaknesses, and improvements to be made.</i></p>	<p>National curriculum content covered:</p> <p>Consolidate their understanding of the number system and place value to include decimals understand and use place value for decimals, measures and integers of any size order positive and negative integers, decimals and fractions; use the number line as a model for ordering of the real numbers; use the symbols $=$, \neq, \leq, \geq work interchangeably with terminating decimals and their corresponding fractions round numbers to an appropriate degree of accuracy describe, interpret and compare observed distributions of a single variable through: the median and the range interpret and compare numbers in standard form</p>	

Year	Topic	Key Words	Key Skills & Key Knowledge (Small Steps)
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7	Fraction, decimal and percentage equivalence (3 weeks)	<table><tr><td>convert</td><td>numerator</td></tr><tr><td>decimal</td><td>operator</td></tr><tr><td>denominator</td><td>part</td></tr><tr><td>digit</td><td>percent(age)</td></tr><tr><td>division</td><td>pie chart</td></tr><tr><td>eighths</td><td>place value</td></tr><tr><td>equal parts</td><td>placeholder</td></tr><tr><td>equivalent</td><td>quarter</td></tr><tr><td>fraction</td><td>quotient</td></tr></table> <p><u>Word of the Block: Equivalent</u></p> <ul style="list-style-type: none">Etymology DiscussedFrayer Model Used	convert	numerator	decimal	operator	denominator	part	digit	percent(age)	division	pie chart	eighths	place value	equal parts	placeholder	equivalent	quarter	fraction	quotient	<div><div>Represent tenths and hundredths as diagrams</div><div>Represent tenths and hundredths on number lines</div><div>Interchange between fractional and decimal number lines</div><div>Convert between fractions and decimals – tenths and hundredths</div><div>Convert between fractions and decimals – fifths and quarters</div><div>Convert between fractions and decimals – eighths and thousandths</div><div>Understand the meaning of percentage using a hundred square</div><div>Convert fluently between simple fractions, decimals and percentages</div><div>Use and interpret pie charts</div><div>Represent any fraction as a diagram</div><div>Represent fractions on number lines</div><div>Identify and use simple equivalent fractions</div><div>Understand fractions as division</div><div>Convert fluently between fractions, decimals and percentages</div><div>Explore fractions above one, decimals and percentages</div></div>
convert	numerator																				
decimal	operator																				
denominator	part																				
digit	percent(age)																				
division	pie chart																				
eighths	place value																				
equal parts	placeholder																				
equivalent	quarter																				
fraction	quotient																				
Cultural Capital		Assessment	NC Reference and Links																		
<p><u>Maths Careers</u></p> <p>Guided reading comprehension task</p> <p>Illuminating the role of a Lawyer.</p>		<p>1 x Block Assessment</p> <p><i>All students to complete this assessment, then the scores are to be kept secure.</i></p> <p><i>Optional extra assessment to support lower attainers.</i></p> <p>Think Pink Go Green Feedback</p> <p><i>This contains an analysis or strengths, weaknesses, and improvements to be made.</i></p> <p>End of Term Assessment</p> <p><i>. 1 hour Paper</i></p>	<p>National curriculum content covered:</p> <p>consolidate their understanding of the number system and place value to include decimals, fractions</p> <p>move freely between different numerical representations [for example, equivalent fractions, fractions and decimals]</p> <p>extend their understanding of the number system; make connections between number relationships</p> <p>express one quantity as a fraction of another, where the fraction is less than 1 and greater than 1</p> <p>define percentage as ‘number of parts per hundred’, interpret percentages as a fraction or a decimal</p> <p>compare two quantities using percentages</p> <p>work with percentages greater than 100%</p> <p>interpret pie charts</p>																		



Year 7 Spring Term

Year	Topic	Key Words	Key Skills & Key Knowledge (Small Steps)
7	Problem Solving Addition and Subtraction (3 weeks)	associative hours balance inverse bill length billion loss calculator mental carrying million change minutes column number bonds <u>Word of the Block: Associative</u> <ul style="list-style-type: none"> Etymology Discussed Frayer Model Used 	<ul style="list-style-type: none"> Properties of addition and subtraction Mental strategies for addition and subtraction Use formal methods for addition of integers Use formal methods for addition of decimals Use formal methods for subtraction of integers Use formal methods for subtraction of decimals Choose the most appropriate method: mental strategies, formal written or calculator Solve problems in the context of perimeter Solve financial maths problems Solve problems involving tables and timetables Solve problems with frequency trees Solve problems with bar charts and line charts Add and subtract numbers given in standard form
Cultural Capital		Assessment	NC Reference and Links
Literacy Task – Astronomy First person in space Teachers ensure that resources reference a wide range of scenarios reflecting modern society.		1 x Block Assessment <i>All students to complete this assessment, then the scores are to be kept secure.</i> <i>Optional extra assessment to support lower attainers.</i> Think Pink Go Green Feedback <i>This contains an analysis of strengths, weaknesses, and improvements to be made.</i>	National curriculum content covered: use formal written methods, applied to positive integers and decimals recognise and use relationships between operations including inverse operations derive and apply formulae to calculate and solve problems involving: perimeter construct and interpret appropriate tables, charts, and diagrams, including frequency tables, bar charts and pictograms for categorical data, and vertical line (or bar) charts for ungrouped numerical data



Year	Topic	Key Words		Key Skills & Key Knowledge (Small Steps)
7	Problem Solving Multiplication and Division (3 weeks)	coefficient common commutative convert divide dividend divisor efficient	multiple multiply odd ones operation order parallel parallelogram	<div> <div>▀</div> Properties of addition and subtraction <div>▀</div> Mental strategies for addition and subtraction <div>▀</div> Use formal methods for addition of integers <div>▀</div> Use formal methods for addition of decimals <div>▀</div> Use formal methods for subtraction of integers <div>▀</div> Use formal methods for subtraction of decimals <div>▀</div> Choose the most appropriate method: mental strategies, formal written or calculator <div>▀</div> Solve problems in the context of perimeter <div>▀</div> Solve financial maths problems <div>▀</div> Solve problems involving tables and timetables <div>▀</div> Solve problems with frequency trees <div>▀</div> Solve problems with bar charts and line charts <div>▀</div> Add and subtract numbers given in standard form </div>
		Word of the Block: Commutative <ul style="list-style-type: none"> Etymology Discussed Fray Model Used 		
Cultural Capital		Assessment		NC Reference and Links
Teachers ensure that resources reference a wide range of scenarios reflecting modern society.		1 x Block Assessment <i>All students to complete this assessment, then the scores are to be kept secure.</i> <i>Optional extra assessment to support lower attainers.</i> Think Pink Go Green Feedback		National curriculum content covered: use formal written methods, applied to positive integers and decimals select and use appropriate calculation strategies to solve increasingly complex problems recognise and use relationships between operations including inverse operations use the concepts and vocabulary factors (or divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple



	<p><i>This contains an analysis or strengths, weaknesses, and improvements to be made.</i></p>	<p>change freely between related standard units [time, length, area, volume/capacity, mass]</p> <p>derive and apply formulae to calculate and solve problems involving: perimeter and area of triangles, parallelograms, and trapezia (H)</p> <p>substitute numerical values into formulae and expressions, including scientific formulae</p> <p>use algebraic methods to solve linear equations in one variable (including all forms that require rearrangement)</p> <p>describe, interpret and compare observed distributions of a single variable through: the mean</p>
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Year	Topic	Key Words	Key Skills & Key Knowledge (Small Steps)								
7	Fractions and Percentages of amounts (2 weeks)	<table><tr><td>convert</td><td>numerator</td></tr><tr><td>denominator</td><td>original</td></tr><tr><td>equivalent</td><td>percent(age)</td></tr><tr><td>fraction</td><td>whole</td></tr></table> <p><u>Word of the Block: Denominator</u></p> <ul style="list-style-type: none">Etymology DiscussedFraye Model Used	convert	numerator	denominator	original	equivalent	percent(age)	fraction	whole	<div><div>Find a fraction of a given amount</div><div>Use a given fraction to find the whole and/or other fractions</div><div>Find a percentage of a given amount using mental methods</div><div>Find a percentage of a given amount using a calculator</div><div>Solve problems with fractions greater than 1 and percentages greater than 100%</div></div>
convert	numerator										
denominator	original										
equivalent	percent(age)										
fraction	whole										
Cultural Capital		Assessment	NC Reference and Links								
<p><u>Maths Careers</u></p> <p>Guided reading comprehension task</p> <p>Illuminating the role of a Retail Banker.</p>		<p>1 x Block Assessment</p> <p><i>All students to complete this assessment, then the scores are to be kept secure.</i></p> <p><i>Optional extra assessment to support lower attainers.</i></p> <p>Think Pink Go Green Feedback</p>	<p>National curriculum content covered:</p> <p>use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions interpret fractions and percentages as operators</p>								



	<i>This contains an analysis or strengths, weaknesses, and improvements to be made.</i>	
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Year	Topic	Key Words	Key Skills & Key Knowledge (Small Steps)
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7	Directed Number (3 weeks)	ascending negative balance order of operations bigger partition brackets positive calculator priority commutative product decrease reflection descending root <u>Word of the Block: Negative</u> <ul style="list-style-type: none"> Etymology Discussed Frayer Model Used 	<ul style="list-style-type: none"> Understand and use representations of directed numbers Order directed numbers using lines and appropriate symbols Perform calculations that cross zero Add directed numbers Subtract directed numbers Multiplication of directed numbers Multiplication and division of directed numbers Use a calculator for directed number calculations Evaluate algebraic expressions with directed number Introduction to two-step equations Solve two-step equations Use order of operations with directed numbers Roots of positive numbers Explore higher powers and roots
Cultural Capital		Assessment	NC Reference and Links
Literacy Task – Sport Red Rum's First Grand National Win Teachers ensure that resources reference a wide range of scenarios reflecting modern society.		1 x Block Assessment <i>All students to complete this assessment, then the scores are to be kept secure. Optional extra assessment to support lower attainers.</i> Think Pink Go Green Feedback <i>This contains an analysis or strengths, weaknesses, and improvements to be made.</i>	National curriculum content covered: select and use appropriate calculation strategies to solve increasingly complex problems use the four operations, including formal written methods, applied to integers, both positive and negative recognise and use relationships between operations including inverse operations use square and square roots use a calculator and other technologies to calculate results accurately and then interpret them appropriately substitute numerical values into formulae and expressions, including scientific formulae understand and use the concepts and vocabulary of expressions, equations, inequalities, terms and factors simplify and manipulate algebraic expressions to maintain equivalence understand and use standard mathematical formulae Interleaving/Extension of previous work use conventional notation for the priority of operations forming and solving linear equations, including two - step equations



Year	Topic	Key Words		Key Skills & Key Knowledge (Small Steps)
7	Addition and subtraction of fractions (3 weeks)	congruent denominator descending divide equal parts equation equivalent expression geometric greater than improper fraction	mixed number multiple negative numerator partition place value positive sequence simplify solve substitute	<ul style="list-style-type: none"> Understand representations of fractions Convert between mixed numbers and fractions Add and subtract unit fractions with the same denominator Add and subtract fractions with the same denominator Add and subtract fractions from integers expressing the answer as a single fraction Understand and use equivalent fractions Add and subtract fractions where denominators share a simple common multiple Add and subtract fractions with any denominator Add and subtract improper fractions and mixed numbers Use fractions in algebraic contexts Use equivalence to add and subtract decimals and fractions Add and subtract simple algebraic fractions
Cultural Capital		Assessment		NC Reference and Links
Real- life application of mathematical concepts		1 x Block Assessment <i>All students to complete this assessment, then the scores are to be kept secure. Optional extra assessment to support lower attainers.</i> Think Pink Go Green Feedback <i>This contains an analysis or strengths, weaknesses, and improvements to be made.</i> End of Term Assessment <i>. 1 hour Paper</i>		National curriculum content covered: move freely between different numerical, graphical and diagrammatic representations [for example, equivalent fractions, fractions and decimals] express one quantity as a fraction of another, where the fraction is less than 1 and greater than 1 order positive and negative integers, decimals and fractions; use the number line as a model for ordering of the real numbers; use the symbols $=$, \neq , \leq , \geq select and use appropriate calculation strategies to solve increasingly complex problems use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative work interchangeably with terminating decimals and their corresponding fractions Interleaving/Extension of previous work finding the range and the median

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		substitution into algebraic formulae forming and solving linear equations, including two - step equations
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Y7 Summer Term

Year	Topic	Key Words		Key Skills & Key Knowledge (Small Steps)
7	Constructing, measuring and geometric notation (3 weeks)	acute angles compasses compound construct decagon degrees diagonal edges	measure notation obtuse parallel perpendicular point polygon proportion protractor	<ul style="list-style-type: none"> Understand and use letter and labelling conventions including those for geometric figures Draw and measure line segments including geometric figures Understand angles as a measure of turn Classify angles Measure angles up to 180° Draw angles up to 180° Draw and measure angles between 180° and 360° Identify perpendicular and parallel lines Recognise types of triangle Recognise types of quadrilateral Identify polygons up to a decagon Construct triangles using SSS Construct triangles using SSS, SAS and ASA Construct more complex polygons Interpret simple pie charts using proportion Interpret pie charts using a protractor Draw pie charts
Cultural Capital		Assessment		NC Reference and Links
Literacy Task – Art MC Escher and Tessellations Teachers ensure that resources reference a wide range of		1 x Block Assessment <i>All students to complete this assessment, then the scores are to be kept secure.</i>		National curriculum content covered: use language and properties precisely to analyse 2 - D shapes begin to reason deductively in geometry including using geometrical constructions draw and measure line segments and angles in geometric figures, including

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scenarios reflecting modern society.	<p><i>Optional extra assessment to support lower attainers.</i></p> <p>Think Pink Go Green Feedback</p> <p><i>This contains an analysis or strengths, weaknesses, and improvements to be made.</i></p>	<p>interpreting scale drawings</p> <p>describe, sketch and draw using conventional terms and notations: points, lines, parallel lines, perpendicular lines, right - angles , regular polygons, and other polygons that are reflectively and rotationally symmetric</p> <p>use the standard conventions for labelling sides and angles</p> <p>construct and interpret pie charts for categorical, ungrouped and grouped numerical data</p> <p>Identify and construct triangles</p> <p>Interleaving/Extension of previous work</p> <p>revisit four operations</p>
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Year	Topic	Key Words		Key Skills & Key Knowledge (Small Steps)	
7	Developing geometric reasoning (3 weeks)	alternate angle co-interior concave conjecture convex convex corresponding	notation parallel parallelogram perpendicular point polygon quadrilateral regular	<div><div></div> Understand and use the sum of angles at a point</div> <div><div></div> Understand and use the sum of angles on a straight line</div> <div><div></div> Understand and use the equality of vertically opposite angles</div> <div><div></div> Know and apply the sum of angles in a triangle</div> <div><div></div> Know and apply the sum of angles in a quadrilateral</div> <div><div></div> Solve angle problems using properties of triangles and quadrilaterals</div> <div><div></div> Solve complex angle problems</div> <div><div></div> Find and use the angle sum of any polygon</div> <div><div></div> Investigate angles in parallel lines</div> <div><div></div> Understand and use parallel line angle rules</div> <div><div></div> Use known facts to obtain simple proofs.</div>	
Cultural Capital		Assessment		NC Reference and Links	
<u>Maths Careers</u>		1 x Block Assessment		National curriculum content covered:	

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<p>Guided reading comprehension task Illuminating the role of a Dentist</p>	<p><i>All students to complete this assessment, then the scores are to be kept secure. Optional extra assessment to support lower attainers.</i></p> <p>Think Pink Go Green Feedback <i>This contains an analysis or strengths, weaknesses, and improvements to be made.</i></p>	<p>use language and properties precisely to analyse 2 - D shapes, begin to reason deductively in geometry including using geometrical constructions describe, sketch and draw using conventional terms and notations: points, lines, parallel lines, perpendicular lines, right - angles , regular polygons, and other polygons that are reflectively and rotationally symmetric use the standard conventions for labelling sides and angles derive and illustrate properties of triangles, quadrilaterals, circles, and other plane figures [for example, equal lengths and angles] using appropriate language and technologies apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles apply angle facts, triangle similarity and properties of quadrilaterals to derive results about angles and sides, and use known results to obtain simple proofs understand and use the relationship between parallel lines and alternate and corresponding angles (H) derive and use the sum of angles in a triangle and use it to deduce the angle sum in any polygon, and to derive properties of regular polygons (H) Interleaving/Extension of previous work forming and solving linear equations revisiting addition and subtraction, including decimals</p>
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Year	Topic	Key Words	Key Skills & Key Knowledge (Small Steps)
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7	Developing number sense (2 weeks)	addition associative calculation commutative compensation denominator divide efficient equal parts equality interpret multiple multiply number line numerator overestimate partition place value product quotient	<ul style="list-style-type: none"> Know and use mental addition and subtraction strategies for integers Know and use mental multiplication and division strategies for integers Know and use mental arithmetic strategies for decimals Know and use mental arithmetic strategies for fractions Use factors to simplify calculations Use estimation as a method for checking mental calculations Use known number facts to derive other facts Use known algebraic facts to derive other facts Know when to use a mental strategy, formal written method or a calculator
Cultural Capital		Assessment	NC Reference and Links
Literacy Task – Cryptography Where it all started Teachers ensure that resources reference a wide range of scenarios reflecting modern society.		1 x Block Assessment <i>All students to complete this assessment, then the scores are to be kept secure. Optional extra assessment to support lower attainers.</i> Think Pink Go Green Feedback <i>This contains an analysis or strengths, weaknesses, and improvements to be made.</i>	National curriculum content covered: consolidate their numerical and mathematical capability from key stage 2 and extend their understanding of the number system and place value to include decimals, fractions, powers and roots select and use appropriate calculation strategies to solve increasingly complex problems begin to reason deductively in number and algebra Interleaving/Extension of previous work Generating and describing sequences Substitution into expressions Order of operations



Year	Topic	Key Words		Key Skills & Key Knowledge (Small Steps)
7	Sets and Probability (2 weeks)	bias both certain complement element equally likely equivalent even event fair impossible inclusive	mutually exclusive not or outcomes possibilities sample space scale set simplify union universal set unlikely	<ul style="list-style-type: none"> Identify and represent sets Interpret and create Venn diagrams Understand and use the intersection of sets Understand and use the union of sets Understand and use the complement of a set H Know and use the vocabulary of probability Generate sample spaces for single events Calculate the probability of a single event Understand and use the probability scale Know that the sum of probabilities of all possible outcomes is 1
Cultural Capital		Assessment		NC Reference and Links
Real- life application of mathematical concepts		1 x Block Assessment <i>All students to complete this assessment, then the scores are to be kept secure.</i> <i>Optional extra assessment to support lower attainers.</i> Think Pink Go Green Feedback		National curriculum content covered: record, describe and analyse the frequency of outcomes of simple probability experiments involving randomness, fairness, equally and unequally likely outcomes, using appropriate language and the 0 - 1 probability scale understand that the probabilities of all possible outcomes sum to 1 enumerate sets and unions/intersections of sets systematically, using tables, grids and Venn diagrams



	<p><i>This contains an analysis or strengths, weaknesses, and improvements to be made.</i></p> <p>generate theoretical sample spaces for single and combined events with equally likely and mutually exclusive outcomes and use these to calculate theoretical probabilities</p> <p>appreciate the infinite nature of the sets of integers, real and rational numbers</p> <p>Interleaving/Extension of previous work FDP equivalence</p> <p>Forming and solving equations Adding and subtracting fractions</p>
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Year	Topic	Key Words		Key Skills & Key Knowledge (Small Steps)
7	Prime and Proof (2 weeks)	assumption conjecture counterexample demonstration digit divisible divisor event	multiples never odd positive prime product proof relationship	<p>Find and use multiples</p> <p>Identify factors of numbers and expressions</p> <p>Recognise and identify prime numbers</p> <p>Recognise square and triangular numbers</p> <p>Find common factors of a set of numbers including the HCF</p> <p>Find common multiples of a set of numbers including the LCM</p> <p>Write a number as a product of its prime factors</p> <p>Use a Venn diagram to calculate the HCF and LCM H</p> <p>Make and test conjectures</p> <p>Use counterexamples to disprove a conjecture</p>
Cultural Capital		Assessment		NC Reference and Links
Teachers ensure that resources reference a wide range of scenarios reflecting modern society.		1 x Block Assessment <i>All students to complete this assessment, then the scores are to be kept secure. Optional extra assessment to support lower attainers.</i> Think Pink Go Green Feedback		National curriculum content covered: use the concepts and vocabulary of prime numbers, factors (or divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation property



	<p><i>This contains an analysis of strengths, weaknesses, and improvements to be made.</i></p> <p>End of Term Assessment . 1 hour Paper</p>	<p>use integer powers and associated real roots (square, cube and higher), recognise powers of 2, 3, 4, 5 make and test conjectures about patterns and relationships; look for proofs or counterexamples begin to reason deductively in number and algebra Interleaving/Extension of previous work Generating and describing sequences Factors and multiples</p>
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