

Year 7		Year 8	
Week	LHS Core & Extension	LHS Core & Extension	Week
1	Y7 Transition	FDP	1
2	Place Value (Decimals, Rounding)	(Conversions, % of an Amount & Change, 4 operations with FDP)	2
3			3
4			4
5		Statistics	5
6	Calculations (4 Operations with Decimals)	(Venn Diagrams, Bar, Pictograms, Pie, Scatter, Averages)	6
7			7
8			8
9	Negative Numbers	Expressions (Negatives, Simplifying, Expanding Brackets, Factorising)	9
10			10
11	Algebra (A) (collecting like terms, reading and writing algebra, substitution)		11
12			12
13	Co-ordinates & Graphs (Functions, Co-ordinate Problems)		13
14			14
15	Probability (Outcomes, Product Rule, Two Way Tables)	Angles (Measuring, Points & Lines, Parallel Lines, Triangles, Quads)	15
16			16
17	Fractions (Conversions, 4 Operations)		17
18			18
19		Formulae (Substitution, Rearranging)	19
20			20
21	Indices (Notation, Laws, Roots, Order Ops)	Area and Volume (Y7/8 Resources) (Triangles, Quads, Circles, Nets, 3D Shapes, Volume Prisms, Cylinders)	21
22			22
23			23
24			24
25	Measures (Standard Form, Unit Conversions, Perimeter, Time, Speed)	Equations (Multi Step, Double Sided)	25
26			26
27		FINANCIAL MATHS Y7-10	27
28			28
29	No. Theory & Sequences (Factors, Primes, Multiples)	Equations (Multi Step, Double Sided)	29
30			30
31	Algebra (B) (multiplying variables, solving equations)	Sequences (Types of Sequence, Nth Term)	31
32			32
33	Shapes, Area, Pythagoras (Shape Properties, Area of Quads & Circles, Pythagoras)	Co-ordinates & Graphs (Co-ordinate Problems, Plotting Graphs)	33
34			34
35	ACTIVITIES WEEK	ACTIVITIES WEEK	35
36			36
37			37
38			38
39			39

Year 7	
Set	Scheme
1	Core & Extension
2	Core
3	Support
4	Support

Year 8	
Set	Scheme
1	Core& Extension
2	Core& Extension
3	Core
4	Core
5	Support
6	Support
7	Support

Number
Algebra
Shape, Space, Measures
Probability
Number & Algebra Crossover

Curriculum Objectives - Year 7

Weeks	Unit	Core Objectives Summary	Higher Objectives	Opportunities to practise prior learning/Pre-requisites	Support Curriculum Key Differences
1	Yr7 Transition	To introduce and improve calculator skills To introduce book standards			
2	Year 7 Unit 1 Place Value	Read & write integers & decimals. Use place value to convert tenths, hundredths, thousandths etc. from fractions and mixed numbers to decimals and vice versa. <u>Recognise all decimals are terminating, recurring or irrational.</u> Use inequality symbols (<, ≤, ≥). Compare decimals & fractions. Order decimals and place them on the number line. Round to decimal places & significant figures.	Add and subtract recurring decimals. Recognise types of irrational number, including surds and pi. Consider calculations that may create irrational numbers. Round recurring decimals. Work with numbers written in other bases.		More focus on reading and writing integers (thousands, millions etc). Includes rounding to the nearest 10,100,1000. Converting between fractions and decimals is more broken down, additional practice is provided. <u>Underlined objectives</u> are omitted. An extra week of time is allocated.
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4					
5	Year 7 Unit 2 Calculations	Use written methods to add, subtract and divide integers and decimals. Use short division to change fractions to decimals. Multiply integers and decimals by powers of 10. Multiply decimals. Know the effect of dividing by 0.5, 0.01, 0.001 and 0. <u>Divide decimals.</u>	Add and subtract recurring decimals. Work backwards to find missing digits in addition and subtraction problems involving integers and decimals. Use short division to notice the patterns in fractions as decimals. Multiply and divide by 0.1, 0.001 etc. Recognise the equivalence of multiplying by 0.1 and dividing by 10. Solve mixed word problems and puzzles involving decimals. Use clever calculation strategies to multiply and divide mentally.	Recurring decimal notation.	Adding decimals mentally is included, with focus on adding tenths (e.g. 0.7 + 0.4) Written methods are covered more thoroughly & are more broken down. Mental methods for doubling and halving are included. <u>Underlined objectives</u> are omitted. An extra week of time is allocated.
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8	Year 7 Unit 3 Negative Numbers	Order positive and negative numbers. Add, subtract, multiply and divide with negative integers <u>and decimals.</u>	Consider generalisations with negative numbers, e.g. 'two negative numbers could add up to 0'. Multiply negative numbers repeatedly, recognising when the overall product is positive or negative. Use the four operations with negative decimals.	Converting fractions to decimals. Four operations with decimals.	A larger proportion of the material uses smaller numbers, so that students can use number lines more of the time. <u>Underlined objectives</u> are omitted.
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11	Year 7 Unit 3 Intro to Algebra (A)	Use and interpret algebraic notation. Collect like terms. Use all four operations <u>and brackets</u> to write algebraic statements.	Multiply and divide algebraic fractions. Substitute fractions into expressions. Use algebra to prove how number tricks work.	Division by a decimal.	Collecting like terms is more broken down, more practice is provided. <u>Underlined objectives</u> are omitted.
12					
13					
14	Year 8 Unit 7 Co-ordinates & Graphs	Work out inputs and outputs of functions. Plot co-ordinates. Recognise the x and y values of co-ordinates.	Determine a function by considering inputs and outputs. Determine and plot co-ordinates that create 2D shapes, including tilted squares. Investigate the shapes of non linear graphs. Plot graphs of exponential growth. Solve simultaneous equations graphically.	Negative numbers. Substitution. Squaring, Cubing, Rooting. Order of Operations. 2D Shape properties.	Plotting quadratic graphs is broken down and additional practice is provided. <u>Underlined objectives</u> are omitted.
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16	Year 9 Unit 7 Probability	Describe probabilities as fractions, decimals and percentages. Place events on the 0-1 probability scale. Recognise mutually exclusive and exhaustive outcomes. List equally likely outcomes and use sample space diagrams. <u>Use the product rule for counting for independent and dependent events.</u> Calculate experimental probabilities. Estimate the number of times an event is expected to happen. Recognise fair and biased events. Use and complete frequency trees and two-way tables.	Use the product rule for counting in situations where the effect of order must be considered. Solve reverse probability problems.	Convert between fractions, decimals and percentages.	Simple probabilities are covered in more detail. Additional practice of frequency trees and two way tables is included. <u>Underlined objectives</u> are omitted.
17					
18	Year 7 Unit 4 Fractions	Recognise 1 whole can be written as a fraction in different ways. Shade a fraction of a diagram. Convert between improper fractions and mixed numbers. Calculate a fraction of an amount. Find equivalent fractions and simplify. Convert fractions and decimals using equivalent fractions, short division and place value. Add, subtract, multiply and <u>divide</u> with proper fractions. <u>Identify reciprocals.</u> Calculate with fractions, decimals and negatives.	Find the fraction of a diagram shaded by considering equal parts. Work backwards to find missing digits in 'fraction of problems'. Solve reverse fraction problems (find the whole, given a part). Investigate how Egyptians used unit fractions to make other fractions. Use the four operations with <i>mixed numbers</i> .	Converting fractions to decimals. Multiplying negatives. Multiplying decimals.	More practice is provided on fraction notation, adding like fractions and subtracting from the whole. Students are not expected to divide fractions. <u>Underlined objectives</u> are omitted. One week less time is allocated.
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22	Year 7 Unit 5 Indices	Calculate products of (3+) integers or fractions, including negatives. Use index notation to raise positive, negative, fractional and decimal bases to an index. Recognise square and cube numbers. Recognise the meaning of the index 1 and 0. <u>Evaluate bases raised to negative indices.</u> Use the laws of indices. Calculate square, cube and higher roots, where the result is both integer or decimal (using a calculator) <u>Estimate roots.</u> Use the order of operations.	Investigate patterns in the digits of powers, to try and identify the last digit of bases raised to very large indices. Work backwards to solve problems involving missing bases or indices. Combine index laws to simplify expressions with the same base. Consider the roots of fractions and negative numbers. Recognise when a root is undefined.	Multiplying negatives. Multiplying fractions. Multiplying decimals. Four operations with negatives. Reciprocals.	Positive bases are more broken down, with specific practice on the square and cube numbers. Roots are covered in less detail, with more emphasis on square and cube roots, rather than higher roots. <u>Underlined objectives</u> are omitted. One week less time is allocated.
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25	Year 7 Unit 7 Working with Measures	Estimate calculations by rounding to 1 significant figure. <u>Find upper and lower bounds of measured quantities.</u> <u>Write an error interval.</u> <u>Write numbers in standard form.</u> Estimate metric lengths. Convert metric units. Recognise equal length line notation. Calculate perimeters, including L shapes. <u>Recognise parts of a circle. Calculate circumference.</u> Write expression for perimeter. <u>Solve equations involving perimeter.</u> Convert units of time. Calculate time intervals.	Convert large and small metric lengths written in standard form. Estimate very large and small lengths. Investigate perimeters that can be made with tiles. Calculate speeds, distances and times.	Division by 0.5 Squaring & rooting. Rounding to decimal places/sig figures. Multiply & divide by powers of 10. Index notation. Adding and subtracting decimals. Knowing pi is irrational. Collecting like terms. Solving equations.	Rounding to 1 significant figure is included prior to estimating calculations. Bounds, error intervals and standard form is not included. Greater emphasis is placed on estimating and converting between metric lengths. Telling the time on a non digital clock is included <u>Underlined objectives</u> are omitted.
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29	Financial Maths				
30	Year 8 Unit 6 Number Theory & Sequences	List the factors of a number. Find the highest common factor of two or more numbers by listing. Recognise and list prime numbers. Recognise composite numbers. Write a number as the product of its prime factors. List the multiples of a number. Find the lowest common multiple of a set of two or more numbers. Write expressions for odds, evens and multiples in algebra. (Recognise odd and even numbers)	Recognise multiples of 2, 3, 4, 5, 6, 9 and 10 using divisibility tests. Know the meaning of real and imaginary numbers. Prove an expression will always generate odds, evens or particular multiples.	Using index notation. Expanding brackets. Substitute positive numbers into expressions. Writing algebraic expressions.	Additional practice with odd and even numbers is included. <u>Underlined objectives</u> are omitted. One additional week is allocated.
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32	Year 7 Unit 6 Intro to Algebra	Substitute positive and negative numbers into expressions. Solve one step and two step equations.	Multiply and divide algebraic fractions. Substitute fractions into expressions. Solve one step equations involving indices and roots. Solve two step equations involving division. Use algebra to prove how number tricks work.	Four operations with negatives. Using index notation. Laws of indices. Multiplying & dividing fractions. Order of operations. Division by a decimal. Calculating square and cube roots.	Collecting like terms is more broken down, more practice is provided. Equations have more positive integer solutions, making less use of decimals and fractions prior knowledge. <u>Underlined objectives</u> are omitted.
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35		Recognise parallel, perpendicular and equal length line notation. Construct parallel and perpendicular lines. (Naming quadrilaterals.) Recognise properties of quadrilaterals. Know that area is measured in squares. Calculate areas of parallelograms, triangles, trapezia, compound shapes. <u>Calculate the area of circles.</u> <u>Use Pythagoras' theorem to find missing lengths.</u>	Convert metric units for area. Find areas of shapes by considering a whole shape subtract another shape. Investigate Pythagoras' theorem by finding areas of tilted squares. Apply Pythagoras' theorem to find areas and perimeters of shapes.	Equal length line notation. Square numbers and roots. Multiply/divide powers of 10 Convert metric lengths. Multiply decimals. Recognising radius & diameter. Knowing pi is irrational.	More practice is provided for understanding area by counting squares. <u>Underlined objectives</u> are omitted. One less week is allocated.
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Year 8	
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6	Support
7	Support

Support curriculum is bold
Core follow core objectives but not underlined
Core & Extension cover all
(Brackets are objectives detail added by LHS)

37	Year 7 Unit 8 Shapes, Area & Pythag				
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Weeks	Unit	Core Objectives Summary	Extension & Challenge	Opportunities to practise prior learning/Pre-requisites	Support Curriculum Key Differences
1	Year 7 Unit 9 Fractions, Decimals, Percentages	(Refer to Y7 Unit 1 - Place Value - core objectives) Compare and order fractions and mixed numbers. Convert fractions and decimals. Order fractions and decimals. Convert between fractions, decimals and percentages. Calculate a percentage of an amount (non calc) (50%, 10%, 1%, 25% only) Use a decimal multiplier to find a percentage of an amount. <u>Use all four operations with decimals and fractions.</u>	Compare recurring and terminating decimals. Convert recurring decimals to fractions. Calculate percentage increases and decreases using decimal multipliers.	Convert improper fractions and mixed numbers. Use inequality symbols. Convert fractions and decimals. Set up equations.	Comparing & ordering fractions is more broken down. <u>Underlined objectives</u> are omitted. One extra week is allocated.
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4	Year 8 Unit 8 Statistics	Recognise how data is collected and that poorly designed questionnaires can result in misleading data. Populate and interpret frequency tables. Recognise types of data (Qualitative, Quantitative, Discrete, Continuous) Represent data using pictograms and bar charts. Interpret and construct pie charts. Interpret and construct scatter graphs. Recognise misleading graphs. Calculate averages (Initially with calculators allowed) . Recognise outliers and calculate the range. Populate Venn diagrams and recognise regions of intersection and union.	Working backwards from a known mean to find missing values. Recognise complements of regions on Venn diagrams, e.g. (A∩B) ^c Find conditional probabilities from Venn digrams.	Measuring and constructing angles. Knowing angles around a point add up to 360 degrees Adding negative numbers. Collecting like terms.	Tally tables are included. Additional and separate practice is provided for grouped frequency tables. Reading timetables is included. <u>Underlined objectives</u> are omitted. One extra week is provided. Venn diagrams in context are included.
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9	Year 8 Unit 1 Expressions	(Refer to Year 7 Unit 2 - Negative Numbers and 3 - Intro to Algebra) Use the four operations with negative numbers. Simplify expression by collecting like terms. Write expressions for length and perimeter. Collect like terms with indices. Multiply variables with indices. Simplify algebraic fractions. Write algebraic expressions using multiple operations. Expand single brackets. Factorise linear expressions. <u>Write expressions for areas.</u>	Expand single brackets and simplify expressions, e.g. 3(x +2) - 4(2x - 5) Expand double brackets. Expand triple brackets.	Four operations with negative numbers. Squaring. Collecting like terms. Perimeter. Multiplying variables. Laws of indices. Order of operations. Area of rectangles.	More broken down practice and review of negative numbers is provided. <u>Underlined objectives</u> are omitted.
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15	Year 8 Unit 2 Angles	Recognise angles and know the angle sum around a point. Recognise types of angles (Reflex, acute, obtuse, right). Measure angles using a protractor. <u>Name angles using 3 letter notation.</u> Calculate angles around straight lines and points. Identify corresponding, alternate and co-interior angles on parallel lines. Recognise equilateral, isosceles, and scalene triangles. Calculate angles in triangles. Solve problems involving multiple angle facts. Calculate angles in quadrilaterals. Know the angle facts for parallelograms and trapezia.	Calculate angles around parallel lines involving distractors. Solve problems involving overlapping shapes.	Recognising quadrilaterals, particularly parallelograms and trapezia. Equal and parallel line notation.	Additional practice of angles around lines and points is provided. A review of the properties of 2D shapes is provided. <u>Underlined objectives</u> are omitted.
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20	Year 8 Unit 3 Formulae	(Refer to Year 7 Intro to Algebra units) Write a formula to describe a relationship. Substitute positive and negative numbers into formulae. Rearrange formulae using one operation. <u>Rearrange formulae using two operations.</u>	Substitute numbers into the quadratic formula. Substitute fractions into formulae. Rearrange formulae involving roots and indices. Rearrange formulae involving brackets.	Four operations with negatives. Four operations with fractions. Expand brackets.	Rearranging involving multiplication and division is covered in less depth. <u>Underlined objectives</u> are omitted. One week less time is allocated.
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23	Year 8 Unit 4 Area & Volume	Calculate the area of triangles, parallelograms and trapezia. <u>Write expressions for area.</u> Calculate the area of circles, <u>semi-circles and quarter circles.</u> <u>Work out the area of compound shapes involving circles.</u> Write expressions for the area of shapes, <u>including compound rectilinear shapes.</u> Know the names and properties of 3D shapes (faces, vertices, edges). Recognise and construct nets of 3D shapes. Calculate the surface area of cubes and cuboids. Know that volume is measured in cubes. <u>Convert between units of volume and capacity.</u> Calculate the volume of cubes and cuboids (With calculator) . Calculate the volume of prisms and cylinders.	Work backwards from area to find missing lengths. Find the area of shaded regions involving circles and part circles. Write expressions for the area of circles. Find the volume of cubes/cuboids given their surface area, or vice versa.	Calculate the area of triangles, parallelograms and trapezia. Write expressions. Squaring. Index Notation. Area of a Circle. Find missing lengths of L shapes. Multiply & divide by powers of 10.	Naming of 2D shapes is reviewed. Additional practice working backwards from area to side lengths is included. <u>Underlined objectives</u> are omitted.
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28	Year 8 Unit 5 Equations	Recap solving one-step equations.		Four operations with negatives. Multiplication and division with decimals.	One step equations is further broken down, with separate practice on squaring included.
29	Financial Maths				
30	Year 8 Unit 5 Equations	Solve one and two step equations. Form and solve equations created from angle problems (With calculator). Solve multi-step equations. Set up and solve multi-step equations in the context of area, <u>surface area and volume.</u> <u>Solve equations with unknowns on both sides.</u>	Create equations with unknowns on both sides, and solve them.	Four operations with negatives. Multiplication and division with decimals. Squaring, Cubing, Rooting. Angle properties of lines, points and shapes. Expand brackets.	One step equations is further broken down, with separate practice on squaring included. <u>Underlined objectives</u> are omitted. One less week is allocated.
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33	Year 8 Unit 6 Sequences	Identify term to term rules and use them to continue a sequence. Identify different types of sequence (Geometric, Fibonacci, Arithmetic) (Explore the above) Use the nth term rule to find terms of a sequence. Write an expression for the nth term of a sequence. <u>Use algebra to identify if a term is in a sequence.</u>	Recognise multiples of 2, 3, 4, 5, 6, 9 and 10 using divisibility tests. Know the meaning of real and imaginary numbers. Prove an expression will always generate odds, evens or particular multiples.	Using index notation. Expanding brackets. Substitute positive numbers into expressions. Writing algebraic expressions. Solving equations.	Additional practice with odd and even numbers is included. <u>Underlined objectives</u> are omitted. One additional week is allocated.
34					
35	Year 8 Unit 7 Co-ordinates & Graphs	Work out inputs and outputs of functions. Plot co-ordinates. Recognise the x and y values of co-ordinates. Calculate the horizontal and vertical distance between co-ordinates. Plot and recognise linear graphs parallel to the axes. Plot linear graphs by creating a table of co-ordinates. <u>Determine whether a line will pass through a co-ordinate.</u> Plot quadratic and cubic graphs. <u>Recognise the shape and symmetries of linear, quadratic and cubic graphs.</u> <u>Read and use graphs.</u>	Determine a function by considering inputs and outputs. Determine and plot co-ordinates that create 2D shapes, including tilted squares. Investigate the shapes of non linear graphs. Plot graphs fo exponential growth. Solve simultaneous equations graphically.	Negative numbers. Substitution. Squaring, Cubing, Rooting. Order of Operations. 2D Shape properties.	Plotting quadratic graphs is broken down and additional practice is provided. <u>Underlined objectives</u> are omitted.
36					
37					
38					
39					

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Support curriculum is bold
Core follow core objectives but not underlined
Core & Extension cover all
(Brackets are objectives detail added by LHS)