

Curriculum (Subject) Overview



Believe, Succeed, Together

Mathematics

Year 7 Foundation (5-1)		
Content Overview – Highlighted sections are areas for extension/if time is available		
Half Term	Length of Half Term	Content
Autumn 1	7 weeks	1. Number: Using Numbers 2. Algebra: Sequences 3. Geometry: 2d and 3d shapes End of Half Term Test
Autumn 2	7 weeks	4. Geometry: Calculating Angles 5. Ratio and Proportion: Fractions 6. Algebra: Coordinates and Graphs End of Half Term Test
Spring 1	5 weeks	7. Geometry: Angles 8. Algebra: Expressions and Substitution 9. Algebra: Solving Equations End of Half Term Test
Spring 2	6 weeks	10. Geometry: Symmetry 11. Number: Decimal Numbers 12. Ratio and Proportion: Ratio End of Half Term Test
Summer 1	6 weeks	13. Algebra: Solving Complex Equations 14. Ratio and Proportion: Percentages 15. Algebra: Graphs from Equations 16. Number: Rounding End of Half Term Test
Summer 2	7 weeks	17. Geometry: Scale and Perimeter 18. Ratio and Proportion: FDP End of Year Test

Autumn 1 – 7 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
Introduction, Rules, Passwords, Homework expectations etc					
1. Number: Using Numbers	1 The Calendar and Clocks	Can read and use calendars Tell the time using an analogue clock Convert times between 12- and 24-hour clock	B1.1 pg8 Ex1A B1.1 pg12 Ex1B TT L4P3 pg21-23 TT L4P3 pg24	ppt	
	2 Money	Recognise different values of coins Work out everyday money problems (e.g. change)	B1.1 pg15 Ex1C TT L4P3 pg15-18	ppt	MyMaths/ MathsWatch
	3 Negative Numbers	Order numbers along a number line Solve problems involving negative temperatures Add and subtract negative numbers	B1.1 pg17 Ex1D B1.1 pg20 Ex1E TT L4P3 pg11, 13 TT L5P4 pg3-4	ppt	
	4 Square Numbers	Understand what square numbers are Recognise square numbers up to 10×10 Use a calculator to square numbers greater than 10	B1.1 pg85 Ex5A TT L5P1 pg23-24	ppt	
	5 Rounding	Round numbers to different place values (10, 100, 1000) Round numbers to different decimal points Round numbers to significant figures	B1.1 pg89 Ex5B TT L4P3 pg7-8	ppt	MyMaths/ MathsWatch
	6 BIDMAS	Understand what BIDMAS stands for Use BIDMAS to solve complicated sums	B1.1 pg92 Ex5C TT L5P5 pg3	ppt	

	7 Multiplying	Multiply 1 by 2 digit numbers Multiply 2 by 2 digit numbers Multiply 3 by 2 digit numbers	B1.1 pg94 Ex5D TT L4P2 pg17-18 TT L5P1 pg7-8	ppt	
	8 Dividing	Divide integers by single digit integers using short division Divide decimals by single digit integers using short division	B1.1 pg96 Ex5E TT L5P1 pg9-10	ppt	MyMaths/ MathsWatch
Computer Room – Method Maths, MyMaths, MathsWatch					
2. Algebra: Sequences	1 Function Machines	Use a 1-step function machine to create a sequence Use a 2-step function machine to create a sequence Identify the function between two terms	B1.1 pg30 Ex2A TT L4P5 pg11-24 TT L5P5 pg28 TT L5P5 pg25-26	ppt	
	2 Sequences and Rules	Find term-to-term rules in a linear sequence Find term-to-term rules in other sequences like Square Numbers, Fibonacci, Pascal's Triangle etc	B1.1 pg35 Ex2B TT L3P6 pg5-6	ppt	MyMaths/ MathsWatch
	3 Finding Terms	Find missing terms from sequences Find particular terms by working through a sequence Create worded rules to describe a sequence	B1.1 pg38 Ex2C TT L4P5 pg38-39 TT L5P5 pg27		
3. Geometry: 2d and 3d shapes	1 Length and Perimeters	Understand the term perimeter Find perimeters of different shapes by adding lengths	B1.1 pg51 Ex3A B1.1 pg58 Ex3C Q1-5 TT L3P6 pg19-20	ppt	

	2 Area	Find areas of squares Find areas of rectangles Find areas of triangles	B1.1 pg54 Ex3B B1.1 pg58 Ex3C Q6-9 TT L5P4 pg36-37	ppt	MyMaths/ MathsWatch
	3 Compound Shapes	Understand the term compound shape Find missing lengths from sides Find the perimeter of a compound shape	TT L5P4 pg38 TT L6P5 pg22 D	ppt	
	4 3d Shapes	Name different 3d shapes according to their properties Cut out and put nets together to construct 3d shapes	B1.1 pg313 Ex16C http://www.senteacher.org/worksheet/12/NetsPolyhedra.html TT L4P8 pg27-28	ppt	
	5 Surface Area	Find areas of squares and rectangles Find the surface area of cubes and cuboids by calculating visible surfaces	TT L5P4 pg41 TT L5P6 pg36	ppt	MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Autumn 2 – 7 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
Basics	Adding and Subtracting	Add and Subtract integers using column method Add and Subtract decimals using column method Add and Subtract numbers with different numbers of digits using column method	TT L4P1 pg3-4 TT L4P1 pg13, 15 TT L4P2 pg5 TT L4P2 pg6		
	Multiplying and Dividing	Multiply 2 x 2 digit numbers using grid method Multiply 2 x 3 digit numbers using grid method Divide integers by integers using bus stop method	TT L4P2 pg5-6 TT L4P2 pg7-8 TT L4P2 pg9-10		
4. Geometry: Calculating Angles	1 Angles inside lines	Define parallel and perpendicular Find alternate angles Find corresponding angles Find vertically opposite angles	B2.1 pg29 Ex2A TT L5P3 pg18	ppt	MyMaths/ MathsWatch
	2 Measuring angles	Measure angles accurately using a protractor Identify acute, obtuse, right and reflex angles Construct angles accurately	TT L5P3 pg5-6	ppt	

	3 Calculating angles	Describing lines: Parallel, Intersecting, Perpendicular <u>Sums of angles</u> <ul style="list-style-type: none"> Angles around a point Angles along a straight line Vertically opposite angles 	B2.1 pg34 Ex2B TT L5P3 pg17-18	ppt	
	4 Missing Angles	Identify angles for corresponding and alternate angles <u>Sums of angles</u> <ul style="list-style-type: none"> Angles in a triangle Angles in a quadrilateral 	TT L5P3 pg27-28 TT L5P3 pg19-20 TT L5P3 pg21 TT L6P2 pg23-24		MyMaths/ MathsWatch
	5 Constructing angles	Construct obtuse, acute and right angles accurately Construct reflex angles accurately by subtracting from 360	TT L5P3 pg7-8 http://www.math-aids.com/Geometry/Constructions/		
	6 Constructing triangles	Construct ASA triangles Construct SSS triangles Construct SAS triangles	B2.1 pg250 http://www.math-aids.com/Geometry/Constructions/	ppt	
	7 Constructing Bisectors	Understand what a bisector is Construct perpendicular bisectors Construct angle bisectors	B2.1 pg250 TT L5P3 pg21-22 http://www.math-aids.com/Geometry/Constructions/		MyMaths/ MathsWatch
Computer Room – Method Maths, MyMaths, MathsWatch					
5. Ratio and Proportion: Fractions	1 Understanding Fractions	Work out shaded fractions of shapes Shade correct fractions of shapes	TT L3P4 pg41-42 TT L4P4 pg4	ppt	

	2 Equivalent Fractions	Compare fractions by finding equivalent fractions Find fractions of whole numbers by DDTT (Divide by Denominator, Times by the Top)	B1.1 pg 150 Ex8A TT L3P4 pg33-36 TT L3P4 pg39-40 TT L4P4 pg5 TT L5P2 pg3-4	ppt	MyMaths/ MathsWatch
	3 Adding and Subtracting Fractions	Add fractions with the same denominator Subtract fractions with the same denominator Add fractions by converting one fraction Subtract fractions by converting one fraction	B1.1 pg156 Ex8C B1.1 pg158 Ex8D TT L4P4 pg9-10	ppt	
	4 Mixed Numbers and Improper Fractions	Convert simple improper fractions to mixed numbers Convert mixed numbers to improper fractions	B1.1 pg161 Ex8E TT L4P4 pg11	ppt	
6. Algebra: Coordinates and Graphs	1 Coordinates	Plot coordinates onto a Cartesian graph in positive quadrant Read coordinates from a Cartesian graph in positive quadrant Read and Plot coordinates from a Cartesian graph in all 4 quadrants	B1.1 pg201 Ex10A	ppt	MyMaths/ MathsWatch
	2 Naming Graphs	Define parallel and perpendicular Read coordinates from a line parallel or perpendicular to the x- or y-axis	B1.1 pg207 Ex10C	ppt	
	3 Plotting Linear Graphs	Substitute integers into simple expressions Create coordinates from input-output diagrams Plot simple expressions into a one quadrant graph	B1.1 pg204 Ex10B TT L5P5 pg41-42	ppt	

	4 Christmas Graphs	Plot coordinates onto graph and create pictures	http://www.primaryresources.co.uk/topic/docs/christmas_coordinates.pdf http://www.tes.co.uk/teaching-resource/Christmas-Coordinates-6311273 TT L5P4 pg23-24		MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Spring 1 – 5 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
Basics	Four Functions	Add and Subtract using column method Multiply using grid method Divide using bus stop method	TT L4P1 pg5-6 TT L4P1 pg17, 19 TT L4P2 pg7-8		
7. Geometry: Angles	1 The Compass	Define the words Perpendicular, Parallel, Intersect Know that angles are about amount of turn – define $\frac{1}{2}$ turn, $\frac{1}{4}$ turn, $\frac{3}{4}$ turn, full turn as amounts of 360 (see page 99 7NMF1) Define acute, obtuse, right and reflex angle and estimate the sizes of different angles Label points on a compass and use them to write directions	B1.1 pg172 Ex9A	ppt	
	2 Measuring and Drawing Angles	Use a ruler to construct accurately measured straight lines Use a protractor to measure angles Use a protractor to construct angles	B1.1 pg178 Ex9B B1.1 pg183 Ex9C TT L5P3 pg5-6		MyMaths/ MathsWatch
	3 Constructing Triangles	Construct SSS Triangles using a compass Construct SAS Triangles using a protractor Construct ASA Triangles using a protractor	B2.1 pg250 http://www.math-aids.com/Geometry/Constructions/ TT L5P3 pg7-8	ppt	
	4 Calculating Angles	Calculate missing angles along a straight line Calculate missing angles inside a triangle Calculate missing angles from a right angle	B1.1 pg187 Ex9D TT L5P3 pg17-21	ppt	

8. Algebra: Expressions and Substitution	1 Algebraic Notation	Find missing numbers from equations Understand what simple notation means ($3n$, n^2 , $3n + 2$ etc)	B1.1 pg130 Ex7A Q1-9 TT L4P5 pg38-39 TT L5P5 pg8-9 Q1, 3		MyMaths/ MathsWatch
	2 Substitution	Substitute small integers into simple expressions i.e. ax , $ax + b$, x^2 etc	B1.1 pg130 Ex7A Q10-16 TT L5P5 pg8-9 Q2, 4		
	3 Simplifying Expressions	Simplify expressions by collecting simple like terms with positive coefficients Simplify expressions with both negative and positive coefficients	B1.1 pg130 Ex7A B1.1 pg135 Ex7B TT L5P5 pg8-9 Q5	ppt	
	4 Formulae	Fill a worded formula to solve problems Use formulae using expressions to solve problems	B1.1 pg138 Ex7C TT L5P5 pg10-11		MyMaths/ MathsWatch
9. Algebra: Solving Equations	1 Expressions and Terms	Understand what term means Understand basic algebraic notation Simplify simple algebraic expressions ($a + a + a$) Find missing numbers from simple equations	B1.1 pg272 Ex14A TT L5P5 pg18-19		
	2 Solving Equations	Use inverse functions to find solutions to simple equations ($3n = 12$ etc) Construct a flow diagram or function machine to illustrate an equation (e.g for $3n + 2 = 26$) $n \rightarrow \times 3 \rightarrow +2 \rightarrow 26$ $n \leftarrow \div 3 \leftarrow -2 \leftarrow 26$	B1.1 pg276 Ex14B TT L5P5 pg8-9 TT L6P1 pg6-7 Q9-10		

	3 Solving Complex Equations	Use flow diagrams to solve 3 step equations Some students may be able to start solving using inverse functions without a function machine Solve equations involving a division	B1.1 pg281 Ex14C TT L5P5 pg12-13 TT L6P1 pg6-7 Q9-10		MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Spring 2 – 6 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
Basics	Four Functions	Add and Subtract using column method Multiply using grid method Divide using bus stop method	TT L4P1 pg7-8 TT L4P2 pg9-10		
10. Geometry: Symmetry	1 Line Symmetry	Find lines of symmetry on different quadrilaterals (squares, rectangles, parallelograms) Identify lines of symmetry on any shape	B1.1 pg254 Ex13A TT L3P6 pg33-34 TT L4P7 pg31-34		
	2 Reflection	Reflect shapes across a vertical or horizontal mirror line Reflect shapes across a diagonal line Reflect shapes that are not touching the mirror line	B1.1 pg261 Ex13C Tracing paper TT L3P6 pg35-36		MyMaths/ MathsWatch
	3 Rotational Symmetry	Identify rotational symmetry of quadrilaterals (squares, rectangles, parallelograms, kites)	B1.1 pg257 Ex13B TT L4P7 pg37-38		
	4 Rotation	Rotate a shape around a point using tracing paper Describe a rotation	TT L6P2 pg13-14, 16 TT L7/8P4 pg33		
11. Number: Decimal Numbers	1 Multiplying by Powers of 10	Multiply whole numbers by 10, 100, 1000 Multiply decimal numbers by 10, 100, 1000 Divide whole numbers by 10, 100, 1000 Divide decimal numbers by 10, 100, 1000	B1.1 pg66 Ex4A TT L5P1 pg33-36		MyMaths/ MathsWatch

	2 Ordering and Place Value	Understand the term place value and able to label columns Order whole numbers by size Order decimal numbers by size	B1.1 pg69 Ex4B TT L5P2 pg21-22		
	3 Rounding	Round to nearest 10, 100, 1000 Round to nearest decimal place (1dp, 2dp)	TT L6P3 pg19 A-C		
	4 Estimating	Round to significant figures Use significant figures to estimate sums	B1.1 pg72 Ex4C TT L6P3 pg19 A-C TT L7/8P2 pg14		MyMaths/ MathsWatch
	5 Adding and Subtracting Decimals	Add and subtract decimal numbers with the same number of decimal places Add and subtract decimal numbers with different quantities of decimal places	B1.1 pg76 Ex4D TT L5P2 pg21-22		
Computer Room – Method Maths, MyMaths, MathsWatch					
12. Ratio and Proportion: Ratio	1 Ratio	Express shaded shapes as a ratio Simplify ratio to their lowest form Construct ratio to express worded problems	B1.1 pg319 Ex17A B1.1 pg324 Ex17B TT L5P6 pg41		MyMaths/ MathsWatch
	2 Ratios and Sharing	Share a ratio of a total value	B1.1 pg329 Ex17C TT L5P6 pg42 Section D-E		
	3 Proportion	Solve proportion questions by using unitary method Solve Best Value for money questions	TT L6P4 pg11-12 TT L6P4 pg13-14		

	4 Scale	Convert a measurement to real length using a scale Convert map distances to real distances	TT L5P3 pg9 TT L5P3 pg11 Map		MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Summer 1 – 6 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
Basics	Four Functions	Add and Subtract using column method Multiply using grid method Divide using bus stop method	TT L4P1 pg9-10 TT L4P2 pg11-12		
13. Algebra: Solving Complex Equations	1 Solving Equations	Solve simple equations in the form $ax + b = x$ Solve equations in the form $\frac{a}{x} + b = c$	TT L6P1 pg5-6		
	2 Solving double sided equations	Solve an equation with variables on both sides of the equation Solve equations with variables on both sides of the equation involving negative coefficients	TT L6P1 pg8 Q12		MyMaths/ MathsWatch
	3 Expanding Brackets	Collect-like terms to simplify an expression Expand brackets and collect like terms to their simplest form	TT L6P1 pg5 Q6-7		
	4 Solving equations with brackets	Solve simple linear equations involving brackets	TT L6P1 pg8 Q11, 13		
14. Ratio and Proportion: Percentages	1 Percentages of Whole Numbers	Find simple percentages 50%, 25%, 10%, 5%, 1% etc	B2.1 pg72 Ex4A TT L4P4 pg21-22 TT L5P2 pg32		MyMaths/ MathsWatch
	2 Percentage Change	Increase a number by a percentage Decrease a number by a percentage	B2.1 pg74 Ex4B TT L6P3 pg3-4		
	3 Change as a Percentage	Work out the change between two numbers as a percentage	B2.1 pg76 Ex4C TT L6P3 pg7-8		

15. Algebra: Graphs from Equations	1 Function Machines	Use function machines to find outputs from inputs Find a function from its inputs and outputs	TT L4P5 pg11-14		MyMaths/ MathsWatch
	2 Graphing Functions	Complete a table of values for a function Plot coordinates in the first quadrant Construct a line to show a function	B2.1 pg124 Ex7B TT L5P5 pg41-42		
	3 Solving using Graphs	Substitute values into an equation to plot a line graph Use graphs to solve equations	B2.1 pg119 Ex7A		
	4 Distance-Time Graphs	Interpret a distance-time graph Construct a distance-time graph Interpret a journey shown by a distance-time graph	B2.1 pg130 Ex7E TT L6P5 pg15-16		MyMaths/ MathsWatch
16. Number: Rounding	1 Place Value	Write numbers as words Identify the values of different digits in numbers Order numbers from smallest to largest	TT L3P1 pg31-36 TT L4P3 pg3-4 TT L3P1 pg37-38		
	2 Rounding	Round to the nearest 10, 100, 1000 Round to 1 significant figure Round to 1 or 2 decimal places	TT L3P6 pg3-4 TT L4P3 pg7-8		
	3 Estimation	Estimate the solutions to questions by rounding to 1 significant figure	TT L5P2 pg27		MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Summer 2 – 7 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
Basics	Four Functions	Add and Subtract using column method Multiply using grid method Divide using bus stop method	TT L4P1 pg11-12 TT L4P2 pg17-18		
17. Geometry: Scale and Perimeter	1 Area	Find the areas of squares and rectangles Find the areas of parallelograms Find missing lengths when given area	B2.1 pg98 Ex6A B2.1 pg111 Ex6D		
	2 Triangles	Find the areas of triangles Find the areas of compound shapes involving squares, rectangles and triangles	B2.1 pg107 Ex6C		MyMaths/ MathsWatch
	3 Compound Shapes	Find the areas of compound shapes with all dimensions Find the areas of compound shapes with missing dimensions	B2.1 pg102 Ex6B TT L5P4 pg38-39		
	4 Surface Area	Find the surface area of cubes and cuboids by calculation Use nets to find surface area of cubes and cuboids	TT L5P6 pg36-37		
	5 Metric Conversions	Convert metric lengths Convert metric capacity Convert metric weights	TT L4P3 pg27-30		MyMaths/ MathsWatch

18. Ratio and Proportion: FDP	1 Fractions and Percentages	Simplify fractions to their lowest forms Convert fractions to percentages by finding equivalent fractions out of 100 Convert percentages to fractions by putting the denominator as 100 and simplifying	B1.1 pg218 Ex11A TT L4P5 pg41-42		
	2 Fractions of Whole Numbers	Find fractions of whole numbers using DDTT (D ivide by the D enominator, T imes by the T op)	B1.1 pg221 Ex11B TT L4P4 pg12		
	3 Converting FDP	Convert Decimals to Fractions and Percentages Convert Fractions to Decimals and Percentages Convert Percentages to Fractions and Decimals			MyMaths/ MathsWatch
	4 Using a Calculator	Use a calculator to find harder percentages	B1.1 pg226 Ex11D TT L5P2 pg30-31 TT L5P2 pg32		
	5 Percentage Increase and Decrease	Find solutions following a percentage change (simple and harder percentages with and without a calculator)	B1.1 pg228 Ex11E TT L6P3 pg3-4		

Revision

End of Year Test – Paper 1 (Non-Calculator)

End of Year Test – Paper 2 (Calculator)

Results and DRAFT (last lesson of each half term)

Year 7 Higher (9-4) Content Overview – Highlighted sections are suggested areas for extension		
Half Term	Length of Half Term	Content
Autumn 1	7 weeks	1. Number: Negative Numbers 2. Algebra: Sequences 3. Geometry: 2d and 3d Shapes End of Half Term Test
Autumn 2	7 weeks	4. Number: Decimals 5. Algebra: Simplification and Substitution 6. Ratio and Proportion: Fractions 7. Algebra: Coordinates and Graphs End of Half Term Test
Spring 1	5 weeks	8. Geometry: Angles 9. Ratio and Proportion: Percentages End of Half Term Test
Spring 2	6 weeks	10. Geometry: Transformations 11. Ratio and Proportion: Ratio 12. Algebra: Solving Equations End of Half Term Test
Summer 1	6 weeks	13. Number: Multiples and Factors 14. Algebra: Graphs 15. Geometry: Congruency 16. Geometry: Circles End of Half Term Test
Summer 2	7 weeks	17. Number: Significant Figures 18. Geometry: Prisms End of Year Test

Autumn 1 – 7 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
Introduction, Rules, Passwords, Homework expectations etc					
1. Number: Negative Numbers	1 The Basics	Add and Subtract using column method Add and Subtract decimals using column method Multiply 3 x 3 digit numbers Divide integers by integers	TT L5P1 pg7-8 TT L5P1 pg9-10	ppt	
	2 Negative Numbers	Order negative numbers Add and Subtract negative numbers	B1.3 Ex1B pg14 B1.3 Ex1C pg17 B1.3 Ex1D pg19 TT L4P3 pg11 TT L5P4 pg3	ppt	MyMaths/ MathsWatch
	3 Negative Numbers	Multiplying and Dividing negative numbers	B1.3 Ex1E pg22 TT L5P2 pg21-23		
	4 Powers	Squares and Square Roots Cubes and Cube Roots	B1.3 Ex5A pg96 TT L78P2 pg29-30	ppt	
Computer Room – Method Maths, MyMaths, MathsWatch					MyMaths/ MathsWatch
2. Algebra: Sequences	1 Sequences and Rules	Working out the position-to-term rule Creating a sequence from a position-to-term rule Finding missing terms from a sequence	B1.3 Ex2A pg30 B1.3 Ex2B pg33	ppt	

	2 Nth Term	Creating an nth term rule from a sequence – rising sequence Decreasing sequences	B1.3 Ex2C pg36 B1.3 Ex2D pg39	ppt	
	3 Creating a rule	Basic algebraic substitution Substitution into nth term rules to create a sequence		ppt	MyMaths/ MathsWatch
	4 Other sequences	Fibonacci Square and Cube Numbers Triangular numbers – patterns with square numbers Pascal's Triangle	B1.3 Ex2E pg42	ppt	
3. Geometry: 2d and 3d Shapes	1 Properties of 2d and 3d Shapes	Numbers of sides: Triangle – Decagon Special Quadrilaterals Special Triangles Angle properties (of the above)		ppt doc doc	
	2 Area	Rectangles Squares Triangles	B1.3 Ex3C pg61 TT L5P4 pg36-37 TT L6P5 pg21-22	ppt	MyMaths/ MathsWatch
	3 Area	Trapezia Parallelograms Compound Shapes	TT L6P5 pg23-24	ppt	
	4 Perimeter	Rectangles Squares Triangles Trapezia Compound Shapes	B1.3 Ex3A pg53 B1.3 Ex3B pg56 TT L5P4 pg38 TT L6P5 pg22		

	5 Naming 3d Shapes	Numbers of sides: Tetra – Octa-hedrons Draw 3d shapes on isometric paper	B1.3 Ex16A pg320	ppt	MyMaths/ MathsWatch
	6 Volume	Cubes Cuboids Triangular Prisms	B1.3 Ex3D pg66 TT L6P5 pg23-24	ppt	
	7 Surface Area	Nets Cubes Cuboids Triangular Prisms	B1.3 Ex3D pg66	ppt	
	8 Compound Shapes	Volume Surface Area (including cubes and cuboids)		ppt	MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Autumn 2 – 7 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
4. Number: Decimals	1 Multiplying and Dividing by Powers of 10	Multiply integers by 10, 100, 1000 Multiply decimals by 10, 100, 1000 Divide integers by 10, 100, 1000 Divide decimals by 10, 100, 1000	B1.3 Ex4A pg74 TT L5P1 pg33-36		
	2 Ordering, Adding and Subtracting decimals	Order decimals by size Add and subtract decimals by column method	B1.3 Ex4B pg77 TT L5P2 pg21-22		
	3 Rounding and Estimating	Round integers to nearest 10, 100, 1000 Round decimals to 1dp, 2dp, 3dp	B1.3 Ex4C pg81 B1.3 Ex5B pg98 TT L6P3 pg19		MyMaths/ MathsWatch
	4 Multiplying and Dividing decimals	Multiply integers by decimals Multiply decimals by decimals Divide decimals by integers Divide decimals by decimals	B1.3 Ex4E pg86 B1.3 Ex4F pg88 TT L5P2 pg22-23		
	5 Converting metric units	Kg – g Km – m – cm – mm L – cl – ml Can use conversions to help solve problems (e.g. areas with lengths of different units)	TT L5P3 pg29-34 TT L6P8 pg33-34		

5. Algebra: Simplification and Substitution	1 Simplification	<p>What different expressions mean (e.g. $4a$, a^2, $\frac{4}{a}$ etc)</p> <p>How to simplify expressions with only positive terms</p> <p>Simplify expressions with negative terms</p> <p>Expand a set of brackets</p>	<p>B1.3 Ex7A pg142</p> <p>TT L6P1 pg5</p>		MyMaths/ MathsWatch
	2 Substitution	<p>Substitute into 1 term expressions</p> <p>Simplify and substitute values into expressions</p> <p>Substitute into quadratic expressions</p>	<p>TT L6P1 pg9-10</p>		
	3 Algebra in shapes	<p>Can find an expression to describe the perimeter of a shape</p> <p>Find an expression to describe the area of a square or rectangle</p>	<p>B1.3 Ex7B pg146</p> <p>TT L5P5 pg18=19</p>		
	4 Formulae	<p>Construct expressions from practical context (e.g. Dave is x years old, Sam is 7 years younger than Dave etc)</p> <p>Substitute into given formulae to find an answer</p> <p>Create a formula from given information</p>	<p>B1.3 Ex7C pg150</p> <p>B1.3 Ex7D pg153</p> <p>TT L6P1 pg9-10</p>		MyMaths/ MathsWatch
6. Ratio and Proportion: Fractions	1 Equivalent Fractions	<p>What is a fraction?</p> <p>Creating equivalent fractions by same multiplications</p> <p>Comparing fractions by using equivalences</p>	<p>B1.3 Ex8A pg162</p> <p>B1.3 Ex8B pg165</p> <p>TT L5P2 pg10</p>		

	2 Adding and Subtracting Fractions	Adding/Subtracting fractions with the same denominator Adding/Subtracting fractions where one is the LCM Adding/Subtracting fractions using LCM	B1.3 Ex8C pg168 TT L78P2 pg23-24		
	3 Multiplying and Dividing Fractions	Multiply/Divide across numerator and denominator Cross-cancelling	TT L6P3 pg41-42 TT L78P2 pg27-28		MyMaths/ MathsWatch
	4 Improper fractions and Mixed numbers	Convert mixed numbers into improper fractions Convert improper fractions into mixed numbers Add and Subtract mixed and improper fractions	B1.3 Ex8D pg170 TT L5P2 pg12		
	5 Solving problems with mixed and improper fractions	Finding missing numbers from sums Add/Subtract mixed and improper fractions in shapes and other examples	B1.3 Ex8E pg172		
7. Algebra: Coordinates and Graphs	1 Coordinates	Plot points in all 4 quadrants Read coordinates from a point in all 4 quadrants Find missing points from a 2d shape	B1.3 Ex10A pg208 TT L5P4 pg23-24		MyMaths/ MathsWatch
	2 Naming Lines	Lines parallel to x- and y- axes Graphs of $x + y = a$ $y = x$ $y = -x$	B1.3 Ex10B pg211 B1.3 Ex10D pg215		

	3 Substituting values into a graph	Substitute values into a simple values table to create a linear graph for $y = x + c$ Substitute values to create a graph for $y = mx + c$ Discover whether a point will be on a certain graph	B1.3 Ex10E pg218 TT L5P5 pg41-42 TT L6P1 pg27-28		
	5 Plotting points	Can plot a series of points to create a graphical picture	Santa , Christmas Tree , Snowflake , Holly		MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Spring 1 – 5 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
8. Geometry: Angles	1 Special Angles	Definitions: Acute, Obtuse, Right, Reflex Angles Measuring Angles Drawing Angles	B1.3 Ex9A pg182 TT L5P3 pg5-6		
	2 Calculating Angles	Describing lines: Parallel, Intersecting, Perpendicular <u>Sums of angles</u> <ul style="list-style-type: none"> • Angles around a point • Angles along a straight line • Vertically opposite angles 	B1.3 Ex9B pg186 TT L5P3 pg17-18		
	3 Calculating Angles	Identify angles for corresponding and alternate angles <u>Sums of angles</u> <ul style="list-style-type: none"> • Angles in a triangle • Angles in a quadrilateral 	B1.3 Ex9C pg189 B1.3 Ex9D pg192 TT L5P3 pg27-28 TT L5P3 pg19-20 TT L5P3 pg21 TT L6P2 pg23-24		MyMaths/ MathsWatch
	4 Special Triangles	Angle properties of Scalene, Right-Angled, Isosceles, Equilateral triangles (previously studied in Autumn 1 – build on more specific details) <ul style="list-style-type: none"> • Base angles in isosceles triangles are equal 	TT L6P2 pg26		

	5 Geometric Properties	Naming shapes from their geometric properties Investigation: Use dotted paper to investigate numbers of triangles made from a 3x3 grid, 4x4 etc Then with quadrilaterals.	B1.3 Ex9F pg200		
Computer Room – Method Maths, MyMaths, MathsWatch					MyMaths/ MathsWatch
9. Ratio and Proportion: Percentages	1 What is a percentage?	Fraction out of 100. Convert simple fractions into percentages Convert decimals into percentages	B1.3 Ex11A pg230 TT L5P2 pg28-29		
	2 Calculating Simple percentages	Find percentages of a whole number Find 50%, 25%, 75%, 10%, 5% and 1% Use the above to find more complicated percentages of integers	B1.3 Ex11B pg232 B1.3 Ex11C pg234 TT L4P4 pg21-22 TT L5P2 pg32		
	3 Calculating Percentages with a calculator	Use a calculator to find harder percentages Find percentage increases and decreases using a calculator and adding or subtracting from original amount	B1.3 Ex11D pg237 TT L5P2 pg30-31 TT L6P3 pg3-4		MyMaths/ MathsWatch
	4 Percentage Change	Find values after a percentage change by using a calculator and a multiplier Calculate change as a percentage	B1.3 Ex11E pg240 TT L6P3 pg3-4 TT L6P3 pg9-10 TT L6P3 pg11		

	5 Compound Interest	Calculate the results of compound interest using multipliers By using a method, find the number of years required using compound interest to get a given value	TT L6P3 pg12		
	6 Simple Interest	Calculate percentages of numbers (calculator and non-calculator) Calculate the value of interest/depreciation Calculate final values after interest/depreciation	TT L6P3 pg12		MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Spring 2 – 6 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
10. Geometry: Transformations	1 Symmetry	Can find line and rotational symmetry in basic 2d shapes Identify plane symmetry	B1.3 Ex13A pg267 TT L6P2 pg12		
	2 Reflection	Reflect a shape across a mirror line parallel to x- or y-axis Reflect a shape across $y = x$ or $y = -x$	B1.3 Ex13B pg272 TT L6P2 pg11 TT L78P4 pg32		
	3 Rotation	Rotate a shape by a certain angle from a point on the shape Rotate a shape by a certain angle from a point outside the shape Rotate a shape a certain angle from a coordinate on a grid	B1.3 Ex13C pg276 TT L6P2 pg13-14 TT L6P2 pg15-16 TT L78P4 pg33		MyMaths/ MathsWatch
	4 Translation	Understand the word <u>Congruence</u> . Use a description to translate a shape Use a vector to translate a shape	TT L5P4 pg31-32 TT L6P2 pg3-4 TT L78P4 pg31		
	5 Tessellation	Can tessellate a shape a number of times on a square grid Create and construct a tessellating pattern	B1.3 Ex13D pg281 TT L6P5 pg30 TT L4P8 pg29		
	6 Describing a transformation	Describe what kind of transformation has happened Describe the centre of transformation in coordinates	TT L5P4 pg33-34 TT L6P8 pg19-20		MyMaths/ MathsWatch

11. Ratio and Proportion: Ratio	1 What is a ratio?	Learning ratio notation Simplification with 2 parts Simplification with 3 parts	B1.3 Ex17A pg334 B1.3 Ex17B pg337 TT L5P2 pg41-42		
	2 Using ratios	Find totals from a 2 part ratio Find totals from a 3 part ratio	B1.3 Ex17C pg341 TT L5P2 pg41-42		
	3 Unitary Method	Solve proportion questions by using unitary method Solve Best Value for money questions	TT L6P4 pg11-12 TT L6P4 pg13-14		MyMaths/ MathsWatch
	4 Map Scales	Use ratios to find real distances from a scale Use ratio to find scale distances from a real distance Construct scale drawings of objects	TT L5P3 pg9-11 TT L6P2 pg27-28 TT L6P2 pg33-36 TT L6P8 pg31-32		
12. Algebra: Solving Equations	1 Solving 2-step Equations	Solve equations in the form $ax + b = y$ Create expressions for perimeter and solve algebraically Construct equations from worded examples	B1.3 Ex14A pg288 B1.3 Ex14B pg291 TT L5P5 pg12-13 TT L6P1 pg9-10		
	2 Expanding Brackets	Expand a simple bracket $a(x + y)$ Expand brackets with variables both inside and outside the brackets	B1.3 Ex14C pg295 TT L6P1 pg8 Section11-13		MyMaths/ MathsWatch
	3 Solve equations with brackets	Expand brackets and solve equations $a(x + b) = c$ Expand brackets and solve equations with negative coefficients Solve simple quadratic equations (i.e. $x^2 + a = b$)	B1.3 Ex14C pg295 TT L6P1 pg8 Section11-13		

	4 Solving Fractional Equations	Solve equations in the form of $\frac{x}{a} = y$ Solve equations in the form of $\frac{x}{a} + b = y$	TT L78P3 pg5-6		
	5 Solving Equations with Variables on both sides	Solve equations with singular coefficient on one side Solve equations with negative coefficients Solve equations resulting in fractions	TT L6P1 pg5-8		MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Summer 1 – 6 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
13. Number: Multiples and Factors	1 Multiples and LCM	Definition of multiple Finding multiples from a list Finding LCM for 2 single digit numbers Finding LCM for 2 2-digit numbers Finding LCM for 3 double digit numbers	B2.3 Ex1C pg14 TT L5P1 pg27 TT L5P1 pg26 TT L78P2 pg29-30		
	2 Factors and HCF	Definition of Factor Using factor pairs to find all the factors of a number Find HCF for two numbers using lists of factors	B2.3 Ex1B pg11 TT L5P1 pg27 TT L5P1 pg26 TT L78P2 pg29-30		
	3 Power, Roots and Primes	Can find a number from the product of their prime factors Estimate a square root for a 2 digit number Use a calculator to find an exact square root	B2.3 Ex1D pg17 TT L5P1 pg24 TT L6P7 pg15-16		MyMaths/ MathsWatch
	4 Prime Factor Trees	Create a prime factor tree for double digit numbers Write a number as the sum of its prime factors (including index numbers) Use prime factor trees to find HCF and LCM Use Venn Diagrams to find HCF and LCM	B2.3 Ex1E pg20 TT L5P1 pg27 TT L5P1 pg26 TT L78P2 pg29-30		

14. Algebra: Graphs	1 Graphs from Linear Equations	<p>Create a graph from a linear equation using substitution</p> <p>Draw 3-4 graphs with same x coefficient to find links</p> <p>Able to find gradient from $\frac{\text{difference in } y}{\text{difference in } x}$</p>	<p>B2.3 Ex7A pg118</p> <p>TT L78P1 pg21-22</p>		
	2 $y = mx + c$	<p>Understand what m and c represent</p> <p>Able to construct a linear graph from the equation by using gradient and y-intercept</p>	<p>B2.3 Ex7B pg121</p> <p>TT L78P1 pg24-26</p>		MyMaths/ MathsWatch
	3 Quadratic Graphs	<p>Construct a graph from a quadratic equation by using substitution</p> <p>$y = x^2$</p> <p>$y = x^2 + c$</p> <p>$y = ax^2$</p> <p>$y = ax^2 + bx + c$</p>	<p>B2.3 Ex7C pg123</p> <p>TT L6P1 pg35-36</p> <p>TT L78P3 pg31-32</p>		
	4 Distance-Time Graphs	<p>Interpret a distance-time graph to describe a journey</p> <p>Relate gradient to speed</p> <p>Construct a distance time graph from a description of a journey</p>	<p>B2.3 Ex7D pg126</p> <p>TT L5P6 pg19-20</p> <p>TT L5P6 pg21-22</p> <p>TT L6P5 pg3-4</p> <p>TT L6P5 pg15-20</p>		
15. Geometry: Congruency	1 Congruent Shapes	<p>Definition of congruence</p> <p>Use tracing paper to determine congruency</p> <p>Finding an odd-one-out</p> <p>Break up a shape into other congruent shapes (e.g. an equilateral triangle into 4 congruent triangles)</p>	<p>B2.3 Ex5A pg88</p> <p>TT L78P5 pg11-12</p>		MyMaths/ MathsWatch

	2 Enlargement	Enlarge a shape by a given scale factor Enlarge a shape from a centre of enlargement on a grid Use scale factors to calculate area and volume after an enlargement	TT L6P2 pg 19-20		
	3 Enlargement Fractional Scale Factor	Enlarge by a fractional scale factor anywhere on a grid Enlarge from a centre by a fractional scale factor from a centre of enlargement	TT L6P2 pg21-22		
	4 Enlargement Negative Scale Factor	Enlarge from a centre by a negative scale factor	TT L78P4 pg34-35		MyMaths/ MathsWatch
16. Geometry: Circles	1 Area	Names of parts of a circle Calculate areas of circles from radii Calculate areas of circles from diameters	TT L6P5 pg35		
	2 Circumference	Calculate circumference of circles from radii Calculate circumference of circles from diameters	TT L6P5 pg33		
	3 Compound Shapes	Calculate areas of compound shapes involving circles from radii Calculate areas of compound shapes from diameters	TT L6P5 pg34, 36		MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Summer 2 – 7 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
17. Number: Significant Figures	1 Significant Figures	Round to significant figures Use significant figures to estimate	B2.3 Ex8B pg137 TT L6P3 pg19		
	2 Powers of 10	Work out 10^x and 10^{-x} Multiply and divide numbers by 10^x Write standard form numbers as normal numbers	B2.3 Ex8A pg134 TT L5P1 pg33-34 TT L5P1 pg35-36 TT L6P4 pg23 TT L78P2 pg32 A		
	3 Standard Form	Write large numbers in standard form Write small numbers in standard form Speed of light Speed of sound etc	B2.3 Ex8C pg140 TT L78P2 pg32 B TT L78P2 pg32-33		MyMaths/ MathsWatch
	4 Calculating with Standard Form	Multiply numbers in standard form Divide numbers in standard form	B2.3 Ex8D pg142 TT L78P2 pg34 F TT L78P2 pg36 Q4		
18. Geometry: Prisms	1 Area and Volume	Recap difference between Surface Area and Volume Definition of a prism Find volume of different prisms Metric units for area and volume	B2.3 Ex6A pg102 TT L5P6 pg36-37		
	2 Volume of Prisms	Volume of any prism (area of x-section x length) Volume of pyramids	B2.3 Ex6C pg109 TT L6P5 pg23-26		MyMaths/ MathsWatch

	3 Surface Area of Prisms	Surface area of any prism = $2A + hP$ A = area of the cross section h = height or depth P = perimeter of the cross section	B2.3 Ex6B pg105 TT L78P6 pg5-6		
Revision					
End of Year Test – Paper 1 (Non-Calculator)					
End of Year Test – Paper 2 (Calculator)					
Results and DRAFT (last lesson of each half term)					

Year 8 Foundation (5-1) Content Overview – Highlighted sections are areas for extension/if time is available		
Half Term	Length of Half Term	Content
Autumn 1	7 weeks	1. Number: Factors and Multiples 2. Geometry: Area and Perimeter 3. Algebra: Simplifying Expressions End of Half Term Test
Autumn 2	7 weeks	4. Ratio and Proportion: Fractions 5. Algebra: Solving Equations 6. Algebra: Sequences 7. Ratio and Proportion: Proportion End of Half Term Test
Spring 1	5 weeks	8. Ratio and Proportion: Fractions 9. Number: Decimal Numbers End of Half Term Test
Spring 2	6 weeks	10. Ratio and Proportion: Percentages 11. Algebra: Equations and Formulae 12. Geometry: Surface Area and Volume End of Half Term Test
Summer 1	6 weeks	13. Geometry: Circles and Conversions 14. Number: Distance, Speed and Time 15. Geometry: Shapes End of Half Term Test
Summer 2	7 weeks	16. Geometry: Enlargement 17. Algebra: Expanding Brackets End of Year Test

Autumn 1 – 7 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
Basics	Adding and Subtracting	Add and Subtract integers using column method Add and Subtract decimals using column method Add and Subtract numbers with different numbers of digits using column method	TT L4P1 pg3-4 TT L4P1 pg13, 15 TT L4P2 pg5 TT L4P2 pg6		
	Multiplying and Dividing	Multiply 2 x 2 digit numbers using grid method Multiply 2 x 3 digit numbers using grid method Divide integers by integers using bus stop method	TT L4P2 pg5-6 TT L4P2 pg7-8 TT L4P2 pg9-10		
1. Number: Factors and Multiples	1 Negative Numbers	Add a negative to a positive integer Add a negative to a negative integer Subtract a negative from a positive integer Subtract a negative from a negative integer Solve thermometer style questions	TT L5P4 pg3-4 B2.1 Ex1A pg8	ppt	MyMaths/ MathsWatch
	2 Multiplying Negative Numbers	Multiply negative by positive integers Multiply negative by negative integers Divide negative by positive integers Divide negative by negative integers	TT L5P4 pg3-4 B2.1 Ex1B pg11		

	3 Highest Common Factors	Understand what is meant by HCF Write lists of factor pairs to find all factors of 2-digit numbers Use factor lists to find HCF of 2 whole numbers	TT L5P1 pg26 TT L5P1 pg27 B2.1 Ex1C pg14	ppt	
	4 Lowest Common Multiples	Understand what is meant by LCM Able to find multiples of a number Find LCM by writing lists of multiples of 2 numbers	TT L5P1 pg26 B2.1 Ex1D pg17	ppt	MyMaths/ MathsWatch
	5 Squares, Cubes and Roots	Know all square numbers up to 10 x 10 Able to use a calculator to find higher square numbers Understand what a cube number is and how to work them out Understand roots and recognise square roots of up to 10	TT L5P1 pg24 TT L5P1 pg32 B2.1 Ex1E pg20	ppt	
	6 Prime Factors	Use a 100 square grid and Sieve of Erasthones to find prime numbers Construct prime factor trees to find prime number decomposition Write prime number decomposition using index numbers	Sieve of Erasthones TT L5P1 pg23 TT L5P1 pg25 B2.1 Ex1F pg23	ppt	
Computer Room – Method Maths, MyMaths, MathsWatch					MyMaths/ MathsWatch

2. Geometry: Area and Perimeter	1 Areas of squares and rectangles	Count the boxes on the inside of a shape to find the area of it Calculate the area of a rectangle Calculate the areas of squares Calculate the length of a side when given the area of a square	TT L6P5 pg21-22 B2.1 Ex6A pg98	ppt	
	2 Areas of Triangles	Introduce the formula for the area of a triangle Find areas of triangles with 2 given dimensions Find areas of triangles when all sides as well as perpendicular height is given	TT L5P4 pg37 TT L6P5 pg21-22 B2.1 Ex6C pg107	ppt	
	3 Areas of Parallelograms	Use paper to investigate the dimensions of a parallelogram – i.e. Show that it is essentially a wonky rectangle Relate this to finding areas of rectangles Calculate the areas of parallelograms Calculate the areas of trapezia	TT L5P4 pg37 TT L6P5 pg21-22 B2.1 Ex6D pg111	ppt	MyMaths/ MathsWatch
	4 Compound Shapes	Understand what a compound shape is Able to break compound shapes up into recognisable composite shapes Find areas of these shapes by finding missing lengths	TT L5P4 pg38 TT L6P5 pg21-22 B2.1 Ex6B pg102		
	5 Perimeter	What is perimeter? Find perimeters of squares, rectangles, parallelograms, triangles and trapezia Find perimeters of compound shapes by finding missing lengths	TT L5P5 pg18-19		

3. Algebra: Simplifying Expressions	1 Notation	Understand basic algebraic notation Substitute values into simple expressions	TT L5P5 pg8-9 B2.1 Ex10A pg172		MyMaths/ MathsWatch
	2 Like Terms	Understand that terms have to have the same variable to be simplified together Collect like terms together to simplify Simplify terms with positive and negative coefficients Simplify expressions with positive and negative coefficients as well as different variables	TT L5P5 pg9 B2.1 Ex10B pg174	ppt	
	3 Expanding Brackets	Multiply integers by variables with a coefficient of 1 Multiply integers by variables with coefficients other than 1	TT L6P1 pg5-6 B2.1 Ex10C pg177		
	4 Using Algebra	Use algebraic expressions in different concepts Solve problems involving perimeter where lengths are given as expressions Solve problems involving area of squares and rectangles where one side is given as an integer	B2.1 Ex10D pg179		MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Autumn 2 – 7 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
Basics	Four Functions	Add and Subtract using column method Multiply using grid method Divide using bus stop method	TT L4P1 pg5-6 TT L4P1 pg17, 19 TT L4P2 pg7-8		
4. Ratio and Proportion: Fractions	1 Equivalent Fractions	Understand what an equivalent fraction is Create equivalent fractions Simplify fractions to their lowest terms Use equivalent fractions to compare sizes	B2.1 pg206 Ex12A TT L4P4 pg6 TT L5P2 pg10-11	ppt	
	2 Mixed Numbers and Improper Fractions	Convert mixed numbers to improper fractions Convert improper fractions to mixed numbers Compare the sizes of mixed numbers and improper fractions	B2.1 pg206 Ex12A Q2-3 TT L4P4 pg11 TT L5P2 pg12	ppt	MyMaths/ MathsWatch
	3 Adding and Subtracting Fractions	Create equivalent fractions Add fractions with the same denominator Add fractions with different denominators Subtract fractions with the same denominator Subtract fractions with different denominators	B2.1 pg TT L4P4 pg9-10 TT L6P3 pg23	ppt	

	4 Adding fractions and mixed numbers	Add fractions to mixed numbers with the same denominator Add fractions to mixed numbers with different denominators Add fractions to improper fractions and convert to mixed numbers	B2.1 pg206 Ex12A Q4-15 TT L6P3 pg21-24		
	5 Fractions of Whole Numbers	Multiply fractions by integers Find a fraction of a whole number (D ivide by D enominator, T imes by the T op)	B2.1 pg208 Ex12B TT L4P4 pg12 TT L5P2 pg3-4	ppt	MyMaths/ MathsWatch
5. Algebra: Solving Equations	1 Simplifying	Simplify expressions using each of the 4 functions	B2.1 pg172 Ex10A		
	2 Collecting Like-Terms	Collect like terms together with only positive coefficients Collect like terms with negative coefficients Simplify terms when multiplying	B2.1 pg174 Ex10B B2.1 pg179 Ex10D		
	3 Index Numbers	Simplify expressions using index numbers when multiplying Simplify expressions using index numbers when dividing	B2.1 pg182 Ex10E TT L6P1 pg6		MyMaths/ MathsWatch
	4 Expanding Brackets	Expand a single set of brackets Solve a simple 2-step equation after a bracket expansion	B2.1 pg177 Ex10C TT L6P1 pg8	ppt	
	5 Forming and Solving Equations	Form an expression to describe a worded problem Solve equations algebraically or using a flow diagram	TT L4P5 pg39 (second half) TT L5P5 pg10-13 TT L6P1 pg9		

6. Algebra: Sequences	1 Sequences	<p>Find missing numbers from a sequence Identify the term-to-term rule from a sequence Investigate the following sequences:</p> <ul style="list-style-type: none"> • Fibonacci • Square and Cube Numbers • Triangular numbers – patterns with square numbers • Pascal's Triangle 	TT L5P5 pg27 B2.1 Ex5A pg83		MyMaths/ MathsWatch
	2 Function Machines	<p>Use function machines to create a sequence Find missing functions when given the inputs and outputs for a function machine Find term-to-term rules for a sequence</p>	TT L5P5 pg25-26 B2.1 Ex5B pg87		
	3 Nth Term	<p>Find the nth term of a sequence Use the nth term rule by substituting values to find particular terms of a sequence</p>	TT L6P8 pg3-4 B2.1 Ex5C pg90		
7. Ratio and Proportion: Proportion	1 Converting Proportions	Convert Fractions – Decimals – Percentages	TT L5P2 pg39-40		MyMaths/ MathsWatch

	2 Conversions	<p>Converting metric units</p> <p>Kg – g</p> <p>Km – m – cm – mm</p> <p>L – cl – ml</p> <p>Can use conversions to help solve problems (e.g. areas with lengths of different units)</p>	<p>TT L4P3 pg27-30</p> <p>http://www.mathworksh eets4kids.com/metric.ht ml</p>		
	3 Ratio	<p>Construct ratios to show comparisons</p> <p>Simplify ratio to lowest form</p> <p>Share ratios of a total amount (e.g. 3:2 for £50 means £30 and £20)</p>	<p>TT L5P2 pg41-42</p>		
	4 Best Buys	<p>Use best buys to find best values by dividing total cost by quantity to compare value for money</p>	<p>TT L6P4 pg13-14</p>		MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Spring 1 – 5 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
Basics	Four Functions	Add and Subtract using column method Multiply using grid method Divide using bus stop method	TT L4P1 pg7-8 TT L4P2 pg9-10		
8. Ratio and Proportion: Fractions	1 Equivalent Fractions	Shade fractions of a shape Find equivalent fractions Simplify fractions to their lowest form	B3.1 pg115 Ex7A TT L4P4 pg4 TT L4P4 pg6 TT L5P2 pg10		
	2 Adding and Subtracting Fractions	Add and subtract fractions with the same denominator Add and subtract fractions with different denominators Add and subtract fractions with mixed and improper fractions	B3.1 pg115 Ex7A Q2-11 TT L4P4 pg9-10 TT L6P3 pg23		MyMaths/ MathsWatch
	3 Multiplying Fractions	Multiply fractions by integers Multiply fractions by fractions and simplify Find fractions of whole numbers Find areas of shapes with fractional dimensions	B3.1 pg119 Ex7B TT L4P4 pg12 TT L5P2 pg7-8		
	4 Dividing Fractions	Divide integers by fractions Divide fractions by fractions Solve problems involving division of fractions	B3.1 pg122 Ex7C TT L6P3 pg37-38		

	5 Ordering Fractions	Order fractions by size using common denominators	http://www.mathworksh eets4kids.com/ordering-fractions.html		MyMaths/ MathsWatch
Computer Room – Method Maths, MyMaths, MathsWatch					
9. Number: Decimal Numbers	1 Ordering	Order decimals with the same number of digits Order decimals with different numbers of digits Find values of digits in different numbers Write numbers in whole words	TT L4P3 pg15 TT L4P4 pg33 TT L5P2 pg21		
	2 Adding and Subtracting	<ul style="list-style-type: none"> • Add decimals with the same number of decimal places using column method • Add decimals with different numbers of decimal places using column method • Subtract decimals with the same number of decimal places using column method • Subtract decimals with different numbers of decimal places using column method 	TT L4P3 pg15-16 TT L4P4 pg33-34 TT L5P2 pg21-22		MyMaths/ MathsWatch
	3 Multiplying	Multiply decimals by integers Multiply decimals by decimals Solve problems involving multiplication of decimals Solve problems with decimals and money	B3.1 pg142 Ex9A TT L6P7 pg11-12	ppt	

	4 Dividing	Divide decimals by integers Divide decimals by decimals Solve problems with decimals and division	B3.1 pg150 Ex9D TT L5P2 pg23 TT L6P7 pg14		
	5 Using Calculators	Use calculators efficiently using the fraction button Solve worded problems (an exercise in the tbook)	TT L5P2 pg28 TT L7/8P2 pg15 E		MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Spring 2 – 6 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
Basics	Four Functions	Add and Subtract using column method Multiply using grid method Divide using bus stop method	TT L4P1 pg9-10 TT L4P2 pg11-12		
10. Ratio and Proportion: Percentages	1 Finding Percentages	Find a percentage of an amount using multipliers Convert amounts to a percentage	B3.1 pg11 Ex1B TT L4P4 pg21-22		
	2 Increase and Decrease	Increase amounts by a percentage Decrease amounts by a percentage Find the percentage change by using: $\frac{\text{Change in value}}{\text{original value}} \times 100$	B3.1 pg11 Ex1B Q3-13 TT L6P3 pg3-4 TT L6P3 pg9-10		MyMaths/ MathsWatch
	3 Original Amounts	Find multipliers to show change by a percentage Calculate original amounts	B3.1 pg15 Ex1C		
11. Algebra: Equations and Formulae	1 Expressions	Collect Like-Terms Multiply expressions and simplify	B3.1 pg27 Ex2A		
	2 Expanding Brackets	Expand a single bracket with numbers Expand a single bracket with a number on the outside and number and variable on the inside Expand a single bracket with variables inside and outside Expand a single bracket with negatives	TT L6P1 pg5		MyMaths/ MathsWatch

	3 Expanding Quadratic Brackets	Expand quadratic brackets and simplify Expand quadratic brackets involving negatives	B2.3 Ex10C pg174 TT L6P1 pg5 Section6&7		
	4 Solving Equations	Solve equations by doing the same thing to both sides (or swap the sides, swap the signs)	B3.1 pg33 Ex2C B3.1 pg35 Ex2D TT L5P5 pg12-13		
	5 Using Algebraic Expressions	Find expressions for areas and perimeters involving algebraic terms	B2.3 Ex10D pg176 TT L6P1 pg9-10		MyMaths/ MathsWatch
	6 Formulae	Substitute values into formulae to solve problems Construct equations and solve them	B3.1 pg37 Ex2E TT L5P5 pg33-34		
Computer Room – Method Maths, MyMaths, MathsWatch					
12. Geometry: Surface Area and Volume	1 Nets	Find areas of squares, rectangles and triangles Use nets to find areas of individual shapes	B3.1 pg160 Ex10A http://www.senteacher.org/worksheet/12/NetsPolyhedra.html TT L5P6 pg36		MyMaths/ MathsWatch
	2 Volume	Find the volumes of cubes and cuboids Use area of cross-section x depth	B3.1 pg163 Ex10B TT L5P6 pg35 TT L6P5 pg23-24		
	3 Surface Area	Calculate the surface area of a cube Calculate the surface area of a cuboid Calculate the surface area of a triangular prism	TT L4P4 pg41-42		

	4 Triangular Prisms	Find the volume of triangular prisms Use area of cross-section x depth	B3.1 pg167 Ex10C TT L5P6 pg35 TT L6P5 pg23-24		MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Summer 1 – 6 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
Basics	Four Functions	Add and Subtract using column method Multiply using grid method Divide using bus stop method	TT L4P1 pg11-12 TT L4P2 pg17-18		
13. Geometry: Circles and Conversions	1 Naming the Circle	Can name parts of a circle: Circumference, Diameter, Radius, Sector, Segment Calculate a diameter from a radius Calculate a radius from a diameter Recognise the symbol for pi π and an approximate value (3.14)	http://www.nextlevelmaths.com/resources/other_resources/parts_of_a_circle/		
	2 Circumference	Find circumference of a circle from a radius Find circumference of a circle from a diameter	B3.1 pg84 Ex5A TT L6P5 pg33-34		MyMaths/ MathsWatch
	3 Area	Find area of a circle from a radius Find area of a circle from a diameter	B3.1 pg88 Ex5B TT L6P5 pg35-36		
14. Number: Distance, Speed and Time	1 Using Formula	Convert times from hours to minutes Use formula triangles to find distance, speed or time of journeys	B3.1 pg194 Ex12A Q1-7 TT L6P5 pg11 TT L6P5 pg9-10		
	2 Distance-Time Graphs	Interpret a distance-time graph Construct a distance-time graph to show a journey Complete a distance-time graph	B3.1 pg194 Ex12A Q8-9 TT L6P5 pg15-18		MyMaths/ MathsWatch

	3 Speed	Find the speed of a part of a journey from a distance-time graph	B3.1 pg197 Ex12B TT L6P5 pg19-20		
Computer Room – Method Maths, MyMaths, MathsWatch					
15. Geometry: Shapes	1 Polygons	Name polygons depending on the number of sides Name irregular polygons Identify whether a shape is a polygon	B3.1 pg46 Ex3A		MyMaths/ MathsWatch
	2 Angles	Find the sum of angles inside a polygon based on the number of interior triangles Use a formula to find the sum of interior angles	B3.1 pg49 Ex3B		
	3 Missing Angles	Find missing angles by using $180(x-2)$ to find the sum Find the size of each interior angle for regular polygons	B3.1 pg52 Ex3C		
	4 Quadrilaterals	Learn the formula for areas of different quadrilaterals Find the perimeter of any shape Find the area of squares, rectangles, parallelograms and kites	TT L6P5 pg31-32 TT L6P5 pg39 TT L6P5 pg21		MyMaths/ MathsWatch
	5 Trapezia	Find the areas of trapezia using $\frac{h(a+b)}{2}$	TT L6P5 pg22C		

	6 Triangles	Find the area of right angle triangles Find the areas of non-right angled triangles by using the correct dimensions	TT L6P5 pg21		
	7 Compound Shapes	Find the perimeters of compound shapes by finding missing lengths Find the areas of compound shapes by finding missing lengths and breaking into sections	TT L5P4 pg38 TT L6P5 pg22D		MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Summer 2 – 7 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
Basics	Four Functions	Add and Subtract using column method Multiply using grid method Divide using bus stop method	TT L5P1 pg7-10 TT L4P1 pg17, 19		
16. Geometry: Enlargement	1 Enlargement	Enlarge simple 2d shapes by a integer scale factor Find what happens to areas of squares, rectangles and triangles when shapes are enlarged	B3.1 pg99 Ex6A B3.1 pg107 Ex6C TT L6P2 pg19		
	2 Centres of Enlargement	Enlarge simple 2d shapes on a set of axes from a centre of enlargement (origin, then other centres)	B3.1 pg103 Ex6B TT L6P2 pg20		MyMaths/ MathsWatch
	3 Scale	Construct scale drawings from diagrams Use ratio to find conversions from scale size to real sizes	TT L5P3 pg9-10		
17. Algebra: Expanding Brackets	1 Collecting Like-Terms	Collect terms in expressions with only one variable Collect terms in expressions with more than one variable	TT L5P5 pg9 TT L6P1 pg5		
	2 Expanding Brackets	Expand a single bracket with numbers Expand a single bracket with a number on the outside and number and variable on the inside Expand a single bracket with variables inside and outside Expand a single bracket with negatives	TT L6P1 pg5		MyMaths/ MathsWatch

	3 Simplifying	Expand and simplify expressions with 2 linear brackets with only positive coefficients Expand and simplify expressions with 2 linear brackets with negative coefficients	TT L6P1 pg5		
	4 Solving Equations	Solve 2-term equations: $ax + b = c$ Solve equations with brackets: $a(x + b) = c$	TT L6P1 pg6		
Revision					
End of Year Test – Paper 1 (Non-Calculator)					
End of Year Test – Paper 2 (Calculator)					
Results and DRAFT (last lesson of each half term)					

Year 8 Higher (9-5)		
Content Overview – Highlighted sections are suggested areas for extension		
Half Term	Length of Half Term	Content
Autumn 1	7 weeks	1. Ratio and Proportion: Fractions and Decimals 2. Algebra: Expanding and Simplifying 3. Geometry: Circles End of Half Term Test
Autumn 2	7 weeks	4. Algebra: Equations and Formulae 5. Ratio and Proportion: Shape and Ratio 6. Number: Decimal Numbers 7. Geometry: Polygons End of Half Term Test
Spring 1	5 weeks	8. Algebra: Solving Equations Graphically 9. Geometry: Right Angled Triangles 10. Algebra: Quadratics End of Half Term Test
Spring 2	6 weeks	11. Ratio and Proportion: Direct Proportion 12. Algebra: Solving Algebraic Fractions 13. Geometry: Pythagoras's Theorem End of Half Term Test
Summer 1	6 weeks	14. Geometry: Cylinders and Cones 15. Ratio and Proportion: Percentages 16. Algebra: Graphs End of Half Term Test
Summer 2	7 weeks	17. Number: Compound Units 18. Geometry: Loci End of Year Test

Autumn 1 – 7 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
1. Ratio and Proportion: Fractions and Decimals	1 Multiplying and Dividing Fractions	Multiply fractions by integers Multiply fractions by fractions Divide fractions by fractions Divide fractions by integers	B2.3 Ex12B pg208 B2.3 Ex12C pg211 TT L78P2 pg27-28	ppt	
	2 Adding and Subtracting Fractions	Add and Subtract fractions with same denominator Add and Subtract fractions with different denominators Add and Subtract mixed numbers	B2.3 Ex12A pg206 TT L6P3 pg23-24	ppt	
	3 Mixed and Improper Fractions	Add, Subtract, Multiply and Divide mixed numbers Add, Subtract, Multiply and Divide improper fractions	TT L78P2 pg23-24	ppt	MyMaths/ MathsWatch
	4 Large and Small numbers	Multiply integers by decimals Multiply large numbers together Divide using decimals Use equivalent divisions to solve decimal division	B2.3 Ex12D pg213	ppt	
2. Algebra: Expanding and Simplifying	1 Substitution	Substitute into simple expressions Substitute into fractional expressions Substitute into expressions involving powers	TT L6P1 pg3-4 TT L6P7 pg33-34 TT L78P1 pg19-20	ppt	
	2 Simplifying expressions	Simplify positive and negative terms Simplify terms involving powers Simplify involving algebraic fractions Simplify using index notation	B2.3 Ex10A pg169 B2.3 Ex10B pg171 TT L6P1 pg5 section5	ppt	MyMaths/ MathsWatch

	3 Expanding Brackets	Expand linear brackets and simplify Expand linear brackets including indices	B2.3 Ex10C pg174 TT L6P1 pg5 Section6&7	ppt	
	4 Expanding Quadratic Brackets	Expand quadratic brackets and simplify Expand quadratic brackets involving negatives	B2.3 Ex10C pg174 TT L6P1 pg5 Section6&7	ppt	
	5 Factorising	Factorise linear expressions Factorise expressions with indices Factorise quadratics with positive coefficients Factorise quadratics with negative coefficients	B2.3 Ex10D pg176 TT L6P1 pg9-10	ppt	MyMaths/ MathsWatch
	6 Index Notation	Simplify expressions involving multiplication Simplify expressions involving division Simplify expressions with index numbers	B2.3 Ex10E pg179 TT L6P1 pg11-12		
Computer Room – Method Maths, MyMaths, MathsWatch					
3. Geometry: Circles	1 What makes up a circle?	Arc Centre Chord Circumference Diameter Radius Sector Segment Semicircle Tangent Investigation: Investigate the link between diameter and circumference using string and a ruler	B2.3 pg245 B2.3 Ex14A pg246	ppt doc	MyMaths/ MathsWatch

	2 Circumference	Formula Approximate value of pi Using a calculator to find circumferences Circumference of compound shapes Solving problems involving a circumference	Circle Song B2.3 Ex14B pg248 TT L6P5 pg33-34	ppt	
	3 Area	Formula Using a formula to find area Areas of compound shapes	B2.3 Ex14C pg252 TT L6P5 pg35-36	ppt	
	4 Arcs	Calculate the length of an arc Calculate the perimeter of a sector with a given angle	TT L6P5 pg38	ppt	MyMaths/ MathsWatch
	5 Sectors	Calculate the area of sector given a fraction of the whole circle Calculate the area of a sector with a given angle Calculate as above with diameters given		ppt	
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Autumn 2 – 7 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
4. Algebra: Equations and Formulae	1 Solving Equations	Recap solving 2 step equations Solve equations involving brackets using both methods	B2.3 Ex15A pg260 TT L78P3 pg5-6	ppt	
	2 Fractional Equations	Solve equations in the form of $\frac{x}{a} = y$ Solve equations in the form of $\frac{x}{a} + b = y$	TT L78P3 pg5-6	ppt	
	3 Unknowns on both sides	Solve equations with unknowns on both sides of the equation Solve equations with brackets on both sides Construct equations to solve	B2.3 Ex 15B pg262 B2.3 Ex15C pg264 TT L78P3 pg5-6		MyMaths/ MathsWatch
	4 Rearranging Formulae	Rearrange 2 step formulae Rearrange 3 step formulae	B2.3 Ex 15D pg266 TT L6P7 pg41-42 TT L78P3 pg22	ppt	
	5 Factorising Expressions	Factorise by taking out 1 variable Factorise by taking out 2 variables Factorise by taking out HCF	TT L78P3 pg9	ppt	
5. Ratio and Proportion: Shape and Ratio	1 Length, Area and Volume	Find ratio to compare lengths, areas and volumes Convert from one metric unit to another to compare Simplify a ratio to its lowest form	B2.3 Ex 11A pg186 TT L5P3 pg9-11	ppt doc	MyMaths/ MathsWatch

	2 Enlargements	Enlarge a shape by a positive integer scale factor Enlarge a 2d shape by a fractional scale factor	B2.3 Ex11B pg191	ppt	
	3 Map Scales	Able to use map scales to find distances on a map Use bearings Construct a scale drawing	B2.3 Ex 11C pg197 TT L5P3 pg9-11 TT L6P2 pg33-36 TT L6P8 pg31-32 Maps of Southend (from geography dept?)	ppt doc	
6. Number: Decimal Numbers	1 Significant Figures	Round to significant figures Use significant figures to estimate	B2.3 Ex8B pg137 TT L6P3 pg19	ppt	MyMaths/ MathsWatch
	2 Powers of 10	Work out 10^x and 10^{-x} Multiply and divide numbers by 10^x	B2.3 Ex8A pg134 TT L5P1 pg33-36		
	3 Standard Form	Write large numbers in standard form Write small numbers in standard form Speed of light Speed of sound etc	B2.3 Ex8C pg140 TT L78P2 pg32-34	ppt	
	4 Calculations with Standard Form	Multiply numbers in standard form Divide numbers in standard form	B2.3 Ex8D pg142 TT L78P2 pg34(F)-39	ppt	MyMaths/ MathsWatch
	5 Upper and Lower Bounds	Find upper and lower bounds for different measures of accuracy Use upper and lower bounds to find bounds for area or volume	TT L6P3 pg20	ppt	

7. Geometry: Polygons	1 Polygons	Definition of a polygon Names of polygons Measuring angles within different polygons	B3.3 Ex3A pg41 Naming Quadrilaterals Naming Polygons	ppt	
	2 Interior Angles	Investigate sum of interior angles of polygons Total triangles within a polygon Formula $180(n - 2)$ Find value of interior angles in a regular polygon	B3.3 Ex3A pg41 Q2 onwards B3.3 Ex3B pg45 TT L6P5 pg27-28	ppt	MyMaths/ MathsWatch
	3 Exterior Angles	Investigate sizes of exterior angles Sum of exterior angles Find value of exterior angles in a regular polygon	TT L6P5 pg29	ppt	
	4 Tessellation	Tessellate regular polygons Use sums of interior angles to explain why some shapes do not tessellate	B3.3 Ex3C pg46 TT L4P8 pg29 TT L6P5 pg30	ppt	
	5 Constructions	Angle Bisectors Perpendicular Bisectors Triangles	B2.3 Ex2E pg48	ppt doc	MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Spring 1 – 5 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
8. Algebra: Solving Equations Graphically	1 Graphs of $ay \pm bx = c$	Substitute $x = 0$ and $y = 0$ to find two points on a line Construct a graph to show equations Use a graph to solve an equation	B3.3 Ex11A pg176 TT L6P1 pg27-28 TT L910P4 pg6-7	ppt	
	2 Gradients and y-intercepts				
	3 $y = mx + c$				MyMaths/ MathsWatch
	4 Plotting Quadratic Graphs				
9. Geometry: Right Angled Triangles	1 Introduction to Trigonometry	Investigate tangent of an angle (0.84) Understand what trigonometric ratios are Able to label a RHS triangle with Hypotenuse, Opposite and Adjacent	B3.3 Ex13A pg205 B3.3 Ex13B pg208 TT L78P5 pg29-30	ppt	

	2 Finding Sides	Use $\text{Sin}\theta = \frac{\text{opp}}{\text{hyp}}$ to find missing lengths Use $\text{Cos}\theta = \frac{\text{adj}}{\text{hyp}}$ to find missing lengths Use $\text{Tan}\theta = \frac{\text{opp}}{\text{adj}}$ to find missing lengths	B3.3 Ex13D pg216 TT L78P5 pg31-32	ppt	MyMaths/ MathsWatch
	3 Finding angles	Use $\text{Sin}\theta = \frac{\text{opp}}{\text{hyp}}$ to find missing angles Use $\text{Cos}\theta = \frac{\text{adj}}{\text{hyp}}$ to find missing angles Use $\text{Tan}\theta = \frac{\text{opp}}{\text{adj}}$ to find missing angles	B3.3 Ex13C pg212 TT L78P5 pg33-34	ppt	
	4 Solving Problems	Use SOHCAHTOA to identify the correct trigonometric ratio Solve worded problems by finding missing angles or missing lengths from a right-angled triangle	TT L78P5 pg35-37		
10. Algebra: Quadratics	1 Expanding Two Brackets	Expand a pair of brackets with positive coefficients Expand a pair of brackets with negative coefficients Simplify the result of a quadratic expansion	B3.3 Ex8A pg126	ppt	MyMaths/ MathsWatch
	2 Factorising Quadratic Expressions	Factorise a quadratic expression with the coefficient of x^2 is 1 Factorise a quadratic expression with the coefficient of x^2 is more than 2	B3.3 Ex8C pg131	ppt	
	3 Factorising with Negatives	Factorise quadratic expressions with negative coefficients	B3.3 Ex8D pg133	ppt	

	4 Solving Quadratics through Factorising	Factorise and solve equations equal to 0 Factorise and solve equations equation to anything other than 0 through rearranging			MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Spring 2 – 6 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
11. Ratio and Proportion: Direct Proportion	1 Direct Proportion	Find proportions using ratio and unitary method Find proportions using multiplication or division	TT L6P4 pg11 TT L6P4 pg15-16 https://mathswatchvle.com/ Clip 23		
	2 Graphs and Direct Proportion	Show direct proportion on a graph Construct a conversion graph (e.g. miles and km)	https://mathswatchvle.com/ Clip 43		
	3 Inverse Proportion	Understand what inverse proportion is Use a graphical representation of inverse proportion (e.g. time and speed)	TT L9P1 pg13-14 TT L9P1 pg15-16		MyMaths/ MathsWatch
	4 Using a formula	Direct Proportion: $y = kx$ Inverse Proportion: $xy = k$	TT L9P1 pg11 https://mathswatchvle.com/ Clip 159		
	5 Writing formulae	Construct formulae to illustrate proportions	TT L9P1 pg13-14		
12. Algebra: Algebraic Fractions	1 Solving Simple Equations				MyMaths/ MathsWatch
	2 Multiplying Algebraic Fractions				

	3 Dividing Algebraic Fractions				
	4 Adding and Subtracting Algebraic Fractions				MyMaths/ MathsWatch
13. Geometry: Pythagoras's Theorem	1 Introduction to Pythagoras	Investigate relationship between squares of sides and right-angled triangles Formula $a^2 + b^2 = c^2$	B3.3 Investigation pg97 TT L78P2 pg4-5		
	2 Finding the hypotenuse	Use Pythagoras's Theorem to find the hypotenuse Solve worded problems using Pythagoras Use Pythagoras's Theorem to find the hypotenuse in a series of connected right-angled triangles	B3.3 Ex 6A pg99 TT L78P2 pg6		MyMaths/ MathsWatch
	3 Finding a shorter side	Use Pythagoras's Theorem to find one of the shorter sides Use Pythagoras to decide if a triangle is right-angled	B3.3 Ex6C pg104 TT L78P2 pg7-8		
	4 Using Pythagoras in a 3d Shape	Find the diagonal length of a cuboid using Pythagoras's Theorem Find the height of a square-based pyramid	B3.3 Ex6A pg99 Q8		
	5 Solving Problems using Pythagoras	Solve problems involving ships, ladders, kites etc	B3.3 Ex6B pg102 TT L78P2 pg9-10		MyMaths/ MathsWatch

Revision

End of Half Term Test (penultimate lesson of each half term)

Results and DRAFT (last lesson of each half term)

Summer 1 – 6 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
14. Geometry: Cylinders and Cones	1 Circles	Find the area of a circle given the radius Find the area of a circle given the diameter Find the circumference of a circle	TT L6P5 pg33-34 TT L6P5 pg35-36		
	2 Cylinders	Find the volume of a cylinder $V = \pi r^2 h$ Find the surface area of a cylinder $SA = 2\pi r h + 2\pi r^2$	B3.3 Ex10A pg160 B3.3 Ex10B pg163 http://www.mathworksh eets4kids.com/volume.h tml		
	3 Cones	Find the volume of a cone $V = \frac{1}{3}\pi r^2 h$ Find the surface area of a cone $SA = \pi r l + \pi r^2$	TT L910P4 pg10 http://www.mathworksh eets4kids.com/volume.h tml		MyMaths/ MathsWatch
	4 Composite Shapes	Calculate volumes of composite shapes including cylinders, and spheres ($V = \frac{4}{3}\pi r^3$) Calculate surface areas of composite shapes	B3.3 Ex10C pg167 http://www.mathworksh eets4kids.com/volume/c ompound-shapes- easy1.pdf http://www.mathworksh eets4kids.com/volume/c ompound-shapes- easy2.pdf http://www.mathworksh eets4kids.com/volume/c ompound-shapes- easy3.pdf		

Computer Room – Method Maths, MyMaths, MathsWatch

15. Ratio and Proportion: Percentages	1 Percentage change	Find the total following a percentage change Calculate the percentage change in a value	B3.3 Ex1B pg11 TT L6P3 pg3-4 TT L6P3 pg9-10		MyMaths/ MathsWatch
	2 Inverse Percentage Change	Find multipliers for percentage change Calculate the original value following a percentage increase Calculate the original value following a percentage decrease	B3.3 Ex B3.3 Ex1C pg15 TT L6P3 pg5-6		
	3 Repeated Percentage Change	Calculate the result of a repeated percentage change in steps Increase → increase Increase → decrease Calculate the result of a repeated percentage change using the multiplier method	B3.3 Ex1D pg18		
	4 Simple Interest	Understand what is meant by simple interest Solve problems involving simple interest Calculate the rate of simple interest	B3.3 Ex1A pg8 TT L6P3 pg13-14		MyMaths/ MathsWatch

	5 Compound Interest	Understand what is meant by compound interest Calculate the total amount following a series of percentage increases Calculate the number of years needed to reach a certain quantity	https://www.tes.co.uk/teaching-resource/compound-interest-and-depreciation-6391790		
16. Algebra: Graphs	1 Step Graphs	Plot step graphs Interpret step graphs Use step graphs to solve questions <i>Statistics: Known as step-polygons</i>	B3.3 Ex5A pg78		
	2 Time Graphs	Draw time graphs Interpret time graphs	B3.3 Ex5B pg84		MyMaths/ MathsWatch
	3 Exponential Growth Graphs	Interpret exponential growth graphs Draw exponential growth graphs	B3.3 Ex5C pg89		
	4 Quadratic Graphs	Construct graphs of ax^2 Construct graphs of $ax^2 + c$ Construct graphs of $ax^2 + bx + c$			
	5 Reciprocal Graphs	Construct graphs of $\frac{a}{x}$ Use graphs to estimate solutions			MyMaths/ MathsWatch
Revision					
End of Half Term Test (penultimate lesson of each half term)					
Results and DRAFT (last lesson of each half term)					

Summer 2 – 7 weeks

Unit	Lesson Topic	Outcomes	Suggested Resources	Lesson	Suggested Homework
17. Number: Compound Units	1 Speed	To understand and use measures of speed Use the formula $speed = \frac{\text{distance}}{\text{time}}$	B3.3 Ex12A pg190 TT L6P5 pg9-12		
	2 Compound Units	Use the formula $rate = \frac{\text{quantity}}{\text{time}}$ Use the formula $density = \frac{\text{mass}}{\text{volume}}$	B3.3 Ex12B pg194 TT L6P5 pg13-14		
	3 Unit Costs	Understand and use unit pricing Determine a best buy	B3.3 Ex12C pg197 TT L6P4 pg13-14		MyMaths/ MathsWatch
18. Geometry: Loci	1 Loci	Understand what a locus is Determine the locus of a real-life example according to a rule	TT L6P8 pg15-16 TT L78P5 pg7-8		
	2 Bisectors	Construct perpendicular bisector Construct a bisector of an angle Construct a bisector to a point of a line	TT L78P5 pg7-8		
	3 Using Loci	Find the locus of points Find the locus of distance around shapes Find areas for multiple loci	TT L78P5 pg9-10		MyMaths/ MathsWatch
Revision					
End of Year Test – Paper 1 (Non-Calculator)					
End of Year Test – Paper 2 (Calculator)					
Results and DRAFT (last lesson of each half term)					

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