



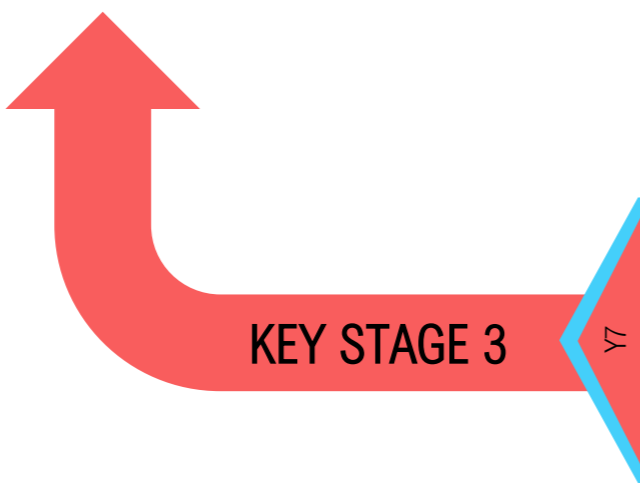
<b>SPRING 2</b> <b>PROPORTIONS &amp; PROPORTIONAL CHANGE</b> Use ratios & fractions to make comparisons / Link ratios and graphs / Solve problems with currency conversion & best buy problems / use & interpret ratios of the form 1: n and n:1 / Combine a set of ratios / Calculate simple and compound interest / Apply repeated percentage change / Solve problems with growth & decay / Calculate probability with independent events / Use tree diagrams for independent & dependent events / Construct & interpret conditional probabilities (tree diagrams).	<b>SUMMER 1</b> <b>DELVING INTO DATA &amp; USING NUMBER</b> Understand populations & samples / Construct & interpret frequency tables, frequency polygons, line graphs & bar charts / Criticise charts & graphs / Construct & interpret histograms, stem-and-leaf diagrams & box plots / Mental & written methods of integer/decimal multiplication & division / Understand & use rational & irrational numbers, surds & limits of accuracy / Solve financial maths problems.	<b>SUMMER 2</b> <b>USING NUMBER &amp; EXPRESSIONS</b> Describe & continue arithmetic & geometric sequences / Explore sequences involving surds and quadratic sequences / Calculate higher powers & roots / Understand and use the power zero & negative indices / Work with powers of powers / +, -, x, ÷ algebraic functions / Solve equations and inequalities with fractions / Represent numbers algebraically / Form algebraic arguments and proof.	<b>AUTUMN 1</b> <b>GRAPHS</b> Find the equation of a straight-line graph given one point and gradient or given two points / Determine whether a point is on a line / Explore perpendicular lines / Plot & read from quadratic, cubic & reciprocal graphs / Recognise graph shapes / Identify & interpret roots and intercepts of quadratics / Interpret distance-time, speed-time & piece-wise graphs / Interpret graphs that illustrate direct & indirect proportion.	<b>AUTUMN 2</b> <b>ALGEBRA</b> Factorise quadratic expressions / Solve equations equal to 0 / Solve equations by factorisation / Change the subject of a formula / Solve equations by iteration / Use function notation / Work with composite & inverse functions / Draw graphs of quadratic functions / Solve quadratic inequalities.	<b>SPRING 1</b> <b>REASONING</b> Understand direct and indirect proportion / Calculate with pressure and density / Construction complex direct proportion & inverse proportion equations / Prove geometric facts / Use & apply circle theorems / Use trigonometric ratios / Use rules for sequences / Solve simultaneous equations with one quadratic / Solve inequalities in two variables / Form algebraic proofs.
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<b>SPRING 1</b> <b>GEOMETRY</b> Understand, represent, measure & read bearings / calculate bearings using angle rules, Pythagoras & trigonometry / Calculate fractional parts of a circle, lengths of arcs & area of a sector / Use & apply circle theorems / Understand & use the volume & surface area of a sphere / Use & read vector notation / Draw & understand vectors multiplied by a scalar & addition & subtraction of vectors.	<b>AUTUMN 2</b> <b>DEVELOPING ALGEBRA</b> Understand the meaning of a solution / Show solutions to inequalities on a number line / Interpret representation on number lines as inequalities / Find solutions to equations using straight line graphs / Form & solve more complex equations & inequalities / Solve simultaneous equations (linear & quadratic (H))	<b>AUTUMN 1</b> <b>SIMILARITY</b> Identify similar shapes and find missing sides and angles in similar shapes / Explore areas & volumes of similar shapes / understand & use conditions for congruent triangles / Use trigonometry rules to find missing lengths & angles / Use the formula $\frac{1}{2} ab \sin C$ to find the area of non-right angled triangles.	<b>SUMMER 2</b> <b>REPRESENTATIONS AND REVISION</b> Probability - relative frequency, expected number of outcomes & independent events / drawing & interpreting quadratic & other graphs / representing inequalities / revision.	<b>SUMMER 1</b> <b>REASONING WITH PROPORTION</b> Enlarge shapes by a +ive scale factor / calculate lengths of missing sides in similar shapes / solve ratio & proportion problems / Work with rate formulae for speed & density.
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<b>SUMMER 1</b> <b>DEVELOPING GEOMETRY</b> Calculate angles in parallel lines and polygons / calculate the area of trapezia, circles & compound shapes / lines of symmetry & reflection.	<b>SUMMER 2</b> <b>REASONING WITH DATA</b> Collect data, understand primary & secondary data / interpret & construct multiple bar & pie charts / calculate the mode and modal class, compare distributions.	<b>AUTUMN 1</b> <b>REASONING WITH ALGEBRA</b> Interpret straight line graphs / reduce equations to the form $y = mx + c$ / compare to linear sequences to find nth term rule / form & solve equations / change subject of a formula / test conjectures.	<b>AUTUMN 2</b> <b>CONSTRUCTING IN 2 AND 3 DIMENSIONS</b> Explore prisms & non-prisms / Calculate volume & surface area of cuboids & cylinders / construct 3D shapes from nets / construct perpendiculars & bisectors / explore congruency.	<b>SPRING 1</b> <b>REASONING WITH NUMBER</b> Types of number inc. rational & real / revisit fraction arithmetic, HCF, LCM, standard form / using % / financial maths inc. bills, interest & unit pricing.	<b>SPRING 2</b> <b>REASONING WITH GEOMETRY</b> Find angles using algebraic methods & chains of reasoning / find the result of rotating a shape / translate points & shapes by a given vector / understand & use Pythagoras' Theorem to problem solve.
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<b>SPRING 2</b> <b>DEVELOPING NUMBER</b> Develop understanding of FDP / evaluate % increases & decreases / Standard index form / convert between metric units of measure / estimating.	<b>SPRING 1</b> <b>ALGEBRAIC TECHNIQUES</b> Form & use expressions, formulae & inequalities including brackets / generate sequences using brackets & squared terms / form expressions using indices.	<b>AUTUMN 2</b> <b>REPRESENTATIONS</b> Plot & interpret straight line graphs / equations of straight lines / draw & interpret scatter diagrams inc lines of best fit / list outcomes & probabilities using Venn diagrams.	<b>AUTUMN 1</b> <b>PROPORTIONAL REASONING</b> Solve ratio problems / use scale factors / convert between currencies / draw & interpret scale diagrams / x and ÷ fractions.	<b>SUMMER 2</b> <b>REASONING WITH NUMBER</b> Develop mental arithmetic strategies / draw & interpret Venn diagrams / calculate probability of single events / recognise prime, square & triangle numbers, make & test conjectures.	<b>SUMMER 1</b> <b>LINES AND ANGLES</b> Draw & measure lines and angles accurately / recognise types of triangles, quadrilaterals etc / calculate & use angles at a point, on a straight line & vertically opposite angles.
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<b>AUTUMN 1</b> <b>ALGEBRAIC THINKING</b> Describe & continue sequences / understand & use algebraic notation / use function machines (1- and 2-step rules) / form & solve 1-step equations / collect like terms.	<b>AUTUMN 2</b> <b>PLACE VALUE &amp; PROPORTION</b> Recognise and use integer and decimal place value / compare, order & round numbers / interchange between fractions, decimals and percentages.	<b>SPRING 1</b> <b>APPLICATIONS OF NUMBER</b> Solving problems involving four operations / Multiply by 10, 100, 1000, 0.1, 0.01 / HCF & LCM / Fractions & % of amounts.	<b>SPRING 2</b> <b>DIRECTED NUMBER &amp; FRACTIONAL THINKING</b> Order directed numbers / revisit 4 operations / solve 2-step equations / use order of operations / add & subtract fractions & decimals.
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**SUMMER 2**  
Themed projects, consolidation & problem solving.

**SUMMER 1**  
**Shape:** Measure with a protractor / calculate angles / identify vertically opposite angles / calculate angles in a triangle including special cases / calculate missing angles in a triangle / calculate angles in special quadrilaterals / calculate angles in regular polygons / draw shapes accurately / draw nets of 3D shapes.  
**Position & direction:** Plot coordinates in the first quadrant / plot coordinates in all four quadrants / translate shapes in all four quadrants / reflect shapes in all four quadrants.

**SPRING 2**  
**Fractions, decimals & percentages:** Use division to solve problems / convert between decimals and fractions / convert fractions to percentages / order FDP / find percentages of an amount.  
**Area, perimeter & volume:** Calculate missing lengths when shapes have the same area / calculate the area of a triangle / calculate the area of a parallelogram / calculate the volume of a cuboid.  
**Statistics:** Read and interpret line graphs / draw line graphs / use line graphs to solve problems / read and interpret pie charts / draw pie charts / calculate the mean.

**SPRING 2**  
**Decimals and percentages:** Understand thousandths / round decimals / order & compare decimals / understand percentages / write percentages as fractions & decimals / Know and use equivalent FDP.  
**Perimeter and area:** Measure perimeter / calculate perimeter / calculate the area of rectangles / calculate the area of compound shapes & irregular shapes.  
**Statistics:** Read and interpret line graphs / draw line graphs / use line graphs to solve problems / read and interpret tables / read and interpret two-way tables / read and interpret timetables.

**SUMMER 1**  
**Shape:** Measure angles in degrees / measure angles with a protractor / draw lines and angles accurately / calculate angles on a straight line / calculate angles around a point / calculate lengths and angles in shapes / regular and irregular polygons / reasoning about 3D shapes.  
**Position & direction:** Read and plot coordinates in the first quadrant / translate shapes / translate with coordinates / reflect shapes on a coordinate grid.  
**Decimals:** Adding & subtracting decimals within 1 / find complements to 1.

**SUMMER 2**  
**Decimals:** Add & subtract decimals with the same number of decimal places & different number of decimal places / add & subtract wholes and decimals / continue decimal sequences / multiply and divide decimals by 10, 100 and 1000.  
**Negative numbers:** use negative numbers in context.  
**Converting units:** Convert between kg and g & km and m / convert between metric units / convert between metric and imperial units / convert units of time.  
**Volume:** Compare volume / estimate volume and capacity.

**AUTUMN 1**  
**Place Value:** Understand place value for numbers up to 10 million / compare and order any numbers / round any number / understand and calculate with negative numbers  
**Addition, subtraction, multiplication & division:** Recap and consolidate Y5 number work + Multiply up to a 4-digit number by a 2-digit number / use short division / divide using factors / use long division / identify common factors / identify common multiples / identify prime numbers to 100 / identify square and cube numbers.

**AUTUMN 2**  
**Addition, subtraction, multiplication & division:** Use order of operations / calculate mentally and use estimation / reason from known facts.  
**Fractions A:** Simplify fractions / identify fractions on a number line / compare and order fractions (denominator) / compare and order fractions (numerator).  
**Fractions B:** Add & subtract fractions (denominators are multiples of each other and then not) / multiply fractions by integers / multiply fractions by fractions / divide fractions by integers / use four rules with fractions / find fractions of an amount – find the whole.  
**Converting units:** Convert metric measures / calculate with metric measures / convert between miles and kilometres / calculate with imperial measures.

**SPRING 1**  
**Ratio:** Use ratio language / use the ratio symbol / calculate ratio / use scale factors / calculate scale factors / solve ratio and proportion problems.  
**Algebra:** Find a rule – one and two step / form expressions / substitute into expressions / substitute into formulae / form equations / solve one and two-step equations / find pairs of values to solve equations.  
**Decimals:** Compare and order decimals up to 3dp / multiply and divide by 10, 100 and 1000. Multiply & divide decimals by integers.

**SPRING 1**  
**Multiplication and division:** Multiply 4-digits by 1-digit / multiply 2-digits (area model) / multiply 2-digits by 2-digits / multiply 3-digits by 2-digits / multiply 4-digits by 2-digits / divide 4-digits by 1-digit / divide with remainders.  
**Fractions B:** Multiply unit fractions by an integer / multiply non-unit fractions by an integer / multiply mixed numbers by integers / calculate fractions of an amount / using fractions as operators / fraction problem solving.  
**Decimals and percentages:** Identify place value in decimals with 2 dp / Convert decimals to fractions.

**AUTUMN 2**  
**Multiplication & division:** Identify square and cube numbers / multiply by 10, 100 and 1000. divide by 10, 100 and 1000 / Identify multiples of 10, 100 and 1000.  
**Fractions A:** Identify equivalent fractions / Convert between improper fractions and mixed numbers / continue number sequences involving fractions / compare and order fractions less than 1 / compare and order fractions greater than 1 / add & subtract fractions / add fractions within 1 / add 3 or more fractions / add & subtract mixed numbers / subtraction – breaking the whole / subtract 2 mixed numbers.

**AUTUMN 1**  
**Place Value:** Understand place value for numbers up to 10,000 / round to the nearest 10, 100 and 1000 / understand place value for numbers up to 100,000 / compare and order numbers to 100,000 / round numbers within 100,000 / counting in 10s, 100s, 1000s, 10,000s and 100,000s / compare and order numbers to one million / round numbers to one million.  
**Addition & subtraction:** Add & subtract numbers with more than 4 digits (column method) / round to estimate and approximate / use inverse operations / solve multi-step + and – problems.  
**Multiplication & division:** understand and identify multiples and factors / identify common factors / identify prime numbers.

**SUMMER 2**  
**Consolidation:** 1 week.  
**Shape:** Identify angles / compare and order angles / recognise and describe 2D shapes / identify properties of triangles / identify properties of quadrilaterals / identify lines of symmetry / complete a symmetric figure.  
**Statistics:** Interpret charts / answer comparison, sum & difference questions about data from graphs / introducing line graphs / interpret data from line graphs.  
**Position & direction:** Describe position / plot coordinates and draw shapes on a grid / move a shape on a grid / describe movement on a grid.

**SUMMER 1**  
**Decimals:** Make a whole / write, compare and order decimals / round decimals / find equivalents of half, quarter and three-quarters.  
**Money:** Count money in pounds and pence / order money / estimate money / give change / use all four operations with money.  
**Time:** Recap and consolidate Y3 time work – telling the time to 5 mins & to the minute, using am and pm / read and record time from a 24-hour clock etc / Recall facts about conversions between hours, minutes, seconds, etc / convert time on an analogue clock to digital (12- and 24-hour).

**SUMMER 1**  
**Fractions:** Find fractions of a set of objects / find equivalent fractions / compare fractions / add fractions / subtract fractions.  
**Money:** Count money in pence / count money in pounds / convert pounds and pence / add money / subtract money / give change.  
**Time:** Tell the time to 5 minutes & to the minute / Use am and pm / Read and record time from a 24-hour clock / find the duration / compare durations.

**SUMMER 2**  
**Time:** Calculate start and end times / measure time in seconds / problem solving with time.  
**Shape:** Identify turns and angles / Identify right angles in shapes / compare angles / draw lengths accurately / identify horizontal and vertical lines / identify parallel and perpendicular lines / recognise & describe 2D & 3D shapes / make 3D shapes.  
**Statistics:** Recap and consolidate Y2 statistics work – tallies / pictograms / read data from bar charts and tables.

**AUTUMN 1**  
**Place Value:** Round to the nearest 10 and 100 / count in 1000s / understand and use place value of 1000s, 100s, 10s and 1s / partition 4-digit numbers / use a number line for numbers up to 10,000 / find 1000 more or less / compare 4-digit numbers / order numbers / round to the nearest 1000 / count in 25s / compare negative numbers / understand & use Roman numerals for 3-digit numbers.  
**Addition & subtraction:** Add & subtract 1s, 10s, 100s and 1000s / add and subtract two 4-digit numbers – no exchange, one exchange & more than 1 exchange.

**AUTUMN 2**  
**Addition and subtraction:** Use efficient subtraction strategies / estimate answers / check addition & subtraction strategies.  
**Area:** Count squares to find the area of shapes / make shapes with a given area / compare areas.  
**Multiplication & division:** Multiply by 10 & 100 / divide by 10 & 100 / multiply by 1 and 0 / divide by 1 and itself / multiply and divide by 6, 9 and 7 / Recall and use 6, 9 and 7-times table and division facts.  
**Consolidation:** 1 week.

**SPRING 1**  
**Multiplication and Division:** Recall and use 11 and 12 times-table and division facts / multiply 3 numbers / identify factor pairs / use efficient multiplication strategies / use written methods for multiplication / multiply and divide 2-digits and 3-digits by 1-digit / answer correspondence problems.  
**Length & perimeter:** Find the perimeter by counting squares on a grid / calculate the perimeter of a rectangle / calculate the perimeter of rectilinear shapes.  
**Fractions:** Recap and consolidate Y3 fractions work – tenths / equivalent fractions etc.

**SPRING 2**  
**Fractions:** Understand and use fractions greater than 1 / Count in fractions / Add two or more fractions / subtract two fractions / subtract from whole amounts / calculate fractions of a quantity / problem solving by calculate quantities.  
**Decimals:** Recognise tenths & hundredths / write tenths as decimals, on a place value grid and on a number line / divide 1 or 2-digits by 10 / divide 2-digits by 10 / write hundredths as decimals, on a place value grid / divide 1 or 2-digits by 100.

**SPRING 2**  
**Fractions:** Recap and consolidate Y2 fraction work – halves, quarters and thirds / calculate unit and non-unit fractions / investigate equivalence of a half and 2 quarters / count in fractions / making the whole / counting in tenths / convert between tenths and decimals / fractions on a number line.  
**Mass and capacity:** Measure, compare, add & subtract mass / measure volume & compare, add & subtract capacity / problem solving with temperatures.

**SPRING 1**  
**Multiplication and division:** Compare statements involving x and ÷ / identify related calculations / multiply 2-digits by 1-digit (with and without exchange) / divide 2-digits by 1-digit / divide 100 into 2, 4, 5 and 10 equal parts / divide with remainders / use multiplication knowledge for scaling / calculate the number of combinations.  
**Length & perimeter:** Measure length in m / Find equivalent lengths using m and cm / Find equivalent lengths using cm and mm / compare lengths / add and subtract lengths / measure perimeter / calculate perimeter.

**AUTUMN 2**  
**Addition and subtraction:** Add and subtract 3-digit and 2-digit numbers – not crossing and crossing. Add and subtract 100s / spot the pattern – making it explicit / solve mixed addition and subtraction problems / add two 3-digit numbers – not crossing and crossing 10 or 100 / estimate answers to calculations / check answers to calculations.  
**Multiplication and division:** Use equal groups for multiplication / multiply and divide by 3, 4 and 8 / Recall facts from the 3, 4 and 8 times-table.

**AUTUMN 1**  
**Place Value:** Represent numbers to 100 / understand the place value of numbers up to 1000 / use a number line up to 1000 / Find 1, 10, 100 more or less / compare objects / compare numbers / order numbers / count in 50s.  
**Addition and subtraction:** Add and subtract multiples of 100 / add and subtract 3-digit and 1-digit numbers - not crossing and crossing 10 / add and subtract 3-digit and 2-digit numbers – not-crossing and crossing 100 / add and subtract 100s / spot the pattern – making it explicit.

**SUMMER 2**  
**Statistics:** Make tally charts / draw pictograms (1-1) / interpret pictograms (1-1) / draw pictograms (2, 5 and 10) / interpret pictograms (2, 5 and 10) / interpret data from block diagrams  
**Position & direction:** describe position / problem solving with position / describe movement / describe turns / make patterns with shapes  
**Consolidation**

**SUMMER 1**  
**Fractions:** Working with parts & wholes / make equal parts / recognise a half / find a half / recognise a quarter / find a quarter / recognise a third / find a third / find unit fractions of a shape / find non-unit fractions of a shape / understand the equivalence of a half and 2 quarters / find three quarters / count in fractions / problem solving with fractions.

**AUTUMN 1**  
**Place Value:** count objects to 100 by making tens / recognise tens and ones / use a place value chart / partition numbers to 100 / compare objects & numbers / order objects and numbers / count in 2s, 5s and 10s / count in 3s.  
**Addition and subtraction:** use + & - to 10 and 20 to find related facts to 100 / add & subtract 1s / add by making 10 / add three 1-digit numbers / add to the next 10 / add across a 10 / subtract across 10 / subtract from a 10 / subtract a 1-digit number from a 2-digit number (across a 10) / find 10 more and 10 less / add and subtract 10s.

**AUTUMN 2**  
**Addition and subtraction:** Add two 2-digit numbers (not across a 10) / add two 2-digit numbers (across a 10) / subtract two 2-digit numbers (not across a 10) / Subtract two 2-digit numbers (across a 10) / Mixed addition & subtraction / Compare number sentences / Missing number problems.  
**Shape:** Recognise 2D and 3D shapes / count sides & vertices on 2D shapes / draw 2D shapes / identify lines of symmetry on shapes / use lines of symmetry to complete shapes / sort 2D shapes / count faces, edges and vertices on 3D shapes / sort 3D shapes / make patterns with 2D and 3D shapes.

**SPRING 1**  
**Money:** Recognise coins and notes / count money in pence / count money in pounds (notes and coins) / count money using notes and coins / select money / make the same amount / compare money / find the total / find the difference / find change / solve two-step problems.  
**Multiplication and division:** make equal groups / redistribute from unequal to equal groups / add equal groups / make arrays / multiplication sentence using the x symbol / multiplication sentences from pictures / use arrays / make doubles / recall facts from the 2, 5 and 10 times-tables / make equal groups for sharing & sharing.

**SPRING 2**  
**Multiplication and division:** divide by 2 / identify odd and even numbers / divide by 5 / divide by 10.  
**Length & height:** compare lengths and heights / measure length in cm and m / compare lengths / order lengths / use the four operations with lengths / problem solving with lengths.  
**Mass, capacity & temperature:** Compare mass / measure mass in grams and kilograms / compare volume / measure volume in millilitres and litres / use the four operations with volume / Read temperature from a scale / problem solving

**Time:** telling the time to the hour / telling the time to the half hour / telling the time – quarter past and quarter to / telling the time to 5 minutes / writing time / calculate with hours and days / find durations of time / compare durations of time.