



KEY STAGE 3

SUMMER 2

Statistics: calculate the mean, interpret and construct pie charts and line graphs. Solve problems with all.

SUMMER 1

Geometry: name parts of a circle, draw, compare and classify, build (3d) 2d and 3d shapes including making nets. Find unknown angles in shapes and lines and recognise where they meet on a point of a line.

SPRING 2

Measurement: convert m & km, between length, mass, volume and time from a summer unit to a larger using decimal notation up to 3 places. Solve problems involving calculation and conversion of units up to 3 decimal places. **Perimeter, area, volume:** recognise that same area shape can have different perimeters, when a formulae can be used for area and volume. Calculate area of parallelograms, triangles volumes of cubes, calculate, estimate and compare cuboids in standard units cm³ m³ and other mm³, km³.

SPRING 2

Fractions, decimals and percentages: Compare and order same multiple denominators. **Calculate:** add and subtract with same multiple denominators, multiply proper fractions and mixed numbers by whole numbers **Decimals:** read and write decimals as fractions. Relate 1000ths to 10ths and 100ths and decimal equivalents. **Round** 2 decimal places to whole number and 1 decimal place. **Order and compare** to 3 decimal places. Recognise and understand the meaning of % Solve problems with decimal and fraction equivalents.

SUMMER 1

Multiplication and division: **Calculate:** Multiply and divide whole and decimals by 10, 100 and 1000. **Fractions:** solve problems up to 3 decimal places **Measurement:** convert metric measures and understand approximate equivalence with metric and imperial. Solve problems with combined operations, converting time, using a range of measures with decimal notation and scaling.

SUMMER 2

Measurement: Estimate volume using blocks for cuboids and capacity. **Geometry:** find missing lengths and angles of rectangles, identify reg and irreg polygons, identify 3d shapes from 2d representations. **Angles:** estimate, compare, draw and measure angles in degrees. Identify angles at different points. Position and directions: identify, describe and represent the position of a shape after reflection and translation

AUTUMN 1

Place Value
Read, write, order, compare up to 10 million, round any number, use negative numbers and solve problems with all. **Addition and subtraction:** solve multi step problems with 4 operations. **Multiplication and Division:** common factors, multiples and prime numbers, use estimation with accuracy. Multiply and divide up to 4 digit by 2 using formal method. Interpret remainders as whole numbers, fractions or by rounding. Calculate mentally with mixed operations and large numbers. Know the order of calculations to solve problems.

AUTUMN 2

Fractions: Use common factors and multiples to simply and represent the same denomination. Compare and order incl >1. Calculate different denominator fractions and mixed numbers using equivalence. Multiply proper fractions and answering simplest form. Divide by whole numbers. **Geometry:** describe co-ordinates within all 4 quadrants. Draw and translate shapes on co-ordinates and reflect.

SPRING 1

Decimals: identify pv of 3 digit decimals. Multiply and divide numbers by 10,100,1000 and multiply 1 digit numbers with up to 2 decimals by whole numbers. Use written division for answers up to 2 decimal places. Solve problems which involve rounding. Identify fraction and decimal equivalents. Recall equivalences between fractions, decimals and percentages. **Algebra:** use simple formulae, generate and describe linear sequences, express missing number problems algebraically, find pairs of numbers for equations with 2 unknowns, enumerate possibilities of combinations of 2 variables.

SPRING 1

Multiplication and division: identify factor pairs and common factors, prime factors, prime and composite numbers up to 100 and square and cubed numbers **Solve problems** including factors, multiples, squares and cubes and including scaling with fractions and combined operations. **Fractions, decimals and percentages:** Identify, name and write equivalent fractions. Recognise mixed numbers, improper fractions and convert these. Write as statements

AUTUMN 2

Solve multi step problems including all 4 operations and in context **Multiplication and division:** **Calculate:** multiply and divide using a formal method (long x, short ÷) and mentally. **Measurement:** measure and calculate perimeter of composite shapes in cm/m and the area of rectangles in cm/m squared and estimate irregular shapes.

AUTUMN 1

Place Value Counting: in powers of 10 up to 1000000 and forwards and back through 0 and interpret negative numbers in context. **Read, write, order and compare** numbers up to 1000000 including roman numerals to 1000 **Round** 7 digit numbers to nearest 10 – 100,000. Solve problems involving all of the above. **Addition and subtraction:** Add and subtract using formal method for 5+ digit numbers and mentally. **Statistics:** complete, read and interpret info from tables. Solve comparison sum and difference problems using line graphs

SUMMER 2

Measurement: Solve problems involving converting hours, minutes, seconds, years, months and days. **Geometry:** **2d Shapes:** Compare and classify geometric shapes based on properties and size, identify lines of symmetry in 2d shapes in different orientations. **Angles:** Identify acute and obtuse angles and order angles by size. Complete symmetric figure specific to a line of symmetry **Position and direction:** identify positions as coordinates in first quadrant, describe movements as translations, plot points and draw sides for a given polygon.

SUMMER 1

Fractions, decimals and percentages: Round decimals with 1 decimal place, compare numbers with up to 2 decimal places, solve problems up to 3 decimal places. **Measurement:** Convert, estimate, compare and calculate different units and measures including money in £ and p. Read, write and convert between analogue and digital 12/24 hour clocks Solve problems involving converting hours, minutes, seconds, years, months and days. **Statistics:** interpret and present discrete and continuous data, solve comparison sum and difference problems

SUMMER 1

Measurement: tell the time with 12, 24, analogue, roman numeral clocks. Estimate and read time to the nearest minute. Record and compare time for seconds, minutes, hours. Use time related vocab and know seconds in a minute, days in a month, year and leap year. Compare durations of time. **Fractions:** recognise show equivalent fractions, compare and order fractions. Add and subtract with same denominator. Solve problems with all.

SUMMER 2

Measurement: measure, compare, **add and subtract** length, mass, volume and capacity using m, cm, mm, kg, g, l, ml. **Geometry:** recognise and make 3d shapes using modelling, recognise angles, identify right angles and those largers and smaller, half and ¼ turns. Identify horizontal, vertical, perpendicular and parallel lines.

AUTUMN 1

Place Value
PV: Counting in multiples of 6, 7, 9, 25, 1000 and backwards through 0. PV: Represent numbers in different ways including roman numerals to 100 PV: Find 1000 more or less, recognise the place value of 4 digit, order and compare beyond 1000 PV: round to 10, 100, 1000 and solve problems with larger numbers

AUTUMN 2

Addition and subtraction
Recall, represent, and use inverse operations Add and subtract using formal method up to 4 digits, solve multi step problems **Multiplication and division**
X & ÷ Recall, represent, use tables to 12x12

SPRING 1

Multiplication and Division
Recall, represent, use
X & ÷ multiply and divide mentally multiplying by 1, 0, dividing by 1, multiplying 3 numbers
X & ÷ use factor pairs in mental calculations **Calculations**
X & ÷ multiply 2 and 3 digit numbers by a 1 digit in a formal method **Solve Problems**
X & ÷ Solve problems involving multiplying, adding, scaling and the distributive law.

SPRING 2

Fractions, decimals and percentages
Count up in hundredths, show equivalent fractions, add and subtract with same denominator, solve problems to calculate quantities, including non-unit fractions, recognise and write decimals of 10ths and 100ths, a quarter, half and 3 quarters. Solve problems involving decimals to 2 places. **Measurement:** Convert, estimate, compare and calculate different units and measures, perimeter in m and cm and the area by counting squares

SPRING 2

Measurement: perimeter of 2d shapes, measure, compare, add and subtract length, mass, volume and capacity using m, cm, mm, kg, g, l, ml. **Fractions:**Count in 10th and understand how to make a tenth. Recognise, find and write fractions for unit/non-unit and use as numbers.

SPRING 1

Multiplication and division: Solve problems with x & ÷ including scaling and where n objects are connected with m. **Measurement:** add and subtract with money, giving change using £/p. **Statistics:** interpret and present bar charts, pictograms and tables. Solve problems with these.

AUTUMN 2

Multiplication and division: 3, 4, 8 tables and a formal method for 2 x 1 digit numbers. Solve problems with x & ÷ including scaling and where n objects are connected with m.

AUTUMN 1

Place Value: count in 4, 8, 50, 100. Find 10/100 more or less, read, write, compare, order and represent numbers to 1000 in numerals, words and different representations. **Addition and subtraction:** estimate and use inverse, add and subtract mentally and with a formal method. Solve problems involving all above.

SUMMER 2

Measurement: measure, compare, record and order length, height, **mass, capacity, and temp** using m, cm, kg, g, l, ml using comparison symbols. **Solve problems and investigate with all taught**

SUMMER 1

Geometry: Understand and use terms and vocabulary associated with position, direction, and movement **Measurement:** Know minutes in hour, hours in a day, tell the time to the nearest 5 minutes, compare and sequence intervals of time. **Solve problems with all taught**

Y2

AUTUMN 1

Place Value: count in steps of 2, 3, 5, 10 forwards and backwards. Read, write and represent to 100 in numerals, words and a range of representations incl number line. Compare and order to 100 using > = <, know the value of 2 digit numbers. Solve problems with all. **Addition and subtraction:** use +&- to 20 and related facts to 100. Show commutativity and understanding of inverse to solve missing number problems. +&- Using concrete, pictorial and mental methods for 2 + 1 digit, 2 dig + 10s, 3x 1 digits. Solve problems with all and including measure and quantities.

AUTUMN 2

Addition and subtraction: +&- Using concrete, pictorial and mental methods for 2 + 1 digit, 2 dig + 10s, 3x 1 digits. Solve problems with all and including measure and quantities. **Multiplication and division:** know 2, 5, 10, odd/even and commutativity. Use and understand x & ÷ symbols. **Measurement:** use £/p and combine amounts for a given value. Find combinations which = same amounts. Solve practical problems including giving change.

SPRING 1

Multiplication and division: know 2, 5, 10, odd/even and commutativity. Use and understand x & ÷ symbols. Solve problems with all using arrays, repeated addition and mental methods. **Statistics:** construct and interpret pictograms, tallies, block diagrams and tables. Count, sort and ask and answer questions based on data including totals, comparing and categories. **Geometry:** recognise, name compare and sort 2d&3d shapes, symmetry in vertical line, 2d shapes on 3d faces .Order and arrange patterns and sequences

SPRING 2

Fractions: 1/2s, 1/4s, 1/3s and 2/3s of shapes or quantity. Know 2/4 = ½. **Measurement:** measure, compare, record and order **length, height, mass, capacity, and temp** using m, cm, kg, g, l, ml using comparison symbols.