

<b>Year 6 Autumn Term</b>
<b>Unit 1 – Whole and part numbers</b>
Identify the value of each digit in numbers given to two decimal places, and multiply and divide numbers by 10 and 100 giving answers up to two decimal places.
Solve problems that involve number and place value.
Use, read, write and convert between standard units, converting measurements of mass from a smaller unit of measure to a larger unit, and vice versa, using decimal notation up to two decimal places.
Read, write, order and compare whole numbers to at least 5 000 000.
Round any whole number to a required degree of accuracy
Compare and order fractions.
Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
Solve number and practical problems that involve fractions.
Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
<b>Unit 2 – calculations and algebra</b>
Perform mental calculations, including with mixed operations and large numbers.
Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
Solve problems involving addition, subtraction; use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
Interpret line graphs and use these to solve problems
Use knowledge of the order of operations to carry out calculations involving the four operations
Solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate
Use simple formulae
Find pairs of numbers that satisfy an equation with two unknowns.
<b>Unit 3 – larger numbers</b>
Multiply multi-digit numbers up to four digits by a 2-digit whole number using the formal method of long multiplication.
Solve problems involving multiplication
Perform mental calculations with large numbers.
Give reasons for choosing a particular method.
Multiply single-digit numbers with up to two decimal places by whole numbers.
Use written division methods in cases where the answer has up to two decimal places.
Calculate and interpret the mean as an average.
Solve problems involving the relative sizes of two quantities, where missing values can be found by using integer multiplication and division facts.
Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.
<b>Unit 4 – 2d shapes, 3d shapes and nets</b>
Draw 2-D shapes, using given dimensions and angles.
Recognise that shapes with the same areas can have different perimeters and vice versa.
Calculate the area of parallelograms and triangles.
Recognise when it is possible to use the formulae for area.
Express missing number problems algebraically
Compare and classify geometric shapes based on their properties and sizes and find unknown angles.

Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
Express missing number problems algebraically and find pairs of numbers that satisfy an equation with two unknowns
Recognise, describe and build simple 3-D shapes, including making nets.
Recognise when it is possible to use formulae for finding the volume of shapes.
<b>Unit 5 – negative numbers in real life</b>
Use negative numbers in context, and calculate intervals across zero.
Solve problems that involve number and place value.
Interpret and construct line graphs and use these to solve problems.
Identify the value of each digit in numbers to three decimal places, and multiply and divide numbers by 1000 giving answers up to three decimal places.
Solve number and practical problems that involve all of the above.
<b>Year 6 Spring Term</b>
<b>Part 1 – Division</b>
Divide numbers up to 4 digits by a two-digit whole number using the efficient written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.
Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.
Solve problems which require answers to be rounded to specified degrees of accuracy – rounding up or rounding down. Answers as a whole number or a remainder.
Solve problems involving addition, subtraction, multiplication and division.
<b>Part 2 – Fractions and Percentages</b>
Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
recognise mixed numbers and improper fractions and convert from one to the other (Year 5)
Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
Solve problems involving the calculation of percentages of whole numbers or measures such as 15% of 360 and the use of percentages for comparison
Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ ) (17)
Divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$ ) (18)
<b>Part 3 – Measures</b>
Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints (Year 5)
Convert between miles and kilometres
Solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate
Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places
<b>Part 4 – Shape, coordinates and translation</b>
Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
Solve problems involving similar shapes where scale factor is known or can be found
Identify lines of symmetry in 2-D shapes presented in different orientations (Year 4)

Complete a simple symmetric figure with respect to a specific line of symmetry (Year 4)
Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
Draw 2-D shapes using given dimensions and angles
Draw a given angle, and measure them in degrees (Year 5)
Describe positions on the full coordinate grid (all four quadrants)
Draw and translate simple shapes on the coordinate plane, and reflect them in the axes
<b>Part 5 – Data handling and time</b>
Interpret and construct pie charts and line graphs and use these to solve problems
Complete, read and interpret information in tables, including timetables (Year 5)
Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs (Year 4)
Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight. (Year 3)
Know the number of seconds in a minute and the number of days in each month, year and leap year. (Year 3)
Compare durations of events, for example to calculate the time taken by particular events or tasks. (Year 3)
Read, write and convert time between analogue and digital 12 and 24-hour clocks. (Year 4)
Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. (Year 4).
<b>Part 6 - Algebra and Roman numerals</b>
Express missing number problems algebraically
Generate and describe linear sequences
Read Roman numerals to 100 (I to C) and understand how, over time, the numeral system changed to include the concept of zero and place value (Year 4)
Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals (Year 5)
<b>Part 7 – Area and Perimeter</b>
Calculate the area of parallelograms and triangles
Recognise when it is necessary to use the formulae for area and volume of shapes
Recognise that shapes with the same areas can have different perimeters and vice versa
<b>Part 7 – Multiplication, division, multiples, factors, square and cube</b>
Identify common factors, common multiples and prime numbers
Recognise and use square numbers and cube numbers, and the notation for squared ( $^2$ ) and cubed ( $^3$ ) (Year 5)
Establish whether a number up to 100 is prime and recall prime numbers up to 19 (Year 5)
Multiply one-digit numbers with up to two decimal places by whole numbers
Use written division methods in cases where the answer has up to two decimal places
<b>Part 8 – Solving problems</b>
Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
Solve problems involving addition, subtraction, multiplication and division
Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy