Bloxham Yearly Overview Year 6

Term 1	
Strand	Key Learning
Number Place value Decimals Fractions	• read, write and compare 6-digit numbers and know what each digit represents • read, write and compare 1-, 2-and 3-place decimal numbers; • multiply and divide by 10, 100 and 1000 • round decimals to nearest tenth and whole number and place on a number line • convert decimals (up to 3 places) to fractions and vice-versa
Addition and subtraction	• use mental addition strategies to solve additions including decimal numbers • use column addition to add 5-digit numbers, decimal numbers and amounts of money • solve problems involving number up to 3 decimal places, choose an appropriate method to solve decimal addition
Problem solving Algebra	• express missing number problems algebraically and find pairs of numbers that satisfy equations involving two unknowns; • find missing lengths and angles • understand how brackets can be used in calculation problems • use knowledge of the order of operations to carry out calculations involving the four operations, solve addition and subtraction multi-step problems using knowledge of the order of operations
Problem solving	• use mental addition, column subtraction and counting up to solve subtractions of amounts of money and word problems • use mathematical reasoning to investigate

Term 2	
Strand	Key Learning
Addition, subtraction, multiplication and division	• Use mental multiplication strategies to multiply by numbers such as 4, 8, 5, 25, 19, 29 and 99; • revise using short multiplication to multiply 4-digit numbers by 1-digit numbers and use this to multiply amounts of money; • solve word problems involving multiplication including two-step problems and finding change; • use long mult to multiply 3 and 4-digit numbers by teens numbers
Number and place value	• Understand negative numbers; • calculate small differences between negative numbers and negative and positive numbers; • add and subtract negative numbers; • compare fractions with unlike, but related, denominators; • correctly use the terms fraction, denominator and numerator; • understand what improper fractions and mixed numbers are and add fractions with the same denominator, writing as a mixed number
Multiplication and division Fractions	• Use mental strategies to divide by 2, 4, 8, 5, 20 and 25; • find non-unit fractions of amounts; • use short division to divide 3- and 4-digit numbers by 1-digit numbers, including those which leave a remainder; • express a remainder as a fraction, simplifying where possible.
Fractions Percentages	• Add and subtract unit fractions with different denominators including mixed numbers; • use mental strategies to find simple percentages of amounts, including money

Term 3	
Strand	**Key learning**
Fractions	• multiply fractions less than 1 by whole numbers, converting improper to whole numbers • use commutativity to multiply fractions by whole numbers • divide unit and non-unit fractions by whole number • solve word problems involving fractions
Number and place value	• read and write numbers with up to 7 digits • understand what each digit represents • work systematically to find out how many numbers round to 5,000,000 • subtract 5 and 6 digit numbers using written column method
Fractions Decimals	• multiply and divide by 10. 100 and 1000 • compare and order numbers with up to 3 decimal places • know common fraction/decimal equivalents • multiply pairs of unit fractions and unit fractions by non unit fractions
Fractions Decimals Multiplication and division	• use partitioning to mentally multiply 2 digit numbers with one decimal place by whole 1-digit numbers • multiply numbers with two decimal places • use short multiplication to multiply amounts of money • use estimation to check answers to calculations • use long multiplication to multiply 3-digit and 4-digit numbers by numbers between 10 and 30

Term 4	
Strand	**Key learning**
Addition and subtraction Problem solving	• add and subtract numbers using mental strategies • solve addition of 4- to 7-digit numbers using written column addition • identify patterns in the number of steps required to generate palindromic numbers • subtract 5-, 6- and 7-digit numbers using written column method • solve additions and subtractions choosing mental strategies or written procedures as appropriate • read, understand and solve word problems
Division Fractions	• identify common factors and common multiples • understand that a prime number has exactly two factors and find numbers less than 100 • understand what a composite (non-prime) number is • use long division to divide 3- and 4- digit numbers by 2-digit numbers, giving remainders as a fraction, simplifying where possible
Addition and subtraction Decimals Problem solving	• solve addition and subtraction multi-step problems in shopping contexts • add and subtract decimal numbers choosing an appropriate strategy, and add decimal numbers with different numbers of places using column addition • use mathematical reasoning to investigate and solve problems • solve subtractions of decimal numbers with different numbers of places (2places) using counting up
Multiplication and division	• multiply 4 digit numbers including those with two decimal places by 1 digit numbers • use long multiplication to multiply 4-digit numbers by numbers between 10 and 30 • revise using short division to divide 4 digit by 1 digit and 2-digit numbers • use long division to divide 4-digit by 2-digit numbers

Term 5	
Strand	Key learning
Fractions Algebra Ratio	• generalise a relationship between pairs of numbers, express simple formulae in words, then using letters • describe and continue sequences, generalise to predict the tenth term, begin to generalise a term in a sequence using n • describe ratio and use ratio to solve problems • find fractions and simplify ratios
Place value	• revise reading, writing, comparing and ordering numbers with up to 7 digits and decimal numbers up to 3 decimal places • revise rounding decimal numbers to the nearest tenth and whole number • revise rounding big numbers to the nearest thousand, ten thousand, hundred thousand and million • revise locating a number on a number line marking numbers it lies between • revise comparing and ordering negative numbers including calculating differences between negative numbers and positive and negative numbers.
Addition and subtraction Problem solving	• Revise adding and subtracting whole numbers and decimal numbers using mental and written methods • Revise finding percentages of numbers, converting fractions, decimals and percentages and making comparisons using percentages • Revise how brackets can be used • Revise finding missing number problems • Revise using trial and improvement to solve equations
Measurement Problem solving	• Revise scaling • Revise solving problems • Multiply 3 digit and 4 digit numbers including decimals by whole 1-digit numbers and solve word problems involving money and measure • Use a systematic approach to solve problems
Term 6	
Strand	**Key learning**
Division Position and direction	• Revise using short division to find unit fractions of amounts, including decimals, and round answers to money problems according to the context • Revise using long division to divide 4-digit by 2-digit numbers, giving remainders as a fraction, simplifying where possible • Revise using long division to divide 3 digit and 4 digit numbers by numbers between 10 and 30, writing the fractional part of the answer as a decimal where equivalents are known • Revise calculating the mean average • Revise reading and marking coordinated in all four quadrants, draw simple polygons and find missing coordinates on a polygon or line
Fractions Ratio Problem solving	• Revise equivalence, simplifying fractions and changing improper fractions into mixed numbers and vice versa • Revise adding and subtracting fractions with different denominators, including those which give answers greater than 1 • Revise multiplying pairs of fractions and multiplying and dividing fractions by whole numbers • Solving problems involving ratios • Read intermediate points off scales
Problem solving	• Use mathematical reasoning to investigate and solve problems, and to estimate and predict • Solve problems using doubling, solve calculations with enormous numbers • Find out about famous mathematicians including Brahmagupta and John Napier and use their different methods to multiply • Use lattice multiplication to solve multiplications of 2,3,4 digit numbers • Begin to compare historical multiplication methods
Algebra	• Explore binary numbers • Solve mathematical puzzles • Find digital roots and look for patterns • Explore Fibonacci sequences and Pythagoras' theorem

Themed strands that are linked to other subjects	
Measurement	• Convert between grams and kilograms, millilitres and litres, millimetres and centimetres, metres and kilometres • Revise reading the 24 hour clock and convert 12 hour times to 24 hour • Find time intervals using the 24 hour clock
Measurement Shape	• Calculate the perimeter, area and volume of shapes, and know their units of measurement • Understand that shapes can have the same perimeters but different areas and vice versa • Calculate the area of a triangle • Find the area of parallelograms • Name and describe properties of 3D shapes • Systematically find and compare nets for different 3d shapes
Shape	• Name, classify and identify properties of quadrilaterals • Explore how diagonal lines can bisect quadrilaterals • Understand what an angle is and that it is measured in degrees • Know what the angles of any triangles, quadrilaterals and regular polygons are and calculate missing angles • Recognise and identify the properties of circles and name their parts • Draw circles using pairs of compasses • Draw polygons using a ruler and a protractor
Statistics	• Calculate and understand the mean average • Construct and interpret distance/time line graphs • Understand pie charts are a way of representing data using percentages, interpret and construct pie charts
Algebra Ratio	• Generalise a relationship between pairs of numbers, express simple formulae in words, then using letters • Describe and continue sequences, generalise to predict the tenth term • Describe ratio and use ratio to solve problems • Find fractions and simplify ratios
Shape Statistics	• Revise properties and classification of 2D shape, parts of a circle and angles in polygons • Use a protractor to measure and draw angles in degrees • Identify and name acute, right, obtuse and reflex angles • Understand perimeter, area and volume • Find the area of rectangles, find the area of rectangles, parallelograms and triangles, and find the volumes of cubes and cuboids • Revise reading and interpreting different types of data display