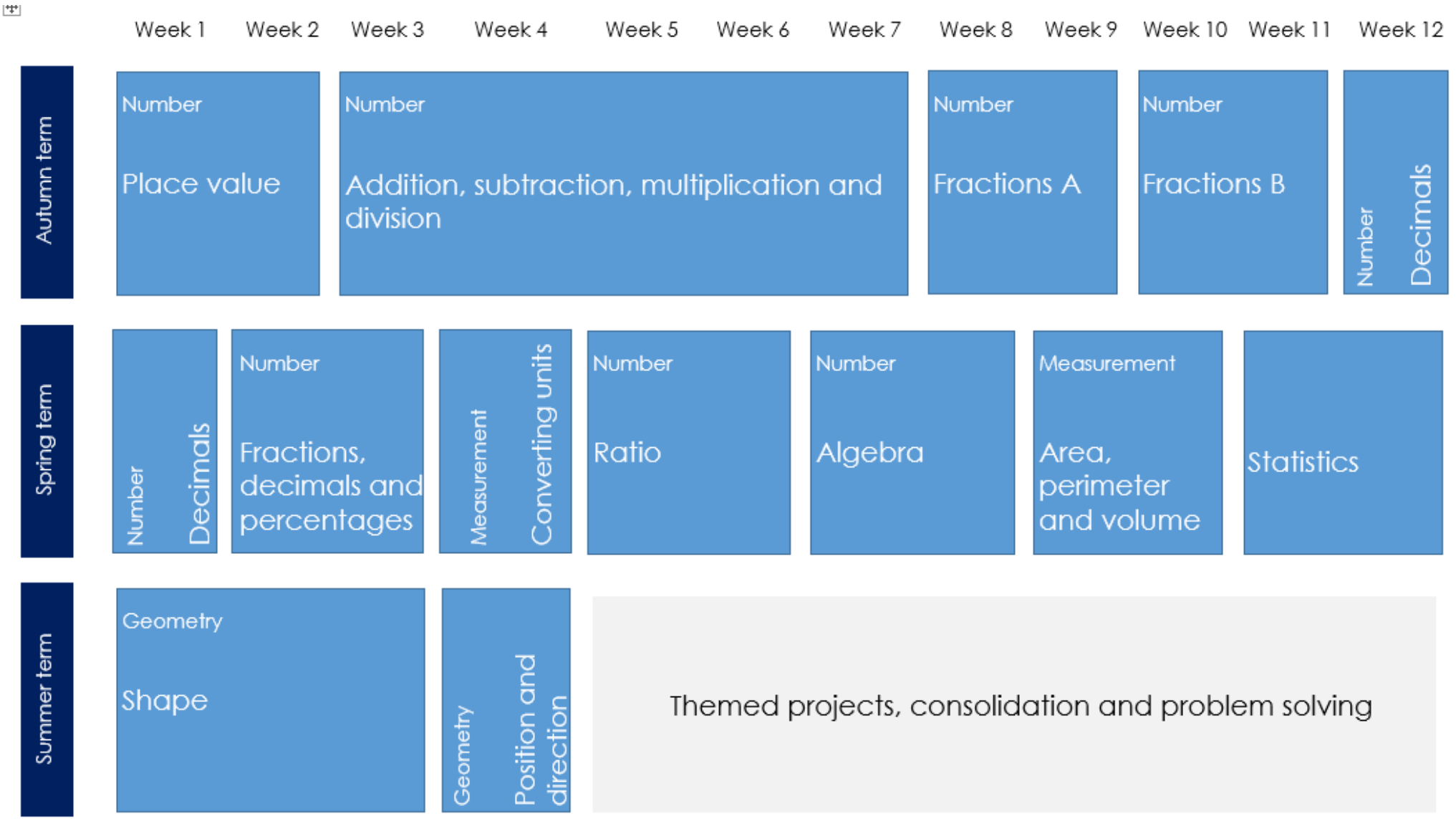
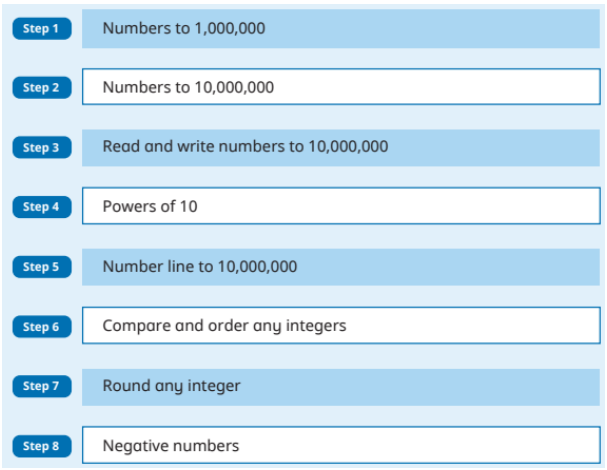
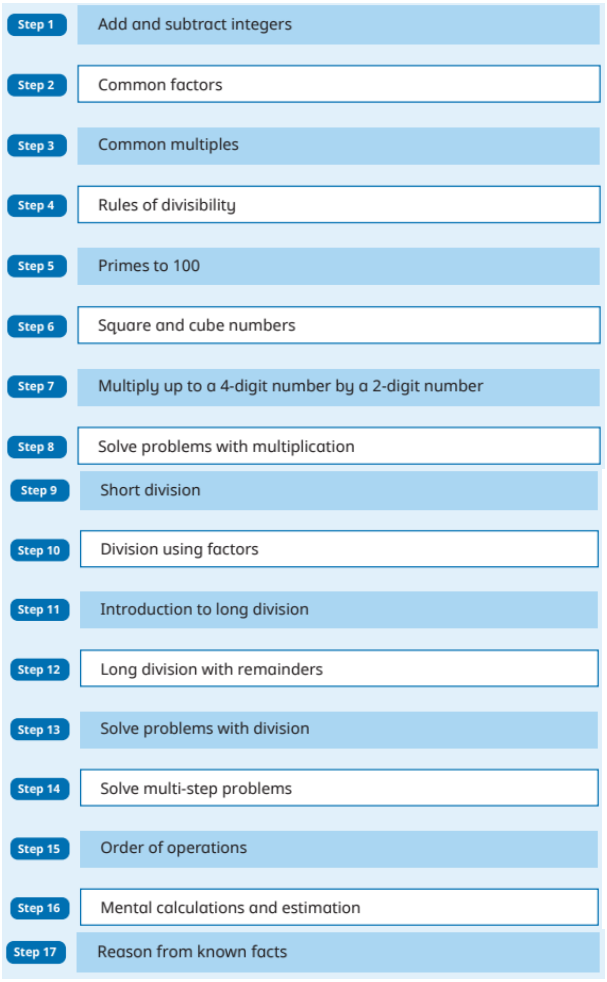
YEAR 6 - Maths Curriculum



AUTUMN TERM

National Curriculum	Small Steps
Number and Place Value (2 Weeks) Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. Round any whole number to a required degree of accuracy. Use negative numbers in context, and calculate intervals across zero. Solve number and practical problems that involve all of the above.	
Number + & -, x & / (5 Weeks) Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. Identify common factors, common multiples and prime numbers. Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. Perform mental calculations, including with mixed operations and large numbers. 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. Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. Use their knowledge of the order of operations to carry out calculations involving the four operations. Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. Solve problems involving addition, subtraction, multiplication and division.	

AUTUMN TERM—Continued

National Curriculum	Small Steps
Fractions (2 Weeks) Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. Compare and order fractions, including fractions > 1. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. Identify common factors, common multiples and prime numbers. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. Solve problems involving +, -, x and /.	Step 1 Equivalent fractions and simplifying Step 2 Equivalent fractions on a number line Step 3 Compare and order (denominator) Step 4 Compare and order (numerator) Step 5 Add and subtract simple fractions Step 6 Add and subtract any two fractions Step 7 Add mixed numbers Step 8 Subtract mixed numbers Step 9 Multi-step problems
Fractions (2 Weeks) Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 1/4 × 1/2 = 1/8). Divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6]. Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 0.375] for a simple fraction [for example, 8/3] identify the value of each digit in numbers given to three decimal places. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. Solve problems involving addition, subtraction, multiplication and division.	Step 1 Multiply fractions by integers Step 2 Multiply fractions by fractions Step 3 Divide a fraction by an integer Step 4 Divide any fraction by an integer Step 5 Mixed questions with fractions Step 6 Fraction of an amount Step 7 Fraction of an amount – find the whole
Decimals (2 Weeks) Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. Multiply one-digit numbers with up to two decimal places by whole numbers. Solve problems which require answers to be rounded to specified degrees of accuracy. Use written division methods in cases where the answer has up to 2 decimal places.	Step 1 Place value within 1 Step 2 Place value – integers and decimals Step 3 Round decimals Step 4 Add and subtract decimals Step 5 Multiply by 10, 100 and 1,000 Step 6 Divide by 10, 100 and 1,000 Step 7 Multiply decimals by integers Step 8 Divide decimals by integers Step 9 Multiply and divide decimals in context

Real Life Maths Week—With a Unit of your choosing

****Linked to Whitgreave Wheels ****

SPRING TERM

National Curriculum	Small Steps
Fractions, Decimals and Percentages (2 Weeks) Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. Compare and order fractions, including fractions > 1. Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.	Step 1 Decimal and fraction equivalents Step 2 Fractions as division Step 3 Understand percentages Step 4 Fractions to percentages Step 5 Equivalent fractions, decimals and percentages Step 6 Order fractions, decimals and percentages Step 7 Percentage of an amount – one step Step 8 Percentage of an amount – multi-step Step 9 Percentages – missing values
Converting Units (1 Week) Solve problems involving the calculation and conversion of units of measure, using decimal notation up 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 up to three decimal places. Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. Convert between miles and kilometres.	Step 1 Metric measures Step 2 Convert metric measures Step 3 Calculate with metric measures Step 4 Miles and kilometres Step 5 Imperial measures

SPRING TERM—Continued

National Curriculum	Small Steps
Ratio and Proportion (2 Weeks) 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 similar shapes where the scale factor is known or can be found. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	Step 1 Add or multiply? Step 2 Use ratio language Step 3 Introduction to the ratio symbol Step 4 Ratio and fractions Step 5 Scale drawing Step 6 Use scale factors Step 7 Similar shapes Step 8 Ratio problems Step 9 Proportion problems Step 10 Recipes
Algebra (2 Weeks) Use simple formulae. Generate and describe linear number sequences. Find pairs of numbers that satisfy an equation with two unknowns. Enumerate possibilities of combinations of two variables. Express missing number problems algebraically.	Step 1 1-step function machines Step 2 2-step function machines Step 3 Form expressions Step 4 Substitution Step 5 Formulae Step 6 Form equations Step 7 Solve 1-step equations Step 8 Solve 2-step equations Step 9 Find pairs of values Step 10 Solve problems with two unknowns

SPRING TERM—Continued

National Curriculum	Small Steps
Area, Perimeter and Volume (Weeks) Recognise that shapes with the same areas can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [for example, mm3 and km3].	Step 1 Shapes – same area Step 2 Area and perimeter Step 3 Area of a triangle – counting squares Step 4 Area of a right-angled triangle Step 5 Area of any triangle Step 6 Area of a parallelogram Step 7 Volume – counting cubes Step 8 Volume of a cuboid
Statistics (2 Weeks) Interpret and construct pie charts and line graphs and use these to solve problems. Calculate and interpret the mean as an average.	Step 1 Line graphs Step 2 Dual bar charts Step 3 Read and interpret pie charts Step 4 Pie charts with percentages Step 5 Draw pie charts Step 6 The mean

SUMMER TERM

National Curriculum	Small Steps
Geometry (Shape—3 Weeks) Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. Draw 2-D shapes using given dimensions and angles. Recognise, describe and build simple 3-D shapes, including making nets.	Step 1 Measure and classify angles Step 2 Calculate angles Step 3 Vertically opposite angles Step 4 Angles in a triangle Step 5 Angles in a triangle – special cases Step 6 Angles in a triangle – missing angles Step 7 Angles in a quadrilateral Step 8 Angles in polygons Step 9 Circles Step 10 Draw shapes accurately Step 11 Nets of 3-D shapes
Position and Direction (2 Weeks) 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.	Step 1 The first quadrant Step 2 Read and plot points in four quadrants Step 3 Solve problems with coordinates Step 4 Translations Step 5 Reflections

Real Life Maths Week—With a Unit of your choosing

****Linked to Whitgreave Wheels ****