Year 6	Autumn	Spring	Summer
	Number: Place Value • Given a set of seven digits including zero generates numbers up to seven digits and place them in order of size. • Rounds numbers to the nearest million and ten million • Places positive and negative and positive numbers on a number line at an appropriate distance from zero. • Solves number and practical problems that involve all of the above.	**Number: Fractions, Decimals and Percentages** • Uses common factors to simplify fractions; use common multiples to express fractions in the same denomination. • Compares and orders fractions, including fractions > 1. • Adds and subtracts fractions with different denominators and mixed numbers, using the concept of equivalent fractions. • Multiplies simple pairs of proper fractions, writing the answer in its simplest form [for example, □ x □ = 1/8]. • Divides proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6].	**Number: Place Value** • Reads, writes, orders and compares numbers up to 10 000 000 and determine the value of each digit. • Rounds any whole number to a required degree of accuracy. • Uses negative numbers in context, and calculate intervals across zero. • Solves number and practical problems that involve all of the above.

Year 6

Autumn

Number: Place Value
- Given a set of seven digits including zero generates numbers up to seven digits and place them in order of size.
- Rounds numbers to the nearest million and ten million
- Places positive and negative and positive numbers on a number line at an appropriate distance from zero.
- Solves number and practical problems that involve all of the above.

Number: Four Operations
- Adds and subtracts whole numbers with 5 or more digits, including using formal written methods (columnar addition and subtraction).
- Given a word problem decides which operation could be used.
- Uses rounding to check answers to calculations
- Carries out two step problems mentally including mixed operations.
- Knows that the part of the calculation within the brackets must be carried out first.
- Multiplies 4 digit numbers by 2 digits using the formal written method of long multiplication.
- Given a division calculation which generates a remainder can understand the nature of the remainder in the context of the problem and what to do with it.
- Understands the difference between the processes and steps used to carry out long and short division.
- Systematically finds all factor pairs of a number.

Spring

Number: Fractions, Decimals and Percentages
- Uses common factors to simplify fractions; use common multiples to express fractions in the same denomination.
- Compares and orders fractions, including fractions > 1.
- Adds and subtracts fractions with different denominators and mixed numbers, using the concept of equivalent fractions.
- Multiplies simple pairs of proper fractions, writing the answer in its simplest form [for example, □ x □ = 1/8].
- Divides proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6].
- Associates a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8].
- Identifies 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.
- Multiplies one-digit numbers with up to two decimal places by whole numbers.
- Uses written division methods in cases where the answer has up to two decimal places.
- Recalls and uses equivalences between simple fractions, decimals and percentages, including in different contexts.

Algebra
- Uses simple formulae.
- Expresses missing number problems algebraically.
- Finds pairs of numbers that satisfy an equation with two unknowns.
- Enumerates possibilities of combinations of two variables.

Statistics
- Interprets and constructs pie charts and line graphs and use these to solve problems.
- Recognises the formula for calculating the mean.
- Calculates and interprets the mean as an average.

Summer

Number: Place Value
- Reads, writes, orders and compares numbers up to 10 000 000 and determine the value of each digit.
- Rounds any whole number to a required degree of accuracy.
- Uses negative numbers in context, and calculate intervals across zero.
- Solves number and practical problems that involve all of the above.

Number: Four Operations
- Solves addition and subtraction multi-step problems in context, deciding which operations and methods to use and why.
- Uses estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
- Multiplies multi-digit numbers up to 4 digits by a two- digit whole number using the formal written method of long multiplication.
- Divides numbers up to 4 digits by a two- digit whole number using the formal written method of long and short division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.
- Identifies common factors, common multiples and prime numbers.
- Uses their knowledge of the order of operations to carry out calculations involving the four operations.

	Number: Fractions	Geometry	Ratio and Proportion
	• Identifies that there is a common factor between the numerator and denominator when it can be simplified. • Compares and orders non unit fractions whose denominators are all multiples of the same number. • Recognises that fractions with different denominators cannot be combined without converting them. • Multiplies unit fractions and relate this to division. • Divides unit fractions by whole numbers to establish why the numerator stays the same and the denominator changes. • Recalls and uses some equivalence between simple fractions, decimals and percentages, ,	• Draws 2-D shapes using given dimensions and angles. • Recognises, describes and builds simple 3-D shapes, including making nets. • Compares and classifies geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. • Recognises angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. • Illustrates and names parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. • Describes positions on the full coordinate grid (all four quadrants). • Draws and translates simple shapes on the coordinate plane, and reflect them in the axes.	• Solves problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. • Solves problems involving the calculation of percentages and the use of percentages for comparison. • Solves problems involving similar shapes where the scale factor is known or can be found. • Solves problems involving unequal sharing and grouping using knowledge of fractions and multiples.

| | quarters, fifths, tenths, hundredths. | **Measurement**
• Solves problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.
• Uses, reads, writes and converts 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.
• Converts between miles and kilometres.
• Recognises that shapes with the same areas can have different perimeters and vice versa.
• Recognises when it is possible to use formulae for area and volume of shapes.
• Calculates the area of parallelograms and triangles.
• Calculates, estimates and compares volume of cubes and cuboids using standard units, including cubic centimetres. | <u>Consolidation/SATs revision</u> |