Turtles	Year 5	
Autumn Term	Spring Term	Summer Term
Number, place value and rounding. ➢ Read, write, order and compare numbers at least to 1,000,000 and determine the value of each digit ➢ Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000. **On-going.** ➢ Solve number problems and practical problems that involve all of the above.	**Number, place value and rounding** ➢ Read, write, order and compare numbers at least to 1,000,000 and determine the value of each digit ➢ Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000. ➢ Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero. ➢ Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 1,00, 000. **On-going.** ➢ Solve number problems and practical problems that involve all of the above.	**Number, place value and rounding** ➢ Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000. ➢ Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero. ➢ Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 1,00, 000. ➢ Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. **On-going.** ➢ Solve number problems and practical problems that involve all of the above.
Fractions and Decimals ➢ Compare and order fractions whose denominators are all multiples of the same number. ➢ Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. ➢ Read and write decimal numbers as fractions (for example, 0.71 = 71/100). ➢ Read, write, order and compare numbers with up to three decimal places. ➢ Round decimals with two decimal places to the nearest whole numbers and to one decimal place. ➢ Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	**Fractions and Decimals** ➢ Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number (for example, 2/5 + 4/5 = 6/5 = 1 1/5) ➢ Add and subtract fractions with the same denominator and denominators that are multiples of the same number. ➢ Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	**Fractions and Decimals** ➢ Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number (for example, 2/5 + 4/5 = 6/5 = 1 1/5) ➢ Add and subtract fractions with the same denominator and denominators that are multiples of the same number. ➢ Read, write, order and compare numbers with up to three decimal places. ➢ Read and write decimal numbers as fractions (for example, 0.71 = 71/100). ➢ Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. ➢ Round decimals with two decimal places to the nearest whole numbers and to one decimal place. ➢ Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal. ➢ Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple

		of 10 or 25.
On-going ➢ Solve problems involving numbers up to three decimal places.	**On-going** ➢ Solve problems involving numbers up to three decimal places.	**On-going** ➢ Solve problems involving numbers up to three decimal places.
Addition and Subtraction ➢ Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) ➢ Add and subtract numbers mentally with increasingly large numbers ➢ Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy **On-going** ➢ Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	**Addition and Subtraction** ➢ Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) ➢ Add and subtract numbers mentally with increasingly large numbers ➢ Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy **On-going** ➢ Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	**Addition and Subtraction** ➢ Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) ➢ Add and subtract numbers mentally with increasingly large numbers ➢ Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy **On-going** ➢ Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
Multiplication and Division ➢ Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers ➢ Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. ➢ Establish whether a number up to 100 is prime and recall prime numbers up to 19. ➢ Multiply numbers up to 4 digits by a one-or two-digit number using a formal written method, including long multiplication for two-digit numbers ➢ Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. ➢ Multiply and divide numbers mentally drawing upon known facts. ➢ Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.	**Multiplication and Division** ➢ Multiply and divide numbers mentally drawing upon known facts. ➢ Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. ➢ Multiply numbers up to 4 digits by a one-or two-digit number using a formal written method, including long multiplication for two-digit numbers ➢ Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. ➢ Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) ➢ Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.	**Multiplication and Division** ➢ Multiply numbers up to 4 digits by a one-or two-digit number using a formal written method, including long multiplication for two-digit numbers ➢ Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. ➢ Multiply and divide numbers mentally drawing upon known facts. ➢ Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers

On-going	On-going	On-going
➤ Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. ➤ Solve problems involving addition, subtraction, multiplication and division and a combination of these, including the meaning of the equals sign.	➤ Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. ➤ Solve problems involving addition, subtraction, multiplication and division and a combination of these, including the meaning of the equals sign.	➤ Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. ➤ Solve problems involving addition, subtraction, multiplication and division and a combination of these, including the meaning of the equals sign.
Measures	**Measures**	**Measures**
➤ Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre ad millilitre) ➤ Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. ➤ Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres ➤ Calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes. ➤ Estimate volume (for example, using $1cm^3$ blocks to build cuboids (including cubes) and capacity (for example, using water) ➤ Use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling.	➤ Calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes. ➤ Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. ➤ Solve problems involving between units of time.	➤ Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre ad millilitre) ➤ Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. ➤ Use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling. ➤ Estimate volume (for example, using $1cm^3$ blocks to build cuboids (including cubes) and capacity (for example, using water) ➤ Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.
Geometry: properties of shapes	**Geometry: properties of shapes**	**Geometry: properties of shapes**

➤ Identify 3D shapes, including cubes and other cuboids, from 2D representations.
➤ Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
➤ Draw given angles, and measure them in degrees (○)
➤ Identify:
  • angles at a point and one whole turn (total 360○)
  • angles at a point on a straight line and ½ a turn (total 180○)
  • other multiples of 90○
		➤ Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
		➤ Draw given angles, and measure them in degrees (○)
		➤ Identify:
		  • angles at a point and one whole turn (total 360○)
		  • angles at a point on a straight line and ½ a turn (total 180○)
		  • other multiples of 90○
		➤ Use the properties of rectangles to deduce related facts and find missing lengths and angles.

➢ Use the properties of rectangles to deduce related facts and find missing lengths and angles. ➢ Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.		➢ Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
Geometry: position, direction, motion. .	**Geometry: position, direction, motion.** ➢ Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.	**Geometry: position, direction, motion.**
Statistics ➢ Solve comparison, sum and difference problems using information presented in a line graph.	**Statistics** ➢ Complete, read and interpret information in tables, including timetables. ➢ Solve comparison, sum and difference problems using information presented in a line graph.	**Statistics**