**Geometry – Position and Direction**

**Describe positions on a 2-D grid as coordinates in the first quadrant**

**Describe movements between positions as translations of a given unit to the left/right and up/down**

**Plot specified points and draw sides to complete a given polygon.** Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.

**Geometry – Properties of Shape**

**Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes**

Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons

**Identify acute and obtuse angles and compare and order angles up to two right angles by size**

**Identify lines of symmetry in 2-D shapes presented in different orientations**

**Complete a simple symmetric figure with respect to a specific line of symmetry.** Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.

**Measurement**

**Convert between different units of measure [for example, kilometre to metre; hour to minute]**

**Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres**

**Find the area of rectilinear shapes by counting squares**

**Estimate, compare and calculate different measures, including money in pounds and pence**

**Read, write and convert time between analogue and digital 12- and 24-hour clocks**

**Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.**

**Number and Place Value**

**Count backwards through zero to include negative numbers**

**Count in multiples of 6, 7, 9, 25 and 1000**

**Find 1000 more or less than a given number**

**Identify, represent and estimate numbers using different representations**

**Order and compare numbers beyond 1000**

Reason about the location of any *four*-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.

Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.

**Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)**

Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100.

Recognise the place value of each digit in *four*-digit numbers, and compose and decompose *four*-digit numbers using standard and non-standard partitioning.

**Round any number to the nearest 10, 100 or 1000**

**Solve number and practical problems that involve all of the above and with increasingly large positive numbers**

**Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.**

**.**

**Addition and Subtraction**

Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)

**Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate**

**Estimate and use inverse operations to check answers to a calculation**

**Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.**

**Statistics**

**Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.**

**Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.**

**Fractions**

Reason about the location of mixed numbers in the linear number system.

**Recognise and show, using diagrams, families of common equivalent fractions**

**Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.**

**Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number**

Convert mixed numbers to improper fractions and vice versa

**Add and subtract fractions with the same denominator**

Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers

**Recognise and write decimal equivalents of any number of tenths or hundredths**

**Recognise and write decimal equivalents to ¼, 2/4, ¾**

**Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths**

Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.

**Round decimals with one decimal place to the nearest whole number**

**Compare numbers with the same number of decimal places up to two decimal places**

**Solve simple measure and money problems involving fractions and decimals to two decimal places.**

**Multiplication and Division**

**Recall multiplication and division facts for multiplication tables up to 12 × 12 (facts for 6,7,9,11,12 are new)**

Recall multiplication and division facts up to 12 x12 , and recognise products in multiplication tables as multiples of the corresponding number.

Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)

**Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers**

**Recognise and use factor pairs and commutativity in mental calculations**

**Multiply and divide two-digit and three-digit numbers by a one-digit number using formal written layout**

Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context.

**Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.**

Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.

Understand and apply the distributive property of multiplication.

National Curriculum Year 4