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| **OVERVIEW**  **Year 5** | **AUTUMN 1** | **AUTUMN 2** | **SPRING 1** | **SPRING 2** | **SUMMER 1** | **SUMMER 2** |
| **Number & Place Value** | * read, write, order and compare numbers to at least 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 * round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 * read Roman numerals to 1000 (M) and recognise years written in Roman numerals. | * interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero * solve number problems and practical problems that involve all of the above | * read, write, order and compare numbers to at least 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 * round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 * read Roman numerals to 1000 (M) and recognise years written in Roman numerals. | * interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero * solve number problems and practical problems that involve all of the above | * read, write, order and compare numbers to at least 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 * round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 * read Roman numerals to 1000 (M) and recognise years written in Roman numerals. | * interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero * solve number problems and practical problems that involve all of the above |
| **Number – 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 | * solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. * add and subtract numbers mentally with increasingly large numbers | * 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 | * solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. * add and subtract numbers mentally with increasingly large numbers | * 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 | * solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. * add and subtract numbers mentally with increasingly large numbers |
| **Number – multiplication and division** | * identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers * 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 * multiply and divide numbers mentally drawing upon known facts | * 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 | * 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 and divide whole numbers and those involving decimals by 10, 100 and 1000 | * identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers * 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 * multiply and divide numbers mentally drawing upon known facts | * 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 | * 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 and divide whole numbers and those involving decimals by 10, 100 and 1000 |
| **Fractions, Decimals & Percentages** | * 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 = ] * recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents * round decimals with two decimal places to the nearest whole number and to one decimal place * read, write, order and compare numbers with up to three decimal places | * compare and order fractions whose denominators are all multiples of the same number * add and subtract fractions with the same denominator and denominators that are multiples of the same number * solve problems involving number up to three decimal places * 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 | 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,  +  =  = 1   * multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams   solve problems which require knowing percentage and decimal equivalents of , , , ,  and those fractions with a denominator of a multiple of 10 or 25. | * 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 = ] * recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents * round decimals with two decimal places to the nearest whole number and to one decimal place * read, write, order and compare numbers with up to three decimal places | * compare and order fractions whose denominators are all multiples of the same number * add and subtract fractions with the same denominator and denominators that are multiples of the same number * solve problems involving number up to three decimal places * 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 | 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,  +  =  = 1   * multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams   solve problems which require knowing percentage and decimal equivalents of , , , ,  and those fractions with a denominator of a multiple of 10 or 25. |
| **Measurement** | * convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) * understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints * solve problems involving converting between units of time | * measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres * calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes * estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] | * convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) * understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints * solve problems involving converting between units of time * use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling. | * measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres * calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes * estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] | * convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) * understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints * solve problems involving converting between units of time * use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling. | * measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres * calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes * estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] |
| **Geometry** | * identify 3-D shapes, including cubes and other cuboids, from 2-D representations * 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. | * know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles * draw given angles, and measure them in degrees (o) * identify:   angles at a point and one whole turn (total 360o)  angles at a point on a straight line and  a turn (total 180o)  other multiples of 90o | * identify 3-D shapes, including cubes and other cuboids, from 2-D representations * 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. | * know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles * draw given angles, and measure them in degrees (o) * identify:   angles at a point and one whole turn (total 360o)  angles at a point on a straight line and  a turn (total 180o)  other multiples of 90o | * identify 3-D shapes, including cubes and other cuboids, from 2-D representations * 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. | * know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles * draw given angles, and measure them in degrees (o) * identify:   angles at a point and one whole turn (total 360o)  angles at a point on a straight line and  a turn (total 180o)  other multiples of 90o |
| **Position & Direction** | * 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. | Pupils recognise and use reflection and translation in a variety of diagrams, including continuing to use a 2-D grid and coordinates in the first quadrant. Reflection should be in lines that are parallel to the axes. | * 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. | Pupils recognise and use reflection and translation in a variety of diagrams, including continuing to use a 2-D grid and coordinates in the first quadrant. Reflection should be in lines that are parallel to the axes. | * 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. | Pupils recognise and use reflection and translation in a variety of diagrams, including continuing to use a 2-D grid and coordinates in the first quadrant. Reflection should be in lines that are parallel to the axes. |
| **Statistics** | * solve comparison, sum and difference problems using information presented in a line graph | * complete, read and interpret information in tables, including timetables. | * solve comparison, sum and difference problems using information presented in a line graph | * complete, read and interpret information in tables, including timetables. | * solve comparison, sum and difference problems using information presented in a line graph | * complete, read and interpret information in tables, including timetables. |
| **Using & Applying** | Solve problems involving +/-/x/÷ in different contexts. | Solve problems involving +/-/x/÷ in different contexts. | Solve problems involving +/-/x/÷ in different contexts. | Solve problems involving +/-/x/÷ in different contexts. | Solve problems involving +/-/x/÷ in different contexts. | Solve problems involving +/-/x/÷ in different contexts. |