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|  | Spring 1 | Spring 2 |
| Nursery(Birth to Five) | **Comparison** • Begin to compare and recognise changes in numbers of things, using words like more, lots or ‘same’. **Counting** • Begin to say numbers in order, some of which are in the right order (ordinality).**Cardinality (How many?)** • In everyday situations, take or give two or three objects from a group.• Begin to notice numerals (number symbols).• Begin to count on their fingers. **Spatial Awareness** • Move their bodies and toys around objects and explore fitting into spaces.• Begin to remember their way around familiar environments. • Respond to some spatial and positional language. • Explore how things look from different viewpoints including things that are near or far away. **Shape** • Choose puzzle pieces and try to fit them in. • Recognise that two objects have the same shape.• Make simple constructions.**Pattern** • Join in and anticipates repeated sound and action patterns. • Is interested in what happens next using the pattern of everyday routines.**Measures** • Explore differences in size, length, weight and capacity. • Begin to understand some talk about immediate past and future.• Begin to anticipate times of the day such as mealtimes or home time. |
| Reception(Birth to Five) | * Begin to recognise numerals 0 to 10.
* Compare two small groups of up to five objects, saying when there are the same number of objects in each group, e.g. You’ve got two, I’ve got two. Same!
* Through play and exploration, begin to learn that numbers are made up (composed) of smaller numbers.
* Separate a group of three or four objects in different ways, beginning to recognise that the total is still the same.
* Begin to use understanding of number to solve practical problems in play and meaningful activities.
* Begin to recognise that each counting number is one more than the one before.
* In meaningful contexts, find the longer or shorter, heavier or lighter and more/less full of two items.
* Recall a sequence of events in everyday life and stories.

White Rose MathsWeek 1,2,3 - Alive in 5!**WWK: the number name zero and the numeral 0.****WWK: one quantity can be more than, the same as or fewer than another quantity (up to 5).****WWK: the numbers 4 and 5 are made up off smaller numbers.****WWK: that heavy, heavier than and heaviest, light, lighter than and lightest can be used when comparing masses.****WWK: that capacities can be compared.**Week 4, 5, 6 - Growing 6, 7, 8 **WWK: 6, 7 & 8.****WWK: different representations for numbers in pairs.****WWK: strategies for combining two amounts to find how many altogether.****WWK language that can be used to describe length and height.****WWK: language that helps to sequence times in the school day.** | * Begin to recognise numerals 0 to 10.
* Through play and exploration, begin to learn that numbers are made up (composed) of smaller numbers.
* Begin to recognise that each counting number is one more than the one before.
* Respond to both informal language and common shape names.
* Show awareness of shape similarities and differences between objects.
* Enjoys partitioning and combining shapes to make new shapes with 2D and 3D shapes.
* Attempt to create arches and enclosures when building, using trial and improvement to select blocks.
* Respond to and uses language of position and direction.
* Predict, move and rotate objects to fit the space or create the shape they would like.
* Create their own spatial patterns showing some organisation or regularity.
* Explore and add to simple linear patterns of two or three repeating items, e.g. stick, leaf (AB) or stick, leaf, stone (ABC).
* Join in with simple patterns in sounds, objects, games and stories dance and movement.
* Predict what comes next.

White Rose MathsWeek 7, 8, 9 – Building 9 and 10 Week 10, 11, 12 – Consolidation **WWK: how to count to 9 or ten, forwards and backwards.****WWK: that 9 and 10 can be represented in different ways.****WWK: strategies for comparing numbers to 10.****WWK: number bonds to 10.****WWK: the names of common 3D shapes.**WWK: that common 3D shapes can be compared.**WWK: that patterns can be described out loud verbally.** |
| Year 1(National Curriculum) | **Place Value (Within 20)*** Read and write numbers to 20 in numbers or words.
* Count to and across 100, forwards and backwards, beginning with 0 or 1, or from anygiven number.
* Given a number, identify one more and one less.

**WWK: how to count within 20.****WWK: different ways that 10 can be represented.**WWK: that 11, 12 and 13 are ‘ten and some ones’ or ‘ten and a bit’, representing these in different ways.WWK: that 14, 15 and 16 are ‘ten and some ones’, representing these in different ways.WWK: that 17, 18 and 19 are ‘ten and some ones’, representing these in different ways.**WWK: different ways that 20 can be represented.****WWK: that counting skills can be used to find one more or one less that any number within 20.**WWK: that a number line to twenty can be divided into steps of 1.WWK: strategies to help us use a number line to 20.**WWK: the term ’estimate’ and how to use this with a number line to 20.**WWK: strategies to compare numbers to 20.WWK: strategies to order numbers to 20.**Addition and Subtraction (Within 20)*** Represent and use number bonds and related subtraction facts within 20.
* Add and subtract one-digit and two-digit numbers to 20, including zero.
* Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 =? – 9.

WWK: that we can add by counting on (within 20).WWK: that we can add ones using number bonds and related facts (within 20).**WWK: the number bonds to 20.****WWK: doubles by adding two equal quantities together.**WWK: that a double fact can be adjusted by one to find the answer to a near double fact.**WWK: that knowledge of numbers bonds can be used when subtracting within 20.**WWK: that subtraction can be completed by counting back.WWK: that subtraction ca be calculation by finding the difference.**WWK: the addition and subtraction fact families for numbers within 20.****WWK: strategies for calculating missing number problems.** | **Place Value (Within 50)*** Count, read and write numbers to (50) 100 in numerals; count in multiples of 2s, 5s and **10s**.
* Count to and across (50) 100, forwards and backwards, beginning with 0 or 1, or from any given number.

**WWK: how to count from 20 to 50.**WWK: the multiples of ten up to 50: 20, 30, 40 and 50.WWK: strategies for counting larger groups of objects (using tens and ones).**WWK: that a number can be described as a number of groups of tens and ones.****WWK: that numbers can be partitioned into tens and ones.**WWK: that number lines can represent numbers up to 50.**WWK: the term ‘estimate’ and how to use this with a number line to 50.****WWK: that counting skills can be used to find one more or one less that any number to 50.****Measurement (Length and Height)*** Compare, describe and solve practical problems for: lengths and heights [for example, long/short, longer/shorter, tall/short, double/half].
* Measure and begin to record the following: lengths and heights.

**WWK: that lengths and heights can be compared using language such as ‘longer than’, ‘shorter than’ and ‘taller than’.****WWK: that objects (non-standard units) can be used to measure lengths and heights.****WWK: that centimetres (standard units) can be used to measure lengths and heights.****Measurement (Mass and Volume)*** Compare, describe and solve practical problems for: mass/weight [for example, heavy/light, heavier than, lighter than] and capacity and volume.
* Measure and begin to record the following: mass/weight and capacity and volume.

WWK: that the heavier item is lower on the balance scale.**WWK: that the mass of an object can be measured using objects (non-standard units).****WWK: strategies to compare the mass of objects (non-standard units).****WWK: that capacity is the maximum amount that something can hold.**WWK: that the language ‘more than’ and ‘less than’ can be used to compare volumes.**WWK: that the capacity of a container can be measured using non-standard units.****WWK: that the capacity of container can be compared using non-standard units.** |
| Year 2(National Curriculum) | **Measurement (Money)*** Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.
* Find different combinations of coins that equal the same amounts of money.
* Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.

**WWK: strategies to find a total amount of money less than £1.**WWK: strategies to count money in pounds.WWK: strategies to count money in pounds and pence.**WWK: that notes and coins can be combined to create given amounts.**WWK: strategies to make the same amount of money in different ways.WWK: the vocabulary ‘greater than’, ‘less than’, ‘most’ and ‘least’ along with the symbols for comparing amounts of money.**WWK: strategies when calculating with money.****WWK: that 100p is the same as £1 and that £1 can be made in different ways.**WWK: strategies for calculating the amount of change needed.**WWK: how to identify the steps needed when solving a two-step problem.****Multiplication and Division*** Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.
* Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs.
* Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.
* Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

**WWK: there is a link between repeated addition and multiplication.****WWK: that a number of objects can be split into equal groups.**WWK: that the total can be found using repeated addition (of equal groups).WWK: the symbol for multiplication (x).WWK: that ‘lots of’ and ‘multiplies by’ associate with the multiplication symbol.**WWK: that an array can be represented by two multiplication sentences (commutative).**WWK: one method for division is grouping.WWK: another method for division is sharing.**WWK: the facts in the two times table.**WWK: strategies for dividing by two (sharing and grouping).WWK: that when we double a number we multiply is by two and when we halve a number we divide it by two.WWK: strategies to identify if a whole number is odd or even.**WWK: the facts in the ten times table.**WWK: strategies to divide by ten.**WWK: the facts in the five times table.**WWK: strategies to use when dividing by five.WWK: the relationship between the five- and ten-time tables. | **Measurement (Length and Height)*** Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.
* Compare and order lengths, mass, volume/capacity and record the results using >, < and =.

**WWK: that a ruler shows centimetres and this can be used to measure lengths and heights.****WWK: that metres are longer than centimetres and can be used to measure larger distances.****WWK: that lengths and heights can be compared using ‘longer than’, ‘shorter than’ and ‘taller than’.****WWK: strategies and language when ordering lengths and heights.****WWK: strategies to use when calculating with lengths and heights.****Measurement (Mass, Capacity and Temperature)*** Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.
* Compare and order lengths, mass, volume/capacity and record the results using >, < and =.

WWK: that the mass of two or more objects can be compared.**WWK: the standard units of measure for mass and how these can be used.**WWK: examples of objects that would have a mass in kilograms.WWK: strategies to use when calculating with mass.**WWK: the meaning of the terms capacity and volume.****WWK: that volume can be measured using millimetres.****WWK: that larger volumes are measured using litres.**WWK: strategies to use when calculating with volumes.**WWK: that thermometers measure temperature using degrees Celsius.**  |
| Year 3(National Curriculum) | **Multiplication and Division*** Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.
* Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.

WWK: the term multiples of ten and examples of these which are greater numbers.**WWK: strategies for calculating related facts.**WWK: the ways we can structure multiplication.**WWK: strategies to multiply a 2-digit number by a 1-digit number** – no exchange.WWK: strategies to multiply a 2-digit number by a 1-digit number – with exchange.**WWK: that multiplication and division facts can be linked.****WWK: strategies to divide a 2-digit number by a 1-digit number** – no exchange.WWK: strategies to divide a 2-digit number by a 1-digit number – flexible partitioning.WWK: strategies to divide a 2-digit number by a 1-digit number – with remainders.**WWK: that scaling is multiplication.**WWK: strategies for solving correspondence problems.**Measurement (Length and Perimeter)*** Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).
* Measure the perimeter of simple 2-D shapes.

WWK: **that rulers can be used to measure objects** using centimetres and metres.WWK: that millimetres can be used to measure objects that are not an exact number of centimetres.WWK: that centimetres and millimetres can be used together when measuring objects.WWK: when to choose metres, centimetres or millimetres to measure an object.WWK: that 100cm is equivalent to 1m and this can be used to convert lengths.WWK: that 10mm is equivalent to 1cm and this can be used to convert lengths.**WWK: that the lengths need to be converted to the same unit of measure before comparing.****WWK: strategies for adding lengths.****WWK: strategies for subtracting lengths.**WWK: that perimeter is the distance around the outside of a closed shape.**WWK: that the sides need to be measured systematically then the lengths added to calculate the perimeter.** | **Fractions*** Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.
* Recognise and show, using diagrams, equivalent fractions with small denominators.

**WWK: that the denominator shows how many equal parts the whole has been divided into.** WWK: that when the numerators are the same, the greater the denominator, the smaller the fraction.**WWK: the role of the numerators of non-unit fractions.**WWK: that when the numerator is equal to the denominator, the fraction will be a whole one.**WWK: strategies for comparing and ordering non-unit fractions.**WWK: that fractions can be shown using scales.WWK: that fractions can be shown on number lines.WWK: strategies for counting in fractions on a number line.**WWK: strategies for finding equivalent fractions on a number line.****WWK: that a bar model can be used to show equivalent fractions.****Measurement (Mass and Capacity)*** Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g);

volume/capacity (l/ml).WWK: strategies to use when using scales.WWK: that mass can be measured in grams.**WWK: that mass can be measured in kilograms and grams.**WWK: that 1000g is equivalent to 1kg and masses can be converted.**WWK: strategies to use when comparing masses.****WWK: strategies to use adding and subtracting masses.**WWK: that capacity and volume can be measured using millilitres.**WWK: that capacity and volume can be measured using litres and millilitres.**WWK: strategies for making amounts of millilitres up to 1l.**WWK: strategies for comparing capacity and volume.****WWK: strategies for adding and subtracting capacity and volume.** |
| Year 4(National Curriculum) | **Multiplication and Division*** Recall multiplication and division facts for multiplication tables up to 12 × 12.
* 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 two-digit and three-digit numbers by a one-digit number using formal written layout.
* 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.

**WWK: that two numbers multiplied together to make a product are factors of that product.****WWK: that factor pairs can be used to give equivalent calculations.**WWK: that the digits move one place value column to the left and a zero place holder may be needed to fill the empty column when multiplying by ten.WWK: that the digits move two place value columns to the left and two zero place holders may be needed to fill the empty columns when multiplying by one hundred.WWK: that multiplying by one hundred is the same as multiplying by ten then by ten again.WWK: that the digits move one place value column to the right when dividing by ten.WWK: that the digits move two place value columns to the right when dividing by one hundred.WWK: that dividing by one hundred is the same as dividing by ten then dividing by ten again.WWK: strategies to solve calculations related to known facts.WWK: strategies to use informal methods when multiplying a two-digit number by a one-digit number.**WWK: the formal written method for multiplying a two-digit number by a one-digit number.****WWK: the formal written methods for multiplying a three-digit number by a one-digit number.****WWK: that informal strategies can be used to divide a 2-digit number by a 1-digit number (no remainders).**WWK: that informal strategies can be used to divide a 2-digit number by a 1-digit number (remainders).WWK: that informal strategies can be used to divide a three-digit number by a one-digit number.WWK: strategies to support us when solving correspondence problems.WWK: strategies to complete multiplication calculations in an efficient manner.**Measurement (Length and Perimeter)*** 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.

WWK: that kilometres are larger than metres and measure greater distances.**WWK: that 1000m is equivalent to 1km.**WWK: strategies to calculate the perimeter of a rectangle on a grid (counting squares).**WWK: strategies to calculate the perimeter of a rectangle on a grid (side lengths).****WWK: strategies to calculate the perimeter of a rectilinear shape (side lengths).****WWK: strategies for finding missing lengths in rectilinear shapes.****WWK: strategies to calculate the perimeter of rectilinear shapes.**WWK: that regular polygons have all sides of an equal length and that this can be used to calculate the perimeter.WWK: that irregular polygons may have some sides of an equal length and that this can be used to calculate the perimeter. | **Fractions*** 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.
* Add and subtract fractions with the same denominator.
* Solve simple measure and money problems involving fractions and decimals to two decimal places.

WWK: what is meant by ‘the whole’.**WWK: that fraction steps can be used when counting forward and backward and beyond a whole one.**WWK: that mixed numbers can be partitioned in different ways.WWK: that mixed numbers can be represented using a number line and ways of doing this.WWK: strategies to use when comparing and ordering mixed numbers.**WWK: that an improper fraction has a numerator equal to or greater than the denominator.**WWK: strategies when converting mixed numbers to improper fractions.WWK: strategies when converting improper fractions to mixed numbers.WWK: that fractions in line with each other on a number line are equivalent.**WWK; that as long as each of the existing parts are split equally into the same number** **of smaller parts, then the fractions will be equivalent.****WWK: strategies for adding two or more fractions.**WWK: strategies for adding fractions and mixed numbers.**WWK: strategies for subtracting two fractions.**WWK: strategies for subtracting from whole amounts.WWK: strategies for subtracting from mixed numbers.**Decimals*** Recognise and write decimal equivalents of any number of tenths or hundredths.
* Recognise and write decimal equivalents to ¼, ½ 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.

WWK; that a tenth is a fraction.**WWK: that tenths can be represented as decimals.**WWK: that the decimal point separates whole numbers from decimals.WWK: that 10 tenths are equivalent to 1 whole, and therefore 1 whole is equivalent to 10 tenths.WWK: that tenths and whole numbers can be represented using a number line.**WWK: that when using a place value chart, we move all of the digits one place to the right when dividing by 10 (one-digit/two-digit number divided by ten).****WWK: that when using a place value chart, we move all of the digits two places to the right when dividing by 100 (one-digit/two-digit number divided by one hundred).****WWK: that a hundredth is 1 whole split into 100 equal parts.****WWK: that hundredths can be represented as decimals.** |
| Year 5(National Curriculum) | **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.
* 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.

**WWK: the formal written method for multiplying up to a 4-digit number by a 1-digit number.**WWK: strategies to multiply a 2-digit number by a 2-digit number (area model).WWK: the formal written method for multiplying a 2-digit number by a 2-digit number.WWK: the formal written method for multiplying a 3-digit number by a 2-digit number.**WWK: the formal written method for multiplying a 4-digit number by a 2-digit number.**WWK: strategies to support when solving problems with multiplication.WWK: the formal written methods for short division.**WWK: the formal written method for dividing a 4-digit number by a 1-digit number.****WWK: the formal written method for dividing with remainders.**WWK: strategies to use to solve division calculations in an efficient manner.**WWK: strategies to solve problems with multiplication and division.****Fractions*** Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.

WWK: that multiplication is repeated addition and can be applied when multiplying a unit fraction by an integer.**WWK: that the numerator is multiplied by the integer and the denominator is left the same when multiplying a non-unit fraction by an integer.****WWK: strategies to multiply a mixed number by an integer.**WWK: informal strategies to calculate a fraction of a quantity.**WWK: more formal (abstract) ways to calculate a fraction of an amount.**WWK: strategies to find the whole.**WWK: the connection between finding a fraction of an amount and multiplying a fraction by an integer.****Decimals and Percentages*** Read and write decimal numbers as fractions [for example, 0.71 = 71/00 ].
* Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.

WWK: the value of digits in numbers with two decimal places.**WWK: equivalent fractions and decimals (tenths).****WWK: equivalent fractions and decimals (hundredths).****WWK: equivalent fractions and decimals for halves, quarters, fifths and tenths.****WWK: that a thousandth is 1 whole split into 1,000 equal parts.****WWK: that thousandths can be represented as decimals.**WWK: that thousandths can be represented on a place value chart. | **Decimals and Percentages*** 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.
* 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.
* Solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 1/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.

WWK: strategies to order and compare decimals (same number of decimal places).**WWK: strategies to order and compare any decimals with up to 3 decimal places.****WWK: that strategies for rounding can be applied when rounding to the nearest whole number.****WWK: that strategies for rounding can be applied when rounding to 1 decimal place****WWK: that “per cent” relates to “number of parts per 100.**WWK: that a percentage is a fraction with a denominator of one hundred.WWK: strategies for showing percentages as decimals.**WWK: examples of equivalent fractions, decimals and percentages.****Measurement (Perimeter and Area)*** 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.

WWK: that the perimeter of a rectangle can be found by measuring the sides and by calculation.**WWK: strategies to calculate the perimeter of rectilinear shapes.**WWK: strategies to find the perimeter of polygons.**WWK: that area was the space inside a two-dimensional shape (rectangles in particular).****WWK: strategies to calculate the area of compound shapes.****WWK: that estimation can be used to calculate the (approximate) area of non-rectilinear shapes.****Statistics*** Solve comparison, sum and difference problems using information presented in a line graph.
* Complete, read and interpret information in tables, including timetables.

WWK: that line graphs can be drawn to support with conversions.**WWK: strategies for reading and interpreting line graphs.****WWK: strategies for reading and interpreting tables.****WWK: strategies for reading and interpreting two-way tables****WWK: strategies for reading and interpreting timetables** |
| Year 6(National Curriculum) | **Ratio*** 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 the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.
* 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.

WWK: that the relationship between two numbers can be expressed additively or multiplicatively.**WWK: that ratio represents a multiplicative relationship between two amounts.**WWK: that ratios are written using the ratio symbol, a colon.WWK: the differences and similarities between ratios and fractions.WWK: that ratio and multiplicative relationships can be shown through scale diagrams.**WWK: that one shape is an enlargement of another if all the matching sides are in the same ratio.** WWK: that similar shapes are defined as shapes where corresponding sides are in the same proportion and the corresponding angles are equal.**WWK: strategies to solve ratio problems.****WWK: strategies for solving proportion problems.****WWK: strategies for solving problems involving recipes.****Algebra*** Use simple formulae.
* Generate and describe linear number sequences.
* Express missing number problems algebraically.
* Find pairs of numbers that satisfy an equation with two unknowns.
* Enumerate possibilities of combinations of two variables.

WWK: that function machines can be used to represent an operation (one-step).WWK: that function machines can be used to represent operations (two-step).**WWK: that algebraic expressions can be formed using letters to represent numbers.****WWK: that the same expression can have different values depending on what number is substituted into it.****WWK: the difference between a formula and an expression, noticing that an expression does not have the equals sign, but a formula does.**WWK: strategies to support when forming equations.WWK: that using inverse operations helps to solve the equations (one-step equations).**WWK: that using the inverse operation helps to solve equations (two-step equations).****WWK: strategies to solve equations with two unknown values.**WWK: strategies to solve problems with two unknown values.**Decimals*** 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.
* Multiply one-digit numbers with up to two decimal places by whole numbers.
* Use written division methods in cases where the answer has up to two decimal places.
* Solve problems which require answers to be rounded to specified degrees of accuracy.

**WWK: the relationship between the different place value columns, for example hundredths are 10 times the size of thousandths and one-tenth the size of tenths.**WWK: that a number can have integer and decimal parts.**WWK: that when asked to round to a given degree of accuracy, they look at the place value column to the right.**WWK: strategies for adding and subtracting decimals.**WWK: strategies for multiplying decimal numbers (up to three decimal places) by 10, 100 and 1,000.****WWK: strategies for dividing decimal numbers (up to three decimal places) by 10, 100 and 1,000.****WWK: strategies for multiplying decimals by integers.****WWK: strategies for dividing decimals by integers.**WWK: strategies for multiplying and dividing decimals in context. | **Fractions, Decimals and Percentages*** Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

WWK: strategies for finding more complex decimal and fraction equivalents.WWK: that fractions as division can be used to support when converting between fractions and decimals.WWK: that “per cent” relates to “the number of parts per 100” and that if the whole is split into 10 equal parts, then each part is worth 10%.WWK: that finding an equivalent fraction with a denominator of 100 can easily mean the percentage equivalence can be found.WWK: strategies for finding equivalent fractions, decimals and percentages.WWK: strategies to order fractions, decimals and percentages.WWK: strategies for finding a percentage of an amount – one step.WWK: strategies for finding a percentage of an amount – multi-step.WWK: strategies for calculating percentages – missing values.**Measurement (Area, Perimeter and Volume)*** 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].

**WWK: that shapes can look different but still have the same area.****WWK: strategies for calculating area and perimeter.**WWK: that the area of a triangle can be found by counting squares.WWK: that a right-angled triangle with the same length and perpendicular height as a rectangle has an area that is half the area of the rectangle.**WWK: that the perpendicular height is not always the length of one of the sides when finding the area of any triangle.****WWK: how the parts of the parallelogram can be rearranged to make a rectangle in which the length and width correspond to the base and perpendicular height of the parallelogram.** WWK: that the volume can be found by multiplying the volume of a single layer by the number of equal layers.**WWK: the formula: volume of cuboid = length × width × height.****Statistics*** Interpret and construct pie charts and line graphs and use these to solve problems.
* Calculate and interpret the mean as an average.

**WWK: that we can only read off approximate values for data that lies between two** **marked points, which is why a dashed line is used.**WWK: the importance of a key to ensure that the bar charts can be interpreted when using dual bar charts.**WWK: that a pie chart quickly and easily shows information as part of the whole.****WWK: strategies to interpret pie charts with percentages.****WWK: strategies to support us when drawing pie charts.****WWK: strategies to calculate and interpret the mean as an average.** |

Nursery/EYFS – Birth to Five

National Curriculum Outcomes

Knowledge Statements

**Five Key Areas of Knowledge**