 of skills and knowledge throughout year groups; maximising the learning for all pupils. and enable a sequential build-up of skills and knowledge throughout year groups; maximising the learning for all pupils.

|  | EYFS Maths Skills and Concepts Progression The maths curriculum follows 'The Ark Maths Mastery Programme' |
| :---: | :---: |
| Cardinality and Counting | - Count: say number words in a sequence <br> - Count: tagging each object within one number word <br> - Count: knowing the last number counted gives the total so far <br> - Subitising: recognising small quantities without the need to count them all <br> - Numeral meanings: match a number symbol with a number of objects |
| Comparison | - Identify more and less than <br> - Identify groups with the same number of things <br> - Comparing numbers and reasoning <br> - Knowing 'one more/less than' relationship between counting numbers |
| Composition | - Part/whole: identifying smaller numbers within a number <br> - Inverse operations (partition objects into 2 groups and recognise that they can be recombined to make the same number) <br> - Identifying that numbers can be partitioned into 2 numbers <br> - Identifying that numbers can be partitioned into more than 2 numbers <br> - Number bonds: knowing which pairs make a given number |
| Pattern | - Continuing an 'ab' pattern <br> - Copying an 'ab' pattern <br> - Making own 'ab' pattern <br> - Spotting an error in an 'ab' pattern <br> - Identifying the unit of repeat <br> - Continuing an 'abc' pattern <br> - Continuing a pattern which ends mid-unit <br> - Creating own 'abb' and 'abbc' patterns <br> - Symbolising the unit structure <br> - Generalising structures to another context or mode <br> - Making a pattern which repeats around a circle |


|  | Making a pattern around a border with a fixed number of spaces <br> Pattern-spotting around us |
| :---: | :---: |
| Shape and Space | Developing spatial awareness: experiencing different viewpoints Developing spatial vocabulary |
|  | Representing spatial relationships |
|  | - Shape awareness: developing shape awareness through construction |
|  | - Identifying similarities between shapes |
|  | - Showing awareness of properties of shapes |
|  | - Describing properties of shapes |
|  | - Developing an awareness of relationships between shapes |
| Measures | Recognising attributes <br> Comparing amounts of continuous quantities |
|  | - Showing awareness of comparison in estimating and predicting |
|  | Comparing indirectly |
|  | - Recognising the relationship between the size and number of units |
|  | Beginning to say units to compare things |
|  | Beginning to use time to sequence events |
|  | - Beginning to experience specific time durations |

Woodloes Primary School Maths Skills and Knowledge Progression

|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Counting | - count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens | -count in steps of 2,3 , and 5 from 0 , and in tens from any number, forward and backward | -count from 0 in multiples of 4, 8,50 and 100; find 10 or 100 more or less than a given number. | -count in multiples of 6, 7, 9, 25 and 1000 <br> -find 1000 more or less than a given number <br> - count backwards through zero to include negative numbers |  | -use negative numbers in context, and calculat interals across |
| Place Value |  | - recognise the place value of each digit in a two-digit number <br> -compare and order numbers from 0 up to 100 ; use <, > and $=$ signs | - recognise the place value of each digit in a three-digit number -compare and order numbers up to 1000 | -recognise the place value of each digit in a four-digit number - order and compare numbers beyond 1000 <br> $\bullet$ round any number to the nearest 10,100 or 1000 |  | read, write, order and compare numbers up to 10000000 and determine the value of each digit <br> $\bullet$ round any whole number to a required degree of accuracy |
| Representing number | -identify and represent numbers using objects and pictorial representations including the number line, \& use language of: equa to, more than, less than (fewer), most, least <br> umerals and words •read write and interpret mathematical statements involving addition ( + ), subtraction ( - ) and equals (=) signs | -identify, represent and estimate numbers using different representations, including the number line <br> $\bullet$ read and write numbers to at least 100 in numerals and in words | -identify, represent and estimate numbers using different representations | -identify, represent and estimate numbers using different representations <br> -read Roman numerals to $100(\mathrm{I}$ to C$)$ and know that over time, the numeral system changed to include the concept of 0 and place value | - recognise and use square numbers and cube numbers, and the notation for squared $\left({ }^{2}\right)$ and cubed $\left({ }^{3}\right)$ |  |
| Number facts (+/-) | given a number, identify one more and one less - represent and use number bonds and related subtraction fact within 20 | -use place value and number facts to solve problems recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 |  |  |  |  |
| Mental +/- | - add and subtract one-digit and two-digit numbers to 20, including zero |  | -add and subtract numbers mentally, including: HTU+U, HTU+T and HTU+H |  | and subtract numbers mentally with increasingy large number | -perform mental calculations, including with mixed operations and large numbers large numbers |
| Written +/- |  |  | -add and subtract numbers with up to three digits, using forma written methods of columnar addition and subtraction | -add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate | - add and subtract whole numbers with more than 4 digits, including using formal written methods |  |
| Problems +/- | - solve one-step problems that involve addition and subtraction, usin concrete objects and pictorial representations, and missing number problems such as $7=\square-9$. | - solve problems with addition and subtraction, using concrete pictorial and abstract representations subtraction and use this to check calculation and solve missin number problems | -estimate the answer to a calculation and use inverse operations to check answers -solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction | - estimate and use inverse operations to check answers to a calculation <br> -solve addition and subtraction two-step problems in contexts, <br> deciding which operations and methods to use and why |  |  |
| Number facts $(x / \div)$ |  | - recall and use multiplication and division facts for the 2,5 and 10 multiplication tables, including recognising odd and even numbers | -recall and use multiplication and division facts for the 3,4 and multiplication tables | -recall multiplication and division facts for multiplication tables up to $12 \times 12$ |  | -didentify common factors, common mutiples and prime numbers |
| Mental (x/ $\div$ ) |  |  | - 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 methods | -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 calculations | -multiply and divide numbers mentally drawing upon known facts -multiply and divide whole numbers and those involving decimals by 10,100 and 1000 | -perform mental calculations, including with mixed operations and large numbers large numbers |
| Written (x/־) |  |  | -Progeress to formal writter methods caluations sa above | -multiply two-digit and three-digit numbers by a one-digit number using formal written layout | - 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 <br> 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 |  |
| Problems ( $\mathrm{x} / \div$ ) | - solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher | - solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts | -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 mobjects. | -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 |  | - use their knowledge of the order of operations to carry out calculations involving the four operations <br> deciding which and solve problems involving addition, subtraction, multip action, multiplication and - use es the context of a problem, an appropriate degree of accuracy |
| Recognising fractions | recognise, find and name a half as one of two equal parts of an object, shape or quantity •recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. | -recognise, find, name and write fractions $1 / 3,1 / 4,2 / 4$ and $3 / 4$ of a length, shape, set of objects or quantity | -count up and down in tenths; <br> -recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 | -count up and down in hundredths; •recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. | -recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number |  |


|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Comparing fractions |  |  | - compare and order unit fractions, and fractions with the same denominators •recognise and show, using diagrams, equivalent fractions with small denominators |  | -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 | -use common factors to simplify fractions - use common multiples to express fractions in the same denomination -compare and order fractions, including fractions >1 |
| Finding fractions of quantities |  |  | -recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators •recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators | -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 |  |  |
| Fraction calculations |  |  |  | add na | -add and subtract fractions with the same denominato denominators that are multiples of the same number <br> -multiply proper fractions and mixed n |  |
| Decimals as fractional amounts |  |  |  |  | Inan wite detiman umbersas fatations | -associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375 ] for a simple fraction -identify the value of each digit in numbers given to three decimal places |
| Ordering decimals |  |  |  | -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 |  |  |
| Calculating with decimals |  |  |  |  |  |  |
| Percentages |  |  |  |  |  | - solve problems involving the calculation of percentages [for example, of measures, and s |
| Fraction problems |  |  |  | -solve simple measure and money problems involving fractions and decimals to two decimal places |  <br> of $1 / 2,1 /, 1 / 5,2 / 2,4 / 5$ multiple of 10 or 25 |  |
| Ratio \& Proportion |  |  |  |  |  |  |
| 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 |
| Measures |  <br> copacity |  |  | -Convert between different units of measure estimate, compare and calculate different measures, including money in pounds and pence |  | measure, using decimal notation up to three decimal places where appropriate •use, read, write and convert 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 convert between miles and kilem |
| Mensuration |  |  |  | -measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares |  | recognise that shapes with the same areas can have differen recognise when it is possible to use formulae for area and volume shapes calculate the area of parallelograms and triangle -calculate, estimate and compare volume of cubes and cuboids usin (m3), and extending to other units. |


|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Money | -recognise and know the value of different denominations of coins |  | Pata |  | -use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling |  |
| Time |  |  |  |  | Sole probems invoving onvering beween unis of time |  |
| Shape vocabulary | - recognise and name common 2-D shapes (e.g. Square, circle, triangle) $\bullet$ recognise and name common 3-D shapes (e.g. Cubes, cuboids, pyramids \& spheres) | vericese edges, feress, smmetry) | -identify horizontal and vertical lines and pairs of perpendicular and parallel lines |  |  |  |
| Properties of 2d shape |  |  | W2.Sthapes |  |  |  |
| Properties of 3d shape |  |  |  |  | -identify 3-D shapes, including cubes and other cuboids, from 2-D representations | -recognise, describe and build simple 3-D shapes, including making nets $\bullet$ find polygons |
| Angles |  |  |  -identify whether angles are greater or less than right angle | - |  | Hereanis enies where ther meatatapoint |
| Position \& Direction | -describe position, direction and movement, including whole, hal quarter and three-quarter turns. |  |  |  | -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 | -describe positions on the full coordinate grid (all four quadrants) -draw and translate simple shapes on the coordinate plane, and -draw and translate simple reflect them in the axes. |
| Interpreting data |  |  |  |  |  |  |
| Extract information from data |  |  | -solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables |  | - solve comparison, sum and difference problems using information presented in a line graph | Se pie chars and lie saphs stosove probems |

