| Autumn term |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Nursery | A focus on numbers 0-3, number rhymes and songs, using the vocabulary 'lots, more, same', develop counting skills, build with a range of resources, compare sizes e.g. using vocabulary such as 'bigger/little/smaller', notice patterns, subitise objects to 3. |  |  |  |  |  |
| Year R | Getting to know you | Just like me! <br> Matching, sorting, comparing size, mass and capacity, exploring patterns. | It's me 1, 2 <br> Representing and com circles, triangles and language | g 1,2,3, <br> ional | Represen less, | Light and Dark <br> numbers to 5 , one more one es with 4 sides and time. |
| Year 1 | Number: Place Value within 10 | Number: Addition and Subtraction within 10 |  | Geometry: Shape |  | Consolidation |
| Year 2 | Number: Place Value | Number: Addition and Subtraction |  |  | Geometry: Shape |  |
| Year 3 | Number: Place Value | Number: Addition and Subtraction |  | Number: Multiplication and Division |  |  |
| Year 4 | Number: Place Value | Number: Addition and Subtraction | Measurement: Area | Number: Multiplication and Division |  |  |
| Year 5 | Number: Place Value | Number: Addition and Subtraction | Number: Multiplication and Division |  |  | Number: Fractions A |
| Year 6 | Number: Place Value | Number: Addition and Subtraction, Multiplication and Division | Number: Fractions A | Number: Fractions A |  | Measurement: Converting Units |

## Spring term

| Nursery | A focus on numbers 0-5, say one numbers for each item, show finger numbers to 5, arrange things in patterns, compare quantities using language: 'more than, fewer than', talk about and <br> explore 2D shapes, compare objects in relation to size, length, weight and capacity, select shapes appropriately for building, talk about and identify patterns around them e.g. stripes on <br> clothes. |  |
| :--- | :---: | :---: | :---: | :---: |
| Year R | Alive in 5! | Growing 6, 7, 8 |



## Summer term

| Nursery | Reciting/counting past 5, link numerals to amounts, experiment with own symbols and marks (as well as numerals), talk about and explore 3D shapes, begin to use prepositional language (e.g. under, next to), combine shapes to make new ones, notice and correct errors in a repeating pattern, begin to describe a sequence of events. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Year R | To 20 and beyond <br> Build and count beyond 10, spatial reasoning, match rotate and manipulate | First, then, now <br> Adding more, taking away, spatial reasoning 2, compose and decompose | Find my pattern <br> Doubling, sharing \& grouping, even and odd, spatial reasoning 3, visualise and build | On the move <br> Deepening understanding, patterns \& relationships, spatial mapping |



| Nursery | Mathematics |  |  |
| :---: | :---: | :---: | :---: |
|  | Autumn | Spring | Summer |
| Knowledge | Take part in finger rhymes with numbers. React to changes of amount in a group of up to three items <br> compare amounts, saying 'lots', 'more' or 'same'. Develop counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence. <br> Count in everyday contexts, sometimes skipping numbers - ' 1-2-3-5'. Climb and squeeze themselves into different types of spaces Build with a range of resources. Complete inset puzzles Compare sizes, weights etc. using gesture and language 'bigger/little/smaller', 'high/low', 'tall', 'heavy' Notice patterns and arrange things in patterns Develop fast recognition of up to 3 objects, without having to count them individually ('subitising') | Say one number for each item in order: 1,2,3,4,5. <br> Show 'finger numbers' up to 5 . <br> Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). <br> Notice patterns and arrange things in patterns. <br> Compare quantities using language: 'more than', 'fewer than'. <br> Talk about and explore 2D shapes, using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round Make comparisons between objects relating to size, length, weight and capacity. <br> Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc. <br> Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc. Extend and create ABAB patterns - stick, leaf, stick, leaf | Recite numbers past 5. <br> Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5 . <br> Experiment with their own symbols and marks as well as numerals. Solve real world mathematical problems with numbers up to 5 . <br> Talk about and explore 3D shapes using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round. Understand position through words alone - for example, "The bag is under the table," - with no pointing. <br> Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind'. <br> Combine shapes to make new ones - an arch, a bigger triangle, etc. Notice and correct an error in a repeating pattern. <br> Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' |


| Skills | I can join in with counting rhymes. <br> I can count in rote to at least 3. <br> I can point to each item as I count - (touch counting). <br> I can complete a puzzle. <br> I can build with a range of shapes. <br> I can subitise. <br> I can compare size; I can compare weight. <br> I can notice patterns in the environment. | I can count to 5 . I can use my fingers to make numbers to 5 . I know how many objects I have counted; I know how many objects are in a group. <br> I can compare amounts and use more than or fewer than. <br> I can spot patterns and make my own. <br> I can explore and talk about 2 D shapes. <br> I can compare objects looking at shape, size, length and weight. <br> I can explore capacity and make comparisons between amounts. | I can count beyond 5 . <br> I can match numerals to amounts up to 5 . <br> I can experiment with mathematical marks. <br> I can solve real mathematical problems to 5. <br> I can explore and talk about 3D shapes. <br> I can understand and use positional language. <br> I can describe a route using positional language. <br> I can combine shapes and make new ones. <br> I can notice errors in patterns and correct them. <br> I can describe sequences using the correct vocabulary. |
| :---: | :---: | :---: | :---: |
| Language | Count out, how many, count in rote (in order), subitise, compare, lots, more, same, less, build, complete, shape, size, big, small, tall, short, pattern, repeat, shape, colour. | Count out, show me, how many? More, fewer, pattern, shape, size, colour, sound, repeat, shapes - triangle, square, circle, rectangle, long, short, big, small, heavy, light, full, empty. | Count out, how many, match, link, amount, number/numeral. Draw, mark make, solve, explore, investigate, shape, cube, cuboid, pyramid, cone, sphere., in, on, under, Infront, behind, next to, first, next, then. |
| Opportunitie S | Concrete resources to explore within family group and within the maths environment. Maths opportunities present outside. Pattern hunts. Floor book evidence. Sharing new vocabulary. | Counting scenarios and problem solving, a range of concrete resources that correlate to the math's concept being taught. High quality adult-child interactions. Floor book evidence. Revisiting and introduce new vocabulary. | Explore different routes and obstacle courses, explore language that links to routes. 3D shapes present in the environment. Books to reflect positional language (e.g.: Rosie's Walk) a range of objects to make patterns, opportunity to talk and describe concepts. Floor books evidence. Revisit and introduce new vocabulary. |


| Reception | Mathematics |  |  |
| :---: | :---: | :---: | :---: |
|  | Autumn | Spring | Summer |
| Knowledge | Recite numbers past 5. <br> Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5 . <br> Experiment with their own symbols <br> Solve real world mathematical problems with numbers up to 5 . <br> Talk about and explore 2D and 3D shapes. Compose and decompose shapes. <br> Understand position through words alone - with no pointing <br> Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind'. <br> Count objects, actions and sounds. <br> Subitise Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' <br> Link the number symbol with its cardinal number value. <br> Compare numbers <br> Continue, copy and create repeating patterns <br> Compare length weight and capacity | Experiment with their own symbols and marks as well as numerals. <br> Count beyond 10 <br> Compare numbers understand the one more than/ one less than relationships between consecutive numbers. <br> Explore the composition of numbers to 10 <br> Automatically recall number bonds for numbers 0-5 and some to 10. <br> Compare length weight and capacity <br> Time <br> Talk about and explore 3D shapes. <br> select, rotate and manipulate shapes to develop spatial reasoning skills <br> Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can | Automatically recall number bonds for number 0-5 and some to 10 . <br> Count beyond 10 . <br> Explore the composition of numbers to 10 <br> Select rotate and manipulate shapes to develop spatial reasoning skills. <br> Subtraction <br> Compose and decompose shapes. <br> Compare length weight and capacity <br> Doubling, halving and sharing. |
| Skills | I can count past 5. <br> I can match a number to an amount. <br> I can subitise. <br> I can count in a range of ways - (Counting Principles). <br> I can compare amounts. <br> I can solve mathematical problems. <br> I can talk about 2D and 3D shapes. I can make a repeating pattern. <br> I can understand and use positional language. | I can explore addition, combining amount to find a total. I can recall number bond facts 0-5. <br> I can recall number bond facts 5-10. <br> I can explore the composition of numbers beyond 5 I can measure length and use corresponding vocabulary. I can measure height and use corresponding vocabulary. I can explore the sequence of time using key vocabulary. I can explore 3d shape patterns. | I can count beyond 10 exploring teen numbers. <br> I can explore and recall counting patterns, including number bonds. I can use take away a smaller number from a bigger number. <br> I can explore doubling, sharing, grouping <br> I can remember facts about numbers, even and odd numbers <br> I can explore shape patterns <br> I can compose and decompose shapes. |


|  | I can explore length, weight and capacity and use corresponding vocabulary. |  |  |
| :---: | :---: | :---: | :---: |
|  |  |  |  |
| Language | Count out, how many? Match, link, compare, contrast, more, fewer, same, different, amount, Cardinal, classification, conservation, numeral, ordinal, partition, subitise, number, quantity. Sort, match, same, different, how many? Compare, find, few, fewer, more, most. Big, little, tall, short, large, small. Heavy, heavier, light, lighter, weight, capacity, full, empty, half full, nearly full, nearly empty. | Add, addition, plus, total, amount, equals, number bond, join, pattern, count out, arrange, rearrange, long, short, tall, short, morning, afternoon, evening, first, next, then, after that, finally, cube, cuboid, sphere, pyramid, cone, pattern, repeat, shape, 3D | Teen numbers, sequence, composition, recall, facts, number bonds, odd, even, take away, subtract, minus, amount, total, equals, how many left over? Number line, shape, pattern, compose, decompose, create, problem solve. |
| Opportunities | A range of concrete resources to provoke investigation of mathematical concepts. Time to explore maths in the provision, opportunity for high quality interaction with peers and teachers. Signs and symbols to support learning new vocabulary. | A range of concrete resources to support investigation of mathematical concepts. Opportunity to discuss concepts and solve problems alongside peers and teachers. Signs and symbols to give children mathematical visuals. | Opportunity to problem solve using a range of mathematical concepts taught across the year. Children to work more independently and begin to record their mathematical thinking through marks and numerals. Revisiting concepts and vocabulary taught across the year. |


| Place Value |  |  |
| :---: | :---: | :---: |
| Year 1 | Year 2 | Year 3 |
| - Count, read and write numbers to 100 in numerals <br> - Count to and across 100, forwards and backwards beginning with 0 or 1 or from any given number | NC Objectives <br> - Read and write numbers to at least 100 in numerals and words. <br> - Recognise the place value of each digit in a 2 digit number (tens, ones) | NC Objectives <br> - Read and write numbers up to 1000 in numerals and in words <br> - Recognise the place value of each digit in a 3 digit number |

- Identify and represent numbers using objects or pictorial representations including the number line and use the language of: equal to, more than, less than, most, least - Given a number, identify one more and one less

End points

- I can count to and across 100, forward and backwards ,beginning with 0 or 1 from any number.
- I can count, read and write numbers to 100 in numerals
- I can say what is one more or one less than any number
- I can read and write numbers from 1 to 20 in numerals and words.
- I can identify and represent numbers using objects and pictorial representations including the number line and use the language of: equal to, more than, less than (fewer), most least

Year 6

## NC Objectives

- Read, write, order and compare numbers up to 10,000000 and determine the value of each digit
- Use negative numbers in context and calculate intervals across zero
- Round any number to a required degree of accuracy.


## End points

can read, write, order and compare numbers up to $10,000,000$

- I can determine the value of each digit in numbers up to $10,000,000$.
- I can round any whole number to a required degree of accuracy.
- I can use negative numbers in context, and calculate intervals across zero.
- I can solve number problems and practical problems with the above.

Identify, represent and estimate numbers to 100 using different representations including the number line

- Count in steps of 23 and 5 from 0 and in tens from any given number, forward and backwards
- Compare and order numbers from 0 to 100 using the language of equal to, <, >


## End points

- I can count in steps of 2,3 and 5 from 0 , and in tens from any number, forward and backward.
- I can read and write numbers to at least 100 in numerals and in words.
- I can compare and order numbers from 0 up to 100 ; using < > = signs.
- I recognise the place value of each digit in a 2-digit number.
- I can identify, represent and estimate numbers using different representations, including the number line.
- I can use place value and number facts to solve problems.
- $\quad \frac{\text { NC Objectives }}{\text { Read, write, order and compare numbers to at least } 1000000}$ Read, write, order and compare numbers
and determine the value of each digit.
- Count forwards or backwards in steps of powers of 10 for any given number up tp 1000000
- Read, write, order and compare numbers to at least 1000000 and determine the value of each digit
- Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero.
- Read Roman Numerals to 1000 (M) and recognise years written in Roman numerals
- Round any number up tp 1000000 to the nearest 101001000 10000 and 100000


## End points

- I can count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000
- I can read, write, order and compare numbers to at least 1,000,000.
- Identify, represent and estimate numbers using different representations
- Count from 0 in multiples of 4850 and 100
- Compare and order numbers to 1000
- Find 10 or 100 more or less than a given number


## End points

- I can count from 0 in multiples of 4, 8, 50 and 100.
- I can compare and order numbers up to 1,000.
- I can read and write numbers to 1,000 in numerals and words.
- I can find 10 or 100 more or less than a given number.
- I can recognise the place value of each digit in a 3-digit number.
- I can identify, represent and estimate numbers using different representations.
- I can solve number problems and pmotical problems using above.

Year 4
NC Objectives

- Recognise the place value of each digit in a 4 digit number (thousands, hundreds, tens and ones)
- Identify, represent and estimate numbers using different representations
- Count in multiples of 67925 and 1000
- Order and compare numbers beyond 1000
- Find 1000 more or less than a given number
- Count backwards through 0 to include negative numbers
- Read Roman Numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of 0 and place value
- Round any number to the nearest 10,100 or 1000


## End points

- I can count in multiples of $6,7,9,25$ and 1,000.
- I can order and compare numbers beyond 1,000
- I can find 1,000 more or less than a given number.
- I recognise the place value of each digit in a 4-digit number.

I can determine the value of each digit in numbers up to 1,000,000

- I can read Roman numerals to 1,000 (M) and recognise years written in Roman numerals.
- I can round any number up to $1,000,000$ to the nearest 10,100 1000,10000 and 100000.
- I can interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.
- I can solve number problems and practical problems with the above.
- I can read Roman numerals to 100 and know that over time the numeral system changed to include the concept of zero and place value.
- I can identify, represent and estimate numbers using different representations.
- I can round any number to the nearest 10,100 or 1,000
- I can count backwards through zero to include negative numbers.
- I can solve number and practical problems with the above (involving increasingly large numbers).


## Addition, Subtraction, Multiplication \& Division



- I can represent and use number bonds and related subtraction facts to 20.
- I can add and subtract 1-digit and 2-digit numbers to 20 including zero.
- I can read, write and interpret mathematical statements involving addition, subtraction and equals signs.


## Year 2

## NC Objectives

- Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 .
- Show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.
- Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two digit number and ones; a two digit number and tens; two two digit numbers; adding three one digit numbers.
- Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.
- Solve problems with addition and subtraction: using concret objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods.
- Recall and use multiplication and division facts for the 2,5 and 10 times tables, including recognising odd and even numbers.
- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication $(\mathrm{x})$, division $(\div)$ and equals $(=)$ sign.


## Year 3

## NC Objectives

- Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three digit number and hundreds.
- Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.
- 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.
- Recall and use multiplication and division facts for the 3,4 and 8 multiplication tables.
- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication $(x)$, division $(\div)$ and equals $(=)$ signs.
- Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in context.
- Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.
- Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling
- I can solve one-step problems that involve addition and subtraction, using objects and pictorial representations.
- I can solve missing number problems.
- I can solve one-step problems involving multiplication and division, by using concrete objects, pictorial representations and arrays.
- Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts.
- Show that the multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.


## End Points

- I can recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
- I can add and subtract mentally, including: a 2-digit number and ones, a 2-digit number and tens, two 2-digit numbers and adding three 1 -digit numbers
- I can add and subtract numbers using concrete objects and pictorial representations, including:
- A 2-digit number and ones
- A 2-digit number and tens
- Two 2-digit numbers
- Adding three 1 -digit numbers
- I recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems.
problems and correspondence problems in which n objects are connected to $m$ objectives.
- Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods


## End Points

- I can add and subtract mentally, including:, a 3-digit number and ones, a 3-digit number and tens, a 3-digit number and hundreds
- I can add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
- I can estimate the answer to a calculation and use inverse operation to check answers.
- I can solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.
- I can recall and use multiplication and division facts for the 3 x , $4 x$ and $8 x$ tables.
- I can write and calculate mathematical statements for multiplication and division using the multiplication tables, including for 2-digit numbers, using mental and progressing to formal written methods
- I can solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which $n$ objects are connected to mobjects.


## Addition, Subtraction, Multiplication \& Division

| Year 6 | Year 5 | Year 4 |
| :---: | :---: | :---: |
| NC Objectives <br> - Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why. <br> - Multiply multi-digit number up to 4 digits by a 2 digit number using the formal written method of long multiplication. | NC Objectives <br> - Add and subtract numbers mentally with increasingly large numbers. <br> - Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) <br> - Use estimation and rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. | NC Objectives <br> - Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. <br> - Estimate and use inverse operations to check answers to a calculation. |

- Divide numbers up to 4 digits by a 2 digit whole number usin the formal written method of long division, and interpre remainders as whole number remainders, fractions or by rounding as appropriate for the context.
Divide numbers up to 4 digits by a 2 digit number using the formal written method of short division, interpreting emainders according to context. Perform mental calculations, including with mixed operations and large numbers.
- Identify common factors, common multiples and prime numbers. Use their knowledge of the order of operations to carry out calculations involving the four operations.
- Solve problems involving addition, subtraction, multiplication and division.
- Use estimation to check answers to calculations and determin in the context of a problem.


## nd Points

- I can use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
- I can solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
- I can identify common factors, common multiples and prime numbers.
- I can perform mental calculations, including with mixed operations and large numbers.
- I can multiply multi-digit numbers up to 4 digits by a 2 digit whole number using the formal written method of long multiplication.
- I can divide numbers up to 4 digits by a 2 digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.
- I can divide numbers up to 4 digits by a 2 digit number using the formal written method of short division where appropriate
- I can solve problems involving addition, subtraction,
multiplication and division.
- I can use my knowledge of the order of operations to carry out calculations involving the four operations.

Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why

- Multiply and divide numbers mentally drawing upon known facts.
- Multiply and divide whole numbers by 10,100 and 1000 .
- Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.
- 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.
- Multiply numbers up to 4 digits by a one or two digit number using a formal written method including long multiplication for 2 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.
- Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign.


## End Points

- I can add and subtract numbers mentally with increasingly large numbers.
- I can add and subtract whole numbers with more than 4 digits, including using formal written methods.
- I can use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.
- I can solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
- I can identify multiples and factors, including finding all factor pairs or a number and common factor pairs of two numbers.
- I use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.
- I can establish whether a number up to 100 is prime and recall prime numbers up to 19.
- I recognise and use square numbers and cube numbers, and the notation for squared and cubed.
- I can multiply and divide numbers mentally drawing on known facts.
- I can multiply and divide whole numbers and those involving decimals by 10,100 and 1000 .
- I can multiply numbers up to 4 digits by a 1 -digit or 2-digit number using a formal written method, including long multiplication for 2-digit numbers.
- I can divide numbers up to 4 digits by a 1 -digit number using the formal written method of
short division and interpret remainders appropriately for the context.
- I can solve problems involving multiplication and division including using knowledge of factors and multiples, squares and cubes.
- I can solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.
- I can solve problems involving multiplication and division including scaling by simple fractions

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

- Recall and use multiplication and division facts for multiplication tables up to $12 \times 12$.
- 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.
- Divide by 1 digit number
- 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.


## End Points

- I can add and subtract numbers with up to 4-digits using the formal written methods of columnar addition and subtraction.
- I can estimate and use inverse operations to check answers in a calculation
- I can solve addition and subtraction 2-step problems in contexts, deciding which operations and methods to use and why.
- I an recall multiplication and division facts up to $12 \times 12$.
- I can 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.
- I recognise and use factor pairs and commutativity in mental calculations.
- I can multiply 2-digit numbers by a 1 -digit number using formal written layout.
- I can solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by 1 -digit, integer scaling problems and harder correspondence problems such as $n$ objects are connected to m objects.

| Fractions |  |  |
| :---: | :---: | :---: |
| Year 1 | Year 2 | Year 3 |
| NC Objectives <br> - Recognise, find and name a half of an object, shape or quantity. <br> - Recognise, find and name a quarter of an object, shape or quantity. <br> End Points <br> - I can recognise, find and name a half of an object, shape or quantity. <br> - I can recognise, find and name a quarter of an object, shape or quantity. | NC Objectives <br> - Recognise, find, name and write fractions $1 / 3,1 / 4,2 / 4$ and $3 / 4$ of a length, shape, set of objects or quantity. <br> - Write simple fractions for example, $1 / 2$ of $6=3$ <br> - Recognise the equivalence of $2 / 4$ and $1 / 2$. <br> End Points <br> - I recognise, find, name and write fractions $1 / 3,1 / 4,2 / 4$ and $3 / 4$ of a length, shape, set of objects or quantity. <br> - I can write simple fractions. <br> - I recognise the equivalence of $2 / 4$ and $1 / 2$. | NC Objectives <br> - Recognise and use fractions as numbers: unit fractions and nonunit fractions with small denominators. <br> - Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. <br> - 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 <br> - Recognise and show, using diagrams, equivalent fractions with small denominators. <br> - Add and subtract fractions with the same denominator within one whole. <br> - Compare and order unit fractions, and fractions with the same denominators. Solve problems that involve all of the above. <br> End Points <br> - I can count up and down in tenths. <br> - I recognise that tenths arise from dividing an object into 10 equal parts and in dividing 1 -digit numbers or quantities by 10 . |



## Measures and Conversions

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| Year 1 | Year 2 | Year 3 |
| :---: | :---: | :---: |
| NC Objectives <br> - Compare, describe and solve practical problems for mass/weight [for example, heavy/light, heavier than, lighter than]; capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] <br> - Measure and begin to record mass/weight, capacity and volume. <br> End points <br> - I can compare, describe and solve practical problems for lengths and heights; mass/weight; capacity and volume; and time. <br> - I can measure and begin to record lengths and heights; mass/weight; capacity and volume; and time. | NC Objectives <br> - Choose and use appropriate standard units to estimate and measure length/height in any direction ( $\mathrm{m} / \mathrm{cm}$ ) and mass ( $\mathrm{kg} / \mathrm{g}$ ) to the nearest appropriate unit, using rulers and scales. <br> - Compare and order length and mass and record the results using $>$, < and $=$. <br> End points <br> - I can compare and order lengths, mass, volume/capacity and record the results using > < and =. <br> - I can choose and use standard units to estimate and measure length/height in any direction in m and cm using rulers. <br> - I can choose and use standard units to estimate and measure mass in kg and g using scales. | NC Objectives <br> - Measure, compare, add and subtract: lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ). <br> - Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. <br> - Measure the perimeter of simple 2D shapes. <br> - Continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed and simple equivalents of mixed units. <br> - Measure, compare, add and subtract: lengths ( $\mathrm{m} / \mathrm{cm} / \mathrm{mm}$ ); mass (kg/g); volume/capacity ( $1 / \mathrm{ml}$ ). <br> - Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. <br> - Continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed units (for example, 1 kg and 200 g ) and simple equivalents of mixed units (for example, $5 \mathrm{~m}=$ 500 cm ). <br> End points <br> - I can compare lengths using m, cm \&mm. <br> - I can compare mass using kg \& g. <br> - I can compare volume/capacity using I \& ml. <br> - I can measure lengths using $\mathrm{m}, \mathrm{cm} \& \mathrm{~mm}$. <br> - I can measure mass using kg \& g. <br> - I can measure volume/capacity using I \& ml. <br> - I can add and subtract lengths using $\mathrm{m}, \mathrm{cm}$ \& mm . <br> - I can add and subtract mass using kg \& g. <br> - I can add and subtract volume/capacity using I \& ml. <br> - I can measure the perimeter of simple 2D shapes. |
| Year 6 | Year 5 | Year 4 |
| NC Objectives <br> - Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. <br> - 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 3dp. Convert between miles and kilometres. | NC Objectives <br> - Convert between different units of metric measure (for example, km and $\mathrm{m} ; \mathrm{cm}$ and $\mathrm{m} ; \mathrm{cm}$ and $\mathrm{mm} ; \mathrm{g}$ and kg ; l and ml ) <br> Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. <br> - Solve problems involving converting between units of time | NC Objectives <br> - Measuring perimeter of rectangles to the nearest mm <br> End points <br> I can measure and calculate the perimeter of a rectilinear figure in cm and m . <br> - I can find the area of rectilinear shapes by counting squares. <br> - I can calculate different measures |

## End points

- I can 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 of up to 3 decimal places.
- I can convert between miles and kilometres.


## End points

- I can solve problems involving converting between units of time.
- I can convert between different units of metric measure.
- I understand and use approximate equivalences between metric units and common imperial units, such as inches, pounds and pints.
- I can estimate volume and capacity.

| Money |  |  |
| :---: | :---: | :---: |
| Year 1 | Year 2 | Year 3 |
| NC Objectives <br> - Recognise and know the value of different denominations of coins and notes. <br> End points <br> - I recognise and know the value of different denominations of coins and notes. | NC Objectives <br> - Recognise and use symbols for pounds ( $£$ ) and pence (p) <br> - Combine amounts to make a particular value. <br> - Find different combinations of coins that equal the same amounts of money. <br> - Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. <br> End points <br> - I recognise and use symbols for $£$ and $p$ and combine amounts to make a particular value. <br> - I can find different combinations of coins that equal the same amount of money. <br> - I can solve simple problems in a practical context involving addition and subtraction of money of the same units, including giving change. |  |
| Year $6 \quad$ Year 5 | Year 4 |  |


| End points | End points | NC Objectives <br> Estimate, compare and calculate different measures, including money in pounds and pence. <br> - Solve simple measure and money problems involving fractions and decimals to two decimal places. <br> End points <br> - I can add and subtract amounts of money to give change, using both $£$ and $p$ in a practical context. |
| :---: | :---: | :---: |
|  |  |  |

## Area and Perimeter

| Year 1 | Year 2 | Year 3 |
| :---: | :---: | :---: |
|  |  | NC Objectives <br> - Measure the perimeter of simple 2D shapes. <br> End Points <br> - I can measure the perimeter of simple 2D shapes. |
| Year 6 | Year 5 | Year 4 |
| C Objectives <br> - Recognise that shapes with the same areas can have different | NC Objectives <br> - Measure and calculate the perimeter of composite rectilinear | NC Objectives <br> - Find the area of rectilinear shapes by counting squa |

. 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.
- Year 6 MUST teach Volume:

Calculate, estimate and compare volume of cubes and cuboids standard units, including $\mathrm{cm} 3, \mathrm{~m} 3$ and extending to other units (mm3, km3)

## nd Points

- I recognise that shapes with the same areas can have different perimeters and vice versa.
- I can calculate the area of parallelograms and triangles.
- I recognise when it is possible to use the formulae for the area of shapes.
- I can calculate, estimate and compare volume of cubes and cuboids, using standard units.
mposite rectilinear shapes in cm and m .
- Calculate and compare the area of rectangles (including squares), and including using standard units, $\mathrm{cm} 2, \mathrm{~m} 2$ estimate the area of irregular shapes.


## End Points

- I can measure and calculate the perimeter of composite rectilinear shapes in cm and m .
- I can calculate and compare the area of rectangles (incl squares), and including using standard units ( cm 2 and cm 3 ) to estimate the area of irregular shapes.
- Find the area of rectilinear shapes by counting squares.
- Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres


## End Points

- I can measure and calculate the perimeter of a rectilinear fig in cm and m .
- I can find the area of rectilinear shapes by counting squares.
- I can calculate different measures
- I recognise when it is possible to use the formulae for the volume of
shapes.

| Properties of Shape |  |  |
| :---: | :---: | :---: |
| Year 1 | Year 2 | Year 3 |
| NC Objectives <br> - Recognise and name common 2-D shapes, including: (for example, rectangles (including squares, circles and triangles) <br> - Recognise and name common 3-D shapes, including: (for example, cuboids (including cubes, pyramids and spheres.) <br> End Points <br> - I recognise and can name common 2D shapes (rectangles, including squares, circles and triangles.) <br> - I recognise and can name common 3D shapes (cuboids, including cubes, pyramids and spheres.) | NC Objectives <br> - Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. <br> - Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. <br> - Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid.] <br> - Compare and sort common 2-D and 3-D shapes and everyday objects. <br> End Points <br> - I can compare and sort common 2D shapes and everyday objects. <br> - I can compare and sort common 3D shapes and everyday objects. <br> - I can identify and describe the properties of 2D shapes, including the number of sides and line of symmetry in a vertical line. <br> - I can identify and describe the properties of 3D shapes including the number of edges, vertices and faces. <br> - I can identify 2D shapes on the surface of 3D shapes. | NC Objectives <br> - Recognise angles as a property of shape or a description of a turn. <br> - Identify right angles, recognise that two right angles make a half-term, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle. <br> - Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. <br> - Draw 2-D shapes and make 3-D shapes using modelling materials. <br> - Recognise 3-D shapes in different orientations and describe them. <br> End Points <br> - I can identify horizontal, vertical lines and pairs of perpendicular and parallel lines. <br> - I can draw 2D shapes. <br> - I can make 3D shapes using modelling materials. <br> - I recognise 3D shapes in different orientations and describe them. <br> - I recognise that angles are a property of shape or a description of a turn. <br> - I can identify right angles. <br> - I recognise that two right angles make a half-turn \& three make a three quarter turn. <br> - I can identify whether angles are greater than or less than a right angle. |
| Year 6 | Year 5 | Year 4 |
| NC Objectives <br> - Draw 2-D shapes using given dimensions and angles. <br> - Compare and classify geometric shapes based on their properties and sizes and find unknown angles | NC Objectives <br> - Identify 3D shapes, including cubes and other cuboids, from 2D representations. <br> - Use the properties of rectangles to deduce related facts and find missing lengths and angles. | NC Objectives <br> - Identify acute and obtuse angles and compare and order angles up to two right angles by size. |

in any triangles, quadrilaterals and regular polygons.

- Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.


## End Point

- I can compare and classify geometric shapes based on the properties and sizes.
- I can describe simple 3D shapes
- I can draw 2D shapes given dimensions and angles.
- I can find unknown angles in any triangles, quadrilaterals and regular polygons.
- I recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing 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
- Identify: angles at a point and one whole turn (total $360^{\circ}$ ), angles at a point on a straight line and $1 / 2$ a turn (total $180^{\circ}$ ) other multiples of $90^{\circ}$


## End Points

- I can use the properties of rectangles to deduce related facts and find missing lengths and angles.
- I can distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
- I can identify 3D shapes, including cubes and other cuboids, from 2D representations.
- I know angles are measured in degrees.
- I can estimate and compare acute, obtuse and reflex angles
- I can identify angles at a point and one whole turn.
- I can identify angles at a point on a straight line and $1 / 2$ a turn
- I can identify other multiples of $9 \mathbf{0 0}^{\circ}$
- I can draw given angles and measure them in degrees

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


## End Points

- I can compare and classify geometric shapes, including quadrilateral and triangles based on their properties and sizes.
- I can identify lines of symmetry in 2D shapes presented in different orientations
- I can complete a simple symmetric figure with respect to a specific line of symmetry,
- I can identify acute and obtuse angles and compare and order angles up to two right angles by size


|  | - I can interpret and construct tally charts. <br> - I can interpret and construct block diagrams. <br> - I can interpret and construct simple tables. <br> - I can ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. <br> - I can ask and answer questions about totalling and comparing categorical data. | - I can solve one-step and two-step questions using information presented in scaled bar charts, pictograms and tables. |
| :---: | :---: | :---: |
| Year 6 | Year 5 | Year 4 |
| NC Objectives <br> - Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. <br> - Interpret and construct pie charts and line graphs and use these to solve problems. <br> - Calculate the mean as an average. <br> End Points <br> - I can interpret and construct pie charts and line graphs and use these to solve problems <br> - I can calculate and interpret the mean as an average. | NC Objectives <br> - Solve comparison, sum and difference problems using information presented in a line graph. <br> - Complete, read and interpret informatio in tables including timetables. <br> End Points <br> - I can complete, read and interpret information in tables, including timetables. <br> - I can solve comparison, sum and difference problems using information presented in a line graph. | NC Objectives <br> - Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. <br> - Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. <br> End Points <br> - I can interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. <br> - I can solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. |

## Year 1

## Year 2

## Year 3

- Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.
- Recognise and use language relating to dates, including days of the week, weeks, months and years.
- Compare, describe and solve practical problems for time [for example, quicker, slower, earlier, later] and measure and begin to record time (hours, minutes, seconds)
- Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening.


## End Points

- I can tell the time to the hour.
- I can tell the time to half past the hour.
- I can draw hands on a clock face to show these times.
- I can sequence events in chronological order using language.
- I recognise and use language relating to dates, including days, weeks, months and years
- Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.
Know the number of minutes in an hour and the number of hours in a day.
- Compare and sequence intervals of time.


## End Points

- I can tell and write the time to five minutes, including quarter to/past and draw the hands on a clock face to show these times.
- I can compare and sequence intervals of time.
- I know the number of minutes in an hour
- I know the number of hours in a day.
- Tell and write the time from an analogue clock, including using Roman numerals and 12 -hour and 24 -hour clocks.
- Estimate and read time with increasing accuracy to the nearest minute.
Record and compare time in terms of seconds, minutes and hours. Use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight.
- Know the number of seconds in a minute and the number of days in each month, year and leap year.
- Compare durations of events (for example to calculate the time taken by particular events or tasks).


## End Points

- I can tell and write the time from an analogue clock (12 hour clock).
- I can tell and write the time from an analogue clock (24 hour clock).
- I can tell and write the time from an analogue clock (Roman numerals).
- I can estimate and read time with increasing accuracy to the nearest minute.
- I can record and compare time in terms of seconds, minutes and hours.
- I can use the following vocabulary: o'clock, am, pm, morning, afternoon, noon \& midnight.
- I know the number of seconds in a minute.
- I know the number of days in each month, year and lean year.
- I can compare the duration of events.

Year $6 \quad$ Year 5

- Revision of calculating timetables
- Revision of calculating time
- Complete, read and interpret information in tables including timetables intervals/durations


## End Points

- I can complete, read and interpret information in tables, including timetables.
- I can calculate time intervals and durations.
etables.


## Year 4

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

## End Points

- I can read, write and convert time between analogue and digital 12 hour clocks.
- I can read, write and convert time between analogue and digital 24 hour clocks.
- I can solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.

