Year 2 Yearly Overview

Number – number and place value

Statutory requirements

Pupils should be taught to:

- count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward
- recognise the place value of each digit in a two-digit number (tens, ones)
- identify, represent and estimate numbers using different representations, including the number line
- compare and order numbers from 0 up to 100; use <, > and = signs
- read and write numbers to at least 100 in numerals and in words
- use place value and number facts to solve problems.

- Counting forwards and backwards within 20
- Numbers to 20.
- Count to 100 by making 10s
- Recognise tens and ones
- Partition numbers to 100
- Write numbers to 100 in words
- Write numbers to 100 in expanded form.
- Compare objects and numbers
- Order objects and numbers
- Count in 2s, 5s and 10s.
- Count in 3s.

Mastering Number Programme:

- review the composition of 11 to 19 as 'ten and a bit' and explore ways to represent this.
- use the inequality symbols to create expressions, e.g. 7 > 2, and use the language of 'greater than' and 'less than'
- revisit the structure of the linear number system within 20, making links between the midpoints of 5 and 10, and 15.
- continue to compare numbers within 20, including questions which use the symbols +, <, >, or =
- conceptually subitise the numbers 11–19 using a range of representations, which expose the structure of these numbers as 'ten and a bit'.

2NPV–1 Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning.
2NPV–2 Reason about the location of any two-digit number.

Number – addition and subtraction

Statutory requirements

Pupils should be taught to:

- solve problems with addition and subtraction:
  - using concrete objects and pictorial representations, including those involving numbers, quantities and measures
  - applying their increasing knowledge of mental and written methods
- recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
- 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
- show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
- recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

- Bonds to 10
- Fact families
- Related facts
- Bonds to 100 (tens)
- Add by making 10
- Add 3 numbers
- Add to the next 10
- Add and subtract across 10
- Subtract from a 10
- Subtract a 1d number from a 2d number
- 10 more, 10 less
- Find the difference
- Solve problems involving addition and subtraction.
- Bonds to 100.

Mastering Number Programme:

- become fluent in a range of strategies involving calculations within 20, using 'make 10' strategies to add, and subtracting through the tens boundary
- apply their knowledge of composition to facts involving 3 addends.

2AS-1: Add and subtract across 10.
2AS-2: Recognise the subtraction structure of difference and answer questions of the form, 'How many more?'
2NF-1: Secure fluency in addition and subtraction facts within 10
2AS-3: Add and subtract within 100 by applying related one-digit addition and subtraction facts; add and subtract only ones or only tens to/from a 2-digit number..

Number – addition and subtraction

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- 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
- show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
- recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Mastering Number Programme:

- practise recalling number bonds through a range of activities and games which will encourage them to reason about sums and differences.
- develop their fluency in additive relationships within 20, using a range of activities and games and revisiting previously taught strategies where necessary.

- explain strategies used to add
- add a two-digit number to a two-digit number
- add a two-digit number to a two-digit number when not crossing ten
- add a two-digit number to a two-digit number when crossing ten
- explain strategies used to subtract
- subtract a two-digit number from a two-digit number
- partition the subtrahend to help with subtraction
- subtract a two-digit number from a two-digit number when not crossing ten
- subtract a two-digit number from a two-digit number when crossing ten
- subtract efficiently using knowledge of two-digit numbers

2AS–4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.

Number – multiplication and division

Statutory requirements

Pupils should be taught to:

- 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.

Mastering Number Programme:

- explore the composition of odd and even numbers, identifying that even numbers are made of 2s and odd numbers have 'an extra 1' – they will link this to the 'shape' of these numbers and to doubles and near doubles.

- Equal groups as repeated addition.
- Equal groups as multiplication.
- Arrays
- 2 times table
- 10 times table
- 5 times table
- Understand the relationship between multiples of 5 and 10.
- Represent multiplication tables in different ways.
- Doubling and halving
- Solve problems involving doubling and halving.
- Double 2-digit numbers
- Halve 2-digit numbers

2MD-1: Recognise repeated addition contexts, representing them with multiplication equations and calculating the product within the 2, 5 and tables.

Number – multiplication and division

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- 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.

- explain that objects can be grouped equally
- identify and explain when objects cannot be grouped equally
- explain the relationship between division expressions and division stories
- calculate the number of equal groups in a division story
- use their knowledge of skip counting and division to solve problems relating to measure
- skip count using the divisor to find the quotient
- use their knowledge of division to solve problems
- explain that objects can be shared equally
- use skip counting to solve a sharing problem
- skip count using the divisor to find the quotient
- Solve a variety of division problems

2MD-2: Relate grouping problems where the number of groups is unknown to the multiplication equations with a missing factor, and to division equations (quotative division).

Number – fractions

Statutory requirements

Pupils should be taught to:

- recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity
- write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.

- Equal and unequal parts
- Name one half, one quarter and one third.
- Read and write ½.
- Find ½.
- Read and write ¼
- Find ¼
- Read and write 1/3
- Find 1/3
- Find ¼ and ¾
- Find the whole
- Unit fractions
- Recognise the equivalence of 2/4 and ½.

Measurement

Statutory requirements

Pupils should be taught to:

- 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 =
- 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
- compare and sequence intervals of time
- 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.

Money

- Recap: recognise coins and notes
- Count pence
- Count pounds-notes and coins
- Count money-pounds and pence
- Select money
- Make the same amount
- Compare amounts
- Make a pound
- Find change
- Find the difference.

Length

- Compare lengths and heights
- Measure lengths
- Compare lengths
- Order lengths
- Solve problems involving length

Weight and Mass

- Recap: Introduce weight and mass
- Recap :Measure mass
- Compare mass
- Measure mass in grams
- Measure in kilograms
- Recap: introduce capacity and volume
- Recap; measure capacity
- Compare volume
- Millilitres
- Litres
- Temperature

Time

- Recap: time to the hour
- Time to the half hour
- Quarter past
- Quarter to
- Time to 5 minutes
- Hours and days
- Duration

Geometry – properties of shapes

Statutory requirements

Pupils should be taught to:

- identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
- identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
- identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]
- compare and sort common 2-D and 3-D shapes and everyday objects.

- Recognise simple 2D shapes
- Count vertices
- Count sides
- Draw 2D shapes
- Name 2D shapes according to their properties.
- Sort 2D shapes
- Vertical lines of symmetry
- Sort 3D shapes
- Count edges
- Count faces
- Compare 3D shapes
- Make patterns with shapes

2G-1:
Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.

Geometry – position and direction

Statutory requirements

Pupils should be taught to:

- order and arrange combinations of mathematical objects in patterns and sequences
- use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).

- Describe position
- Describe movement
- Describe turns
- Describe movement and turns.
- Make patterns with shapes.

Statistics

Statutory requirements

Pupils should be taught to:

- interpret and construct simple pictograms, tally charts, block diagrams and simple tables
- ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
- ask and answer questions about totalling and comparing categorical data.

- Make tally charts
- Draw pictograms
- Interpret pictograms
- Draw pictograms (2,5 and 10)
- Interpret pictograms (2,5 and 10)
- Block diagrams

2AS-2: Recognise the subtraction structure of difference and answer questions of the form, 'How many more?'
2AS-3: Add and subtract within 100 by applying related one-digit addition and subtraction facts; add and subtract only ones or only tens to/from a 2-digit number.