

Long Term Plan

Year 2021/2022

Unit Title and Summary of Content EYFS Year 1 Year 2-3 Year 3-4	Links with N.C.	Links with C.E.
<p style="text-align: center;">NUMBER</p> <p>Number and place value Pupils should be taught to</p> <ul style="list-style-type: none"> • count reliably with numbers from 1 to 20, • Place them in order and say which number is one more or one less than a given number. • 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 2s, 5s and 10s • given a number, identify 1 more and 1 less • 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 • read and write numbers from 1 to 20 in numerals and words • Pupils begin to recognise place value in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100, supported by objects and pictorial representations. • count in steps of 2, 3, 4 and 5 from 0, and in 10s from any number, forward and backward • recognise the place value of each digit in a two-digit number (10s, 1s) • 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 • compare and order numbers up to 1000 • count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number • recognise the place value of each digit in a 3-digit number (100s, 10s, 1s) • compare and order numbers up to 1,000 	<p>English: Reading numbers, colour names Writing: Numbers, completing worksheets. Listening: Stories, rhymes, tasks, word problems, Listening to 2/3/4 steps instructions Speaking: counting, songs, rhymes, Using mathematical vocabulary.</p> <p>Science: Measuring length, capacity, mass, comparing, ordering, Counting. Patterns. Making charts and graphs</p>	<p>Co-ordination: Gross motor fine manipulation hand-eye</p> <p>Communication: Verbal and augmentative Use of signs</p> <p>Cognitive planning of movement: Application of skills, concepts in different situations Rhythm, intention, repetition of tasks</p>

Long Term Plan

Year 2021/2022

<ul style="list-style-type: none"> • fine 1000 more or less than a given number • identify, represent and estimate numbers using different representations • read and write numbers up to 1,000 in numerals and in words • solve number problems and practical problems involving these ideas • round any number to the number 10, 100, 1000 <p>Addition and subtraction</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • Use quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. • read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs • represent and use number bonds and related subtraction facts within 20 • add and subtract one-digit and two-digit numbers to 20, including 0 • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = ? - 9$ • Problems should include the terms: put together, add, altogether, total, take away, distance between, difference between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly. • 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: <ul style="list-style-type: none"> • a two-digit number and 1s • a two-digit number and 10s • 2 two-digit numbers • adding 3 one-digit numbers • show that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 	<p>A&D: Matching shapes and colours. Sorting objects into groups. Creating models, pictures, patterns.</p> <p>Music: Rhythm, counting on and backwards Opposites, Songs, movement patterns</p> <p>D&T: Use of tools and equipment. Measuring length and mass.</p> <p>ICT: Recording data and educational games. Use of IT for solving mathematical problems</p>	<p>Gross motor skills: First-hand experience Active participation in activities</p>
---	---	--

Long Term Plan

Year 2021/2022

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
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction
- add and subtract numbers mentally, including:
 - a three-digit number and 1s
 - a three-digit number and 10s
 - a three-digit number and 100s
- add and subtract numbers with up to 3 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

Multiplication and division

Pupils should be taught to:

- Solve problems, including doubling, halving and sharing.
- 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
- They make connections between arrays, number patterns, and counting in 2s, 5s and 10s.
- recall and use multiplication and division facts for the 2, 3, 4, 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 (\times), division (\div) and equals (=) signs
- show that multiplication of 2 numbers can be done in any order (commutative) and division of 1 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
- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- write and calculate mathematical statements for multiplication and division using the

Long Term Plan

Year 2021/2022

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

Fractions

Pupils should be taught to:

- share pretend cakes, biscuits and other items with another friend.
- recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity
- recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity
- Pupils connect halves and quarters to the equal sharing and grouping of sets of objects and to measures, as well as recognising and combining halves and quarters as parts of a whole.
- recognise, find, name and write fractions $1/3$, $1/4$, $2/4$ and $3/4$ of a length, shape, set of objects or quantity
- write simple fractions, for example $1/2$ of $6 = 3$ and recognise the equivalence of $2/4$ and $1/2$
- count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
- 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
- recognise and show, using diagrams, equivalent fractions with small denominators
- add and subtract fractions with the same denominator within one whole [for example, $+$ =]
- compare and order unit fractions, and fractions with the same denominators
- solve problems that involve all of the above
- add and subtract fractions with the same denominator
- recognise and write decimal equivalents to $1/4$, $1/2$, $3/4$

MEASUREMENT

Pupils should be taught to:

- Use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems.
- compare, describe and solve practical problems for:
 - lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]
 - 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]
 - time [for example, quicker, slower, earlier, later]
- measure and begin to record the following:
 - lengths and heights
 - mass/weight
 - capacity and volume
 - time (hours, minutes, seconds)
- recognise and know the value of different denominations of coins and notes
- sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]
- recognise and use language relating to dates, including days of the week, weeks, months and years
- tell the time to the hour and half past the hour and draw the hands on a clock face to show these times
- In order to become familiar with standard measures, pupils begin to use measuring tools such as a ruler, weighing scales and containers.
- Pupils use the language of time, including telling the time throughout the day, first using o'clock and then half past.
- 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

Long Term Plan

Year 2021/2022

- 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
- 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, am/pm, 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]
- measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
- measure the perimeter of simple 2-D shapes
- add and subtract amounts of money to give change, using both £ and p in practical contexts
- tell and write the time from an analogue clock, including using Roman numerals from I to XII, 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, am/pm, 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]
- read, write and convert time between analogue and digital 12- and 24-hour clocks
- solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days

GEOMETRY

Properties of shapes

Pupils should be taught to:

- Recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.
- recognise and name common 2-D and 3-D shapes, including:
 - 2-D shapes [for example, rectangles (including squares), circles and triangles]
 - 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]
- They recognise these shapes in different orientations and sizes, and know that rectangles, triangles, cuboids and pyramids are not always similar to each other.
- 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
- identify horizontal and vertical lines and pairs of perpendicular and parallel lines
- draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
- recognise angles as a property of shape or a description of a turn
- identify right angles, recognise that 2 right angles make a half-turn, 3 make three-quarters of a turn and 4 a complete turn; identify whether angles are greater than or less than a right angle
- identify horizontal and vertical lines and pairs of perpendicular and parallel lines
- identify lines of symmetry in 2-D shapes presented in different orientations

Position and direction

Pupils should be taught to:

- use everyday language to talk about position and distance
- describe position, direction and movement, including whole, half, quarter and three-quarter turns
- Pupils use the language of position, direction and motion, including: left and right, top, middle and

Long Term Plan

Year 2021/2022

bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside.

- Pupils make whole, half, quarter and three-quarter turns in both directions and connect turning clockwise with movement on a clock face.
- 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 positions on a 2-D grid as coordinates in the first quadrant
- describe movements between positions as translations of a given unit to the left/right and up/down
- plot specified points and draw sides to complete a given polygon

STATISTICS

Pupils should be taught to:

- sort objects into simple categories, eg. by colour
- Start to be able to find an object with one specific characteristic, e.g. an object that is: green, hard, little, etc.
- Groups similar objects into simple sets with support, e.g. cars, animals, etc.
- Completes one-to-one matching, e.g. gives an object to each person
- Looks at collection of similar objects and may give a property to classify them, e.g. different coins are all money, etc.
- Recognises and sorts familiar object regardless of colour
- Sorts objects using their own criteria
- Sorts objects by a given criteria when contrasts are obvious
- Communicates what they can see in a pictogram
- Finds common attributes, e.g. both balls bounce
- Identifies the differences between two similar objects, e.g. one ball is red and one is blue, etc.
- Makes a mark on a tally when prompted
- Sorts a range of everyday objects correctly, e.g. knives, forks and spoons in the correct compartment in a drawer

National Institute of Conductive Education
School Group
Mathematics



Long Term Plan

Year 2021/2022

<ul style="list-style-type: none">• Completes a simple chart to show their findings, e.g. puts a pictures of trees in one pile and pictures of flowers in another• Completes a tally chart with minimal assistance• Records data through pictures, e.g. weather information using pictures of the sun and rain• Identifies similarities and differences• Pupils should be taught to:• interpret and construct simple pictograms, tally charts, block diagrams and 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• interpret and present data using bar charts, pictograms and tables• 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		
--	--	--