



National Institute of Conductive Education
School Group
Mathematics

Long Term Plan

Year 2018 / 2019

Unit Title and Summary of Content Sensory learners: octopus - based on EYFS Penguins - EYFS with some aspects of Y1 Sea lions - Year 1 Polar bears - Y1 with many aspects of Y2 *These are general guidelines fo grouping children however on some occasions (duirng differnet attainments) thy might work on different levels according to their development	Links with N.C.	Links with C.E.
<p style="text-align: center;">NUMBER</p> <p>Number and place value</p> <ul style="list-style-type: none"> • Recognise numerals 1-10 and some of personal significance; select the correct numeral to represent up to 10 objects. • Count up to 5, then 10 objects, including in an irregular arrangement, match one-to-one; count actions, images, objects which cannot be moved. • Count out a set of up to 6 objects from a larger group. • Estimate how many objects they can see and check by counting them. • Count reliably using numbers 1 to 10 and place the numbers in order. • Compare two numbers up to 10, and find numbers in between. • Say the number after a given number up to 10. • Say the number before a given number up to 20. Count to and across 20 / 50 / 100, forwards and backwards, beginning with 0 or 1, or from any given number • count, read and write numbers to 20 / 50 / 100 in numerals; count in multiples of twos, fives and tens • given a number, identify one more and one 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 10 / 20 in numerals and words • count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or 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 	<p>English: Reading numbers, colour names</p> <p>Writing: Numbers (formation, orientation), Completing worksheets.</p> <p>Listening: Stories, Rhymes, Tasks, word problems, Listening to 2/3/4 steps instructions</p> <p>Speaking: Counting, Songs, Rhymes, Using mathematical vocabulary, Reasoning</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</p>

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<ul style="list-style-type: none"> Use place value and number facts to solve problems. <p>Addition and subtraction</p> <ul style="list-style-type: none"> Find the total number of items in two groups by counting all of them; begin to find the total by counting on from the larger number. Find one more than a group of up to 5 objects. In practical activities, perform additions and subtractions and use the appropriate and relevant vocabulary Use appropriate marks to record numbers and operations: begin to use +, -, and = to record additions and subtractions Say the number one more than a given number up to 10 Say the number one less than a given number up to 10 Add numbers (<10) of objects, images and quantities, counting on to find the answer, including counting on along a number track or line. Subtract one single digit number from another in the context of a practical activity read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs facts within 10 / 20 add and subtract one-digit and two-digit numbers to 10 / 20, including zero Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$. solve problems with addition and subtraction: <ul style="list-style-type: none"> 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 50 (J)/ 100 (A) add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <ul style="list-style-type: none"> a two-digit number and ones a two-digit number and tens adding three one-digit numbers 	<p>Science: Measuring length, capacity, mass, comparing, Ordering, Counting Patterns. Making charts and graphs estimation</p> <p>A&D: Matching shapes and colours. Drawing irregular and regular shapes. Sorting objects into groups. Creating models, pictures, patterns.</p> <p>Music: Rhythms, Counting on and backwards Opposites, Songs, Movement patterns</p> <p>D&T: Use of tools and equipment. Measuring length and mass. Creating shapes</p> <p>Computing:</p>	<p>tasks</p> <p>Gross motor skills: First-hand experience Active participation in activities Sitting balance</p> <p>Fine motor skills: Finger differentiation Functional pencil holding Pencil control</p>
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<ul style="list-style-type: none"> • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot <p>Multiplication and division</p> <ul style="list-style-type: none"> • Identify and begin to solve mathematical problems in the context of their own activity or interest. • Solve problems including doubling and halving or sharing • Learn to name objects as sharing them • Repeated addition with small numbers under 10 • 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 • Recall and use multiplication and division facts for the 2, 5 multiplication table • Show that multiplication of two numbers can be done in any order • Recognise and using the multiplication (\times), 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 contexts. <p>Fractions</p> <ul style="list-style-type: none"> • Tear and share (teddy's picnic) • Solve problems including doubling and halving or sharing • Start to differentiate between a whole and half and name them • 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 $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ of a length, shape, set of objects or quantity <p style="text-align: center;">MEASUREMENT</p> <ul style="list-style-type: none"> • Order/sequence everyday events, begin to understand that we can tell the time; recognise analogue/digital o'clock times; measure short times in simple ways. 	<p>Recording data and educational games. Use of IT for solving mathematical problems</p>	
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- Use everyday language to compare and order two or three items by length or height.
- Begin to measure using repeated uniform units, e.g. crayons or footprints.
- Use everyday language to compare and order 2/3 items by weight or capacity.
- Begin to measure using repeated uniform units, e.g. conkers or egg-cups.
- Use everyday language to sequence events and to compare durations (e.g. after two sleeps, all afternoon); understand that we can measure time.
- Recognise the common units of time (minutes, hours, days, weeks, months, years).
- Use everyday language to talk about money, to identify/describe coins; begin to understand that different coins have different values.
Exchange one coin for several of another and make small amounts.

Compare, describe and solve practical problems for:

- lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half)
- mass or weight (e.g. heavy/light, heavier than, lighter than)
- capacity/volume (full/empty, more than, less than, quarter)
- time (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 such as: 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.
- 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 the time quarter past/to the hour and draw the hands on a clock face to show these times (A).
- Know the number of minutes in an hour and the number of hours in a day.

GEOMETRY

Properties of shapes

- Explore 2D shapes, begin to use mathematical names for these 'flat' shapes; select a named shape: circle, square, rectangle, and triangle.
- Explore 3D shapes, begin to use mathematical names for 'solid' shapes; select a given named shape: sphere, cube, cuboid, pyramid, cone, and cylinder.
- Use familiar objects and common shapes to create and recreate patterns and build models
- Recognise, create and describe patterns.
- Explore characteristics of shapes and everyday objects and use mathematical language to describe them.

Recognise and name common 2-D and 3-D shapes, including:

- 2-D shapes (e.g. rectangles (including squares, circles and triangles)
- 3-D shapes (e.g. cuboids, cubes, pyramids and spheres).
- Identify and describe the properties of 2-D shapes, including the number of sides and 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

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Position and direction

- Understand everyday language to describe position and direction, e.g. 'behind', 'in front of', 'next to', 'underneath', 'on top of'.
- Listen to directional language and follow simple instructions
- Describe position, direction and movements, including half, quarter and three quarter turns.
- Order and arrange combinations of mathematical objects in patterns
- Use mathematical vocabulary to describe position, direction and movement including distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise), and movement in a straight line.

STATISTICS

- 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