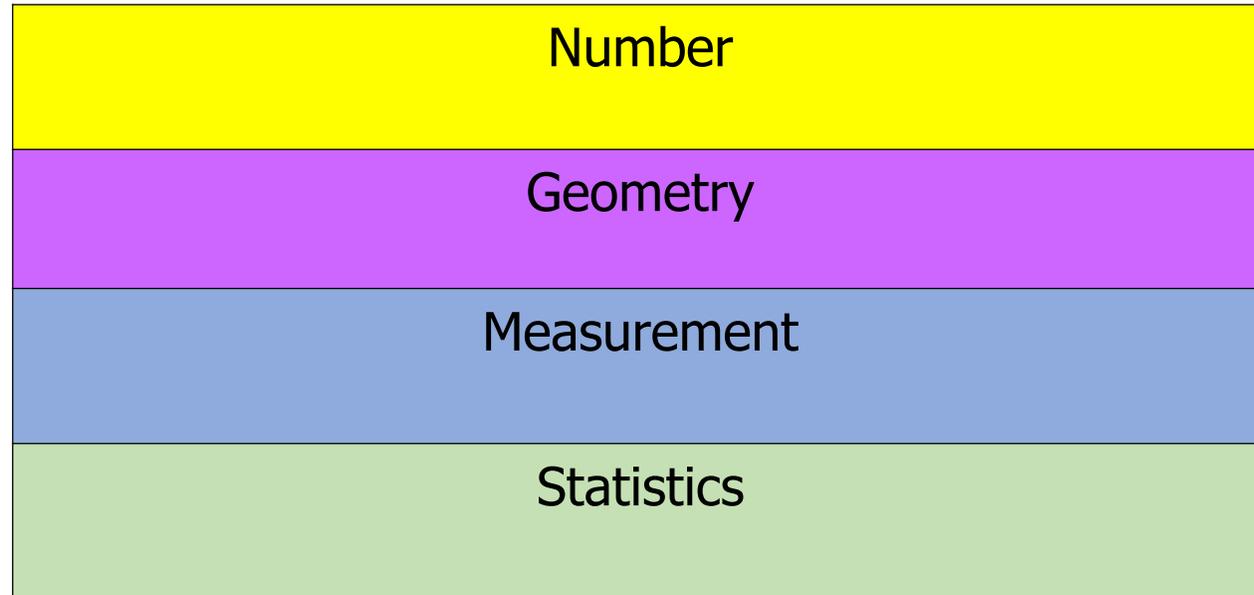




Maths at Newfield

Individual Scheme of Work

The Maths Curriculum is made up of four areas



Pathfinders Skills

Routes for Learning/Cause and Effect

RFL-38/42

Can press a switch to make different toys/computer programmes work.

Cause and Effect toys- press buttons to make different sounds/actions happen.

Problem solving with real objects- opening lids/bags

Number

Skill

Shows an interest in number rhymes and songs

Understands the concept of 1- during play/structured activities

Recites some number names in sequence (during play/structured activities)

Pathfinders Skills

Geometry

Skill
Reaches out for, touches and begins to hold objects (light up toys, sound toys, instruments, tactile objects)
Explores objects with mouth, often picking up an object and holding it to the mouth
Holds an object in each hand and brings together in the middle eg. Holds blocks and bangs together.
Matches identical objects
Makes lines and towers with blocks in play situations
Combines 2 construction items
Attempts sometimes to successfully to fit shapes into spaces (shape inset, inset puzzles, objects into containers)
Matches an object to a picture/photo

Measurement

Skill
Explores filling and emptying containers (sand, water, objects, materials, posting activities)
Beginning to understand the concept of now and next

Number and Place Value- (working within Step 1)

Number

Skill

Take part in finger rhymes using number

Attempt to count real objects

Say or order some numbers in sequence

Compare amounts of items using 'one', 'lots' and 'more' (symbols or speech)

Multiplication and Division

Skill

Share/ make groups of up to 2

Compare amounts of items using 'one', 'lots' and 'more' (symbols or speech)

Addition and Subtraction

Skill

Make groups of up to 2

Compare amounts of items using 'one', 'lots' and 'more' (symbols or speech) (number)

Fractions

Skill

Break, fold, cut a range of materials into pieces (introducing whole, half etc)

Share equally (giving 1 to each person)

Number and Place Value- (working within Step 2)

Number

Skill

Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').

Order/recite number past 5 using speech or symbols

Say or identify one number for each item in order to 5

Know that the last number reached when counting a small set of objects tells you how many there are in total.

Show how many fingers to 5

Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.

Attempt to write numerals with some inaccuracies

Multiplication and Division

Skill

Share equally to 5

Addition and Subtraction

Skill

React to changes in amounts in a group of up to 3 items by recounting or commenting (symbols or speech)

Solve real world mathematical problems with numbers up to 5 by sharing.

Solve real world mathematical problems with numbers up to 5 by grouping

Fractions

Skill

Share equally (up to 5 to each person)

Number and Place Value- (working within Step 3)

Number

Skill

Compare quantities using language: 'more than', 'fewer than' using symbols or speech

Count objects to 10

Recognise quantities to 5 without counting

Match numerals to quantities to 10

Addition and Subtraction

Skill

Combine 2 groups by 'adding' them together and counting how many 'altogether'.

Understand 'one more than' to 10

Understand 'one less than' to 10

Multiplication and Division

Skill

Group real objects to 5

Fractions

Skill

Recognise, find and name a half as one of two equal parts of an object, shape or quantity.

Number and Place Value- (working within Step 4)

Number

Skill

Count or order numbers to 20

Read numbers to 20 (where applicable)

Compare groups of numbers to 10 e.g. more/less/most/least

Use ordinal numbers to 5th

Join in rote counting to 100

When given a number, identify one more and one less to 20

Multiplication and Division

Skill

Solve problems, including doubling and halving.

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.

Addition and Subtraction

Skill

Explore the composition of numbers to 10 (explore different ways of making a number)

Recall number bonds to 5

Recall number bonds to 10

Read, write (where appropriate) and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs.

Fractions

Skill

Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.

Number and Place Value- (working within Step 5)

Number

Skill

Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.

Count, read, write or order numbers to 100 in numerals.

Count or order numbers in multiples of twos, fives and tens.

When given a number, identify one more and one less to 100

Find numbers to 100 on a number line.

Write or order numbers to 100 on a number line.

Partition numbers to 100 using tens and ones.

Read and write numbers from 1 to 20 in numerals and words.

Multiplication and Division

Skill

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 (\times), division (\div) and equals (=) signs

Addition and Subtraction

Skill

Represent and use number bonds and related subtraction facts within 20.

Add and subtract one-digit and two-digit numbers to 20, including zero.

Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \quad - 9$.

Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures

Solve problems with addition and subtraction applying their increasing knowledge of mental and written methods

Fractions

Skill

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.

Number and Place Value- (working within Step 6)

Number

Skill

Count in steps of 2, 3, 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

Multiplication and Division

Skill

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.

Addition and Subtraction

Skill

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 1s

Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:

- a two-digit number and 10s

Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:

- 2 two-digit numbers

Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:

- adding 3 one-digit numbers

Show that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 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.

Fractions

Skill

Write simple fractions, for example $\frac{1}{2}$ of $6 = 3$ and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$

Geometry (working within Step 1)

2D Shape

Skill

Build towers with a range of resources

Explore 2D shapes

Patterns

Skill

Notice patterns and arrange things in patterns

3D Shape

Skill

Use different pliable materials to make 3D shapes with help

Position and Direction

Skill

Complete inset puzzles independently

Place blocks/cups on top of each other to make a tower

Put objects inside others and take them out again

Understand position through symbols or words e.g. the bag is **under** the table

Geometry (working within Step 2 and 3)

2D Shape

Skill

Identify 2D shapes using symbols or speech

Use Mathematical language to describe 2D shapes e.g. round, flat, corners

Use 2D shapes to make patterns

Use 2D shapes to make pictures

Patterns

Skill

Describe/comment on patterns around me using speech or symbols. For example: stripes on clothes, designs on rugs and wallpaper etc.

Copy and continue simple ABAB pattern using real objects e.g. apple, orange, apple, orange

Notice and correct simple errors in a pattern

Begin to sequence an event (real or fictional) identifying 'first' and 'then'

3D Shape

Skill

Explore 3D shapes (step 2)

Identify 3D shapes with speech or symbols

Identify 3D shapes in the environment

Make simple models using 3D shape

Use Mathematical language to describe 3D shapes e.g. round, straight, flat

Position and Direction

Skill

Describe the position of an object using terms such as 'behind' 'in' 'in front' using speech or symbols

Follow instructions using key positional vocabulary e.g. put the plate on the table.

Complete shape puzzles independently

Follow physical positional instructions e.g. move forward/backward/turn around

Geometry (working within Step 4)

2D Shape

Skill

Combine shapes to make new ones – an arch, a bigger triangle

Recognise that some 2D shapes can have different shapes within them e.g. a square is made of 2 triangles.

Use blocks and interlocking shapes to build with visual or verbal support

Recognise and name common 2-D including: rectangles (including squares), circles and triangles

Patterns

Skill

Continue, copy and create more complex repeating patterns

Order and arrange combinations of mathematical objects in patterns and sequences

3D Shape

Skill

Use blocks and interlocking shapes to build with visual or verbal support

Select shapes appropriately: flat surfaces for building, a triangular prism for a roof

Position and Direction

Skill

Describe position, direction and movement, including whole, half, quarter and three quarter turns, left and right

Geometry (working within Step 5 and 6)

2D Shape

Skill
Identify and describe the properties of 2-D shapes, including the number of sides, and line of symmetry in a vertical line.
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 shapes and everyday objects

3D Shape

Skill
Recognise and name common 3-D shapes, including: cuboids (including cubes), pyramids and spheres]
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 3-D shapes and everyday objects.

Position and Direction

Skill
Describe the position of a feature on a simple map
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)

Measurement (working within Step 1)

Temperature

Skill

Feel different temperatures

Comment on hot/cold using symbols or speech

Explore melting/freezing

Use the terms hot/cold to describe something

Volume and Capacity

Skill

Experiment with water play

Weight and Mass

Skill

Describe weight using gestures, speech or symbols e.g. heavy, light

Size

Skill

Describe the size of objects using gesture, speech or symbols - 'big/little/small', 'tall/short'

Money

Skill

Understand the concept of transaction during role play

Time

Skill

Follow a simple, familiar routine

Understand that some events happen in the day and some happen at night

Measurement (working within Step 2)

Temperature

Skill

Begin to use a thermometer and make simple comments

Understand melting and heat

Volume and Capacity

Skill

Follow directions to fill or empty a container

Weight and Mass

Skill

Compare two objects relating to weight using speech or symbols

Size

Skill

Compare two objects relating to size and length using symbols or speech e.g. bigger/smaller/ longer/shorter

Money

Skill

Sort coins by a given criteria

Time

Skill

Describe a familiar routine using symbols or speech (first, next, then)

Follow simple instructions in the correct order.

Measurement (working within Step 3)

Temperature

Skill
Understand that hot things can burn
Name some hot objects using symbols or speech
Compare the temperature of liquid and describe which is warmer/cooler

Volume and Capacity

Skill
Identify and describe 'full' and 'empty' containers using speech or symbols

Weight and Mass

Skill
Use scales with assistance to compare two objects

Size

Skill
Compare more than two objects relating to size and length using symbols or speech

Money

Skill
Begins to count 1p coins to 10

Time

Skill
Understand and use key vocab- days of the week, bedtime, morning, afternoon etc.

Measurement (working within Step 4)

Temperature

Skill

Choose and use appropriate standard units to estimate and measure temperature ($^{\circ}\text{C}$) to the nearest appropriate unit using thermometers.

Volume and Capacity

Skill

Identify and describe 'half full' containers using speech or symbols

Compare the capacity of two containers using speech or symbols e.g. more/less

Compare the capacity of more than two containers using speech or symbols

Weight and Mass

Skill

Compare more than two objects relating to weight using speech or symbols

Use scales to balance and weigh objects

Size

Skill

Order objects by size and length

Money

Skill

Completes simple addition and subtraction of coins to 10p

Gives amounts to 10p with support

Time

Skill

Understand and comment on quick/slow (e.g. playing an instrument/body percussion)

Measurement (working within Step 5)

Temperature

Skill

Compare temperatures

Volume and Capacity

Skill

Compare, describe and solve practical problems using the terms full/empty (speech, writing or symbols)

Compare, describe and solve practical problems using the terms more than/less than (speech, writing or symbols)

Compare, describe and solve practical problems using the terms half/ half full, quarter full (speech, writing or symbols)

Weight and Mass

Skill

Compare, describe and solve practical problems using the terms heavy/light (using words, symbols or writing)

Compare, describe and solve practical problems using the terms heavier than, lighter than (using words, symbols or writing)

Measure and begin to record mass and weight

Size

Skill

Compare, describe and solve practical problems using the terms long/short (speech, writing or symbols)

Compare, describe and solve practical problems using the terms longer/shorter (speech, writing or symbols)

Compare, describe and solve practical problems using the terms tall/short (speech, writing or symbols)

Compare, describe and solve practical problems using the terms double/half (speech, writing or symbols)

Measure and begin to record lengths and heights

Money

Skill

Recognise different coins and notes

Understand the value of different coins and notes

Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.

Measurement (working within Step 5)

Time

Skill
Compare, describe and solve practical time problems (speech, writing or symbols) using terms quicker/slower.
Compare, describe and solve practical time problems (speech, writing or symbols) using terms earlier/later.
Begin to record the time in hours, minutes and seconds
Sequence events in chronological order using language or symbols [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 (symbols or speech)
Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.
Compare and sequence intervals of time

Measurement (working within Step 6)

Temperature

Skill

Explain and record temperatures appropriately

Volume and Capacity

Skill

Measure and begin to record volume and capacity

Choose and use appropriate standard units to estimate and measure capacity (litres/ml) to the nearest appropriate unit using measuring vessels

Compare and order volume/capacity and record the results using $>$, $<$ and $=$

Weight and Mass

Skill

Choose and use appropriate standard units to estimate and measure mass (kg/g) to the nearest appropriate unit using scales.

Compare and order mass and record the results using $>$, $<$ and $=$

Size

Skill

Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit using a ruler.

Compare and order lengths and record the results using $>$, $<$ and $=$

Money

Skill

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.

Time

Skill

Tell and write the time (using symbols or writing) to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times (where appropriate)

Know the number of minutes in an hour and the number of hours in a day

Statistics

Working within Step 1

Skill
Sort into groups of a given criteria
Sort into groups of a chosen criteria

Working within Step 2

Skill
Record, present and interpret data by experimenting with symbols and marks, as well as numerals
Interpret and construct simple pictograms
Interpret and construct simple tally charts
Interpret and construct simple block graphs
Interpret and construct simple tables.

Statistics

Working within Step 3

Skill
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.