



YEAR 2 MATHS MEDIUM TERM PLAN

Small Steps to Mastery

Year 2 Long Term Plan

Year 2 NUMBER – NUMBER AND PLACE VALUE

Pupil end points for this unit of work: (Year 2 statutory requirements)

- 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

SMALL STEPS IN KNOWLEDGE – NUMBER AND PLACE VALUE

VOCABULARY

Number - number, numeral, zero, one, two, three ... twenty, teens numbers, eleven, twelve ... twenty twenty-one, twenty-two ... one hundred, **two hundred ... one thousand** none, how many ...? count, count (up) to, count on (from, to), count back (from, to), forwards, backwards, count in ones, twos, fives, tens, **threes, fours and so on**, equal to, equivalent to, is the same as, more, less, most, least, **tally**, many, odd, even, multiple of, **sequence continue predict**, few, pattern, pair, **rule**, **$>$ greater than, $<$ less than**

Place Value - ones, tens, **hundreds** digit, **one-, two- or three-digit number place, place value, stands for, represents exchange**, the same number as, as many as more, larger, bigger, greater, fewer, smaller, less, fewest, smallest, least, most, biggest, largest, greatest, one more, ten more, one less, ten less, equal to, compare, order, size, first, second,

third... twentieth, **twenty-first, twenty-second ...** last, last but one, before, after, next, between, half-way between, above, below

Estimating - guess, how many ...? estimate, nearly, roughly, close to, about the same as, just over, just under, **exact, exactly,** too many, too few, enough, not enough

Declarative, Procedural and Conditional Knowledge Facts, Strategies and Application

Count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward

- Count forwards and backwards to 20 (Recap)
 - Tens and ones within 20 (Recap)
- Count forwards and backwards to 50 (Recap)
 - Tens and ones within 50 (Recap)
- Count objects to 100 in tens– using different representations and manipulatives
 - Count in 2s and 5s (Recap)
- Count in 3s – WRM planning splits this into lots of lessons that could be done at the end of the place value topic or before multiplication or division

Buzzy Bee *

Five Steps to 50 *

Identify, represent and estimate numbers using different representations (esp. place value chart / part-whole model), including the number line

Read and write numbers to at least 100 in numerals and in words

- Numbers to 20 (Recap)
- Represent numbers to 100
- Tens and ones with a part whole model
- Tens and ones with addition / partitioning
- Tens and ones in a place value chart
 - Write numbers to 100 in words
- Flexible partitioning numbers to 100
- Write numbers to 100 in expanded form
 - 10s on a number line to 100
 - 10s and 1s on a number line to 100
- Estimate numbers on a number line

Tug of War (G) *

Count the Crayons *

How Many? *

Recognise the place value of each digit in a two-digit number (10s, 1s)

6 Beads **

Two-digit Targets *

Snail One Hundred (G)

Digit Addition *

Compare and order numbers from 0 up to 100; use <, > and = signs

- Compare objects
- Compare numbers
- Order objects and numbers

Next Domino *

**Domino Number
Patterns ****

Domino Sequences *

100 Square Jigsaw (I) *

That Number Square! *

Use place value and number facts to solve problems (throughout the topic)

I Like ... *

Light the Lights (I) **

Largest Even *

Round the Two Dice *

Year 2 NUMBER – ADDITION AND SUBTRACTION

Pupil end points for this unit of work: (Year 2 statutory requirements)

- 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.

SMALL STEPS IN KNOWLEDGE – ADDITION AND SUBTRACTION

VOCABULARY

Addition, add, more, and make, sum, total, altogether, double, near double, half, halve, one more, two more, ten more, **one hundred more**, how many more to make ...? how many more is ... than ...? how much more is ...? subtract, take away, how many are left/left over? how many have gone? one less, two less, ten less, **one hundred less**, how many fewer is ... than ...? how much less is ...? difference between, equals, is the same as, number bonds/pairs/**facts, tens boundary**, missing number

Declarative, Procedural and Conditional Knowledge

Facts, Strategies and Application

NCETM Spine Materials for Small Step Progression in Addition and Subtraction /

Intervention Suggestions

Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100

- Addition and subtraction bonds to 20
- Compare and check calculations
- Number bonds to 100 in tens

Number Round Up (I)

Strike it Out (G) *

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

- two-digit number and ones
- a two-digit number and tens
- two two-digit numbers
- adding three one-digit numbers
- Add and subtract 1 more and 1 less
- Add and subtract 10 more and 10 less
 - Add by making 10 (Recap)
 - Add a two and one-digit number
- Add a two and one-digit number crossing tens
- Subtract a one-digit number from a two-digit number
- Subtract a one-digit number from a two-digit number, crossing tens

- Add two two-digit numbers
- Add two two-digit numbers, crossing tens
 - Subtract two two-digit numbers
- Subtract two two-digit numbers, crossing tens

Jumping Squares **

Unit Differences *

Dicey Addition (G) *

Arranging Additions

and Sorting

Subtractions *

Subtraction Slip *

Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot

- Checking calculations using the inverse
 - Comparing number sentences

Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems (throughout the topic)

Secret Number **

How Many? *

The Add and Take-away

Path *

What Was in the Box? *

Doing and Undoing *

Solve problems with addition and subtraction (throughout the topic):

- using concrete objects and pictorial representations, including those involving numbers, quantities and measures
- Applying their increasing knowledge of mental and written methods

Noah **

Birthday Cakes **

Heads and Feet **

What's in a Name? *

Eggs in Baskets **

The Brown Family ***

Cuisenaire Counting (I)

Sitting Round the Party

Tables *

Half Time *

Two Spinners *

Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100

- Number bonds to 100, ones and tens
 - Find number bonds
- Add three one-digit numbers

Year 2 NUMBER – MULTIPLICATION AND DIVISION

Pupil end points for this unit of work: (Year 2 statutory requirements)

- 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
- 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

SMALL STEPS IN KNOWLEDGE – MULTIPLICATION AND DIVISION

VOCABULARY

Multiplication, multiply, multiplied by, multiple, groups of times, once, twice, three times ... ten times repeated addition, division, dividing, divide, divided by, divided into, grouping, sharing, share, share equally left, left over, one each, two each, three each ... ten each group in pairs, threes ... tens, equal groups of doubling halving, array, row, column number patterns multiplication table, multiplication fact, division fact

Declarative, Procedural and Conditional Knowledge

Facts, Strategies and Application

[NCETM Spine Materials for Small Step Progression in Multiplication and Division / Intervention Suggestions](#)

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

- Make equal groups (Recap)
- Recognise equal groups
- Add equal groups (Recap)
 - Make arrays (Recap)
 - 2 x table
 - 5 times tables
 - 10 times tables
- Multiplication sentences using the x symbol
- Multiplication sentences from pictures
 - Use arrays
- Make equal groups, sharing
- Make equal groups, grouping
 - Divide by 2
- Odd and even numbers
 - Divide by 5
 - Divide by 10

[Number Detective *](#)

[Ring a Ring of Numbers](#)

[More Numbers in the](#)

[Ring](#) ***

[Clapping Times](#) *

[Even and Odd](#) *

[How Odd](#) **

[Pairs of Legs](#) **

[Two Numbers Under](#)

[the Microscope](#) *

[Odd Times Even](#) ***

[Double or Halve? \(G\)](#) *

[Always, Sometimes or](#)

[Never?](#) *

[Tables Teaser](#) *

[I'm Eight](#) *

Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot (throughout the topic)

Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts (throughout the topic)

[Magic Plant](#) **

[The Amazing Splitting](#)

[Plant](#) ***

[Catrina's Cards](#) *

[The Tomato and the](#)

[Bean](#) ***

[Lots of Lollies](#) ***

[Are You Well](#)

[Balanced? \(I\)](#) *

[Growing Garlic](#) *

[Our Numbers](#) *

[Ip Dip](#) *

[Birthday Sharing](#) *

Year 2 NUMBER – FRACTIONS

Pupil end points for this unit of work: (Year 2 statutory requirements)

- 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 $\frac{1}{2}$.

SMALL STEPS IN KNOWLEDGE – FRACTIONS

VOCABULARY

Fraction, equivalent fraction mixed number, numerator, denominator equal part, equal grouping, equal sharing parts of a whole half, two halves, one of two equal parts, quarter, two quarters, three quarters one of four equal parts, one third, two thirds one of three equal parts.

Declarative, Procedural and Conditional Knowledge

Facts, Strategies and Application

NCETM Spine Materials for Small Step Progression in Fractions / Intervention Suggestions

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

- Make equal parts
 - Make a half
 - Find a half
- Recognise a quarter
 - Find a quarter
- Recognise a third
 - Find a third
- Introducing unit fractions
 - Non-unit fractions
- Finding three quarters
 - Count in fractions

[Happy Halving \(maths.org\)](http://maths.org)

[Making Longer, Making Shorter \(maths.org\)](http://maths.org)

[Early Fraction Development \(maths.org\)](http://maths.org)

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

- Equivalence of $\frac{1}{2}$ and $\frac{2}{4}$

Year 2 MEASUREMENT

Pupil end points for this unit of work: (Year 2 statutory requirements)

- 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

SMALL STEPS IN KNOWLEDGE – MEASUREMENT

VOCABULARY

Measure, measurement, size, compare, guess, estimate, enough, not enough, too much, too little, too many, too few, nearly, close to, about the same as, roughly, just over, just under, **scale**

Length, centimetre, metre, length, height, width, depth, long, short, tall, high, low, wide, narrow, thick, thin, longer, shorter, taller, higher ... and so on, longest, shortest, tallest, highest ... and so on, far, **further**, **furthest**, near, close, ruler, metre stick, **tape measure**

Weight, kilogram, half kilogram, **gram**, weigh, weighs, balances, heavy, light, heavier than, lighter than, heaviest, lightest, scales

Capacity and volume, litre, half litre, **millimetre**, capacity, volume, full, empty, more than, less than, half, full, quarter full, holds, **contains**, container

Temperature, temperature, degree

Time, time, days of the week, Monday, Tuesday ... months of the year, (January, February ...) seasons: spring, summer, autumn, winter, day, week, weekend, **fortnight**, month, year, birthday, holiday, morning, afternoon, evening, night, bedtime, dinner time, playtime today, yesterday, tomorrow, before, after, earlier, later, next, first, last, midnight, date, now, soon, early, late, quick, quicker, quickest, quickly, slow, slower, slowest, slowly, old, older, oldest, new, newer, newest, takes longer, takes less time, how long ago? how long will it be to ...? how long will it take to ...? how often? always, never, often, sometimes, usually, once, twice, hour, o'clock, half past, quarter past, quarter to, **5 / 10 / 15 minutes past**, clock, clock face, watch, hands, **digital**, **analogue**, **watch**, **timer**, hour hand, minute hand, hours, minutes, **seconds**

Money, money, coin, penny, pence, pound, price, cost, buy, **bought**, sell, sold, spend, spent, pay, change, dear, costs, more, cheap, costs, less, cheaper, costs the same as, how much ...? how many...? total

Declarative, Procedural and Conditional Knowledge Facts, Strategies and Application

Money

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

- Recognise coins and notes
 - Count money – pence
 - Count money – pounds
- Count money – coins and notes
 - Select money
 - Make the same amount
 - Compare money

Five Coins **

Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

- Find the total
- Find the difference
- Find change
- Two-step problems

The Puzzling Sweet

Shop **

Fruity Pairs *

Length and Height

Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers, scales

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

- Compare lengths and heights (Recap)
 - Measure lengths (Recap)
 - Measure lengths in cm
 - Measure lengths in m
 - Compare lengths
 - Order lengths
- Four operations with lengths

Little Man **

Making Longer, Making

Shorter **

Order, Order! *

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

- Tell the time to the hour (Recep)
- Tell the time to the half hour (Recep)
 - O'clock and half past
- Quarter past and quarter to
- Telling time to 5 minutes
 - Writing time

Matching Time (G) *

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

- Hours and days

Compare and sequence intervals of time

- Find durations of time
- Compare durations of time

Stop the Clock (I) ***

What Is the Time? *

Mass, Capacity and Temperature

Choose and use appropriate standard units to estimate and measure mass (kg/g); temperature ($^{\circ}\text{C}$); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels

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

- Introduce weight and mass (Recap)
 - Measure mass (Recap)
 - Compare mass
 - Measure mass in g
 - Measure mass in kg
- Introduce capacity and volume (Recap)
 - Measure capacity (Recap)
 - Compare volume
 - Millilitres
 - Litres
 - Temperature

Little Man **

Order, Order! *

Compare the Cups *

Year 2 GEOMETRY – PROPERTIES OF SHAPE

Pupil end points for this unit of work: (Year 2 statutory requirements)

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

SMALL STEPS IN KNOWLEDGE – GEOMETRY (2D / ANGLES / 3D)

VOCABULARY

Shape, pattern, flat, curved, straight, round, hollow, solid, sort, make, build, draw, surface, size, bigger, larger, smaller, symmetry, symmetrical, symmetrical pattern, line symmetry, pattern, repeating pattern, match

2D shape - corner side point, pointed, rectangle (including square), **rectangular** circle, **circular**, triangle, **triangular**, **pentagon**, **hexagon**, **octagon**

3D shape - face, edge, vertex, vertices, cube, cuboid, pyramid, sphere, cone, cylinder.

Angles – see Position and Direction

Declarative, Procedural and Conditional Knowledge

Facts, Strategies and Application

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

- Recognise 2D and 3D shapes

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

- Count sides on 2D shapes
 - Draw 2D shapes
 - Lines of symmetry
- Complete shapes using line symmetry

[Let's Investigate](#)

[Triangles *](#)

[Colouring Triangles **](#)

[Chain of Changes **](#)

[Complete the Square](#)

[Inside Triangles \(I\) *](#)

[Exploded Squares *](#)

[Shapely Lines *](#)

[Poly Plug Rectangles](#)

[\(I\)](#)

[Paper Patchwork 1 *](#)

[Paper Patchwork 2 *](#)

[Seeing Squares \(I\) *](#)

[Triangle or No](#)

[Triangle? *](#)

Compare and sort common 2-D and 3-D shapes and everyday objects

- Sort 2D shapes
- Make patterns with 2D shapes

Data Shapes *

Paper Partners *

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]

- Count faces on 3D shapes
- Count edges on 3D shapes
- Count vertices on 3D shapes

Building with Solid

Shapes *

Skeleton Shapes **

Shadow Play ***

Cubes Cut Into Four

Pieces ***

Matching Triangles *

Compare and sort common 2-D shapes and everyday objects

- Sort 3D shapes
- - Make patterns with 3D shapes

Data Shapes *

Paper Partners *

Year 2 GEOMETRY – POSITION AND DIRECTION

Pupil end points for this unit of work: (Year 2 statutory requirements)

- 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)

SMALL STEPS IN KNOWLEDGE – GEOMETRY – POSITION AND DIRECTION

VOCABULARY

Position, over, under, underneath, above, below, top, bottom, side, on, in, outside, inside, around, in front, behind, front, back, beside, next to, opposite, apart, between, middle, edge, centre, corner, direction, journey, **route**, left, right, up, down, **higher**, **lower**, forwards, backwards, sideways, across, next to, close, near, far along, through, to, from, towards, away from **clockwise**, **anticlockwise** movement, slide roll turn, stretch, bend, whole turn, half turn, quarter turn, three-quarter turn, **right angle straight line**

Declarative, Procedural and Conditional Knowledge

Facts, Strategies and Application

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)

Order and arrange combinations of mathematical objects in patterns and sequences

- Describe position (Recap)
- Describe movement (Recap)
 - Describe turns
- Describe movement and turns
- Making patterns with shapes

Coloured Squares (I) **

Cover the Camel *

Triangle Animals **

Turning Man (I) *

En-counters *

Walking Round a

Triangle *

A City of Towers **

Break it Up! *

Hundred Square **

Three Ball Line Up (I) **

Caterpillars **

Repeating Patterns *

Cube Bricks and Daisy

Chains *

Triple Cubes *

Poly Plug Pattern *

School Fair Necklaces

Domino Patterns *

Circles, Circles *

Year 2 STATISTICS

Pupil end points for this unit of work: (Year 2 statutory requirements)

- 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

SMALL STEPS IN KNOWLEDGE – STATISTICS

VOCABULARY

Count, tally, sort, vote, graph, block graph, pictogram, represent, group, list, table, label, title, most popular, most, common least popular, least common

Declarative, Procedural and Conditional Knowledge
Facts, Strategies and Application

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 (1, 1)
- Interpret pictograms (1, 1)
- Draw pictograms (2, 5, 10)
- Interpret pictograms (2, 5, 10)
 - Block diagrams

What Shape and Colour? *

Ladybird Count *

Sticky Data *

Carroll Diagrams (I) *

Sort the Street (I) *