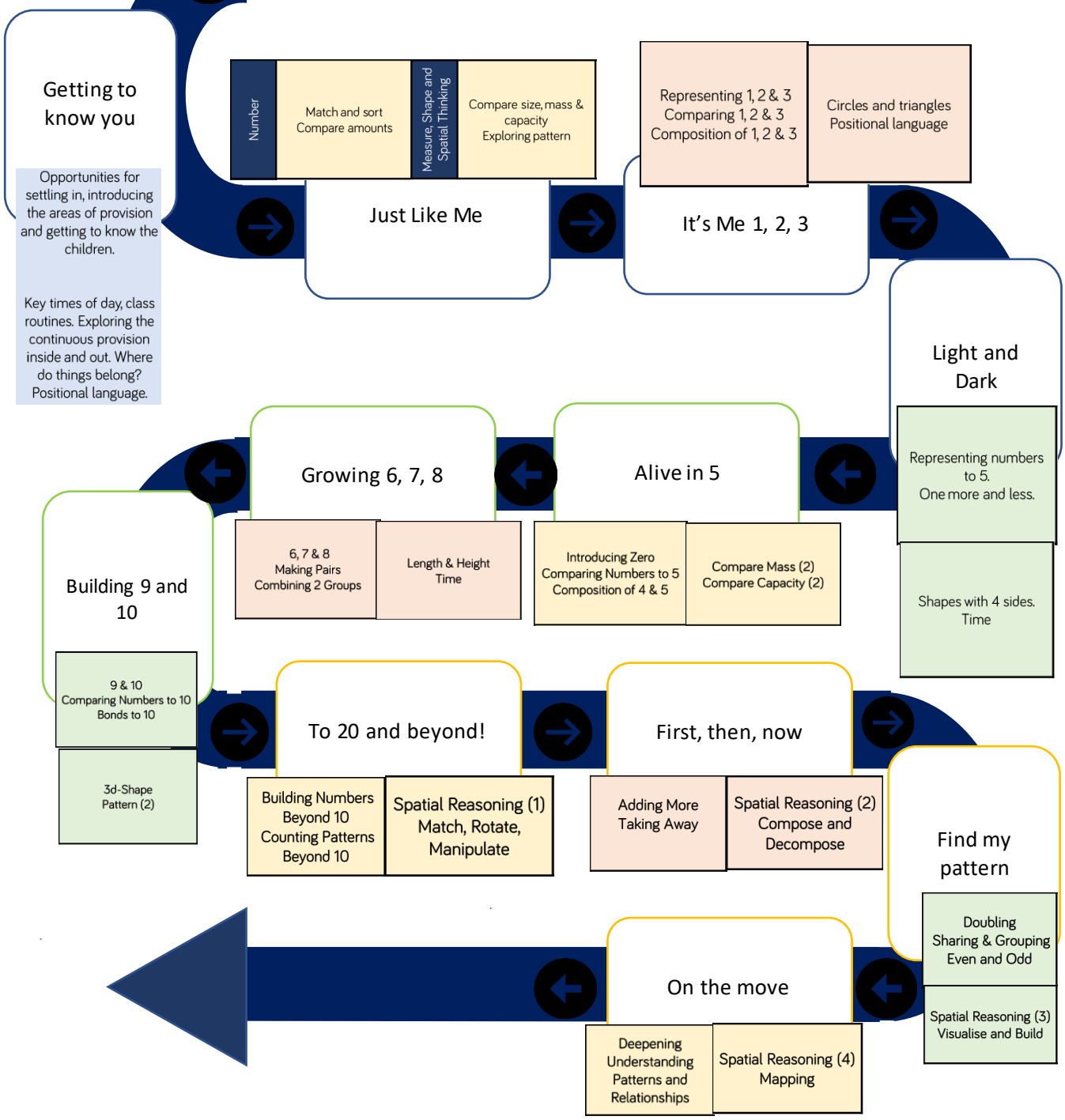
EYFS Maths' Pathway (WRM)



New vocabulary

Number and Place Value	Addition and Subtraction	Multiplication and Division	Measure	Geometry (position and direction)	Geometry (Properties of shape)	Fractions	General/problem solving.
Number One, two, three to twenty and beyond. None Count on/up/to/from/down Before, after More, less, many, few, fewer, fewest, smaller, smallest Equal to, the same as Odd, even Digit Numeral Compare Order Size Value Between, halfway between	Number line Add, more, plus, make, sum, total, altogether Double Half, halve Equals, is the same (including equals sign) How many more to make…? How many more is,,, then,,,? How much more is…? Subtract, take away, minus.	Odd, even Double, halve Share, share equally Group in pairs Equal groups of Divide	Full, half, empty Holds Container Weigh, weighs, balance Heavy, heavier, heaviest, light, lighter, lightest Scales Time Days of the week: Monday, Tuesday etc. Seasons: Spring, Summer, Autumn, Winter Days, week, month, year, weekend Birthday, holiday Morning, afternoon, evening, night Bedtime,	Over, under, underneath, above, below, top, bottom, side On, in, outside, inside In front, behind Front, back Before, after Beside, next to Middle Up, down, forwards, backwards. Sideways Close, far Through Towards, away from Side, roll, turn	Sort Cube, cuboid, pyramid, sphere, cone, cylinder, circle, triangle, square Shape Flat, curved, straight, round Solid Corner Face, side Make, build, draw	Whole Equal One half	Listen, join in Say, think, imagine, remember Start from Look at, point to Put What comes next? Find, use, make, build Tell me, describe, pick out, talk about, explain, show me Read, write Tick, draw a line, ring Cost Count, work out Number line, number track, number square, number cards

Year 1 Maths' Pathway (WRM)

Place value (within 10)

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

Count, read and write numbers to **10** in numerals and words.

Given a number, identify one more or 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.

Number: Addition and Subtraction (within 10)

Represent and use number bonds and related subtraction facts **within 10**

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

Add and subtract one digit numbers **to 10**, including zero.

Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems.

Geometry: Shape

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

Recognise and name common 3-D shapes, including: (for example, cuboids (including cubes), pyramids and spheres.)

Number: Place value (within 20)

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

Count, read and write numbers to **20** in numerals and words.

Given a number, identify one more or 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.

Number: Addition and Subtraction (within 20)

Represent and use number bonds and related subtraction facts within 20

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

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= □ – 9

Place value (within 50)

Count to **50** forwards and backwards, beginning with 0 or 1, or from any number.

Count, read and write numbers to **50** in numerals.

Given a number, identify one more or 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.

Count in multiples of twos, fives and tens.

Measurement: Length and Height

Measure and begin to record lengths and heights.

Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half)

Measurement: Weight and Volume

Measure and begin to record mass/weight, capacity and volume.

Compare, describe and solve practical problems for 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]

Number: Multiplication and Division

Count in multiples of twos, fives and tens.

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.

Number: Fractions

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.

Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, **double/half)**

Compare, describe and solve practical problems for: 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]**

Place value (within 100)

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.

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, most, least.

Geometry: Position and Direction

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

Measurement: Money

Recognise and know the value of different denominations of coins and notes.

Measurement: Time

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.

Compare, describe and solve practical problems for time [for example, quicker, slower, earlier, later]

Measure and begin to record time (hours, minutes, seconds)

New vocabulary

Number	Pair	
Zero, one, two, three to twenty, and beyond	Units, ones, tens	
None	Ten more/less	
Count (on/up/to/from/down)	Digit	
Before, after	Numeral	
More, less, many, few, fewer, least, fewest, smallest, greater, lesser	Figure(s)	
Equal to, the same as	Compare	
Odd, even	(In) order/a different order	
	Size	
	Value	
	Between, halfway between	
	Above, below	

Number bonds, number line	how much more is..?	
Add, more, plus, make, sum, total, altogether	Subtract, take away, minus	
Inverse	How many fewer is…than..?, how much less is..?	
Double, near double		
Half, halve		
Equals, is the same as (including equals sign)		
Difference between		
How many more to		

Odd, even	Array, row, column	
Count in twos, threes, fives	Double, halve	
Count in tens (forwards from/backwards from)	Share, share equally	
How many times?	Group in pairs, threes, etc.	
Lots of, groups of	Equal groups of	
Once, twice, three times, five times	Divide, divided by, left, left over	
Multiple of, times, multiply, multiply by		
Repeated addition		

Full, half full, empty	night, midnight	
Holds	Bedtime, dinnertime, playtime	
Container	Today, yesterday, tomorrow	
Weigh, weighs, balances	Before, after	
Heavy, heavier, heaviest, light, lighter, lightest	Next, last	
Scales	Now, soon, early, late	
Time	Quick, quicker, quickest, quickly , fast, faster, fastest, slow, slower, slowest, slowly	
Days of the week: Monday, Tuesday, etc.	Old, older, oldest, new, newer, newest	
Seasons: spring, summer, autumn, winter	Takes longer, takes less time	
Day, week, month, year, weekend	Hour, o'clock, half past	
Birthday, holiday	Clock, watch, hands	
Morning, afternoon, evening,	How long ago?, how long will it be to…?, how long will it take to…?, how often?	
	Always, never, often, sometimes, usually	
	Once, twice	
	First, second, third, etc.	

Position		
Over, under, underneath, above, below, top, bottom, side	Direction	
on, in, outside, inside	Journey	
around, in front, behind	Left, right, up, down, forwards, backwards, sideways	
Front, back	Across	
Before, after	Close, far, near	
Beside, next to, Opposite	Along, through	
Apart	To, from, towards, away from	
Between, middle, edge, centre	Movement	
Corner	Slide, roll, turn, whole turn, half turn	
	Stretch, bend	

Group, sort	Direction	
Cube, cuboid, pyramid, sphere, cone, cylinder, circle, triangle, square	Journey	
Shape	Left, right, up, down, forwards, backwards, sideways	
Flat, curved, straight, round	Across	
Hollow, solid	Close, far, near	
Corner (point, pointed)	Along, through	
Face, side, edge	To, from, towards, away from	
Make, build, draw	Movement	
	Slide, roll, turn, whole turn, half turn	
	Stretch, bend	

Whole
Equal parts, four equal parts
One half, two halves
A quarter, two quarters

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WTS

Year 2 Maths' Pathway (WRM)

Place value

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

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.

Use place value and number facts to solve problems.

Count in steps of 2, 3 and 5 from 0, and in tens from any number, forward and backward.

Number: Addition and Subtraction

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

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.

Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Measurement: 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.

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

Number: Multiplication and division

Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts.

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

Number: Multiplication and division

Recall and use multiplication and division facts for the 2, 5 and 10 times 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.

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.

Ask and answer questions about totalling and comparing categorical data.

Geometry: Properties of shapes

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.

Number: Fractions

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 $\frac{1}{2}$.

Measurement: Length and Height

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 =

Geometry: Position and direction

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

Problem solving

Measurement: 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.

Compare and sequence intervals of time.

Measurement: Mass, capacity and temperature

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 =

New vocabulary

- Numbers to one hundred
- Hundreds
- Partition, recombine
- Hundred more/less

- Quarter past/to
- m/km, g/kg, ml/l
- Temperature (degrees)

- Rotation
- Clockwise, anticlockwise
- Straight line
- Ninety degree turn, right angle

- Size
- Bigger, larger, smaller
- Symmetrical, line of symmetry
- Fold
- Match
- Mirror line, reflection
- Pattern, repeating pattern

- Three quarters, one third, a third
- Equivalence, equivalent

- Count, tally, sort
- Vote
- Graph, block graph, pictogram,
- Represent
- Group, set, list, table
- Label, title
- Most popular, most common, least popular, least common

- Predict
- Describe the pattern, describe the rule
- Find, find all, find different
- Investigate

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EXS

WTS

Year 3 Maths' Pathway (WRM)

Place value

Identify, represent and estimate numbers using different representations.

Find 10 or 100 more or less than a given number

Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).

Compare and order numbers up to 1000

Read and write numbers up to 1000 in numerals and in words.

Solve number problems and practical problems involving these ideas.

Count from 0 in multiples of 4, 8, **50 and 100**

Number: Addition and Subtraction

Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three digit number and hundreds.

Add and subtract numbers with up to three 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.

Number: Multiplication and Division

Count from 0 in multiples of 4, 8, 50 and 100

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 multiplication tables 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* objectives.

Number: Multiplication and division

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 multiplication tables 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* objectives.

Measurement: Money

Add and subtract amounts of money to give change, using both £ and p in practical contexts.

Statistics

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.

Measurement : Length and Perimeter

Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).

Measure the perimeter of simple 2D shapes.

Number: Fractions

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 and use fractions as numbers: unit fractions and non-unit fractions with small denominators.

Number: Fractions

Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.

Solve problems that involve all of the above.

Recognise and show, using diagrams, equivalent fractions with small denominators.

Compare and order unit fractions, and fractions with the same denominators.

Add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7}+\frac{1}{7}=\frac{6}{7}$]

Solve problems that involve all of the above.

Measurement : Time

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, a.m./p.m., 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].

Geometry: Properties of shape

Recognise angles as a property of shape or a description of a turn.

Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four 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.

Draw 2-D shapes and make 3-D shapes using modelling materials.

Recognise 3-D shapes in different orientations and describe them.

Measurement: Mass and Capacity

Measure, compare, add and subtract: lengths (m/cm/mm); **mass (kg/g); volume/capacity (l/ml).**

New vocabulary

- Numbers to one thousand
- Column addition and subtraction
- Product
- Multiples of four, eight, fifty and one hundred
- Scale up
- Twelve-hour/twenty-four-hour clock
- Roman numerals I to XIII
- Greater/less than ninety degrees
- Orientation (same orientation, different orientation)
- Horizontal, vertical, perpendicular and parallel lines
- Numerator, denominator
- Unit fraction, non-unit fraction
- Compare and order
- Tenths
- Chart, bar chart, frequency table, Carroll diagram, Venn diagram
- Axis, axes
- Diagram

GD EXS VTS

Year 4 Maths' Pathway (WRM)

Place value

Count in multiples of 6, 7, 9, **25 and 1000.**

Find 1000 more or less than a given number.

Recognise the place value of each digit in a four digit number (thousands, hundreds, tens and ones)

Order and compare numbers beyond 1000

Identify, represent and estimate numbers using different representations.

Round any number to the nearest 10, 100 or 1000

Solve number and practical problems that involve all of the above and with increasingly large positive numbers.

Count backwards through zero to include negative numbers.

Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.

Number: Addition and Subtraction

Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.

Estimate and use inverse operations to check answers to a calculation.

Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why.

Measurement: Length and Perimeter

Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres

Convert between different units of measure [for example, kilometre to metre]

Number: Multiplication and division

Recall and use multiplication and division facts for multiplication tables up to 12 × 12.

Count in multiples of 6, 7, 9, 25 and 1000

Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.

Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Measurement: Area

Find the area of rectilinear shapes by counting squares.

Number: Multiplication and division

Recall and use multiplication and division facts for multiplication tables up to 12 × 12.

Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.

Recognise and use factor pairs and commutativity in mental calculations.

Multiply two digit and three digit numbers by a one digit number using formal written layout.

Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Number: Fractions

Recognise and show, using diagrams, families of common equivalent fractions.

Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.

Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.

Add and subtract fractions with the same denominator.

Number: Decimals

Recognise and write decimal equivalents of any number of tenths or hundredths.

Find the effect of dividing a one or two digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths

Solve simple measure and money **problems involving fractions and decimals to two decimal places.**

Convert between different units of measure [for example, kilometre to metre]

Number: Decimals

Compare numbers with the same number of decimal places up to two decimal places.

Round decimals with one decimal place to the nearest whole number.

Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$

Find the effect of dividing a one or two digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths

Measurement: Money

Estimate, compare and calculate different measures, including money in pounds and pence.

Solve simple measure and money problems involving fractions and decimals to two decimal places.

Statistics

Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.

Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Measurement: Time

Convert between different units of measure [for example, kilometre to metre; **hour to minute]**

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 shape

Identify acute and obtuse angles and compare and order angles up to two right angles by size.

Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.

Identify lines of symmetry in 2-D shapes presented in different orientations.

Complete a simple symmetric figure with respect to a specific line of symmetry.

Geometry: Position and direction

Describe positions on a 2-D grid as coordinates in the first quadrant.

Plot specified points and draw sides to complete a given polygon.

Describe movements between positions as translations of a given unit to the left/ right and up/ down.

New vocabulary

- Tenths, hundredths
- Decimal (places)
- Round (to nearest)
- Thousand more/less than
- Negative integers
- Count through zero
- Roman numerals (I to C)

- Convert

- Multiplication facts (up to 12x12)
- Division facts
- Inverse
- Derive

- Coordinates
- Translation
- Quadrant
- x-axis, y-axis
- Perimeter and area

- Equivalent decimals and fractions

- Continuous data
- Line graph

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WTS

Year 5 Maths' Pathway (WRM)

Place value

Read, write, order and compare numbers to at least 1000000 and determine the value of each digit.

Count forwards or backwards in steps of powers of 10 for any given number up to 1000000.

Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero.
Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000

Solve number problems and practical problems that involve all of the above.

Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

Number: Addition and Subtraction

Add and subtract numbers mentally with increasingly large numbers.

Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Statistics

Solve comparison, sum and difference problems using information presented in a line graph.

Complete, read and interpret information in tables including timetables.

Number: Multiplication and division

Multiply and divide numbers mentally drawing upon known facts.

Multiply and divide whole numbers by 10, 100 and 1000.

Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.

Recognise and use square numbers and cube numbers and the notation for squared (^{2}) and cubed (^{3})

Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.

Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.

Establish whether a number up to 100 is prime and recall prime numbers up to 19

Measurement: Perimeter and area

Measure and calculate the perimeter of composite rectilinear shapes in cm and m.

Calculate and compare the area of rectangles (including squares), and including using standard units, cm^2, m^2 estimate the area of irregular shapes.

Number: Multiplication and division

Multiply and divide numbers mentally drawing upon known facts.

Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers.

Divide numbers up to 4 digits by a one digit number using the formal written method of short division and interpret remainders appropriately for the context.

Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign.

Number: Fractions

Compare and order fractions whose denominators are multiples of the same number.

Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths.

Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example $\frac{2}{5}+\frac{4}{5}=\frac{6}{5}=1\frac{1}{5}$]

Add and subtract fractions with the same denominator and denominators that are multiples of the same number.

Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.

Read and write decimal numbers as fractions [for example $0.71=\frac{71}{100}$]

Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

Number: Decimals and percentages

Read, write, order and compare numbers with up to three decimal places.

Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.

Round decimals with two decimal places to the nearest whole number and to one decimal place.

Solve problems involving number up to three decimal places.

Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.

Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.

Number: Decimals

Solve problems involving number up to three decimal places.

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

Geometry: Properties of shape

Identify 3D shapes, including cubes and other cuboids, from 2D representations.

Use the properties of rectangles to deduce related facts and find missing lengths and angles.

Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.

Draw given angles, and measure them in degrees (°)

Identify: angles at a point and one whole turn (total 360°), angles at a point on a straight line and ½ a turn (total 180°) other multiples of 90°

Geometry: Position and direction

Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.

Measuring: Converting units

Convert between different units of metric measure [for example, km and m; cm and m; cm and mm; g and kg; l and ml]

Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.

Solve problems involving converting between units of time.

Measurement : Volume

Estimate volume [for example using 1cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water]

Use all four operations to solve problems involving measure.

New vocabulary

Powers of 10

Factor pairs

Composite numbers, prime number, prime factors, square number, cubed number

Formal written method

Volume

Imperial units, metric units

Reflex angle

Dimensions

Proper fractions, improper fractions, mixed numbers

Percentage

Half, quarter, fifth, two fifths, four fifths

Ratio, proportion

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EXS

WTS

Year 6 Maths' Pathway (WRM)

Place value

Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.

Round any whole number to a required degree of accuracy.

Use negative numbers in context, and calculate intervals across zero.

Solve number and practical problems that involve all of the above.

Number: Addition, Subtraction, multiplication and division

Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why.

Multiply multi-digit number up to 4 digits by a 2-digit number using the formal written method of long multiplication.

Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding as appropriate for the context.

Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division, interpreting remainders according to the context.

Perform mental calculations, including with mixed operations and large numbers.

Identify common factors, common multiples and prime numbers.

Use their knowledge of the order of operations to carry out calculations involving the four operations.

Solve problems involving addition, subtraction, multiplication and division.

Use estimation to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy.

Number: Fractions

Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.

Compare and order fractions, including fractions > 1

Generate and describe linear number sequences (with fractions)

Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions.

Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$]

Divide proper fractions by whole numbers [for example $\frac{1}{3} \div 2 = \frac{1}{6}$]

Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example $\frac{3}{8}$]

Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Geometry: Position and direction

Describe positions on the full coordinate grid (all four quadrants).

Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

Number: Decimals

Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100 and 1,000 giving answers up to 3 decimal places.

Multiply one-digit numbers with up to 2 decimal places by whole numbers.

Use written division methods in cases where the answer has up to 2 decimal places.

Solve problems which require answers to be rounded to specified degrees of accuracy.

Number: Percentages

Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison.

Recall and use equivalences between simple fractions, decimals and percentages including in different contexts.

Number: Algebra

Use simple formulae

Generate and describe linear number sequences.

Express missing number problems algebraically.

Find pairs of numbers that satisfy an equation with two unknowns.

Enumerate possibilities of combinations of two variables.

Measurement: Converting units

Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.

Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3dp.

Convert between miles and kilometres.

Measurement: Perimeter, Area and Volume

Recognise that shapes with the same areas can have different perimeters and vice versa.

Recognise when it is possible to use formulae for area and volume of shapes.

Calculate the area of parallelograms and triangles.

Calculate, estimate and compare volume of cubes and cuboids using standard units, including cm^3, m^3 and extending to other units (mm^3, km^3)

Number: Ratio

Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.

Solve problems involving similar shapes where the scale factor is known or can be found.

Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

Statistics

Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.

Interpret and construct pie charts and line graphs and use these to solve problems.

Calculate the mean as an average.

Geometry: Properties of shape

Draw 2-D shapes using given dimensions and angles.

Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.

Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

Projects, investigation and transition units

New vocabulary

- Numbers to ten million
- Order of operations
- Common factors, common multiples
- Four quadrants (for coordinates)
- Vertically opposite (angles)
- Circumference, radius, diameter
- Degree of accuracy
- Simplify
- Linear number sequence
- Substitute
- Variables
- Symbol
- Known values
- Mean
- Pie chart
- Construct

Year 1/2 Maths' Pathway (WRM)

Place value (within 10)

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

Count, read and write numbers to **10** in numerals and words.

Given a number, identify one more or 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 to at least 100 in numerals and in words.

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.

Use place value and number facts to solve problems.

Count in steps of 2, 3 and 5 from 0, and in tens from any number, forward and backward.

Number: Addition and Subtraction (within 10)

Represent and use number bonds and related subtraction facts **within 10**

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

Add and subtract one digit numbers **to 10**, including zero.

Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems.

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

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.

Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Geometry: Shape

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

Recognise and name common 3-D shapes, including: (for example, cuboids (including cubes), pyramids and spheres.)

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.

Number: Place value (within 20)

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

Count, read and write numbers to **20** in numerals and words.

Given a number, identify one more or 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.

Number: Addition and Subtraction (within 20)

Represent and use number bonds and related subtraction facts within 20

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

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= □ – 9

Place value (within 50)

Count to **50** forwards and backwards, beginning with 0 or 1, or from any number.

Count, read and write numbers to **50** in numerals.

Given a number, identify one more or 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.

Count in multiples of twos, fives and tens.

Measurement: Length and Height

Measure and begin to record lengths and heights.

Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half)

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 =

Measurement: Weight and Volume

Measure and begin to record mass/weight, capacity and volume.

Compare, describe and solve practical problems for 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]

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 =

Number: Multiplication and Division

Count in multiples of twos, fives and tens.

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.

Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts.

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

Number: Fractions

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.

Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, **double/half)**

Compare, describe and solve practical problems for: 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**]

Measurement: Money

Recognise and know the value of different denominations of coins and notes.

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.

Place value (within 100)

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.

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, most, least.

Geometry: Position and Direction

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

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

Measurement: Time

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.

Compare, describe and solve practical problems for time [for example, quicker, slower, earlier, later]

Measure and begin to record time (hours, minutes, seconds)

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.

Compare and sequence intervals of time.

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 $\frac{1}{2}$.

New vocabulary

Number	Pair	
Zero, one, two, three to twenty, and beyond	Units, ones, tens	
None	Ten more/less	
Count (on/up/to/from/down)	Digit	
Before, after	Numeral	
More, less, many, few, fewer, least, fewest, smallest, greater, lesser	Figure(s)	
Equal to, the same as	Compare	
Odd, even	(In) order/a different order	
	Size	
	Value	
	Between, halfway between	
	Above, below	

Number bonds, number line	how much more is..?	
Add, more, plus, make, sum, total, altogether	Subtract, take away, minus	
Inverse	How many fewer is…than..?, how much less is..?	
Double, near double		
Half, halve		
Equals, is the same as (including equals sign)		
Difference between		
How many more to		

Odd, even	Array, row, column	
Count in twos, threes, fives	Double, halve	
Count in tens (forwards from/backwards from)	Share, share equally	
How many times?	Group in pairs, threes, etc.	
Lots of, groups of	Equal groups of	
Once, twice, three times, five times	Divide, divided by, left, left over	
Multiple of, times, multiply, multiply by		
Repeated addition		

Full, half full, empty	night, midnight	
Holds	Bedtime, dinnertime, playtime	
Container	Today, yesterday, tomorrow	
Weigh, weighs, balances	Before, after	
Heavy, heavier, heaviest, light, lighter, lightest	Next, last	
Scales	Now, soon, early, late	
Time	Quick, quicker, quickest, quickly , fast, faster, fastest, slow, slower, slowest, slowly	
Days of the week: Monday, Tuesday, etc.	Old, older, oldest, new, newer, newest	
Seasons: spring, summer, autumn, winter	Takes longer, takes less time	
Day, week, month, year, weekend	Hour, o'clock, half past	
Birthday, holiday	Clock, watch, hands	
Morning, afternoon, evening,	How long ago?, how long will it be to…?, how long will it take to…?, how often?	
	Always, never, often, sometimes, usually	
	Once, twice	
	First, second, third, etc.	

Position		
Over, under, underneath, above, below, top, bottom, side	Direction	
on, in, outside, inside	Journey	
around, in front, behind	Left, right, up, down, forwards, backwards, sideways	
Front, back	Across	
Before, after	Close, far, near	
Beside, next to, Opposite	Along, through	
Apart	To, from, towards, away from	
Between, middle, edge, centre	Movement	
Corner	Slide, roll, turn, whole turn, half turn	
	Stretch, bend	

Group, sort	Direction	
Cube, cuboid, pyramid, sphere, cone, cylinder, circle, triangle, square	Journey	
Shape	Left, right, up, down, forwards, backwards, sideways	
Flat, curved, straight, round	Across	
Hollow, solid	Close, far, near	
Corner (point, pointed)	Along, through	
Face, side, edge	To, from, towards, away from	
Make, build, draw	Movement	
	Slide, roll, turn, whole turn, half turn	
	Stretch, bend	

Whole
Equal parts, four equal parts
One half, two halves
A quarter, two quarters

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EXS

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Year 3/4 Maths' Pathway (WRM)

Place value

Identify, represent and estimate numbers using different representations.

Find 10 or 100 more or less than a given number

Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).

Compare and order numbers up to 1000

Read and write numbers up to 1000 in numerals and in words.

Solve number problems and practical problems involving these ideas.

Count from 0 in multiples of 4, 8, **50 and 100**

Count in multiples of 6, 7, 9, **25 and 1000.**

Find 1000 more or less than a given number.

Recognise the place value of each digit in a four digit number (thousands, hundreds, tens and ones)

Order and compare numbers beyond 1000

Identify, represent and estimate numbers using different representations.

Round any number to the nearest 10, 100 or 1000

Solve number and practical problems that involve all of the above and with increasingly large positive numbers.

Count backwards through zero to include negative numbers.

Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.

Number: Addition and Subtraction

Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three digit number and hundreds.

Add and subtract numbers with up to three 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.

Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.

Estimate and use inverse operations to check answers to a calculation.

Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why.

Number: Multiplication and Division

Count from 0 in multiples of 4, 8, 50 and 100

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 multiplication tables 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.

Number: Multiplication and division

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 multiplication tables 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* objectives.

Recall and use multiplication and division facts for multiplication tables up to 12 × 12.

Count in multiples of 6, 7, 9, 25 and 1000

Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.

Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Statistics

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.

Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.

Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Measurement: Money

Add and subtract amounts of money to give change, using both £ and p in practical contexts.

Estimate, compare and calculate different measures, including money in pounds and pence.

Solve simple measure and money problems involving fractions and decimals to two decimal places.

Measurement : Length and Perimeter

Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).

Measure the perimeter of simple 2D shapes.

Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres

Convert between different units of measure [for example, kilometre to metre]

Number: Fractions

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 and use fractions as numbers: unit fractions and non-unit fractions with small denominators.

Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.

Solve problems that involve all of the above.

Recognise and show, using diagrams, equivalent fractions with small denominators.

Compare and order unit fractions, and fractions with the same denominators.

Add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]

Solve problems that involve all of the above.

Number: Fractions

Recognise and show, using diagrams, families of common equivalent fractions.

Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.

Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.

Add and subtract fractions with the same denominator.

Measurement : Time

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, a.m./p.m., 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].

Convert between different units of measure [for example, kilometre to metre; **hour to minute]**

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 shape

Recognise angles as a property of shape or a description of a turn.

Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four 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.

Draw 2-D shapes and make 3-D shapes using modelling materials.

Recognise 3-D shapes in different orientations and describe them.

Identify acute and obtuse angles and compare and order angles up to two right angles by size.

Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.

Identify lines of symmetry in 2-D shapes presented in different orientations.

Complete a simple symmetric figure with respect to a specific line of symmetry.

Measurement: Mass and Capacity

Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).

Geometry: Position and direction

Describe positions on a 2-D grid as coordinates in the first quadrant.

Plot specified points and draw sides to complete a given polygon.

Describe movements between positions as translations of a given unit to the left/ right and up/ down.

New vocabulary

- Numbers to one thousand
- Column addition and subtraction
- Product
- Multiples of four, eight, fifty and one hundred
- Scale up
- Twelve-hour/twenty-four-hour clock
- Roman numerals I to XIII
- Greater/less than ninety degrees
- Orientation (same orientation, different orientation)
- Horizontal, vertical, perpendicular and parallel lines
- Numerator, denominator
- Unit fraction, non-unit fraction
- Compare and order
- Tenths
- Chart, bar chart, frequency table, Carroll diagram, Venn diagram
- Axis, axes
- Diagram

GD EXS VTS

Year 5/6 Maths' Pathway (WRM)

Place value

Read, write, order and compare numbers to at least 1000000 and determine the value of each digit.

Count forwards or backwards in steps of powers of 10 for any given number up to 1000000.

Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero.
Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000

Solve number problems and practical problems that involve all of the above.

Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.

Round any whole number to a required degree of accuracy.

Use negative numbers in context, and calculate intervals across zero.

Solve number and practical problems that involve all of the above.

Number: Addition, Subtraction, multiplication and division

Add and subtract numbers mentally with increasingly large numbers.

Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why.

Multiply multi-digit number up to 4 digits by a 2-digit number using the formal written method of long multiplication.

Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding as appropriate for the context.

Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division, interpreting remainders according to the context.

Perform mental calculations, including with mixed operations and large numbers.

Identify common factors, common multiples and prime numbers.

Use their knowledge of the order of operations to carry out calculations involving the four operations.

Solve problems involving addition, subtraction, multiplication and division.

Use estimation to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy.

Statistics

Solve comparison, sum and difference problems using information presented in a line graph.

Complete, read and interpret information in tables including timetables.

Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.

Interpret and construct pie charts and line graphs and use these to solve problems.

Calculate the mean as an average.

Multiply and divide numbers mentally drawing upon known facts.

Multiply and divide whole numbers by 10, 100 and 1000.

Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.

Recognise and use square numbers and cube numbers and the notation for squared (^{2}) and cubed (^{3})

Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.

Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.

Establish whether a number up to 100 is prime and recall prime numbers up to 19

Number: Fractions

Compare and order fractions whose denominators are multiples of the same number.

Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths.

Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example $\frac{2}{5}+\frac{4}{5}=\frac{6}{5}=1\frac{1}{5}$]

Add and subtract fractions with the same denominator and denominators that are multiples of the same number.

Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.

Read and write decimal numbers as fractions [for example $0.71=\frac{71}{100}$]

Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

Measurement: Perimeter and area and volume

Measure and calculate the perimeter of composite rectilinear shapes in cm and m.

Calculate and compare the area of rectangles (including squares), and including using standard units, cm², m² estimate the area of irregular shapes.

Recognise that shapes with the same areas can have different perimeters and vice versa.

Recognise when it is possible to use formulae for area and volume of shapes.

Calculate the area of parallelograms and triangles.

Calculate, estimate and compare volume of cubes and cuboids using standard units, including cm³, m³ and extending to other units (mm³, km³)

Number: Decimals and percentages

Read, write, order and compare numbers with up to three decimal places.

Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.

Round decimals with two decimal places to the nearest whole number and to one decimal place.

Solve problems involving number up to three decimal places.

Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.

Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.

Solve problems involving number up to three decimal places.

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison.

Recall and use equivalences between simple fractions, decimals and percentages including in different contexts.

Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.

Compare and order fractions, including fractions > 1

Generate and describe linear number sequences (with fractions)

Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions.
Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example $\frac{1}{4}\times\frac{1}{2}=\frac{1}{8}$]

Divide proper fractions by whole numbers [for example $\frac{1}{3}\div 2=\frac{1}{6}$]

Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example $\frac{3}{8}$]

Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100 and 1,000 giving answers up to 3 decimal places.

Multiply one-digit numbers with up to 2 decimal places by whole numbers.

Use written division methods in cases where the answer has up to 2 decimal places.

Solve problems which require answers to be rounded to specified degrees of accuracy.

Geometry: Properties of shape

Identify 3D shapes, including cubes and other cuboids, from 2D representations.

Use the properties of rectangles to deduce related facts and find missing lengths and angles.

Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.

Draw given angles, and measure them in degrees (°)

Identify: angles at a point and one whole turn (total 360°), angles at a point on a straight line and ½ a turn (total 180°) other multiples of 90°

Draw 2-D shapes using given dimensions and angles.

Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.

Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

Geometry: Position and direction

Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.

Describe positions on the full coordinate grid (all four quadrants).

Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

Measuring: Converting units

Convert between different units of metric measure [for example, km and m; cm and m; cm and mm; g and kg; l and ml]

Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.

Solve problems involving converting between units of time.

Number: Algebra

Use simple formulae

Generate and describe linear number sequences.

Express missing number problems algebraically.

Find pairs of numbers that satisfy an equation with two unknowns.

Enumerate possibilities of combinations of two variables.

Number: Ratio

Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.

Solve problems involving similar shapes where the scale factor is known or can be found.

Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

New vocabulary

Powers of 10

Factor pairs

Composite numbers, prime number, prime factors, square number, cubed number

Formal written method

Volume

Imperial units, metric units

Reflex angle

Dimensions

Proper fractions, improper fractions, mixed numbers

Percentage

Half, quarter, fifth, two fifths, four fifths

Ratio, proportion

GD

EXS

VTS

Place Value Pathway (WRM)

Year 1

Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.

Round any whole number to a required degree of accuracy.

Use negative numbers in context, and calculate intervals across zero.

Solve number and practical problems that involve all of the above.

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

Count, read and write numbers to **20** in numerals and words.

Given a number, identify one more or 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.

Count to **50** forwards and backwards, beginning with 0 or 1, or from any number.

Count, read and write numbers to **50** in numerals.

Given a number, identify one more or 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.

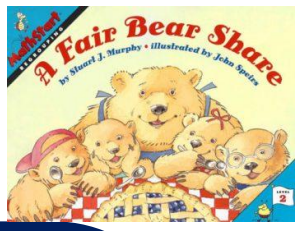
Count in multiples of twos, fives and tens.

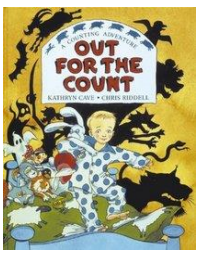
Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.

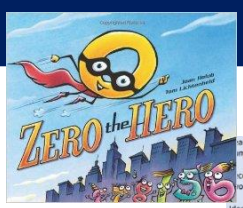
Count, read and write numbers to 100 in numerals.

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, most, least.







Year 2

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

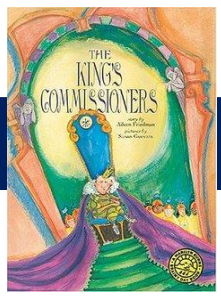
Recognise the place value of each digit in a two digit number (tens, ones)

Identify, represent and estimate numbers using different representations including the number line.

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

Use place value and number facts to solve problems.

Count in steps of 2, 3 and 5 from 0, and in tens from any number, forward and backward.



Year 3

Identify, represent and estimate numbers using different representations.

Find 10 or 100 more or less than a given number

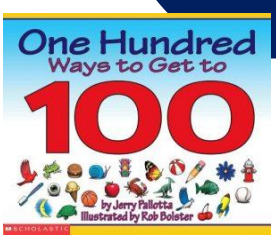
Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).

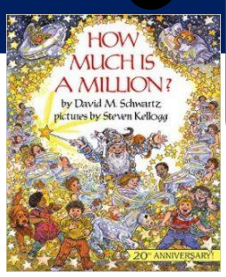
Compare and order numbers up to 1000

Read and write numbers up to 1000 in numerals and in words.

Solve number problems and practical problems involving these ideas.

Count from 0 in multiples of 4, 8, **50 and 100**





Year 4

Count in multiples of 6, 7, 9, **25 and 1000.**

Find 1000 more or less than a given number.

Recognise the place value of each digit in a four digit number (thousands, hundreds, tens and ones)

Order and compare numbers beyond 1000

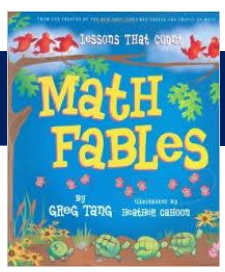
Identify, represent and estimate numbers using different representations.

Round any number to the nearest 10, 100 or 1000

Solve number and practical problems that involve all of the above and with increasingly large positive numbers.

Count backwards through zero to include negative numbers.

Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.



Year 5

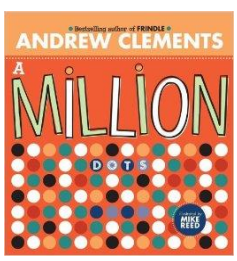
Read, write, order and compare numbers to at least 1000000 and determine the value of each digit.

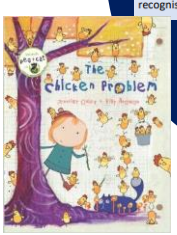
Count forwards or backwards in steps of powers of 10 for any given number up to 1000000.

Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero.
Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000

Solve number problems and practical problems that involve all of the above.

Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.





Year 6

Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.

Round any whole number to a required degree of accuracy.

Use negative numbers in context, and calculate intervals across zero.

Solve number and practical problems that involve all of the above.

New vocabulary

Number	Pair
Zero, one, two, three to twenty, and beyond	Units, ones, tens
None	Ten more/less
Count (on/up/to/from/ down)	Digit
Before, after	Numeral
More, less, many, few, fewer, least, fewest, smallest, greater, lesser	Figure(s)
Equal to, the same as	Compare
Odd, even	(In) order/a different order
	Size
	Value
	Between, halfway between
	Above, below

Numbers to one hundred

Hundreds

Partition, recombine

Hundred more/less

Numbers to one thousand

Tenths, hundredths
Decimal (places)

Round (to nearest)

Thousand more/less than

Negative integers

Count through zero

Roman numerals (I to C)

Powers of 10

Numbers to ten million

Addition and Subtraction Pathway (WRM)

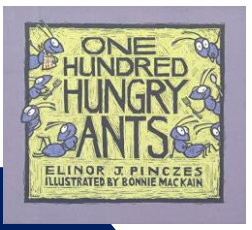
Year 1

Represent and use number bonds and related subtraction facts **within 10**

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

Add and subtract one digit numbers **to 10**, including zero.

Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems.



Year 2

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

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.

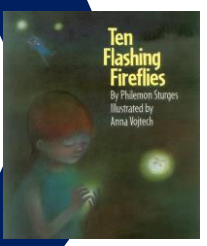
Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.

Represent and use number bonds and related subtraction facts within 20

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

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= □ – 9



Year 3

Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three digit number and hundreds.

Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.

Estimate the answer to a calculation and use inverse operations to check answers.

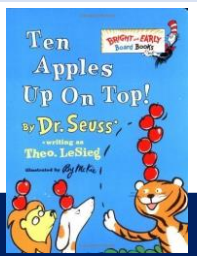
Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

Year 4

Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.

Estimate and use inverse operations to check answers to a calculation.

Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why.

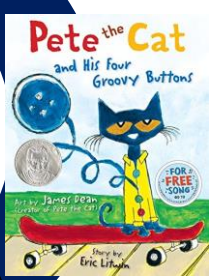


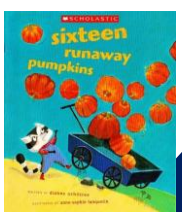
Year 5

Add and subtract numbers mentally with increasingly large numbers.

Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.





Year 6

Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why.

Multiply multi-digit number up to 4 digits by a 2-digit number using the formal written method of long multiplication.

Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding as appropriate for the context.

Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division, interpreting remainders according to the context.

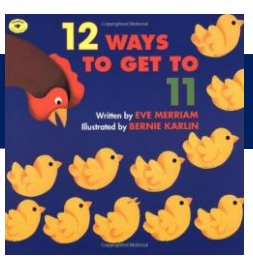
Perform mental calculations, including with mixed operations and large numbers.

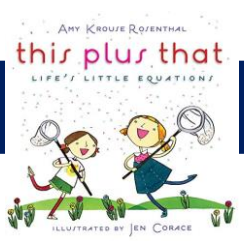
Identify common factors, common multiples and prime numbers.

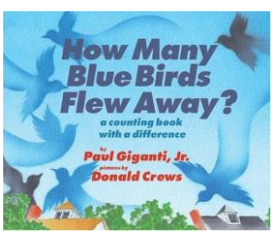
Use their knowledge of the order of operations to carry out calculations involving the four operations.

Solve problems involving addition, subtraction, multiplication and division.

Use estimation to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy.







New vocabulary

Number line

Add, more, plus, make, sum, total, altogether

Double

Half, halve

Equals, is the same (including equals sign)

How many more to make…? How many more is,,, then,,,? How much more is…?

Subtract, take away, minus.

Number bonds, number line

Add, more, plus, make, sum, total, altogether

Inverse

Double, near double

Half, halve

Equals, is the same as (including equals sign)

Difference between

How many more to

how much more is..?

Subtract, take away, minus

How many fewer is…than..?, how much less is..?

Column addition and subtraction

Multiplication and division Pathway (WRM)

Year 1

Count in multiples of twos, fives and tens.

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.

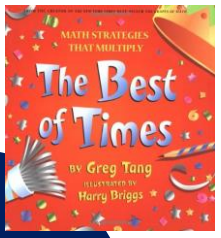
Year 2

Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts.

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

Recall and use multiplication and division facts for the 2, 5 and 10 times 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.



Year 3

Count from 0 in multiples of 4, 8, 50 and 100

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 multiplication tables 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.

Year 4

Recall and use multiplication and division facts for multiplication tables up to 12 × 12.

Count in multiples of 6, 7, 9, 25 and 1000

Use place value, known and derived facts t multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.

Solve problems involving multiplying and adding, including using the distributive la to multiply two digit numbers by one digit integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Recall and use multiplication and division facts for multiplication tables up to 12 × 12.

Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers.

Recognise and use factor pairs and commutativity in mental calculations.

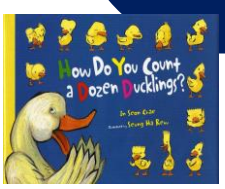
Multiply two digit and three digit numbers by a one digit number using formal written layout.

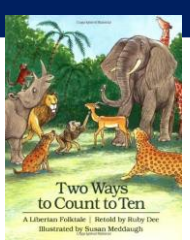
Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

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 multiplication tables 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.





Year 5

Multiply and divide numbers mentally drawing upon known facts.

Multiply and divide whole numbers by 10, 100 and 1000.

Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.

Recognise and use square numbers and cube numbers and the notation for squared (^{2}) and cubed (^{3})

Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.

Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.

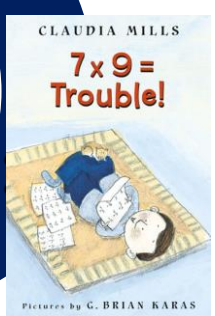
Establish whether a number up to 100 is prime and recall prime numbers up to 19

Multiply and divide numbers mentally drawing upon known facts.

Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers.

Divide numbers up to 4 digits by a one digit number using the formal written method of short division and interpret remainders appropriately for the context.

Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign.



Year 6

Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why.

Multiply multi-digit number up to 4 digits by a 2-digit number using the formal written method of long multiplication.

Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding as appropriate for the context.

Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division, interpreting remainders according to the context.

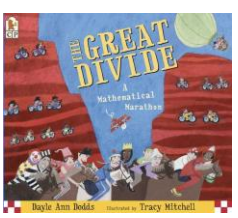
Perform mental calculations, including with mixed operations and large numbers.

Identify common factors, common multiples and prime numbers.

Use their knowledge of the order of operations to carry out calculations involving the four operations.

Solve problems involving addition, subtraction, multiplication and division.

Use estimation to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy.



New vocabulary

× ÷

Odd, even

Count in twos, threes, fives

Count in tens (forwards from/backwards from)

How many times?

Lots of, groups of

Once, twice, three times, five times

Multiple of, times, multiply, multiply by

Repeated addition

Array, row, column

Double, halve

Share, share equally

Group in pairs, threes, etc.

Equal groups of

Divide, divided by, left, left over

× ÷

Product

Multiples of four, eight, fifty and one hundred

Scale up

× ÷

Multiplication facts (up to 12x12)

Division facts

Inverse

Derive

× ÷

Factor pairs

Composite numbers, prime number, prime factors, square number, cubed number

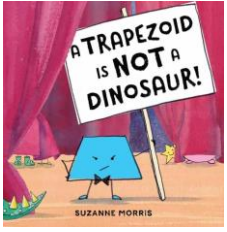
Formal written method

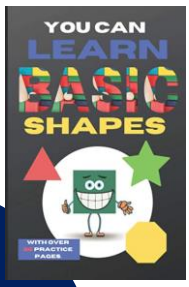
× ÷

Order of operations

Common factors, common multiples

Shape Pathway (WRM)

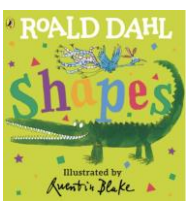




Year 1

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

Recognise and name common 3-D shapes, including: (for example, cuboids (including cubes), pyramids and spheres.)



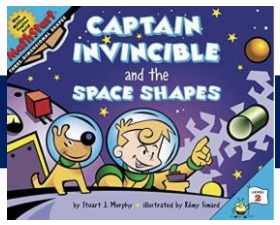
Year 2

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.



Year 3

Recognise angles as a property of shape or a description of a turn.

Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four 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.

Draw 2-D shapes and make 3-D shapes using modelling materials.

Recognise 3-D shapes in different orientations and describe them.

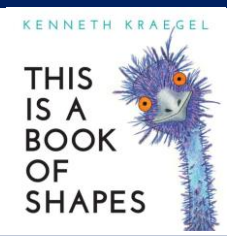
Year 4

Identify acute and obtuse angles and compare and order angles up to two right angles by size.

Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.

Identify lines of symmetry in 2-D shapes presented in different orientations.

Complete a simple symmetric figure with respect to a specific line of symmetry.



Year 5

Identify 3D shapes, including cubes and other cuboids, from 2D representations.

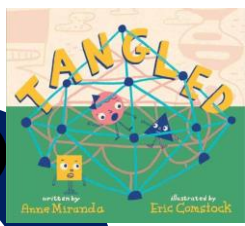
Use the properties of rectangles to deduce related facts and find missing lengths and angles.

Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.

Draw given angles, and measure them in degrees (°)

Identify: angles at a point and one whole turn (total 360°), angles at a point on a straight line and ½ a turn (total 180°) other multiples of 90°

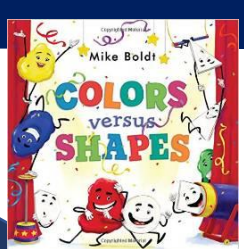


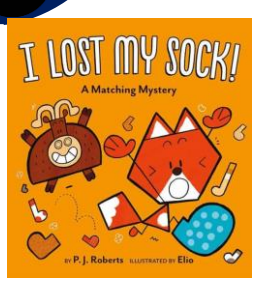
Year 6

Draw 2-D shapes using given dimensions and angles.

Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.

Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.





New vocabulary

Group, sort	Direction
Cube, cuboid, pyramid, sphere, cone, cylinder, circle, triangle, square	Journey
Shape	Left, right, up, down, forwards, backwards, sideways
Flat, curved, straight, round	Across
Hollow, solid	Close, far, near
Corner (point, pointed)	Along, through
Face, side, edge	To, from, towards, away from
Make, build, draw	Movement
	Slide, roll, turn, whole turn, half turn
	Stretch, bend

Size

Bigger, larger, smaller

Symmetrical, line of symmetry

Fold

Match

Mirror line, reflection

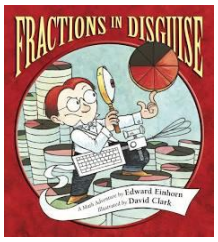
Pattern, repeating pattern

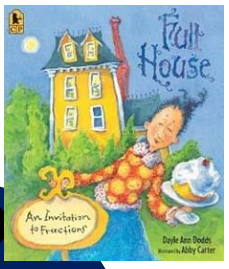
Horizontal, vertical, perpendicular and parallel lines

Vertically opposite (angles)

Circumference, radius, diameter

Fractions Pathway (WRM)





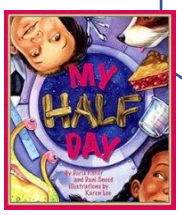
Year 1

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.

Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, **double/half)**

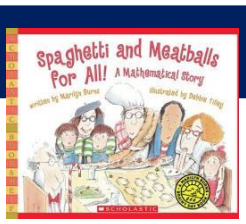
Compare, describe and solve practical problems for: mass/weight (for example, heavy/light, heavier than, lighter than); capacity and volume (for example, full/empty, more than, less than, **half, half full, quarter**)



Year 2

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 $\frac{1}{2}$.



Year 3

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 and use fractions as numbers: unit fractions and non-unit fractions with small denominators.

Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.

Solve problems that involve all of the above.

Recognise and show, using diagrams, equivalent fractions with small denominators.

Compare and order unit fractions, and fractions with the same denominators.

Add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7}+\frac{1}{7}=\frac{6}{7}$]

Solve problems that involve all of the above.

Year 4

Recognise and show, using diagrams, families of common equivalent fractions.

Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.

Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.

Add and subtract fractions with the same denominator.

Year 5

Compare and order fractions whose denominators are multiples of the same number.

Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths.

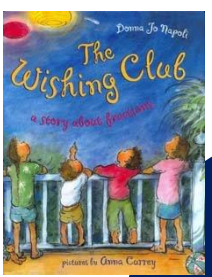
Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example $\frac{2}{5}+\frac{4}{5}=\frac{6}{5}=1\frac{1}{5}$]

Add and subtract fractions with the same denominator and denominators that are multiples of the same number.

Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.

Read and write decimal numbers as fractions [for example $0.71=\frac{71}{100}$]

Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.



Year 6

Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.

Compare and order fractions, including fractions > 1

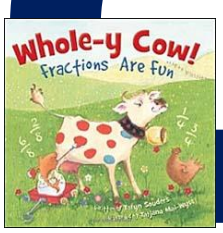
Generate and describe linear number sequences (with fractions)

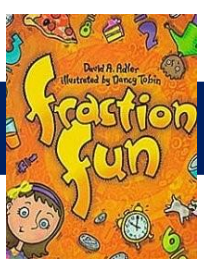
Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions. Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example $\frac{1}{4}\times\frac{1}{2}=\frac{1}{8}$]

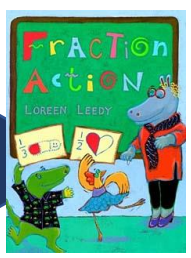
Divide proper fractions by whole numbers [for example $\frac{1}{3}\div 2=\frac{1}{6}$]

Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example $\frac{3}{8}$]

Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.







New vocabulary

- Whole
- Equal parts, four equal parts
- One half, two halves
- A quarter, two quarters

- Three quarters, one third, a third
- Equivalence, equivalent

- Numerator, denominator
- Unit fraction, non-unit fraction
- Compare and order
- Tenths

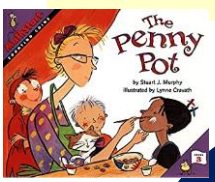
- Equivalent decimals and fractions

- Degree of accuracy
- Simplify

Money Pathway (WRM)

Year 1

Recognise and know the value of different denominations of coins and notes.

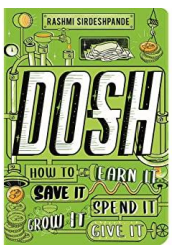


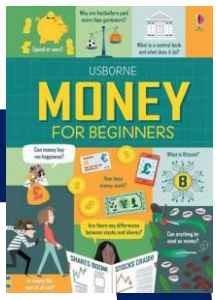
Year 2

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.

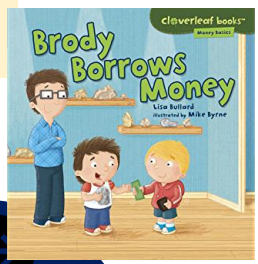
Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.





Year 3

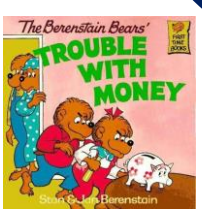
Add and subtract amounts of money to give change, using both £ and p in practical contexts.



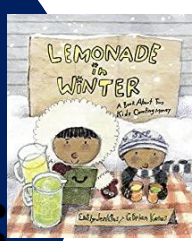
Year 4

Estimate, compare and calculate different measures, including money in pounds and pence.

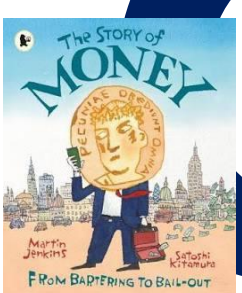
Solve simple measure and money problems involving fractions and decimals to two decimal places.

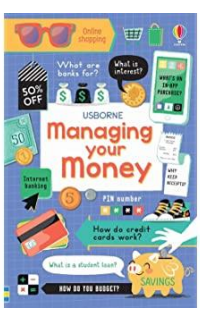


Year 5



Year 6



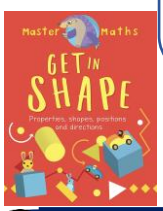


Position and direction Pathway (WRM)

Year 1

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

Year 2



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

Year 3

Year 4

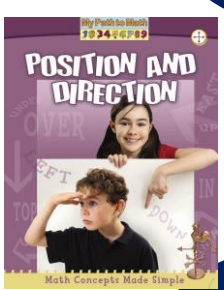
Describe positions on a 2-D grid as coordinates in the first quadrant.

Plot specified points and draw sides to complete a given polygon.

Describe movements between positions as translations of a given unit to the left/ right and up/ down.

Year 5

Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.



Year 6

Describe positions on the full coordinate grid (all four quadrants).

Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

New vocabulary

Position Over, under, underneath, above, below, top, bottom, side on, in, outside, inside around, in front, behind Front, back Before, after Beside, next to, Opposite Apart Between, middle, edge, centre Corner	Direction Journey Left, right, up, down, forwards, backwards, sideways Across Close, far, near Along, through To, from, towards, away from Movement Slide, roll, turn, whole turn, half turn Stretch, bend	

Rotation

Clockwise, anticlockwise

Straight line

Ninety degree turn, right angle

Greater/less than ninety degrees

Orientation (same orientation, different orientation)

Coordinates

Translation

Quadrant

x-axis, y-axis

Perimeter and area

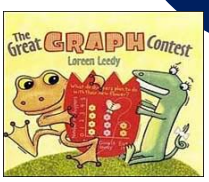
Reflex angle

Dimensions

Four quadrants (for coordinates)

Statistics Pathway (WRM)

Year 1

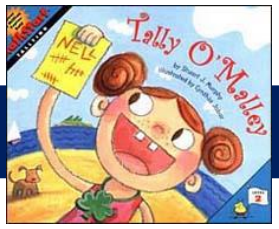


Year 2

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.



Year 3

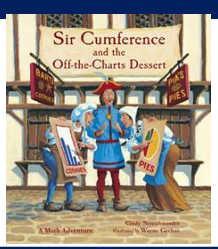
Interpret and present data using bar charts, pictograms and tables.

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.

Year 4

Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.

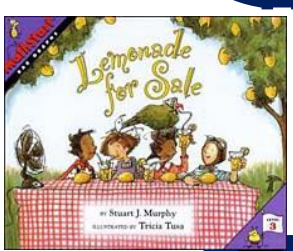
Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.



Year 5

Solve comparison, sum and difference problems using information presented in a line graph.

Complete, read and interpret information in tables including timetables.

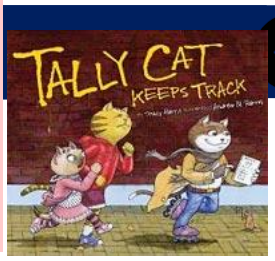


Year 6

Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.

Interpret and construct pie charts and line graphs and use these to solve problems.

Calculate the mean as an average.



New vocabulary

Count, tally, sort

Vote

Graph, block graph, pictogram,

Represent

Group, set, list, table

Label, title

Most popular, most common, least popular, least common

Chart, bar chart, frequency table, Carroll diagram, Venn diagram

Axis, axes

Diagram

Continuous data

Line graph

Mean

Pie chart

Construct