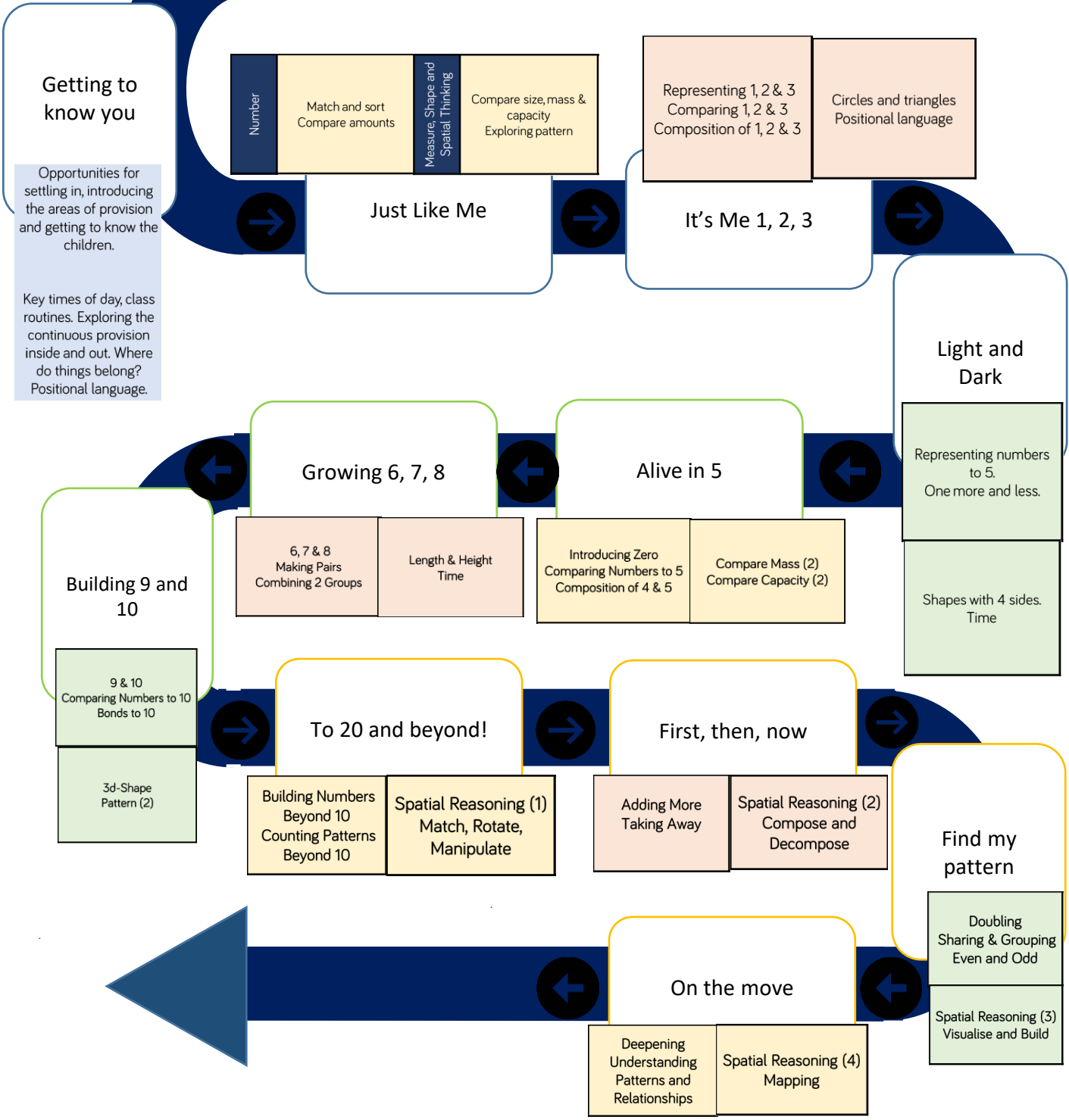


White Rose Maths Learning Pathways

EYFS Maths' Pathway (WRM)



New

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

Year 1 Pathway Autumn

Autumn	Number Place value (within 10)	Number Addition and subtraction (within 10)	Geometry Shape

Place Value



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

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

Compare numbers using $<$, $>$ and $=$ signs

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

Assessment:
Test:

Shape



Recognise and name common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles]; 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]

Assessment:
Test:



Addition and Subtraction

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)

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

Represent and use number bonds and related subtraction facts within 20

Add and subtract 1-digit and 2-digit numbers to 20, including zero

Assessment:
Test:

Number and Place value	Addition and Subtraction	Multiplication and division	Measure	Position and direction	Shape	Fractions	Problem solving
Zero, one, two, three to twenty and beyond	Number bonds, number line	Odd, even	Full, half, empty	Over, under, underneath, above, below, top, bottom	Group, sort	Whole	Say
None	Add, more, plus, make, sum, total, altogether	How many times	Holds	On, in, outside, inside	Cube, cuboid, pyramid, sphere, cone, cylinder, circle, triangle, square	Equal	Think
Count on/up/to/down/From	Inverse	Lots of, groups of	Container	Around, in front, behind	Shape	Parts	Start from, start with
Before/less	Equals	Multiply, multiple of	Weigh, balances	Front, back, before, after	Flat, curved, straight, round	Four equal parts	Look at, point to, place
Many, fewer, least, smallest, greatest,	Difference between,	Repeated addition,	Heavy, heavier, heaviest	Beside, next to, opposite, apart	Hollow, solid	One half, two halves	Arrange, rearrange
Equal to, same as	How many more make...? How much more is...?	Array, row	Light, lighter, lightest	Left, right, up, down, forwards, backwards	Corner	A quarter	What comes next?
Odd, even	How many fewer is...? How much less is...?	Double, halve	Days of the week Seasons	Along, through	Face, side, edge	Two quarters	Carry on, continue, repeat
Units, ones, tens	Subtract, take away, minus	Share, share equally	Day, week, month, year, weekend	Slide, roll, turn,			Find, choose, collect
Compare	Divide, divided by, left over	Equal groups of	Morning, afternoon, evening	Whole turn, half turn			Shade, colour, record
Value		Divide, divided by, left over	Hour, o'clock, half past				Describe Explain Prove it

Year 2 Pathway Autumn

Number Place value	Number Addition and subtraction	Geometry Shape
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Place Value



Read and write numbers from 1 to 20 in numerals and words (Y1)
Read and write numbers to at least 100 in numerals and in words

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

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

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

Recognise the place value of each digit in a 2-digit number (tens, ones)

Assessment:
Test:



Addition and Subtraction

Represent and use number bonds and related subtraction facts within 20 (Y1)

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 2-digit number and 1s, a 2-digit number and 10s, two 2-digit numbers and adding three 1-digit numbers

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

Assessment:
Test:

Shape



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

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

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

Assessment:
Test:

Number and Place value	Addition and Subtraction	Multiplication and division	Measure	Position and direction	Shape	Fractions	Problem solving
Numbers to 100	Number bonds, number line	Odd, even	Quarter past	Rotation	Size	Three quarters	Predict
Hundreds	Add, more, plus, make, sum, total, altogether	How many times	Quarter to	Clockwise	Bigger, smaller, larger	One third, a third	Describe the pattern
Partition	Inverse	Lots of, groups of	Km, m	Anti clockwise	Symmetrical, line of symmetry	Equivalence	Describe the rule
Recombine	Equals	Multiply, multiple of	Kg, g	Straight line	Fold	Equivalent to	Find, find all
Hundred more, less	Difference between,	Repeated addition,	MI, l	Ninety degree turn	Match		Investigate
Equal to, same as	How many more make...?	Array, row	Temperature	Right angle	Mirror line, reflection,		Describe Explain Prove it
Odd, even	How much more is...?	Double, halve	degrees		Pattern, repeating pattern,		
Units, ones, tens	How much more is...?	Share, share equally	Holds				
Compare	Subtract, take away, minus	Equal groups of	Container				
Value	How many fewer is...?	Divide, divided by, left over	Weigh, balances				
	How much less is...?		Heavy, heavier, heaviest				

Year 3 Pathway Autumn

Autumn	Number Place value	Number Addition and subtraction	Number Multiplication and division A
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Place Value



Identify, represent and estimate numbers using different representations

Recognise the place value of each digit in a 3-digit number (hundreds, tens, ones)

Read and write numbers up to 1,000 in numerals and words

Count from zero in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number

Assessment:
Test:



+ - Addition and Subtraction

Add and subtract numbers mentally, including:

- a 3-digit number and ones
- a 3-digit number and tens
- a 3-digit number and hundreds

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

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

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

Assessment:
Test:

× ÷ Multiplication and Division A



Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods

Show that multiplication of two numbers can be done in any order (commutative) and division on one number by another cannot (Y2)

Count in steps of 2, 3 and 5 from 0, and in 10s from any number, forward and backward (Y2)

Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers (Y2)

Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables

Assessment:
Test:

Number and Place value	Addition and Subtraction	Multiplication and division	Measure	Position and direction	Shape	Fractions	Data/Statistics
Numbers to 1000	Column addition, Column subtraction,	Product	Twelve/twenty four hour clock	Greater, less than	Horizontal,	Numerator	Chart
Partition	Inverse	Multiples of...	Am, pm	Ninety degrees	Vertical	Denominator	Bar chart
Recombine	Equals	Scale up	Roman numerals I to XIII	Orientation,	Perpendicular lines	Unit fraction, non unit fraction	Frequency table
Hundred more, less	Difference between,	Multiply, multiple of		Same orientation	Parallel lines	Compare and order	Carroll diagram
Equal to, same as	How many more make...?	Repeated addition,		Different orientation		Tenths	Venn diagram
Odd, even	How much more is...?	Array, row					Axis
Compare	How much less is...?	Share, share equally					Diagram
Value	Subtract, take away, minus	Equal groups of					
	How many fewer is...?	Divide, divided by, left over					
	How much less is...?						

Year 4 Pathway Autumn

Autumn	Number Place value	Number Addition and subtraction	Measurement Area	Number Multiplication and division A

Place Value



Read and write numbers up to 1,000 in numerals and words (Y3)

Identify, represent and estimate numbers using different representations

Recognise the place value of each digit in a 3-digit number (hundreds, tens, ones) (Y3)

Count in multiples of 6, 7, 9, 25 and 1,000

Recognise the place value of each digit in a 4-digit number (thousands, hundreds, tens and ones)

Find 1,000 more or less than a given number

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

Assessment:

Test:

Area



Find the area of rectilinear shapes by counting squares

Assessment:

Test:

Addition and Subtraction



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

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

Estimate and use inverse operations to check answers to a calculation

Assessment:

Test:

Multiplication and Division A



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

Recognise and use factor pairs and commutativity in mental calculations

Count in multiples of 6, 7, 9, 25 and 1,000

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

Assessment:

Test:

Number and Place value	Multiplication and division	Measure	Position and direction	Shape	Fractions	Data/Statistics
Tenths, hundredths, decimal places	Multiplication facts (up to 12×12)	Convert	Co-ordinates	Quadrilaterals	Equivalent decimals and fractions	Continuous data
Round (to nearest)	Division facts		Translation	Triangles		Line graph
Thousand more, thousand less	Inverse		Quadrant	Right angle		
Negative integers	Derive		X axis Y axis	Acute and obtuse angles		
Count through zero			Perimeter and area			
Roman Numerals (I to C)						

Year 5 Pathway Autumn

Autumn	Number Place value	Number Addition and subtraction	Number Multiplication and division A	Number Fractions A
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Place Value



Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals
 Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit
 Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000
 Solve number problems and practical problems involving the above
 Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000

Assessment:
 Test:

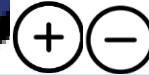
Multiplication and Division A



Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
 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
 Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)
 Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000
 Multiply and divide numbers mentally, drawing upon known facts

Assessment:
 Test:

Addition and Subtraction



Add and subtract numbers mentally with increasingly large numbers
 Add and subtract whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction)
 Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
 Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000
 Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

Assessment:
 Test:

Fractions A $\frac{1}{3}$

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
 Compare and order fractions whose denominators are all multiples of the same number
 Add and subtract fractions with the same denominator, and denominators that are multiples of the same number

Assessment:
 Test:

Number and Place value	Multiplication and division	Measure	Position and direction	Shape	Fractions
Powers of ten	Efficient written method Factor pairs Composite, prime, prime factor, square numbers, cubed numbers Formal written method	Volume Imperial measures/units Metric measures/units	Reflex angles Dimensions	Regular and irregular polygons	Proper fraction, improper fractions, mixed numbers Percentage Half Quarter Fifths Ratio and proportion

Year 6 Pathway Autumn

Autumn	Number Place value	Number Addition, subtraction, multiplication and division	Number Fractions A	Number Fractions B	Measurement Converting units
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Place Value



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

Solve number and practical problems that involve the above

Round any whole number to a required degree of accuracy

Use negative numbers in context, and calculate intervals across zero

Assessment:

Test:

Fractions A



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

Compare and order fractions, including fractions > 1

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

Identify common factors, common multiples and prime numbers

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

Solve problems involving addition, subtraction, multiplication and division

Assessment:

Test:

Converting Units

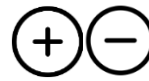


Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate

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 3 decimal places

Assessment:

Test:



Addition and Subtraction



Multiplication and division

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

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

Identify common factors, common multiples and prime numbers

Multiply multi-digit numbers up to four digits by a 2-digit whole number using the formal written method of long multiplication

Perform mental calculations, including with mixed operations and large numbers

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

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

Assessment:

Test:

Fractions B



Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams (Y5)

Multiply simple pairs of proper fractions, writing the answer in its simplest form

Divide proper fractions by whole numbers

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

Solve problems involving addition, subtraction, multiplication and division

Associate a fraction with division and calculate decimal fraction equivalents

Assessment:

Test:

Number and Place value	Addition, subtraction, multiplication and division	Geometry (position and direction and properties of shape)	Fractions, decimals and percentages	Algebra	Data/Statistics
Numbers to 10 million	Order of Operations Bidmas Common factors Common multiples	Four quadrants Vertically opposite (angles) Circumference Radius Diameter	Degree of accuracy Simplify	Linear number Sequence Substitute Variables Symbol Known values	Mean Pie chart Construct

Year 1 Spring Pathway

Spring term	Number Place value (within 20)	Number Addition and subtraction (within 20)	Number Place value (within 50)	Measurement Length and height	Measurement Mass and volume
	VIEW	VIEW	VIEW	VIEW	VIEW

Place value within 20



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

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, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s

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

Given a number, identify 1 more and 1 less

Assessment:
Test:



Place value within 50

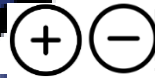
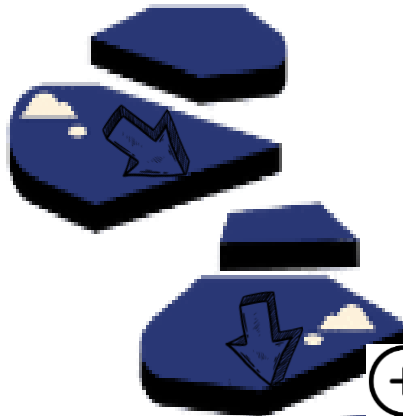
Count to and across 100, forwards and backwards, beginning with zero or 1, or from any given number

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, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s

Given a number, identify 1 more and 1 less

Assessment:
Test:



Addition and Subtraction

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

Add and subtract 1-digit and 2-digit numbers to 20, including zero

Represent and use number bonds and related subtraction facts within 20

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

Assessment:
Test:

Measures



Compare, describe and solve practical problems for: lengths and height; mass/weight; capacity and volume; time

Measure and begin to record the following: lengths and heights; mass/weight; capacity and volume; time

Assessment:
Test:

Number and Place value	Addition and Subtraction	Multiplication and division	Measure	Position and direction	Shape	Fractions	Problem solving
Zero, one, two, three to twenty and beyond	Number bonds, number line	Odd, even	Full, half, empty	Over, under, underneath, above, below, top, bottom	Group, sort	Whole	Say
None	Add, more, plus, make, sum, total, altogether	How many times	Holds	On, in, outside, inside	Cube, cuboid, pyramid, sphere, cone, cylinder, circle, triangle, square	Equal	Think
Count on/up/to/down/From	Inverse	Lots of, groups of	Container	Around, in front, behind	Shape	Parts	Start from, start with
Before/less	Equals	Multiply, multiple of	Weigh, balances	Front, back, before, after	Flat, curved, straight, round	Four equal parts	Look at, point to, place
Many, fewer, least, smallest, greatest,	Difference between,	Repeated addition,	Heavy, heavier, heaviest	Beside, next to, opposite, apart	Hollow, solid	One half, two halves	Arrange, rearrange
Equal to, same as	How many more make...? How much more is...?	Array, row	Light, lighter, lightest	Left, right, up, down, forwards, backwards	Corner	A quarter	What comes next?
Odd, even	Share, share equally	Double, halve	Days of the week Seasons	Along, through	Face, side, edge	Two quarters	Carry on, continue, repeat
Units, ones, tens	Equal groups of	Divide, divided by, left over	Day, week, month, year, weekend	Slide, roll, turn,			Find, choose, collect
Compare	Subtract, take away, minus		Morning, afternoon, evening	Whole turn, half turn			Shade, colour, record
Value	How many fewer is...? How much less is...?		Hour, o'clock, half past				Describe Explain Prove it

Year 2 Spring Pathway

Spring term	Measurement Money VIEW	Number Multiplication and division VIEW	Measurement Length and height VIEW	Measurement Mass, capacity and temperature VIEW
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Money



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

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

Assessment:
Test:

Multiplication and division



Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs

Show that 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 multiplication tables, including recognising odd and even numbers

Assessment:
Test:

Measures-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 =

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

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

Assessment:
Test:

Measures-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 =

Number and Place value	Addition and Subtraction	Multiplication and division	Measure	Position and direction	Shape	Fractions	Problem solving
Numbers to 100	Number bonds, number line	Odd, even	Quarter past	Rotation	Size	Three quarters	Predict
Hundreds	Add, more, plus, make, sum, total, altogether	How many times	Quarter to	Clockwise	Bigger, smaller, larger	One third, a third	Describe the pattern
Partition	Inverse	Lots of, groups of	Km, m	Anti clockwise	Symmetrical, line of symmetry	Equivalence	Describe the rule
Recombine	Equals	Multiply, multiple of	Kg, g	Straight line	Fold	Equivalent to	Find, find all
Hundred more, less	Difference between,	Repeated addition,	ML, l	Ninety degree turn	Match		Investigate
Equal to, same as	How many more make...? How much more is...?	Array, row	Temperature	Right angle	Mirror line, reflection,		Describe Explain Prove it
Odd, even	Subtract, take away, minus	Double, halve	degrees		Pattern, repeating pattern,		
Units, ones, tens	How many fewer is...? How much less is...?	Share, share equally	Holds				
Compare		Equal groups of	Container				
Value		Divide, divided by, left over	Weigh, balances				
			Heavy, heavier, heaviest				

Year 3 Spring Pathway

Spring term	Number Multiplication and division B VIEW	Measurement Length and perimeter VIEW	Number Fractions A VIEW	Measurement Mass and capacity VIEW
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Multiplication and division

Recall and use multiplication facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers (Y2)

Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers times 1-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

Assessment:
Test:

Measures-Length and Perimeter

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

Measure the perimeter of simple 2-D shapes

Assessment:
Test:

Fractions

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

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

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

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

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

Assessment:
Test:

Measures-Mass and Capacity

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

Assessment:
Test:

Number and Place value	Addition and Subtraction	Multiplication and division	Measure	Position and direction	Shape	Fractions	Data/Statistics
Numbers to 1000	Column addition, Column subtraction,	Product	Twelve/twenty four hour clock	Greater, less than	Horizontal,	Numerator	Chart
Partition	Inverse	Multiples of...	Am, pm	Ninety degrees	Vertical	Denominator	Bar chart
Recombine	Equals	Scale up	Roman numerals I to XIII	Orientation,	Perpendicular lines	Unit fraction, non unit fraction	Frequency table
Hundred more, less	Difference between,	Multiply, multiple of		Same orientation	Parallel lines	Compare and order	Carroll diagram
Equal to, same as	How many more make...?	Repeated addition,		Different orientation		Tenths	Venn diagram
Odd, even	How much more is...?	Array, row					Axis
Compare	Subtract, take away, minus	Share, share equally					Diagram
Value	How many fewer is...?	Equal groups of					
	How much less is...?	Divide, divided by, left over					

Year 4 Spring Pathway

Spring term	Number Multiplication and division B VIEW	Measurement Length and perimeter VIEW	Number Fractions VIEW	Number Decimals A VIEW
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Multiplication and division



Recognise and use factor pairs and commutativity in mental calculations

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

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 (Y5)

Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects

Multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout

Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers

Assessment:
Test:

Fractions



Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators (Y3)

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

Add and subtract fractions with the same denominator

Assessment:
Test:

Measures-Length and Perimeter

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

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

Assessment:
Test:

Decimals



Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing 1-digit numbers or quantities by 10 (Y3)

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

Compare numbers with the same number of decimal places up to 2 decimal places

Find the effect of dividing a 1- or 2-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths

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

Assessment:
Test:

Number and Place value	Multiplication and division	Measure	Position and direction	Shape	Fractions	Data/Statistics
Tenths, hundredths, decimal places	Multiplication facts (up to 12×12)	Convert	Co-ordinates	Quadrilaterals	Equivalent decimals and fractions	Continuous data
Round (to nearest)	Division facts		Translation	Triangles		Line graph
Thousand more, thousand less	Inverse		Quadrant	Right angle		
Negative integers	Derive		X axis Y axis	Acute and obtuse angles		
Count through zero			Perimeter and area			
Roman Numerals (I to C)						

Year 5 Spring Pathway

Spring term	Number Multiplication and division B VIEW	Number Fractions B VIEW	Number Decimals and percentages VIEW	Measurement Perimeter and area VIEW	Statistics VIEW
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Multiplication and division

Multiply numbers up to four digits by a 1- or 2-digit number using a formal written method, including long multiplication for 2-digit numbers

Divide up to four digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context

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

Assessment:

Test:

Decimals and Percentages

Read, write, order and compare numbers with up to 3 decimal places

Read and write decimal numbers as fractions

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

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

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

Solve problems involving numbers up to 3 decimal places

Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place

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

Assessment:

Test:

Fractions

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

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 (Y4)

Assessment:

Test:

Perimeter and Area

Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres

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

Assessment:

Test:

Statistics

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

Complete, read and interpret information in tables, including timetables

Assessment:

Test:

Number and Place value	Multiplication and division	Measure	Position and direction	Shape	Fractions
Powers of ten	Efficient written method Factor pairs Composite, prime, prime factor, square numbers, cubed numbers Formal written method	Volume Imperial measures/units Metric measures/units	Reflex angles Dimensions	Regular and irregular polygons	Proper fraction, improper fractions, mixed numbers Percentage Half Quarter Fifths Ratio and proportion

Year 6 Spring Pathway

Spring term	Number Ratio VIEW	Number Algebra VIEW	Number Decimals VIEW	Number Fractions decimals and percentages VIEW	Measurement Area, perimeter and volume VIEW	Statistics VIEW
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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 unequal sharing and grouping using knowledge of fractions and multiples
- Solve problems involving similar shapes where the scale factor is known or can be found

Assessment:
Test:

Decimals

- Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places
- Solve problems which require answers to be rounded to specified degrees of accuracy
- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
- Multiply 1-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 involving addition, subtraction, multiplication and division

Assessment:
Test:

Statistics

- Interpret and construct pie charts and line graphs and use these to solve problems
- Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs (Year 4)
- Calculate and interpret the mean as an average

Assessment:
Test:

Algebra

- Use simple formulae
- Generate and describe linear number sequences
- Find pairs of numbers that satisfy an equation with two unknowns
- Enumerate possibilities of combinations of two variables
- Express missing number problems algebraically

Assessment:
Test:

F, D, P

- Use common factors to simplify fractions; use common multiples to express fractions in the same denomination
- Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction
- Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
- Compare and order fractions, including fractions >1
- Solve problems involving the calculation of percentages and the use of percentages for comparison

Assessment:
Test:

Area, Perimeter 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 cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units

Assessment:
Test:

Number and Place value	Addition, subtraction, multiplication and division	Geometry (position and direction and properties of shape)	Fractions, decimals and percentages	Algebra	Data/Statistics
Numbers to 10 million	Order of Operations Bidmas Common factors Common multiples	Four quadrants Vertically opposite (angles) Circumference Radius Diameter	Degree of accuracy Simplify	Linear number Sequence Substitute Variables Symbol Known values	Mean Pie chart Construct

Year 1 Summer Pathway

Number Multiplication and division VIEW	Number Fractions VIEW	Geometry Position and direction VIEW	Number Place value (within 100) VIEW	Measurement Money VIEW	Measurement Time VIEW	Consolidation
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Multiplication and Division



Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s

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

Assessment:
Test:

Position and Direction



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

Use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside (non-statutory guidance)

Practise counting (1, 2, 3...), ordering (for example, 1st, 2nd, 3rd ...)
(non-statutory guidance)

Assessment:
Test:

Money



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

Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s

Assessment:
Test:

Fractions



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

Assessment:
Test:

Place Value (within 100)



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

Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s

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

Assessment:
Test:

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

Compare, describe and solve practical problems for time Measure and begin to record time (hours, minutes, seconds)

Tell the time to the hour and half past the hour and draw the hands on a clockface to show these times

Assessment:
Test:

Year 2 Summer Pathway

Number Fractions	Measurement Time	Statistics	Geometry Position and direction	Consolidation
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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 $\frac{1}{2}$

Assessment:
Test:

Time



Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clockface to show these times

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

Assessment:
Test:

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

Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers

Assessment:
Test:

Position and Direction

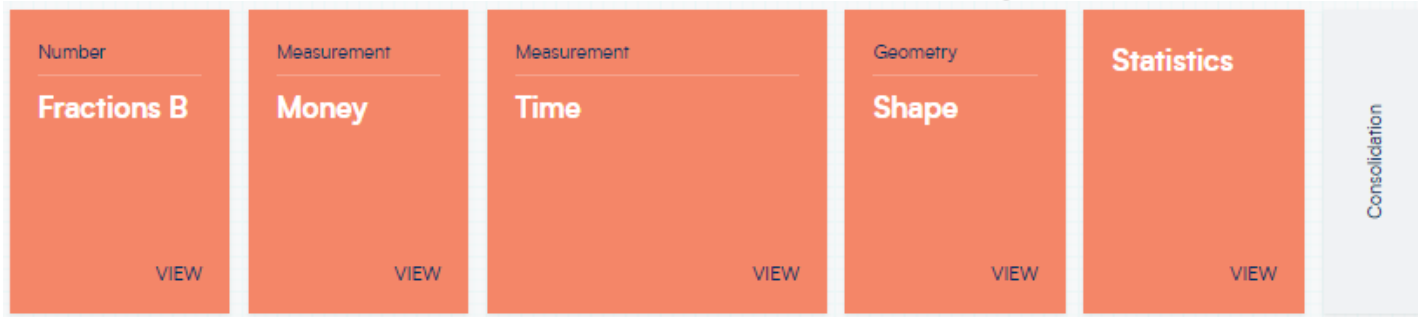


Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)

Assessment:
Test:

Number and Place value	Addition and Subtraction	Multiplication and division	Measure	Position and direction	Shape	Fractions	Problem solving
Numbers to 100	Number bonds, number line	Odd, even	Quarter past	Rotation	Size	Three quarters	Predict
Hundreds	Add, more, plus, make, sum, total, altogether	How many times	Quarter to	Clockwise	Bigger, smaller, larger	One third, a third	Describe the pattern
Partition	Inverse	Lots of, groups of	Km, m	Anti clockwise	Symmetrical, line of symmetry	Equivalence	Describe the rule
Recombine	Equals	Multiply, multiple of	Kg, g	Straight line	Fold	Equivalent to	Find, find all
Hundred more, less	Difference between,	Repeated addition,	MI, l	Ninety degree turn	Match		Investigate
Equal to, same as	How many more make...?	Array, row	Temperature	Right angle	Mirror line, reflection,		Describe Explain Prove it
Odd, even	How much more is...?	Double, halve	degrees		Pattern, repeating pattern,		
Units, ones, tens	How much more is...?	Share, share equally	Holds				
Compare	Subtract, take away, minus	Equal groups of	Container				
Value	How many fewer is...?	Divide, divided by, left over	Weigh, balances				
	How much less is...?		Heavy, heavier, heaviest				

Year 3 Summer Pathway



Fractions B



Add and subtract fractions with the same denominator within one whole

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

Assessment:
Test:

Money



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

Assessment:
Test:

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, am/pm, morning, afternoon, noon and midnight

Know the number of seconds in a minute and the number of days in each month, year and leap year

Compare durations of events

Assessment:
Test:

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

Measure the perimeter of simple 2-D shapes
Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
Identify horizontal and vertical lines and pairs of perpendicular and parallel lines

Assessment:
Test:

Statistics



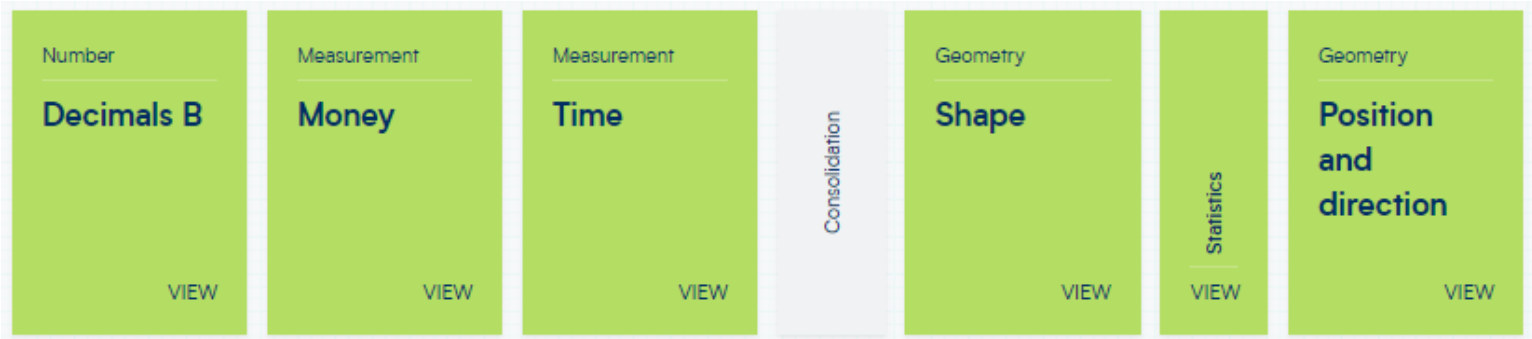
Interpret and present data using bar charts, pictograms and tables

Solve one-step and two-step questions using information presented in scaled bar charts and pictograms and tables

Assessment:
Test:

Number and Place value	Addition and Subtraction	Multiplication and division	Measure	Position and direction	Shape	Fractions	Data/Statistics
Numbers to 1000	Column addition, Column subtraction,	Product	Twelve/twenty four hour clock	Greater, less than	Horizontal,	Numerator	Chart
Partition	Inverse	Multiples of...	Am, pm	Ninety degrees	Vertical	Denominator	Bar chart
Recombine	Equals	Scale up	Roman numerals I to XIII	Orientation,	Perpendicular lines	Unit fraction, non unit fraction	Frequency table
Hundred more, less	Difference between,	Multiply, multiple of		Same orientation	Parallel lines	Compare and order	Carroll diagram
Equal to, same as	How many more make...?	Repeated addition,		Different orientation		Tenths	Venn diagram
Odd, even	How much more is...?	Array, row					Axis
Compare	Subtract, take away, minus	Share, share equally					Diagram
Value	How many fewer is...?	Equal groups of					
	How much less is...?	Divide, divided by, left over					

Year 4 Summer Pathway



Decimals B

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

Solve simple measure and money problems involving fractions and decimals to 2 decimal places

Compare numbers with the same number of decimal places up to 2 decimal places

Round decimals with 1 decimal place to the nearest whole number

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

Assessment:
Test:

Time



Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days

Read, write and convert time between analogue and digital 12- and 24-hour clocks

Assessment:
Test:

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

Assessment:
Test:

Money



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

Assessment:
Test:

Shape



Recognise angles as a property of shape or a description of a turn (Y3)

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

Assessment:
Test:

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

Assessment:
Test:

Year 5 Summer Pathway

Geometry Shape VIEW	Geometry Position and direction VIEW	Number Decimals VIEW	Number Negative numbers VIEW	Measurement Converting units VIEW	Measurement Volume VIEW
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Shape



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

Draw given angles, and measure them in degrees ($^{\circ}$)

Identify angles at a point and 1 whole turn (total 360°)

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

Identify: angles at a point and 1 whole turn (total 360°); angles at a

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

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

Assessment:
Test:

Decimals



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

Solve problems involving number up to 3 decimal places

Read, write, order and compare numbers with up to 3 decimal places

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000

Assessment:
Test:

Converting units



Convert between different units of metric measure [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre]

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

Assessment:
Test:

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

Assessment:
Test:

Negative Numbers



Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero

Assessment:
Test:

Volume



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

Estimate volume and capacity [for example, using water]

Assessment:
Test:

Year 6 Summer Pathway

Geometry Shape VIEW	Geometry Position and direction VIEW	Themed projects, consolidation and problem solving VIEW
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Shape



Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
 Draw given angles, and measure them in degrees ($^{\circ}$) (Y5)
 Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles (Y5)

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

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

Draw 2-D shapes using given dimensions and angles

Recognise, describe and build simple 3-D shapes, including making nets

Assessment:
Test:



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

Assessment:
Test:

Number and Place value	Addition, subtraction, multiplication and division	Geometry (position and direction and properties of shape)	Fractions, decimals and percentages	Algebra	Data/Statistics
Numbers to 10 million	Order of Operations Bidmas Common factors Common multiples	Four quadrants Vertically opposite (angles) Circumference Radius Diameter	Degree of accuracy Simplify	Linear number Sequence Substitute Variables Symbol Known values	Mean Pie chart Construct