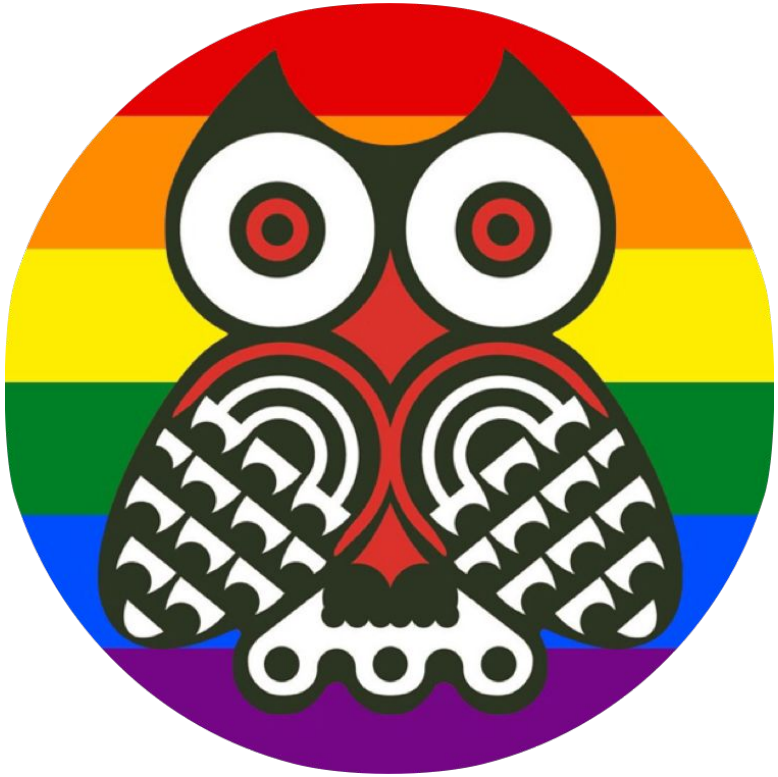

Preston Grange Primary School

Maths Curriculum

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

MATHSHUBS
GREAT NORTH

Nursery Overview

Autumn 1	Compare small sets of objects by processing language 'more than' Build with blocks of different shapes and sizes and loose parts, making good choices based on their understanding of properties. Process simple positional vocabulary in the run of child initiated play. Match pairs to demonstrate a secure grasp of commonality
Autumn 2	Compare small sets of objects by processing language 'more ' and 'less' Count within and up to 5 with correspondence. Count sets to 5,applying the cardinal principle. Use one word informal descriptions of properties of 3D shapes as they build. Process language of everyday size during play. Process and use positional vocabulary in large scale physical play. Sort sets of objects such as building blocks into identical members.
Spring 1	Subitise within 3 Show sets on fingers within 5 Process and use positional language accurately in small world scenes and when building. Arrange 2D shapes, narrating choices with informal descriptions of properties. Use everyday language to compare size.
Spring 2	Solve everyday problems with numbers up to 5. Process and use positional language when out in the wider locality. Ascribe meaning to 3D shapes when building, according to their properties. Process language to fill and empty containers. Process language to create structures or arrangements longer, shorter, taller, wider than mine. Describe patterns on resources and the environment using everyday language or regularity and repetition to describe features.
Summer 1	Link numerals to sets of 1,2 or 3 Use absolute measurement vocabulary to describe everyday objects such as heavy, tall, big, tiny, empty Compare lengths by aligning and accurately identify longer, taller and shorter. Process and use positional language accurately when describing book illustrations. Continue an ABAB linear pattern with everyday objects
Summer 2	Link numerals to sets within 5. Predict changes in amounts in stories and rhymes, counting forwards and backwards. Use a few of their own symbols and marks to represent mathematical experiences. Combine 2D and 3D shapes to make new shapes and narrate the effects created. Compare area of 2D shapes by placing them on top of each other identifying and naming bigger and smaller. Participate accurately in ABAB repeated patterns of actions. Correct an error ABAB pattern. Talk about things that have already happened and things that are going to happen. Use terms day and night in relation to stories

Reception Overview

Autumn 1	Count forwards to 10, naming the number after and counting on from a given number. Count sets of objects or actions, demonstrating the cardinal rule within 5, then 10. Number composition of numbers to 5. Recognise commonality and make sets. Qualitative comparison of length and height. Complete AB visual patterns. Narrate the pattern of the school day using now, next, after playtime, after lunch, before home time etc.
Autumn 2	Sort by one criterion. Recognise the odd one out in a set. Count back within 10, understanding the number before and counting back from a given number. Number composition of 5. Build on from Autumn 1 in confidence and accuracy when using subitising skills Use and apply positional language to develop spatial reasoning skills. Qualitative comparison of mass and capacity. Create AB transient linear patterns. Narrate the pattern of the school day using morning, lunchtime, afternoon, evening, bedtime, daytime, night-time.
Spring 1	Count forwards within 20. Composition of 6, 7, 8 partitioning and recombining. Subitise to 5. Narrate the pattern of the week using today, tomorrow, and yesterday. Begin to narrate the pattern of the week using the names of the days. Design with 2D shapes. Make 2D shapes out of other 2D shapes.
Spring 2	Count forwards and backwards within 20. Make comparison of length and height using non-standard measures. Composition of 9 Begin to demonstrate understanding of odd and even numbers Begin to demonstrate an understanding of doubles Demonstrate understanding of the composition of 6,7,8,9 by pair-wise and five wise patterns on 10s frames. Continue to subitise to 5. Sort 2D shapes according to properties. Narrate the pattern of the week using the names of the days.
Summer 1	Count by rote to 50 Demonstrate understanding of the composition of 10 by partitioning and recombining by pair wise and five wise patterns on 10s frames Recall and apply double 1 to double 5 Recall subtraction facts within 5 and apply Demonstrate understanding of and recall evens and odds within 10 Count by rote to 100, recognising decade numbers. Name and describe attributes of 3D shapes in relation to their usefulness when model building. Narrate the pattern of a week using the names of days, weekend, today, tomorrow, yesterday
Summer 2	Count by rote to 100. Make sets of 100, actual and transient. Count in decade numbers. Notice and articulate patterns on a 100 square. Recall and apply doubles and halves within 10 Continue and create more complex linear patterns. Continue and create circular and symmetrical designs with 2D and 3D shapes Sort 3D shapes according to properties. Measure mass and capacity using simple non-standard measures.

Year 1 Overview

	1	2	3	4	5	6	7	8	9	10	11	12	13
A	Comparison of Quantities and part-whole relationships			Numbers to 5		Recognise, compose, decompose and manipulate 2D and 3D shapes			Numbers to 10 AW			Additive Structure	
S	Additive Structure			Addition and Subtraction facts within 10			Numbers 0-20				Counting within 100	AW	Countin g within 100
S	Counting within 100					Unitising and coin recognition			Position	Time		AW	

	Number and Place Value		Fractions
	Number Facts		Geometry
	Addition and Subtraction		Other
	Multiplication and Division		Assessment Week

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Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Comparison of Quantities and part-whole relationships	1.1 Comparison of quantities and measures • 1.2 Introducing 'whole' and 'parts': part–part–whole	Ma1/2.1d 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 Ma1/3.1a compare, describe and solve practical problems for: i. lengths and heights [for example, long/short, longer/shorter, tall/short, double/hal] ii. mass / weight iii. capacity and volume Ma1/3.1b measure and begin to record the following: i. lengths and heights ii. mass/weight iii. capacity and volume Ma1/2.1d 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	1NPV–1 1NPV–2
Numbers to 5	1.3 Composition of numbers: 0–5	Ma1/2.1e read and write numbers from 1 to 20 in numerals and words. Ma1/2.1c given a number, identify 1 more and 1 less Ma1/2.2b represent and use number bonds and related subtraction facts within 20	1AS–1
Recognise, compose, decompose and manipulate 2D and 3D shapes	No light grey to copy	Ma1/3.2a recognise and name common 2-D and 3-D shapes, including: i. 2-D shapes ii. 3-D shapes Ma1/2.4a recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity Ma1/2.4b recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity.	1G–1 1G–2
Numbers 0 to 10	1.4 Composition of numbers: 6–10	Ma1/2.1e read and write numbers from 1 to 20 in numerals and words. Ma1/2.1c given a number, identify 1 more and 1 less Ma1/2.2b represent and use number bonds and related subtraction facts within 20	1NPV–2

Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Additive Structures	1.5 Additive structures: introduction to aggregation and partitioning • 1.6 Additive structures: introduction to augmentation and reduction	Ma1/2.2a read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs Ma1/2.2b represent and use number bonds and related subtraction facts within 20 Ma1/2.2c add and subtract one-digit and two-digit numbers to 20, including 0 Ma1/2.2d solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? - 9.	1AS–1 1AS–2
Addition and Subtraction facts within 10	1.7 Addition and subtraction: strategies within 10	Ma1/2.2a read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs Ma1/2.2b represent and use number bonds and related subtraction facts within 20 Ma1/2.2c add and subtract one-digit and two-digit numbers to 20, including 0 Ma1/2.2d solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? - 9.	1NF–1
Numbers 0-20	1.10 Composition of numbers: 11–19	Ma1/2.1e read and write numbers from 1 to 20 in numerals and words. Ma1/2.2b represent and use number bonds and related subtraction facts within 20 Ma1/2.2c add and subtract one-digit and two-digit numbers to 20, including 0	1NPV–2
Previous Reception experiences and counting to 100.	1.9 Composition of numbers: 20–100	Ma1/2.1a count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Ma1/2.1b count, read and write numbers to 100 in numerals Ma1/2.1d 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	1NPV–1

Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Unitising and Coin Recognition	2.1 Counting, unitising and coins	Ma1/3.1c recognise and know the value of different denominations of coins and notes Ma1/2.1b count in multiples of 2s, 5s and 10s	1NF–2
Position and direction	N/A	Ma1/3.3a describe position, directions and movements, including whole, half, quarter and three-quarter turns.	N/A
Time	N/A	Ma1/3.1d sequence events in chronological order using language Ma1/3.1e recognise and use language relating to dates, including days of the week, weeks, months and years Ma1/3.1f tell the time to the hour and half past the hour and draw the hands on a clock face to show these times Ma1/3.1a compare, describe and solve practical problems for: i. time Ma1/3.1b measure and begin to record the following: i. time (hours, minutes, seconds)	N/A

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Year 2 Overview

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	Numbers 10 to 100				Calculations within 20			Fluently add and subtract within 10	Addition and subtraction of 2 digit numbers		Introduction to multiplication			AW	Introduction to multiplication
Sp	Introduction to multiplication			Introduction to division structures		Shape		Addition and subtraction of two-digit numbers		A W	Addition and subtraction of two-digit numbers				
S	Money	Fractions		Time	Position and direction	Multiplication and division - doubling, halving, quotative and partitive division				Sense of measure - capacity, volume, mass		AW			

	Number and Place Value		Fractions
	Number Facts		Geometry
	Addition and Subtraction		Other
	Multiplication and Division		Assessment Week

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Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Numbers 10 to 100	1.8 Composition of numbers: multiples of 10 up to 100 1.9 Composition of numbers: 20-100	Ma2/2.1a count in steps of 10 from any number, forward and backward Ma2/2.1b recognise the place value of each digit in a two-digit number (10s, 1s) Ma2/2.1c identify, represent and estimate numbers using different representations, including the number line Ma2/2.1d compare and order numbers from 0 up to 100; use <, > and = signs Ma2/2.1f use place value and number facts to solve problem Ma2/2.1e read and write numbers to at least 100 in numerals and in words	2NPV-1 2NPV-2
Calculations within 20	1.11 Addition and subtraction: bridging 10. 1.12 - Addition and subtraction: subtraction as a difference	Ma2/2.2a solve problems with addition and subtraction: i. using concrete objects and pictorial representations, including those involving numbers, quantities and measures ii. applying their increasing knowledge of mental and written methods Ma2/2.2d show that addition of 2 numbers can be done in any order (commutative) and subtraction of one number from another cannot Ma2/4.1c ask and answer questions about totalling and comparing categorical data. Ma2/2.2e recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems	2AS-1 2AS-2
Fluency add and subtract within 10	1.7 Addition and Subtraction: strategies within 10	Ma2/2.2a solve problems with addition and subtraction: i. using concrete objects and pictorial representations, including those involving numbers, quantities and measures ii. applying their increasing knowledge of mental and written methods iii. Ma2/2.2e recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems	2NF-1

Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Addition and subtraction of 2 digit numbers	1.13 Addition and subtraction: 2 digit and single digit numbers. 1.14 Addition and subtraction: 2 digit numbers and multiples of 10	Ma2/2.2a solve problems with addition and subtraction: i. using concrete objects and pictorial representations, including those involving numbers, quantities and measures ii. applying their increasing knowledge of mental and written methods Ma2/2.2b recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Ma2/2.2c add and subtract numbers using concrete objects, pictorial representations, and mentally, including: i. a two-digit number and 1s ii. a two-digit number and 10s iii. 2 two-digit numbers iv. adding 3 one-digit numbers Ma2/2.1f use place value and number facts to solve problems. Ma2/2.2e recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems	2AS-3
Introduction to multiplication	2.2 Structures: multiplication representing equal groups 2.3 Times tables: groups of 2 and commutativity (part 1) 2.4 Times tables: groups of 10 and of 5, and factions of 10 and 1. 2.5 Commutativity (part 2), doubling and halving	Ma2/2.3a recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers Ma2/2.3b calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×) and equals (=) signs Ma2/2.3c show that multiplication of 2 numbers can be done in any order (commutative) Ma2/2.3d solve problems involving multiplication, using materials, arrays, repeated addition, mental methods, and multiplication facts, including problems in contexts.	2MD-1

Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Introduction to division structures	2.6 Structures: quotative and partitive division	Ma2/2.3a recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers Ma2/2.3b calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs Ma2/2.3c show that multiplication of 2 numbers can be done in any order (commutative) and division of 1 number by another cannot Ma2/2.3d solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	2MD-2
Shape	N/A	Ma2/3.2a identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line Ma2/3.2b identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces Ma2/3.2c identify 2-D shapes on the surface of 3-D shapes Ma2/3.2d compare and sort common 2-D and 3-D shapes and everyday objects.	2G-1
Addition and subtraction of two digit numbers	1.15: Addition: two digit and two digit numbers 1.16: subtraction: two digit and two digit numbers	Ma2/2.2a solve problems with addition and subtraction: i. using concrete objects and pictorial representations, including those involving numbers, quantities and measures ii. applying their increasing knowledge of mental and written methods Ma2/2.2c add and subtract numbers using concrete objects, pictorial representations, and mentally, including: i. a two-digit number and 1s ii. a two-digit number and 10s iii. 2 two-digit numbers iv. adding 3 one-digit numbers Ma2/2.2d show that addition of 2 numbers can be done in any order (commutative) and subtraction of one number from another cannot Ma2/2.2e recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems	2AS-4

Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Money	N/A	Ma2/3.1c recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value Ma2/3.1d find different combinations of coins that equal the same amounts of money Ma2/3.1e solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	N/A
Fractions	3.0: Guidance on the teaching of fractionsns in Key Stage 1`	Ma2/2.4a recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity Ma2/2.4b write simple fractions, for example 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2.	N/A
Time	N/A	Ma2/3.1f compare and sequence intervals of time Ma2/3.1g 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. Ma2/3.1h know the number of minutes in an hour and the number of hours in a day	N/A
Position and direction	N/A	Ma2/3.3a order and arrange combinations of mathematical objects in patterns and sequences Ma2/3.3b 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)	N/A

Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Multiplication and division - doubling, halving, quotative and partitive division	2.5: Commutativity (part 2), doubling and halving	Ma2/2.3a recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers Ma2/2.3b calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs Ma2/2.3c show that multiplication of 2 numbers can be done in any order (commutative) and division of 1 number by another cannot Ma2/2.3d solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	N/A
Sense of measure - capacity, volume, mass	N/A	Ma2/3.1a 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 Ma2/3.1b compare and order lengths, mass, volume/capacity and record the results using >, < and =	N/A

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Year 3 Overview

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AU	Adding and subtracting across 10		Numbers to 1,000										AW		
Sp	Right Angles		Manipulating the additive relationship and securing mental calculation				Column addition		Column subtraction		AW				
SU	Unit Fractions					Non-unit Fractions					Parallel & Perpendicular sides	Time		AW	

	Number and Place Value		Fractions
	Number Facts		Geometry
	Addition and Subtraction		Other
	Multiplication and Division		Assessment Week

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Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Adding and subtracting across 10	1.11 Addition and subtraction: bridging 10	Ma3/2.2a add and subtract numbers mentally, including: i. a three-digit number and 1s ii. a three-digit number and 10s iii. a three-digit number and 100s	3NF–1 2AS–1
Numbers to 1,000	1.17 Composition and calculation: 100 and bridging 100 • 1.18 Composition and calculation: three-digit numbers	Ma3/2.1a count from 0 in multiples of 50 and 100; find 10 or 100 more or less than a given number Ma3/2.1b recognise the place value of each digit in a 3-digit number (100s, 10s, 1s) Ma3/2.1c compare and order numbers up to 1,000 Ma3/2.1d identify, represent and estimate numbers using different representations Ma3/2.1e read and write numbers up to 1,000 in numerals and in words Ma3/2.1f solve number problems and practical problems involving these ideas.	3NF–3 3AS–1 3NPV–4 3NPV–3 3NPV–2 3NPV–1
Right Angles		Ma3/3.2b recognise angles as a property of shape or a description of a turn Ma3/3.2c identify right angles, recognise that 2 right angles make a half-turn, 3 make three quarters of a turn and 4 a complete turn; identify whether angles are greater than or less than a right angle	3G-1

Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Manipulating the additive relationship and securing mental calculations	1.19 Securing mental strategies: calculation up to 999	Ma3/2.2a add and subtract numbers mentally, including: i. a three-digit number and 1s ii. a three-digit number and 10s iii. a three-digit number and 100s Ma3/2.3b write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	3AS–3
Column Addition	1.20 Algorithms: column addition	Ma3/2.2b add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction Ma3/2.2c estimate the answer to a calculation and use inverse operations to check answers	3AS–2
Column subtraction	1.21 Algorithms: column subtraction	Ma3/2.2b add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction Ma3/2.2c estimate the answer to a calculation and use inverse operations to check answers	3AS–2
Unit fractions	3.1 Preparing for fractions: the part–whole relationship • 3.2 Unit fractions: identifying, representing and comparing	Ma3/2.4a 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 Ma3/2.4b recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators Ma3/2.4c recognise and use fractions as numbers: unit fractions with small denominators Ma3/2.4d recognise and show, using diagrams, equivalent fractions with small denominators Ma3/2.4e add and subtract fractions with the same denominator within one whole Ma3/2.4f compare and order unit fractions, and fractions with the same denominators Ma3/2.4g solve problems that involve all of the above	3F–2 3F–1

Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Non unit fractions	3.3 Non-unit fractions: identifying, representing and comparing • 3.4 Adding and subtracting within one whole	Ma3/2.4b recognise, find and write fractions of a discrete set of objects: non-unit fractions with small denominators Ma3/2.4c recognise and use fractions as numbers: non-unit fractions with small denominators Ma3/2.4g solve problems that involve all of the above	3F–4 3F–3 3F–1
Parallel and Perpendicular sides	N/A	Ma3/3.2d identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	3G–2
Time	N/A	Ma3/3.1d tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks Ma3/3.1e 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 Ma3/3.1f know the number of seconds in a minute and the number of days in each month, year and leap year Ma3/3.1g compare durations of events	

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Year 4 Overview

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	Column Addition and Subtraction				Numbers to 10,000					Multiplicative relationships				AW	MR
Sp	Written Multiplication				Fractions					AW	Fractions				
S	Fractions		Perimeter /Area		Coordinates		2D Shapes		Time		Division	AW	Division		

	Number and Place Value		Fractions
	Number Facts		Geometry
	Addition and Subtraction		Other
	Multiplication and Division		Assessment Week

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Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Review of column addition and subtraction	1.20 - Column addition 1.21 - Column subtraction	Ma4/2.2a add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate Ma4/2.2b estimate and use inverse operations to check answers to a calculation Ma4/2.2c solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	3AS-2
Numbers to 10,000	1.22 - 1000 and 4 digit numbers	Ma4/2.2a add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate Ma4/2.2b estimate and use inverse operations to check answers to a calculation Ma4/2.2c solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why Ma4/2.1a count in multiples of 6, 7, 9, 25 and 1,000 Ma4/2.1b find 1,000 more or less than a given number Ma4/2.1c count backwards through 0 to include negative numbers Ma4/2.1d recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s and 1s) Ma4/2.1e order and compare numbers beyond 1,000 Ma4/2.1f identify, represent and estimate numbers using different representations Ma4/2.1g round any number to the nearest 10, 100 or 1,000 Ma4/2.1h solve number and practical problems that involve all of the above and with increasingly large positive numbers	4NPV-1 4NPV-2 4NPV-3 4NPV-4 4NF-3
Multiplicative relationships	2.10 Multiplication and division - distributive law 2.13 - multiplying and dividing by 10 or 100.	Ma4/2.4g find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths Ma4/2.3e solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	4MD-1 4MD-2 4MD-3 4NF-3
Written multiplication	2.14 - Multiplication partitioning leading to short multiplication	Ma4/2.3d multiply two-digit and three-digit numbers by a one-digit number using formal written layout Ma4/2.3e solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	

Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Fractions	3.1 Fractions - the part whole relationship 3.5 - Fractions over 1	Ma4/2.4a recognise and show, using diagrams, families of common equivalent fractions Ma4/2.4b count up and down in hundredths; recognise that hundredths arise when dividing an object by a 100 and dividing tenths by 10. Ma4/2.4c 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 Ma4/2.4d add and subtract fractions with the same denominator	3F–1 4F–1 4F–2 4F–3
Perimeter and Area	2.16 - Multiplicative context: area + perimeter	Ma4/3.1b measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres Ma4/3.1c find the area of rectilinear shapes by counting squares	4G-2
Coordinates	N/A	Ma4/3.3a describe positions on a 2-D grid as coordinates in the first quadrant Ma4/3.3b describe movements between positions as translations of a given unit to the left/right and up/down Ma4/3.3c plot specified points and draw sides to complete a given polygon	4G-1

Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Symmetry in 2D shapes	N/A	Ma4/3.2a compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes Ma4/3.2b identify acute and obtuse angles and compare and order angles up to 2 right angles by size Ma4/3.2c identify lines of symmetry in 2-D shapes presented in different orientations Ma4/3.2d complete a simple symmetric figure with respect to a specific line of symmetry.	4G-3
Time	N/A	Ma4/3.1e read, write and convert time between analogue and digital 12 and 24-hour clocks Ma4/3.1f solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days	N/A
Division	2.12- Division with remainders 2.15- Division leading to short division	N/A	4NF-2

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Year 5 Overview

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	Decimal Fractions					Money		Negative Numbers		Multiplication & Division				A W	
Sp	Area & Scaling			Calculating with decimal fractions			Factors, Multiples & Primes			AW	F,M &P				
S	Fractions							Converting Units		Angles		AW			

	Number and Place Value		Fractions
	Number Facts		Geometry
	Addition and Subtraction		Other
	Multiplication and Division		Assessment Week

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Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Decimal Fractions	• 1.23 Composition and calculation: tenths • 1.24 Composition and calculation: hundredths and thousandths	Ma5/2.1a read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit Ma5/2.1b count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 Ma5/2.3g multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 Ma5/2.4g recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents Ma5/2.4h round decimals with 2 decimal places to the nearest whole number and to 1 decimal place Ma5/2.4i read, write, order and compare numbers with up to 3 decimal places Ma5/2.4j solve problems involving number up to 3 decimal places	5NPV–1 5NPV–2 5NPV–3 5NPV–4 5NF–2
Money	1.25 Addition and subtraction: money	Ma5/3.1g use all four operations to solve problems involving measure using decimal notation including scaling. Ma5/2.2a add and subtract whole numbers with more than 4 digits,including using formal written methods (columnar addition and subtraction) Ma5/2.2b add and subtract numbers mentally with increasingly large numbers Ma5/2.2c use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy Ma5/2.2d solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	
Negative Numbers	1.27 Negative numbers: counting, comparing and calculating	Ma5/2.1c interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0 Ma5/2.2d solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. Ma5/3.3a 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.	

Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Short multiplication and short division	• 2.14 Multiplication: partitioning leading to short multiplication • 2.15 Division: partitioning leading to short division	Ma5/2.3d multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers Ma5/2.3e multiply and divide numbers mentally drawing upon known facts Ma5/2.3f 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 Ma5/2.3j solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	5MD-3 5MD-4
Area and scaling	• 2.16 Multiplicative contexts: area and perimeter 1 • 2.17 Structures: using measures and comparison to understand scaling	Ma5/3.1c measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres Ma5/3.1d 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	5G-2
Calculating with decimal fractions	• 2.19 Calculation: ×/÷ decimal fractions by whole numbers • 2.29 Decimal place-value knowledge, multiplication and division	Ma5/2.3g multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 Ma5/2.4g recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents Ma5/2.4h round decimals with 2 decimal places to the nearest whole number and to 1 decimal place Ma5/2.4i read, write, order and compare numbers with up to 3 decimal places Ma5/2.4j solve problems involving number up to 3 decimal places	5MD-1
Factors, Multiples & Primes	• 2.20 Multiplication with three factors and volume • 2.21 Factors, multiples, prime numbers and composite numbers	Ma5/2.3a identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Ma5/2.3b know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers Ma5/2.3c establish whether a number up to 100 is prime and recall prime numbers up to 19 Ma5/2.3h recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) Ma5/3.1e estimate volume and capacity	5MD-2

Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Fractions	3.6 Multiplying whole numbers and fractions • 3.7 Finding equivalent fractions and simplifying fractions 3.10 Linking fractions, decimals and percentages	Ma5/2.4a compare and order fractions whose denominators are all multiples of the same number Ma5/2.4b identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths Ma5/2.4c recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number Ma5/2.4d add and subtract fractions with the same denominator and denominators that are multiples of the same number Ma5/2.4e multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams Ma5/2.4f read and write decimal numbers as fractions Ma5/2.4g recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents Ma5/2.4h round decimals with 2 decimal places to the nearest whole number and to 1 decimal place Ma5/2.4i read, write, order and compare numbers with up to 3 decimal places Ma5/2.4j solve problems involving number up to 3 decimal places Ma5/2.4k 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 Ma5/2.4l solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and fractions with a denominator of a multiple of 10 or 25.	5NPV–5 5F–1 5F–2 5F–3
Converting Units		Ma5/3.1a convert between different units of metric measure Ma5/3.1b understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints Ma5/3.1c measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres Ma5/3.1d 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 Ma5/3.1e estimate volume and capacity Ma5/3.1f solve problems involving converting between units of time Ma5/3.1g use all four operations to solve problems involving measure using decimal notation including scaling.	5NPV–5
Angles		Ma5/3.2b know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles Ma5/3.2c draw given angles, and measure them in degrees (o) Ma5/3.2d identify: angles at a point and 1 whole turn (total 360o) angles at a point on a straight line and half a turn (total 180o) other multiples of 90o Ma5/3.2e use the properties of rectangles to deduce related facts and find missing lengths and angles Ma5/3.2f distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	5G–1

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Year 6 Overview

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	Calculating using knowledge of structures (1)						Multiples of 1000		Numbers to 10,000,000				Draw, compose and decompose shapes		AW
S	Multiplication and Division				Area, perimeter, position and direction		Fractions and Percentages						Statistics	Ratio and Proportion	
S	Calculating using knowledge of structures (1)		SATs		Solving problems with 2 unknowns		Order of Operations		Mean Average		Time				

	Number and Place Value		Fractions
	Number Facts		Geometry
	Addition and Subtraction		Other
	Multiplication and Division		Assessment Week

Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Calculating using knowledge of structures Addition and subtraction	1.28 Common structures and the part- part whole relationship 1.29 Using equivalence and the compensation property to calculate	• 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.	6AS/MD1 6AS/MD2
Multiples of 1,000	1.26 Composition and calculation: multiples of 1000 up to 1,000,000.	• 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 0 • solve number and practical problems that involve all of the above. • identify common factors, common multiples and prime numbers	
Numbers to 10,000,000	1.30 Composition and calculation: numbers up to 10,000,000	• 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 0 • solve number and practical problems that involve all of the above.	6NPV–1 6NPV–2 6NPV–3 6NPV–4
Draw, compose and decompose shapes	N/A	• draw 2-D shapes using given dimensions and angles • recognise, describe and build simple 3-D shapes, including making nets • 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 • recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. • describe positions on the full coordinate grid (all 4 quadrants) • draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	6G–1

Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Calculating using knowledge of structures Multiplication and division	2.18 Using Equivalence to calculate 2.23 Multiplication strategies for larger numbers and long multiplication 2.24 division: dividing by 2-digit divisors 2.25 Using compensation to calculate	• draw multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • divide numbers up to 4 digits by a two-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 two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context • perform mental calculations, including with mixed operations and large numbers. • 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 • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. • solve problems involving the calculation and conversion of units of measure, using decimal notation up to 2 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 • convert between miles and kilometres	6AS/MD-2
Area, perimeter, position and direction	2.30 Multiplicative contexts: area and perimeter 2	• recognise that shapes with the same areas can have different perimeters and vice versa • describe positions on the full coordinate grid (all 4 quadrants) • draw and translate simple shapes on the coordinate plane, and reflect them in the axes. • 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 (cm3) and cubic metres (m3), and extending to other units	N/A

Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Fraction and percentages	3.8 Common denomination: more adding and subtracting 3.9 Multiplying fractions and dividing fractions by a whole number 3.10 Linking fractions, decimals and percentages	• 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 • multiply simple pairs of proper fractions, writing the answer in its simplest form • divide proper fractions by whole numbers • associate a fraction with division and calculate decimal fraction equivalents for a simple fraction. • identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers are up to three 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 • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	6F–1 6F–2 6F–3 6F–4
Statistics	N/A	• interpret and construct pie charts and line graphs and use these to solve problems • calculate and interpret the mean as an average.	
Ratio and Proportion	2.27 Scale factors, ratio and proportional reasoning	• 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 the calculation of percentages and the use of percentages for comparison • 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	6AS/MD–3

Unit Name	Spine Materials	NC Objectives covered	Ready to Progress
Calculating using knowledge of structures	1.29 Using equivalence and the compensation property to calculate	• express missing number problems algebraically • find pairs of numbers that satisfy an equation with two unknowns • enumerate possibilities of combinations of 2 variables	6AS/MD–2
Solving problems with two unknowns	1.31 Problems with two unknowns	• 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 2 variables.	6AS/MD–4
Order of operations	2.22 Combining multiplication with addition and subtraction 2.28 Combining division with addition and subtraction	• use their knowledge of the order of operations to carry out calculations involving the 4 operations	N/A
Mean Average	2.26 Mean average and equal shares	• calculate and interpret the mean as an average.	N/A

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