Malmesbury Park Primary School
Maths Long Term Planning 2022 – 2023

MATHS

Teaching time to be weighted to the ready-to-progress criteria (DfE June 2020)

LEARNING SEQUENCE

- EHCP & SEND Support refer to IEPs for the individual children.
- Minimum assessment for learning strategies to be used during every lesson: target questioning, peer talk, modelling, mini-plenaries, self-assessment, referral to success criteria.
- Long term memory development strategies to be used in every lesson through assessing prior knowledge at beginning of the unit and in the lesson.
- Refer to 'S' plan in all lessons

Problems solving opportunities highlighted

EYFS	**Mathematics** **Number ELG** *Have a deep understanding of number to 10, including the composition of each number. *Subitise up to 5 Automatically recall number bonds up to 5 and some number bonds to 10, including double facts **Numerical patterns** ELG *Verbally count beyond 20, recognising the pattern of the counting system. *Compare quantities up to 10 in different contexts, recognising	**Communication and language** **Listening, attention and understanding ELG** *Listen attentively and respond to what they hear with relevant questions, comments and actions during class discussions and small group interactions. *Make comments about what they have heard and ask questions to clarify their understanding. *Hold conversation when engaged in back and forth exchanges with their teachers and peers. **Speaking ELG** *Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. *Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate.	**Literacy** **Comprehension** *Use and understand recently introduced vocabulary during discussions about stories, non-fiction, rhymes and poems and during role-play,	**Personal, Social and Emotional Development** **Self regulation ELG** Give focused attention to what the teacher says, responding appropriately even when engaged in activity, and show an ability to follow instructions involving several ideas or actions **Managing self** *be confident to try new activities and show independence, resilience and perseverance in the face of challenge. **Building relationships ELG** *Work and play cooperatively and take turns with others.	**Understanding the world** **Past and Present ELG** *Talk about the lives of the people around them and their roles in society. *Know some similarities and differences between things in the past and now, drawing on their experiences and what has been read in class. *Understand the past through settings, characters and events encountered in books read in class and storytelling. **People, Culture and communities ELG**

	when one quantity is greater than, less than or the same as the other quantity. *Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.	*Express their ideas and feelings about their experiences using full sentences, including use of past, present and future tenses and making use of conjunctions, with modelling and support from their teacher.			*Describe their immediate environment using knowledge from observation, discussion, stories, non-fiction texts and maps. *Know some similarities and differences between different religious and cultural communities in this country, drawing on their experiences and what has been read in class. *Explain some similarities and differences between life in this country and life in other countries, drawing on knowledge from stories, non-fiction texts and – when appropriate – maps. **The Natural World ELG** *Explore the natural world around them, making observations and drawing pictures of animals and plants. *Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and

					what has been read in class. *Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.
YEAR 1					
Autumn 1	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 1- Autumn 1 - Numbers to 10 – 2 weeks (5/9/22 & 12/9/22)	Representing, comparing and ordering numbers to 10. Investigating the composition of numbers to 10.	count to ten, forwards and backwards, beginning with 0 or 1, or from any given number • count, read and write numbers to 10 in numerals and words • 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 • given a number, identify one more and one less • count in multiples of two • double and halve numbers within 10 • estimate numbers within 10	Represent, compare and explore numbers within 10 •One more and one less •Doubling and halving	1NPV–1 Count within 100, forwards and backwards, starting with any number.	Number, zero, one, two, three, four, five, six, seven, eight, nine, ten, as many, the same, more, fewer Part, whole, number bond, represent Equal, equal parts, double, half, halve, inverse One more, one less, difference Compare, order, smaller, smallest, greater, greatest
YEAR 1 - Autumn 1 - Addition and subtraction within 10 – 2 weeks (19/9/22 & 26/9/22)	Addition is taught as combination (aggregation) and subtraction as partitioning. Pupils are formally taught the symbols +, – and =, with which they write abstract equations, linking this to the part-whole model.	represent and use number bonds and related subtraction facts [within 10] • add and subtract one-digit numbers [to 10], including zero • read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems	(Combination and partitioning) •Represent and explain addition and subtraction •Commutativity •Addition and subtraction facts	1NPV–1 Count within 100, forwards and backwards, starting with any number. 1NF–1 Develop fluency in addition and subtraction facts within 10. 1AS–1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.	Equation, plus, add, whole, part, addition, is equal to, symbol, sign Altogether, count on, efficient Minus, subtract, partition Number line, count back, related, subtraction, total

				1AS–2 Read, write and interpret equations containing addition ( ), subtraction ( ) and equals ( ) symbols, and relate additive expressions and equations to real-life contexts	
YEAR 1 - Autumn 1 Shape and patterns – 2 weeks (3/10/22 – 10/10/22)	Exploring shapes in different orientations and sizes and describing and classifying them. Describing position, direction and movement, including quarter turns.	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] • describe position, direction and movement, including whole and half turns	•Identify, describe, sort and classify 2-D and 3-D shapes •Investigate repeating patterns •Use and follow instructional and positional language	1G–1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another. 1G–2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.	Face, straight, vertices, flat, curve, edge, vertex, surface Cuboid, sphere, straight, cylinder, curved, cone, cube, pyramid Side, sides, oblong, corner, square, rectangle, corners, triangle, circle Pattern, after, repeating patter, next, before Bigger, smaller, between, last but one, last, next to, on top of, under, right, above, in front of, left, forward, quarter turn, algorithm, backward
YEAR 1 - Autumn 1 - Reasoning and problem solving involving addition and subtraction (17/10/22)					
HALF TERM					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 1 - Autumn 2 - Numbers to 20 – 2 weeks	Representing, comparing and ordering numbers to 20. Investigating the	count to twenty, forwards and backwards, beginning with 0 or 1, or from any given number • count, read and write numbers from 1 to 20 in numerals and words	Identify, represent, compare and order numbers to 20 •Doubling and halving •One more and one less	1NPV–1 Count within 100, forwards and backwards, starting with any number.	Eleven 11, twelve 12, thirteen 13, fourteen 14, fifteen 15, sixteen 16, seventeen 17, eighteen 18,

(31/10/22 & 7/11/22)	composition of numbers to 20.	• identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least • count in multiples of two and five • double and halve numbers within 20			nineteen 19, twenty 20, represent count on. Number line, before, more than, after, less than, order One more, ten, one less, difference, ones Greater, fewer, compare, ,smaller, greatest, least, value, smallest, compare, Increase, decrease, pattern Double, half, equal
YEAR 1 - Autumn 2 - Addition and subtraction within 20 – 2 weeks Assessment Week (Trust led) – PUMA tests (14/11/22 & 21/11/22)	The 'change' additive structure is introduced through the use of 'First, then, now' contexts. Abstract equations are used to reflect these contexts, using concrete objects and pictorial representations to support them in developing conceptual understanding.	represent and use number bonds and related subtraction facts within 20 • add and subtract one-digit and two-digit numbers to 20, including zero • read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = o – 9 • estimate to check answers	(Augmentation and reduction) •Represent and explain addition and subtraction strategies including 'Make Ten' •Use known facts to add and subtract	1AS–1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.	First, then, now, more, represent, add, equation, number line, number track, Less, subtract, take away, Number bond, known fact, plus, addition, is equal to, minus, make ten strategy, partition, model, strategy
YEAR 1 - Autumn 2 – Assessment Week (Trust led) – PUMA tests (28/11/22)					
YEAR 1 - Autumn 2 - Reasoning and problem-solving involving addition and subtraction (5/12/22)					

YEAR 1 - Autumn 2 - Responding to needs following gap analysis (12/12/22)					
Christmas Break					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 1 - Spring 1 - Time – 2 weeks (2/1/23 & 19/1/23)	Telling the time to the hour and half hour. Describing position, direction and movement, including whole, half and quarter, with reference to the clock face.	tell the time to the hour and half past the hour and draw the hands on a clock face to show these times • recognise and use language relating to dates, including days of the week, weeks, months and years • compare, describe and solve practical problems for time [for example, quicker, slower, earlier, later] and measure and begin to record time (hours, minutes, seconds • sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] • describe position, direction and movement, including whole, half, quarter and three-quarter turns, with reference to the clock face	•Read, write and tell the time to o'clock and half past on analogue clock •Sequencing daily activities •Whole and half turns linked to time		Month, year, date, after, before, birthday, January, February, March, April, May, June, July, August, September, October, November, December First, next, morning, afternoon, evening, then, midday, second, minute, hour, clock, longer shorter, minute hand, hour hand, o'clock, time, long, short, hand, clock, half past, half way between, straight up, halfway, whole, anti-clockwise, quarter, clockwise, turn
YEAR 1 - Spring 1 - Exploring calculation strategies within 20 (1 week) (16/01/23)	Deepening understanding of calculation strategies, such as deriving facts from known facts (related facts and derived teens facts) and the 'Make ten' strategy.	represent and use number bonds and related subtraction facts within 20 • add and subtract one-digit and two-digit numbers to 20, including zero • read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = o – 9	•Model, explain and choose addition and subtraction strategies	1NF–1 Develop fluency in addition and subtraction facts within 10. 1AS–1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers. 1AS–2 Read, write and interpret equations containing addition ( ), subtraction ( ) and equals ( ) symbols, and relate additive	Part, whole, related, known fact, number bond, double, near double, make ten, whole, partition, addition, subtraction, equal, is equal to, equation, plus, strategy, efficient,

				expressions and equations to real-life contexts	
YEAR 1 - Spring 1 - Numbers to 50 (2 weeks) (23/01/23 & 30/01/23)	Pupils explore place value of numbers to 50 by grouping numbers into tens and ones, comparing numbers and exploring number patterns.	count to fifty, forwards and backwards, beginning with 0 or 1, or from any given number; count in multiples of two, five and ten. • count, read and write numbers from 1 to 20 in numerals and words • 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 • given a number, identify one more and one less • recognise the place value of each digit in a two-digit number (tens, ones) (Y2)	•2-digit numbers – represent, sequence, explore, compare. •Count in 2s, 5s and 10s •Describe and complete number patterns		More, less, order, groups of ten, pattern, ten, twenty, thirty, forty, fifty, ones, digit, left, right, part, whole, place value Greater, greatest, smaller, smallest, least, greater than, less than, between, compare, groups of five, groups of two, pattern, increasing, decreasing, tens
YEAR 1 - Spring 1 Problems solving numbers to 50 (6/2/23)					
Half Term					
YEAR 1 – spring 1 Unit 9: Addition and subtraction within 20 (comparison) (2 weeks) (20/02/2023 & 27/2/23)	The comparison structure is introduced, and the number range is kept to 20 so that pupils can focus on understanding the language and relationships and how these can be recorded as equations.	represent and use number bonds and related subtraction facts within 20 • add and subtract one-digit and two-digit numbers to 20, including zero • add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; adding three one-digit numbers (Y2) • read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ▢ – 9 • estimate to check answers	(Comparison and difference) Illustrate, explain and link addition and subtraction with equations •Apply 'Make Ten' strategy •Use language to quantify and compare difference	1NF–1 Develop fluency in addition and subtraction facts within 10. 1AS–1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers. 1AS–2 Read, write and interpret equations containing addition ( ), subtraction ( ) and equals ( ) symbols, and relate additive expressions and equations to real-life contexts	Fewer, compare, more, difference, greater than, less than, greater, less, make ten, subtract, equation, add, represent,
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary

YEAR 1 - Spring 2 - Unit 10: Fractions (1 week) (6/3/23) Assessment week	Learning to recognise, find and name a half and a quarter as one of two/four equal parts of an object, shape and quantity. Applying their knowledge of halves and quarters to directional instructions.	recognise, find and name a half as one of two equal parts of an object, shape or quantity • recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	•Identify 1/2 and 1/4 of a shape or object •Find 1/2 and 1/4 of a quantity		Part, divide, unequal, equal, half, whole, share, quarter, three quarter, turn, clockwise, anti-clockwise
YEAR 1 - Spring 2 - Unit 11: Measures (1): Length and mass (2 weeks) (13/3/23 & 20/3/23) Assessment week	Pupils describe, compare, and solve practical problems involving length, height and mass/weight	compare, describe and solve practical problems for: lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]; mass/weight [for example, heavy/light, heavier than, lighter than] • measure and begin to record the following: lengths and heights; mass/weight	•Compare and measure lengths and mass using cm and kg •Doubling and halving		Length, height, long, longer, longest, short, shorter, shortest, tall, taller, tallest, higher, lower, size, compare, measure, measurement, about, nearly, roughly, close to, metre, metre stick, estimate, one quarter, one half, half, double, half the length of, double the, length of, Balance, heavy, light, heavier, heaviest, lighter, lightest, mass, balances, level, weigh, weight, guess, predict, as heavy as.
YEAR 1 - Spring 2 – Problem solving fractions and measures (27/3/23)					
Easter Break					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 1 – Summer 1 - Unit 12: Numbers 50 to 100 and beyond (1 week)	Representing numbers to 100 using objects and pictorial representations,	count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number; count on and back in two, five and ten.	•Read, write, represent, compare and order numbers to 100 •One more / fewer, ten more / fewer	1NPV-1 Count within 100, forwards and backwards, starting with any number.	Groups of ten, count on, tens, ones, ten, twenty, thirty, forty, fifty, sixty, seventy, eighty, ninety, one hundred, place value,

(17/4/2023 & 24/4/23)	including a number line and Dienes.	• count, read and write numbers from 1 to 20 in numerals and words; read and write numbers to at least 100 in numerals • given a number, identify one more and one less • identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least • recognise the place value of each digit in a two-digit number (tens, ones) (Y2)	•Identify number patterns		dienes, hundreds, place value chart, number bond, multiple of ten, part-whole model, one more, one less, one fewer, ten more, ten less, ten fewer, Greater than, less than, equal to, value, most, least, number line, compare, greatest value, least value, increase, decrease, sequence, pattern
YEAR 1 - Summer 1 - Unit 13: Addition and subtraction (applying strategies) (2 weeks) (1/5/23 & 8/5/23)	Applying understanding of number to add and subtract 1-digit and 2-digit numbers using a range of strategies.	represent and use number bonds and related subtraction facts within 20 • add and subtract one-digit and two-digit numbers, including zero • add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers (Y2) • read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = o – 9 • estimate to check answers	(Applying strategies and structures) •Explore addition and subtraction involving 2-digit numbers and ones •Represent and explain addition and subtraction with regrouping •Investigate number bonds within 20	1NF–1 Develop fluency in addition and subtraction facts within 10. 1AS–1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.	Add, subtract, part, whole, dienes, tens, ones, number bond, take away, difference between, group of ten, make ten, regroup, more, less, cost, total, value,
YEAR 1 - Summer 1 - Unit 14: Money (2 weeks) (15/5/23 & 22/5/23)	Naming coins and notes and representing their values. Applying knowledge of addition and subtraction to money problems.	recognise and know the value of different denominations of coins and notes • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = o – 9	•Name coins and notes and understand their value •Represent the same value using different coins •Find change		Coin, round, heptagonal, gold, silver, copper, pence, penny, pennies, value, worth, pound, worth, coins, note, most, greatest value, least value
Half Term					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 1 – MAD WEEK 5/6/2023					

YEAR 1 - Summer 2 - Unit 15: Multiplication and division (2 weeks) (12/6/23 & 19/6/23)	Pupils are introduced to multiplication and division through grouping and sharing. Representing multiplication abstractly using repeated addition.	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 • recognise, find and name a half as one of two equal parts of a quantity • recognise, find and name a quarter as one of four equal parts of a quantity	•Share equally into groups •Doubling •Link halving to fractions •Add equal groups •Explore arrays	1NF2 - Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.	Double, half, halve, equal parts, whole, equal groups, unequal groups, groups of, lots of, altogether, repeated addition, sides,
YEAR 1 - Summer 2 - Unit 16: Measures (2): Capacity and volume (2 weeks) (26/7/23 & 3/7/23)	Measuring and comparing capacity and volume using standard and non-standard units of measure.	compare, describe and solve practical problems for: lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]; mass/weight [for example, heavy/light, heavier than, lighter than]; capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] • measure and begin to record the following: lengths and heights; mass/weight; capacity and volume	•Compare capacities, volumes and lengths •Explore litres •Apply understanding of fractions to capacity		Compare, capacity, greater, smaller, about, unit, volume, half, quarter, equal, litre, standard unit, difference, distance, measure, length, same, different, weigh, grams, weighing scales,
YEAR 1 - Summer 2 - Reasoning and problem solving involving addition and subtraction (2 week) (10/7/23 & 17/7/23)					
YEAR 2					
Autumn 1	Rationale	Key content from NC	Skills/Processes	Essential Knowledge	Vocabulary
YEAR 2 - Autumn 1 - Unit 1: Numbers within 100 (2 weeks) (5/9/222 & 12/9/22)	Place value of 2-digit numbers by exploring how to partition, compare and order numbers within 100.	use place value and number facts to solve problems • recognise the place value of each digit in a two-digit number (tens, ones) • identify, represent and estimate numbers to 100 using different representations, including the number line • compare and order numbers from 0 up to 100; use and = signs • read and write numbers to at least 100 in numerals and in words • count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward	•Read, write, represent, partition, compare and order numbers to 100 •Explore patterns including, odds and evens, tens and ones	2NPV–1 Recognise the place value of each digit in two-digit numbers, and compose and decompose two digit numbers using standard and nonstandard partitioning. 2NPV–2 - Reason about the location of any two digit number in the linear number system, including identifying the previous and next multiple of 10.	Group, ten, altogether, left over, strategy, ones, tens, 1 digit number, 2 digit number, value, worth, partition, represents, one, two, three, four, five, six, seven, eight, nine, ten, twenty, thirty, forty, fifty, sixty, seventy, eighty, ninety, one hundred, Compare, greatest, smallest, less than, greater than, is equal to, order, increasing, decreasing, more, less, fewer, forwards,

					backwards, counting, even, odd, smaller, greater.
YEAR 2 - Autumn 1 - Unit 2: Addition and subtraction of 2-digit numbers (2 weeks) (19/9/22 & 26/9/22)	Using known facts to derive new facts. Adding and subtracting tens and ones. Adding three 1-digit numbers.	recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers	•Apply number bonds to add and subtract •Represent and explain addition and subtraction of two 2-digit numbers. •Add three 1-digit numbers	2NF–1 Secure fluency in addition and subtraction facts within 10, through continued practice. 2AS–1 Add and subtract across 10, for example: 8 + 5 = 13, 13 – 5 = 8 2AS–2 Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?". 2AS–3 Add and subtract within 100 by applying related one digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number	Part, whole, ones, tens, if I know…. Then I know…. Partition, number bonds, doubles, near doubles,
YEAR 2 - Autumn 1 - Unit 3: Addition and subtraction word problems (2 weeks) (3/10/22 & 10/10/22)	Applying understanding of place value, number bonds, mental addition and subtraction strategies. Representing addition and subtraction word problems using bar models.	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems • solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods	•Introduction to bar models as a representation •Create, label and sketch bar models	2AS–3 Add and subtract within 100 by applying related one digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number	Part, whole, add, subtract, part-whole model, bar model, known, unknown, value, worth, more, fewer, difference,
YEAR 2 - Autumn 1 - Reasoning and problem solving involving addition and subtraction (1 week) (17/10/21)					
Half Term					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary

YEAR 2 - Autumn 2 - Unit 4: Measures: Length (2 weeks) (31/10/22 & 7/11/22)	Comparing, estimating and measuring length using non-standard and standard measures. Solving measure problems.	choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers and scales • compare and order length and record the results using >, < and = • apply knowledge of numbers to 100 to read scales to the nearest appropriate standard unit in the context of length (m/cm) (Applying knowledge to problem solving)	•Draw and measure lengths in centimetres •Use and = to compare and order lengths in metres and centimetres		Length, long, longer, longest, short, shorter, shortest, measure, metre, estimate, longer than, shorter than, ruler, centimetre, about, exactly, the same as, difference, known, unknown, part, whole,
YEAR 2 - Autumn 2 - Unit 5: Graphs (1 week) (14/11/22)	Representing and interpreting data using tables, tally charts, pictograms and block diagrams.	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	•Represent and interpret: pictograms, block diagrams, tables and tally charts		Data, pictogram, table, collect, sort, interpret, block diagram, tally, scaled,
YEAR 2 - Autumn 2 - Unit 6: Multiplication and division: 2, 5 and 10 (1 week) (21/11/22)	Representing multiplication and division concepts through part whole models, bar models, arrays and number lines. Writing multiplication and division equations, solving word problems and making connections between multiplication and division as inverse operations.	calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs • solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts • 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	•Calculate the times tables of 2, 5, and 10 by skip counting •Relate the 2 times table to doubling •Explore representations of multiplication and division •Commutativity	2MD–1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables. 2MD–2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).	Multiplication, groups of, rows, column, repeated addition, commutative, divide, share, equal, groups, part, whole, value,
YEAR 2 - Autumn 2 - Assessment Week (Trust led) – PUMA tests (28/11/22)					
YEAR 2 - Autumn 2 - Unit 6: Multiplication and division: 2, 5 and 10 (2 weeks) (5/12/22 & 12/12/22)	Representing multiplication and division concepts through part whole models, bar models, arrays and number lines. Writing	calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs • solve problems involving multiplication and division, using materials, arrays, repeated addition, mental	•Calculate the times tables of 2, 5, and 10 by skip counting •Relate the 2 times table to doubling •Explore representations of multiplication and division •Commutativity	2MD–1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.	Divide, multiply, equal, groups, part, whole, skip count, twos, groups of, value, double, fives, tens, two, five, ten, pattern, multiple,

	multiplication and division equations, solving word problems and making connections between multiplication and division as inverse operations.	methods, and multiplication and division facts, including problems in contexts • 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		2MD–2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).	
Christmas Break					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 2 - Spring 1 - Unit 7: Time (2 weeks) (2/1/23 & 9/1/23)	Explore how many hours are in one day and how many minutes are in one hour. Comparing and sequencing events and intervals of time to the nearest five minutes. Telling the time to quarter to and past the hour.	• tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times • know the number of minutes in an hour and the number of hours in a day • compare and sequence intervals of time	•Tell the time on an analogue clock: quarter past, quarter to and five minute intervals •Calculate durations of time in minutes and seconds •Sequence daily events •Minutes in an hour and hours in a day		Time, hour, day, night, morning, afternoon, evening, midday, midnight, minute, hour hand, minute hand, scale, quarter past, half past, o'clock, quarter to, past, to, night time, earlier, later, duration, start, finish,
YEAR 2 - Spring 1 - Unit 8: Fractions (2 weeks) (16/1/23 & 23/1/23)	The focus of this unit is on recognising, finding, naming and writing fractions of a line, shape, object and quantity. (halves, quarters and thirds)	recognise, find, name and write fractions 1/3 , 1/4 , 2/4 and 3/4 of a length, shape, set of objects or quantity • write simple fractions for example, 1/2 of 6 = 3 • recognise the equivalence of 2/4 and 1/2	•Part-whole relationships •Fractions as part of a whole or a whole set •Relate to division •Equivalent fractions		Equal parts, quarter, share, whole, fraction, divide, half, numerator, vinculum, denominator, one half, one third, one quarter, halves, thirds, part, equal, equivalent, the same as, is equal to,
YEAR 2 - Spring 1 - Unit 9: Addition and subtraction of 2-digit numbers (regrouping and adjusting) (2 weeks) (30/1/23 & 6/2/23)	Applying number bonds to 20 knowledge and the Make ten, round and adjust and near doubles strategies.	• recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers • solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and	(regrouping and adjusting) •Illustrate, represent and explain addition and subtraction involving regrouping including 'Make Ten', 'Round and adjust' and near doubles strategies	2NF–1 Secure fluency in addition and subtraction facts within 10, through continued practice. 2AS–3 Add and subtract within 100 by applying related one digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number.	Make ten, number bonds, partition, ones, number line, regroup, tens, dienes, bar model, multiple of ten, round and adjust, add, subtract, double, near double,

		measures; applying their increasing knowledge of mental and written methods		2AS–4 Add and subtract within 100 by applying related one digit addition and subtraction facts: add and subtract any 2 two digit numbers.	
Half Term					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 2 - Spring 2 - Unit 10: Money (2 weeks) (20/2/23) & (27/2/23)	Exploring coins and notes and their associated values. Applying understanding of numbers up to 100 and addition and subtraction in the context of money problems	• recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value • find different combinations of coins that equal the same amounts of money • solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	•Recognise coins and notes •Use £ and p accurately •Add and subtract amounts •Calculate change		Penny, pennies, pence, value, compare, greater, lower, 1p, 2p, 5p, 10p, 20p, 50p, one pound, pound, coin, notes, how much?, total, altogether, coins, same as, equal to, count up, costs, change, left, addition, fewest, same, spent, how many?, all possibilities, systematically,
YEAR 2 - Spring 2 - Unit 11: Faces, shapes and patterns; lines and turns (3 weeks) (6/3/23 & 13/3/23 & 20/3/23) Assessment week	Explore and describe the properties of 2-D and 3-D shapes including right angles and lines of symmetry within 2-D shapes. Developing understanding of rotations and turns in terms of quarter, half and three-quarter turns, both clockwise and anticlockwise.	• identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces • identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] • 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 • order and arrange combinations of mathematical objects in patterns and sequences • use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)	•Explore, sort and describe 2-D shapes •Lines of symmetry in 2-D shapes •Identify 2-D shapes on 3-D shapes •Compare and sort 2-D and 3-D shapes •Use language to describe position, direction and rotation to follow a route	2G–1 Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.	Straight, curved, side, vertex, square, triangle, rectangle, quadrilateral, circle, pentagon, hexagon, heptagon, octagon, right angle, straight lines, vertices, symmetry, 2D shapes, reflection, half, exact, identical, sorting, venn diagram, classify, criteria, properties, lines of symmetry, edge, apex, faces, cone, sphere, cuboid, cube, cylinder, pyramid, length, depth, width,
Spring 2 Problem solving Money (27/3/23)					

Easter Break					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 2 - Summer 1 - Unit12: Numbers within 1000 (1 week) 17/4/23	Introduces 3-digit numbers. Exploring the components of 3-digit numbers and using the < and > signs to compare them	• use place value and number facts to solve problems • identify, represent and estimate numbers to 1000 using different representations (Y3) • recognise the place value of each digit in a three-digit number (hundreds, tens, ones) (Y3) • compare and order numbers up to 1000 (Y3) • read and write numbers up to 1000 in numerals and in words (Y3) • count from 0 in multiples of 100; find 10 or 100 more or less than a given number (Y3)	•Represent in different ways •Compare using symbols •Read scales		Hundreds, tens, ones, place value chart, regrouping, 0-999, part-whole, whole, parts, dienes, exchange, compare, greater than, less than, the same as, more, scale, mark, intervals
YEAR 2 - Summer 1 - Unit 13: Measures: Capacity and volume (2 weeks) (24/4/23 & 1/5/23)	Introduces temperature and develops understanding of capacity and volume.	• choose and use appropriate standard units to estimate and measure capacity (litres/ml) and temperature (°C) to the nearest appropriate unit, using scales, thermometers and measuring vessels • compare and order volume and capacity and record the results using >, < and = • apply knowledge of numbers to 1000 to read scales to the nearest appropriate standard unit in the context of capacity (litres/ml) and temperature (°C) • using known facts to derive new facts (2ml + 2ml =4ml so 200ml + 200ml =400ml) (Some contextual word problems)	•Read and measure temperature •Estimate, measure and understand litres and millilitres •Compare and order capacities		Temperature, thermometer, unit of measure, degrees, Celsius, heat, hot, cold, warmer, cooler, more than, less than, 1 litre, volume, capacity, estimate, litre, bar model, fractions, one half, double, one quarter, two quarters, three quarters, millilitre, different, compare, half, double, altogether, number bonds, part, whole, total, equation,
YEAR 2 - Summer 1 - Unit 14: Measures: Mass (1 week) (8/5/23)	Estimating and measuring mass using non-standard and standard units.	• choose and use appropriate standard units to estimate and measure mass (kg/g) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels • compare and order mass and record the results using >, < and = • apply knowledge of numbers to 1000 to read scales to the nearest appropriate standard unit in the context of mass (kg/g) • using known facts to derive new facts (2g + 2g =4g so 200g + 200g =400g)	•Weigh and compare masses in kilograms and grams		Kilogram, weigh, mass, unit, standard unit, heavier than, lighter than, as heavy as, gram, 1000, difference, total, multiply, divide, part, whole, add
YEAR 2 - Summer 1 - Unit 15: Exploring calculation strategies (1 weeks)	Consolidates calculation strategies from across the year and introduces the	• recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100	•Apply addition and subtraction strategies to solve equations •Illustrate and explain addition and	2AS–3 Add and subtract within 100 by applying related one digit addition and subtraction facts: add	Make ten, number bonds, partition, round and adjust, known facts, near doubles, part, unknown,

(23/5/23)	column method for addition and subtraction.	• show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • add and subtract numbers mentally, including: a two-digit number and ones; a two-digit number and tens; adding three one-digit numbers • add and subtract numbers with up to two digits, using written methods	subtraction using column method	and subtract only ones or only tens to/from a two-digit number. 2AS–4 Add and subtract within 100 by applying related one digit addition and subtraction facts: add and subtract any 2 two digit numbers.	whole, add, subtract, more, fewer, less, difference, place value, tens, column, ones, is equal to, regroup,
Summer 1 Problem solving Calculations **2 weeks** (15/5/23 & 22/5/23)					
Half Term					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 2 - Summer 2 **Mad week** 5/6/23					
YEAR 2 - Summer 2 - Unit 15: Exploring calculation strategies (2 weeks) (12/6/23 & 19/6/23)	Consolidates calculation strategies from across the year and introduces the column method for addition and subtraction.	• recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • add and subtract numbers mentally, including: a two-digit number and ones; a two-digit number and tens; adding three one-digit numbers • add and subtract numbers with up to two digits, using written methods (Part whole models linked with word problems).	•Apply addition and subtraction strategies to solve equations •Illustrate and explain addition and subtraction using column method	2AS–3 Add and subtract within 100 by applying related one digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number. 2AS–4 Add and subtract within 100 by applying related one digit addition and subtraction facts: add and subtract any 2 two digit numbers.	Make ten, number bonds, partition, round and adjust, known facts, near doubles, part, unknown, whole, add, subtract, more, fewer, less, difference, place value, tens, column, ones, is equal to, regroup,
YEAR 2 - Summer 2 - Unit 16: Multiplication and division: 3 and 4 (3 weeks) (26/6/23 & 3/7/23 & 10/7/23)	Representing multiplication and division concepts through part whole models, bar models, arrays and number lines. Writing multiplication and	• recall and use multiplication and division facts for the 3 and 4 multiplication tables (Y3) • calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs • solve problems involving multiplication and division, using materials, arrays, repeated addition, mental	•Multiplication and division facts for 3 and 4 •Relate 4 times table to doubling the 2 times tables •Describe, interpret and represent using arrays and bar models •Recognise inverse relationship	2MD–2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotative division).	Multiply, skip counting, number line, product, three, group, bead string, multiple, four, part, whole, divide, array, groups, share, equal, commutative, multiplication, division, doubling, bar model,

	division equations, solving word problems and making connections between multiplication and division as inverse operations	methods, and multiplication and division facts, including problems in contexts • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot			groups of, equal parts, problem solving, twice as many, three times as many, double, half of, one quarter of, one third of,
YEAR 2 - Summer 2 - Responding to needs following gap analysis (1 week) (17/7/22)					
YEAR 3					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge	Vocabulary
YEAR 3 - Autumn 1 - Unit 1: Number sense and exploring calculation strategies (3 weeks) (5/9/22 & 12/9/22 & 19/9/22)	Solve number and practical problems, including estimation and checking; add and subtract money to give change in pounds and pence.	• solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction • recognise the place value of each digit (tens, ones), compare and order numbers up to 100 • find 10 more or less than a given number • read and write numbers up to 100 in numerals and in words • solve number problems and practical problems involving these ideas • identify, represent and estimate numbers using different representations, including the number line • add and subtract amounts of money to give change, using both £ and p in practical contexts	•Read, write, order and compare numbers to 100 •Calculate mentally using known facts, round and adjust, near doubles, adding on to find the difference •Derive new facts from a known fact	3NF-1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice. 3NPV-4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.	Number, add, subtract, is equal to, number bond, odd, even, because, known fact, inverse, derive, place value, commutative, commutability, digit, numeral, number, ones, tens, group of ten, value, greater, more, less, fewer, compare, order, greater than, less than, greatest, least, calculation strategy, part, whole, partition, addition, subtraction, plus, minus, make ten, regroup, near multiple, round, adjust, strategy, efficient, change, difference, make 100, check, bar model, pound, pence, total,
YEAR 3 - Autumn 1 - Unit 2: Place Value (2 weeks) (26/9/22 & 3/10/22)	Identify, represent and estimate numbers in different contexts, recognise and use place value of 3-digit numbers in calculations.	• identify, represent and estimate numbers using different representations • find 10 or 100 more or less than a given number • recognise the place value of each digit in a three-digit number (hundreds, tens, ones) • compare and order numbers up to 1000 • read and write numbers up to 1000 in numerals and in words	•Read, write, represent, partition, order and compare 3-digit numbers •Find 10 and 100 more or less •Round to the nearest multiple of 10 and 100	3NPV-4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.	Place value, digit, numeral, position, hundreds, tens, ones, part, whole, partition, regroup, compare, greater, greatest, less, least, more, most, fewer, fewest, add, plus,

		• solve number problems and practical problems involving these ideas • count from 0 in multiples of 50 and 100			subtract, minus, greater, less, smaller, increase, decrease, rounding, nearest, multiple of 10, even, odd, value, closest, systematic, strategy, open ended, investigate, predict,
YEAR 3 - Autumn 1 - Unit 3: Graphs (1 week) (10/10/22)	Interpret and present data using charts and tables. Solve one and two-step problems using presented information	• interpret and present data using bar charts, pictograms and tables • solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables	Collect, interpret and present data using charts and tables	3NPV-4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.	Pictogram, key, information, data, symbol, stands for, represents, table, total, row, column, twice as many, three times as many, bar chart, axis, axes, scale, increases, tally,
YEAR 3 - Autumn 1 - Reasoning and problem solving involving place value (1 week) (17/10/22)					
Half Term					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 3 - Autumn 2 - Unit 4: Addition and subtraction (3 weeks) (31/10/22 & 7/11/22 & 14/11/22)	Calculate mentally and using formal written methods; solve problems using number facts and place value	• add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three-digit number and hundreds • add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction • estimate the answer to a calculation and use inverse operations to check answers • solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	Develop and use a range of mental calculation strategies •Illustrate and explain formal written methods – column method	3NF-1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice. 3AS-1 Calculate complements to 100 3AS-2 Add and subtract up to three-digit numbers using columnar methods 3AS-3 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part-	Addition, subtraction, plus, inverse, minus, number bond, part, whole, partition, make 10, multiple, add, sum, digit, place value, regroup, subtract, total, minus, commutative, Estimate, round, rounding, nearest multiple of 10, nearest multiple of 100, accurate, accuracy, bar model, column method, difference, hundreds, tens, ones, regrouping, known, unknow, quantity, value,

				part-whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction	
YEAR 3 - Autumn 2 - Unit 5: Length and perimeter (1 week) (21/11/22)	Measure, compare, add/ subtract lengths; solve problems using appropriate tools and units.	• measure, compare, add and subtract: lengths (m/cm/mm) • solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction • measure the perimeter of simple 2-D shapes • continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed … and simple equivalents of mixed units (for example, 5m = 500cm	Measure, draw and compare lengths •Add and subtract lengths •Calculate perimeter	3NPV-4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.	Length, height, width, measure, ruler, to the nearest, centimetre, millimetre, accurate, estimate, about, roughly, a bit more than, a bit less than, metre, long, high, wide, longer, shorter,
YEAR 3 - Autumn 2 - Assessment Week (Trust led) – PUMA tests (28/11/22)					
YEAR 3 - Autumn 2 - Unit 5: Length and perimeter (1 week) (5/12/22)	Measure, compare, add/ subtract lengths; solve problems using appropriate tools and units.	• measure, compare, add and subtract: lengths (m/cm/mm) • solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction • measure the perimeter of simple 2-D shapes • continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed … and simple equivalents of mixed units (for example, 5m = 500cm	Measure, draw and compare lengths •Add and subtract lengths •Calculate perimeter	3NPV-4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.	equal to, greater than >, less than <, perimeter, calculate, total distance, altogether, compare, order, longer, shorter, strategy, model, explain, twice, half, further,
YEAR 3 - Autumn 2 - Responding to needs following gap analysis **12/12/22**					
Christmas Break					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 3 - Spring 1- Unit 6: Multiplication and division (2 weeks)	Deepen understanding of multiplication and division and apply this to solve problems.	• recall and use multiplication and division facts for the 3 and 4 multiplication tables • count from zero in multiples of 4	•Multiplication and division facts for 2, 3, 4, 5, 6, 8 and 10 •Multiplicative structures: equal groups/parts, change and	3NF-2 Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables,	Whole, equal parts, commutative, inverse, bar model, lots of, multiplication, division,

(2/1/23 & 9/1/23)		• 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	comparison, correspondence problems •Relationships: commutativity and inverse	and recognise products in these multiplication tables as multiples of the corresponding number	groups of, array, product, factor, multiple, sharing, multiple of, combinations, systematic, double, times as many, ten times greater/less, related facts, ten times as much, twice as many/much, half of, a third of, times greater/more,
YEAR 3 - Spring 1 - Unit 7: Deriving multiplication and division facts (3 weeks) (16/1/23 & 23/1/23 & 30/1/23)	Calculate mathematical statements including for 2-digit numbers by 1-digit numbers; progress from mental to formal written methods.	• recall and use multiplication and division facts for the 3 and 4 multiplication tables • 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 • 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	•Multiply and divide by 10 and 100 •Multiply a 2-digit number by 2, 3, 4, 5 and corresponding division situations •Divide 2-digit by a 1-digit	3MD-1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.	Equal parts, whole, _times as many, _times as much, _times greater, efficient, multiply, multiplication, place holder, column, digit, place value, divide, division, value, inverse, ten times less/ fewer, group, strategy, groups of, lots of, derive, known fact, multiplication fact, division fact, commutative, product, array, partition, part, regroup, ones, tens, share, group, bar model, relationship, unknown, efficient, calculation strategy,
Year 3 Spring 1 Problem solving Multiplication and division					
Half Term					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 3 - Spring 2 - Unit 8: Time (2 weeks) (20/2/23 & 27/2/23)	Tell, record, write and compare the time, including using Roman numerals, 12hr clocks, a.m. and p.m.; compare durations.	• tell and write the time using 12-hour analogue and digital clocks, including using Roman numerals from I to XII • estimate and read time with increasing accuracy to the nearest minute • record and compare time in terms of seconds, minutes and hours	•Tell, record, write and order the time analogue and digital •12-hour, a.m., p.m. •Measure, calculate and compare durations		Scale, indicate, indicator, recorded time, hour hand, minute hand, minutes to, minutes past, analogue, nearest minute, division, interval, clockwise, anti-clockwise, a.m, p.m,

		• use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight • know the number of seconds in a minute and the number of days in each month, year and leap year • compare durations of events [for example to calculate the time taken by particular events or tasks (Group work problems solving involving time).			earlier, earliest, later, latest, chronological order, digital format, colon, passed since, compare, second, measured time, time interval, stopwatch, stop-clock, timer, estimate, measure, longer, shorter, schedule, timetable, start time, end time, calculate, timeline,
YEAR 3 - Spring 2 - Unit 9: Fractions (3 weeks) (6/3/23, 13/3/23 & 20/3/23)	Recognise, use, compare, order simple fractions; understand fractions as parts of a whole; add/subtracts fractions of same denominator	• recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators • recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators • count up and down in tenths • recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 • recognise and show, using diagrams, equivalent fractions with small denominators • add and subtract fractions with the same denominator within one whole [for example, 5 7 + 1 7 = 6 7] • compare and order unit fractions, and fractions with the same denominators • solve problems that involve all of the above	•Part-whole relationships •Fractions as part of a whole or a whole set and as a number •Add, subtract, compare and order fractions	3F-1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts. 3F-2 Find unit fractions of quantities using known division facts (multiplication tables fluency). 3F-3 Reason about the location of any fraction within 1 in the linear number system. 3F-4Add and subtract fractions with the same denominator, within 1	Part, whole, part of the whole, split, divide, equal, unequal, fraction names, vinculum, denominator, numerator, quantity, fraction, multiplication, division, ninth, tenth,
YEAR 3 - Spring 2 – Problems solving Fractions (27/3/23)					
Easter Break					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 3 - Summer 1 - Unit 10: Angles and Shape (3 weeks)	Identify right-angles, recognising them as quarters of a turn; identify parallel and	• 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	•Identify angles including right angles and recognise as a quarter of a turn	3G-1Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D	Angle, smallest, greatest, greater, smaller, property of shape, description of turn, turn, 2D shape, 3D

(17/4/23 & 24/4/23 & 1/5/23)	perpendicular lines; draw/make and measure 2-D and 3-D shapes.	and four a complete turn; identify whether angles are greater than or less than a right angle • identify horizontal and vertical lines and pairs of perpendicular and parallel lines • draw 2-D shapes and make 3-D shapes using modelling materials • recognise 3-D shapes in different orientations and describe them • measure the perimeter of simple 2-D shapes	•Identify and draw parallel and perpendicular lines •Draw/make, classify and compare 2-D and 3-D shapes •Measure the perimeter	shapes presented in different orientations. 3G-2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.	shape, side, property, edge, face, vertex, vertices, right angle, complete, whole, one quarter, two quarters, three quarters, one half, four quarters, two halves, obtuse, acute, perpendicular, line, draw, vertical, horizontal, parallel, equal distance, quadrilateral, rectangle, straight, square, three dimensional, surface, flat, curved, symmetry, symmetrical, line of symmetry, exactly the same, mirror image, reflective,
YEAR 3 - Summer 1 - Unit 11: Measures (3 weeks) (8/5/23, 15/5/23 and 22/5/23)	Measure, compare, add/ subtract and solve problems, using appropriate tools and units.	• measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction • continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed units (for example, 1 kg and 200g) and simple equivalents of mixed units (for example, 5m = 500cm	•Read scales with different intervals when measuring mass and volume •Weigh and compare masses and capacities with mixed units •Estimate mass and capacity	3NPV-4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.	Indicators, scale, interval, weighing scales, measure, weigh, round, rounding to nearest, weight, mass, gram, kilogram, weight, mixed units, heavier, lighter, <,>, estimate, actual mass, difference, capacity, volume, litres, millilitres, measuring container, mixed units, larger, greater, smaller, less, actual capacity, bar model, unknown, known, part, whole, value, comparison, addition, subtraction,
Half Term					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 3 - Summer 2 – **MAD Week 5/6/23**					

YEAR 3 - Summer 2 - Unit 12: Securing multiplication and division (1 week) (12/6/23)	Recall and use multiplication/ division facts for 6 & 8 times tables; count in multiples of 6 & 8; calculate mathematical statements.	• 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 • recall and use multiplication and division facts for the 8 multiplication tables • count from zero in multiples of 8 (problems involving 6 and 8 times table)	•Recall and use multiplication and division facts for 6 and 8 times table	3MD-1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division. 3NF-2 Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.	Multiplication, commutative, times, array, equal parts, whole, product, factor, product, division, group, share, multiply, regroup, partition,
YEAR 3 - Summer 2 - Unit 13: Exploring calculation strategies and place value (2 weeks) (19/7/23 & 26/7/23)	Add/subtract numbers mentally; find 10, 100, 1000 more than a given number; order and compare beyond 1000; round any number to nearest 10, 100, 1000.	• add and subtract numbers mentally • find 1000 more or less than a given number; recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) (Y4) • order and compare numbers beyond 1000 (Y4) • round any number to the nearest 10, 100 or 1000 (Y4)	•Add and subtract mentally •Find 10, 100 and 1000 more or less •Order and compare beyond 1000 •Round numbers		Near multiple, round, adjust, strategy, efficient, partition, adding on, counting back, difference, near double, make 10, difference, partitioning, multiply, commutative, equal parts, whole, factor, product, double, halve, place value, thousands, hundreds, tens, ones, representations, digits, order, compare, more, fewer, greater than, less than, more, fewer, greatest, ascending, descending, plus, add, minus, subtract, round, nearest multiple.
YEAR 3 - Summer 2 - Responding to needs following gap analysis (3 week) (3/7/22, 10/7/23 & 17/7/23)					
YEAR 4					

Autumn 1	Rationale	Key content from NC	Skills/Processes	Essential Knowledge	Vocabulary
YEAR 4 - Autumn 1 - Unit 1: Reasoning with 4-digit numbers (2 weeks) (5/9/22 & 12/9/22)	Place value of numbers with up to 4 digits including finding 10, 100 or 100 more or less and rounding numbers.	• find 1000 more or less than a given number • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000 • solve number and practical problems that involve all of the above and with increasingly large positive numbers • identify, represent and estimate numbers using different representations • round any number to the nearest 10, 100 or 1000 • count in multiples of 6, 7, 9, 25 and 1000	•4-digit place value. Read, write, represent, order and compare •Find 10, 100 or 1000 more or less •Round numbers to the nearest 10, 100 or 1000	4NPV–1 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100. 4NPV–2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and nonstandard partitioning 4NPV–3 Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each. 4NPV–4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.	Ones, tens, hundreds, thousands, place value, digits, value, compare, order, inequalities, less than, greater than, adding, subtracting, regroup, multiple, nearest, approximate, round,
YEAR 4 - Autumn 1 - Unit 2: Addition and subtraction (3 weeks) (19/9/22 & 26/9/22 & 3/10/22)	Explore both mental strategies and formal written methods of addition and subtraction. Solving addition and subtraction problems.	• add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	•Select appropriate strategies to add and subtract •Illustrate and explain appropriate addition and subtraction strategies including column method with regrouping		Addition, subtraction, add, plus, minus, subtract, commutative, inverse, ones, tens, hundreds, thousands, sum, difference, known fact, part, whole, partition, regroup, known, unknown, partitioning, column method, strategy, quantity, estimate,

YEAR 4 - Autumn 1 - Reasoning and problem solving involving addition and subtraction (2 weeks) (10/10/22 & 17/10/22)					
Half Term					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 4 - Autumn 2 - Unit 3: Multiplication and division (3 weeks) (30/10/22 & 7/11/22 & 14/11/22)	Developing pupils understanding of both mental and written multiplication and division strategies including the formal methods for shot division and short multiplication.	• recall multiplication and division facts for multiplication tables up to 12 × 12 • solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects • recognise and use factor pairs and commutativity in mental calculations • 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 • multiply two-digit and three-digit numbers by a one-digit number using formal written layout	•Distributive property including multiplying three 1-digit numbers •Mental multiplication and division strategies using place value and known and derived facts •Short multiplication and division	4NF–3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100), 4MD–1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. 4MD–2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication. 4MD–3 Understand and apply the distributive property of multiplication.	Multiply, multiple, factor, groups of, array, multiplied by, product, divided by, divide, equal groups of, multiplication, times, table, known fact, digits, distributive law, regroup, ones, tens, hundreds, thousands, repeated addition, scaling, share, subtract, unknown, derived facts,
YEAR 4 - Autumn 2 - Unit 4: Interpreting and presenting data (1 week) (21/11/22)	Representing data using pictograms and bar charts; exploring time graphs	• solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs • interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	•Read, interpret and construct pictograms, bar charts and time graphs •Compare tables, pictograms and bar charts		Pictogram, tally, frequency table, compare, scale, data, bar chart, axis, horizontal, vertical,
YEAR 4 - Autumn 2 - Assessment Week (Trust led) – PUMA tests (28/11/22)					

YEAR 4 - Autumn 2 - Unit 4: Interpreting and presenting data (1 week) (5/12/22)	Representing data using pictograms and bar charts; exploring time graphs	• solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs • interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	•Read, interpret and construct pictograms, bar charts and time graphs •Compare tables, pictograms and bar charts		Time graph, compare, scale, data, axis, horizontal, vertical,
YEAR 4 - Autumn 2 - Responding to needs following gap analysis (1 week) (12/12/22)					
Christmas Break					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 4 - Spring 1 Unit 5: Securing multiplication facts (1 week) (2/1/23)	Opportunity for pupils to consolidate their knowledge and conceptual understanding of times tables up to 12 x 12 with specific focus on the 7- and 9- times table.	• recall multiplication and division facts for multiplication tables up to 12 × 12	•Identify and explore patterns in multiplication tables including 7 and 9	4NF–1 Recall multiplication and division facts up to 12 x 12 , and recognise products in multiplication tables as multiples of the corresponding number. 4NF–2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders and interpret remainders appropriately	Multiplication, times, even, same, patterns, odd, different, table, digits, representations
YEAR 4 - Spring 1 - Unit 6: Fractions (4 weeks) (9/1/23 & 16/1/23 & 23/1/23 & 30/1/23)	Find equivalent fractions, introduces mixed numbers and improper fractions, add and subtract fractions, calculate fractions of quantities and finally solve problems involving fractions	• add and subtract fractions with the same denominator • recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 11/5] (Y5) • recognise and show, using diagrams, families of common equivalent fractions • count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten • solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide	•Explore different interpretations and representations of fractions •Equivalent fractions •Represent fractions greater than one as mixed number and improper fractions •Add and subtract fractions with the same denominator including fractions greater than one	4F–1 Reason about the location of mixed numbers in the linear number system. 4F–2 Convert mixed numbers to improper fractions and vice versa. 4F–3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers,	Numerator, denominator, vinculum, whole, divide, explain, part, equal parts, representation, bar model, fractions wall, factors, equivalent, multiple, division, bars, order, greater than, less than, numbers, mixed, mixed numbers, improper fractions, parts, addition, minus, subtraction, plus, subtraction, minus,

		quantities, including non-unit fractions where the answer is a whole number			
YEAR 4 - Spring 1 - Unit 7: Time (1 week) (6/2/23)	Consolidates the use of the 12-hour clock and introduces the 24-hour clock; solving problems in the context of time.	• convert between different units of measure [for example, hour to minute] • problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days • write and convert time between analogue and digital 12- and 24-hour clocks	•Analogue to digital, 12- hour and 24-hour •Convert between units of time		Time, digital, analogue, minute, hour, to, past, 12 hour, 24 hour, second, years, months, weeks, days,
Half Term					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 4 - Spring 1 – Unit 8: Decimals (1 weeks) 20/2/23	Understanding the value of tenths and hundredth using a variety of representations; comparing and ordering decimals; rounding decimals and calculating using decimals.	• 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 • recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents to 1/4 , 1/2 , 3/4 • round decimals with one decimal place to the nearest whole number • compare numbers with the same number of decimal places up to two decimal places	•Decimal equivalents to tenths, quarters and halves •Compare and order numbers with same number of decimal places •Multiply and divide by 10 and 100 including decimals		Fractions, decimals, equivalent, tenth, decimal point, less than, greater than, tens, ones, round, nearest, tenths, multiple, whole number, part-whole, addition, subtraction, hundredths, multiply, divide,
YEAR 4 - Spring 2- Unit 8: Decimals (2 weeks) (27/2/23 & 6/3/23)	Understanding the value of tenths and hundredth using a variety of representations; comparing and ordering decimals; rounding decimals and calculating using decimals.	• 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 • recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents to 1/4 , 1/2 , 3/4 • round decimals with one decimal place to the nearest whole number • compare numbers with the same number of decimal places up to two decimal places	•Decimal equivalents to tenths, quarters and halves •Compare and order numbers with same number of decimal places •Multiply and divide by 10 and 100 including decimals		Fractions, decimals, equivalent, tenth, decimal point, less than, greater than, tens, ones, round, nearest, tenths, multiple, whole number, part-whole, addition, subtraction, hundredths, multiply, divide,
YEAR 4 - Spring 2 - Unit 9: Area and perimeter (2 weeks) (13/3/23 & 20/3/23)	Exploring perimeter including perimeter of composite rectilinear shapes in mixed units. Introduces area and finding the area of shapes by counting squares, making connections between this and earlier work	• measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • convert between different units of measure [for example, kilometre to metre] • find the area of rectilinear shapes by counting squares • calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) (Y5)	•Perimeter of rectangles and rectilinear shapes •Area of rectangles and rectilinear shapes •Investigate area and perimeter		Length, breadth, perimeter, double, centimetres, millimetres, metres, width, distance, area, centimetres squared, square centimetres, metres squared, square metres,

	on arrays and multiplication.	• measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres (Y5)			
YEAR 4 - Spring 2 - Responding to needs following gap analysis (1 week) 27/3/23					
Easter Break					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 4 - Summer 1 - Unit 10: Solving measure and money problems (3 weeks) (17/4/23 & 24/4/23 & 1/5/23)	Applying understanding to a variety of problems.	• convert between different units of measure [for example, kilometre to metre; hour to minute] • solve simple measure and money problems involving fractions and decimals to two decimal places • estimate, compare and calculate different measures, including money in pounds and pence	•Convert units of measure •Select appropriate units to measure •Use strategies to investigate problems: trial and improvement, organising using lists and tables, working systematically		Mass, capacity, length, kilograms, grams, litres, millilitres, kilometres, metres, centimetres, millimetres, units, equivalent, equal, problem solving, pattern, increasing, compare, solution, strategy, possibilities, systematic, combinations, planning, trial and improvement, organise, weight, change, cheapest, cheap, expensive, most, least, investigations, quarter, half, decreasing, record,

YEAR 4 - Summer 1 - Unit 11: 2-D Shape and Symmetry (3 weeks) (8/5/223, 15/5/23 & 22/5/23)	Identifying angles within shapes; sorting and classifying shapes, exploring symmetry	• compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • identify acute and obtuse angles and compare and order angles up to two right angles by size • 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	•Convert units of measure •Select appropriate units to measure •Use strategies to investigate problems: trial and improvement, organising using lists and tables, working systematically	4G–2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons. 4G–3 Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.	Angle, compare, greater, smaller, order, turn, right angle, acute, obtuse, 2D, side, vertex, vertices, pentagon, hexagon, octagon, regular, irregular, parallel, angles, quadrilateral, equal, square, rectangle, trapezium, rhombus, parallelogram, triangle, equal, length, equilateral, right angled, isoscelese, scalene,
Half Term					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 4 - Summer 2 – **5/6/23 MAD WEEK**					
YEAR 4 - Summer 2 - Unit 12: Position and Direction (1 week) (12/6/23)	Reading and writing coordinates; reading and plotting coordinates of polygons, translation of points.	• describe positions on a 2-D grid as coordinates in the first quadrant • describe movements between positions as translations of a given unit to the left/right and up/down • plot specified points and draw sides to complete a given polygon	•Describe and plot using coordinates •Describe translations	4G–1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant	Axes, x-axis, y-axis, coordinates, squares, vertex, vertices, equilateral, isosceles, scalene, right angle, up, down, left, right, units, translation,
YEAR 4 - Summer 2 - Unit 13: Reasoning with patterns and sequences (2 weeks) (19/6/23 & 26/6/23)	Exploring Roman numerals to 100, negative numbers and number patterns.	• 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 • count backwards through zero to include negative numbers • recognise and use square numbers, and the notation for squared (2) (Y5)	•Roman numerals up to 100 •Place value of other number systems •Number sequences and patterns		Increasing, decreasing, sequence, pattern, rule, scripts, similarities, differences, roman numerals, Arabic numerals, I=1, V=5, X=10, L=50, C=100, term,
YEAR 4 - Summer 2 - Unit 14: 3D Shape (1 week)	Exploring the properties of 3D shapes and solving shape problems.	• identify 3-D shapes, including cubes and other cuboids, from 2-D representations (Y5)	•Use understanding of 3-D shapes •Identify 3-D shapes from 2-D representations		Face, edge, vertex, vertices, 3D, 2D,

(3/7/23)					
Year 4 Responding to needs following gap analysis (10/7/23 & 17/7/23)					
YEAR 5					
Autumn 1	Rationale	Key content from NC	Skills/Processes	Essential Knowledge	Vocabulary
YEAR 5 - Autumn 1 - Unit 1: Reasoning with large whole numbers (2 weeks) (5/9/22 & 12/9/22)	extending their understanding of the number system and place value to include 5- digit and 6-digit numbers	• 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 • round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 • solve number problems and practical problems that involve all of the above • read Roman numerals to 1000 (M) and recognise years written in Roman numerals	•Read, write, order and compare numbers up to one million •Round numbers within one million to the nearest multiple of powers of ten •Read Roman numerals up to M		Digit, value, place holder, ones, tens, hundreds, thousands, greater than, less than, ten thousands, interval, multiple, nearest, round, multiple, place value holder, approximate, hundred thousands, divisible, numeral,
YEAR 5 - Autumn 1 - Unit 2: Problem solving with integer addition and subtraction (2 weeks) (19/9/22 & 26/9/22)	Explore both mental calculation strategies and the formal written layout for addition and subtraction	• add and subtract numbers mentally with increasingly large numbers • add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	•Use rounding to estimate •Use a range of mental calculation strategies to add and subtract integers •Illustrate and explain the written method of column addition and subtraction •Select efficient calculation strategies	5-NF2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth),	Add, subtract, inverse, row, column, diagonal, commutative, partition, round, adjust, multiple, derive, number bond, strategy, number line, greater than, less than, ones, tens, hundreds, thousands, ten thousands, hundred thousands, difference, efficient, estimate, approximate, place value holder, plus, regrouping, place value, inverse, digit, minus, error, bar chart,
YEAR 5 - Autumn 1 - Unit 3: Line graphs and timetables (2 weeks) (3/10/22 & 10/10/22)	Interpret information in tables and line graphs and solve comparison, sum and difference problems. Read and interpret timetables	• solve comparison, sum and difference problems using information presented in a line graph • complete, read and interpret information in tables, including timetables • solve problems involving converting between units of time	•Complete, read and interpret data presented in line graphs •Read and interpret timetables including calculating intervals		Graph, data, information, axes, increase, decrease, x-axis, y-axis, present, change, time, line graph, estimate, scale, grid line, interval, parallel, approximate, perpendicular, title, table, column, sum, difference,

					row, label, line segment, plot, chart, convert, unit, measure, pound, foot, feet, inch, pint, schedule, timetable, first, second, third, hour, minute, interval, time,
YEAR 5 - Autumn 2 - Reasoning and problem solving involving addition and subtraction (1 week) (17/10/22)					
Half Term					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 5 - Autumn 2 - Unit 4: Multiplication and division (3 weeks) (31/10/22 & 7/11/22 & 14/11/22)	Exploring factors, multiples, square numbers, prime numbers and composite numbers. Exploring a range of calculation strategies to multiply and divide with increasingly large numbers, including the formal written layout.	• identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • recognise and use square numbers and the notation for squared (2) • know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers • establish whether a number up to 100 is prime and recall prime numbers up to 19 • multiply and divide whole numbers by 10, 100 and 1000 • multiply and divide numbers mentally drawing upon known facts • solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes • multiply numbers up to 4 digits by a one- or two-digit number using a formal written method • divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context • solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	•Identify multiples and factors •Investigate prime numbers •Multiply and divide by 10, 100 and 1000 (integers) •Derived facts •Illustrate and explain formal multiplication and division strategies such as short and long •Use a range of mental calculation strategies	5NF–1 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice. 5NF–2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth), 5MD–2 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size. 5MD–3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.	Factor, multiple, product, array, row, column, systematic, ordered, organised, venn diagram, rectangle, define, multiply, divide, place value, place value holder, zero, digit, explain, double, regroup, halve, partition, combine, derive, partition, mental, fact, estimate, round, adjust, strategy, flexible, area model, short multiplication, bar model, short division, grouping, written, sharing, equal, interpret, remainder, solve,

				5MD–4 Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.	
YEAR 5 – Autumn 2 - Unit 5: Perimeter and area (1 week) (21/11/22)	Calculating perimeter and area of rectilinear and non-rectilinear shapes	• measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of non-rectilinear shapes	•Investigate area and perimeter of rectilinear shapes •Estimate area of nonrectilinear shapes	5G–2 Compare areas and calculate the area of rectangles (including squares) using standard units.	Width, breadth, distance, ruler, perimeter, composite, millimetre, centimetre, metre, kilometre, area, surface, dimension, length, square metres, square centimetres, square kilometres, rectilinear, rectangle, non-rectilinear
YEAR 5 – Autumn 2 - Assessment Week (Trust led) – PUMA tests (28/11/22)					
YEAR 5 – Autumn 2 - Reasoning and problem solving involving multiplication and division (1 week) (5/12/22)					
YEAR 5 – Autumn 2 - Responding to needs following gap analysis (1 week) (12/12/22)					
Christmas Break					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 5 – Spring 1 - Unit 6: Fractions and decimals (3 weeks)	Connections are made between fractions and decimals. Numbers with up to three	• compare and order fractions whose denominators are all multiples of the same number • recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	•Read, write, order and compare decimals •Round decimals to the nearest whole number •Represent, identify,	5NPV1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100	Denominator, numerator, vinculum, parts, equal parts, represent, congruent, area, number

(2/1/23 & 9/1/23 & 16/1/23)	decimal places are introduced.	• recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 11/5] • identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • read and write decimal numbers as fractions [for example, 0.71 = 71 100] • round decimals with two decimal places to the nearest whole number and to one decimal place • read, write, order and compare numbers with up to three decimal places	name, write, order and compare fractions (including improper and mixed numbers) •Calculate fractions of amounts	hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01 5NPV–2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and nonstandard partitioning. 5NPV–3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. 5NPV–4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts. 5F-1 Find non-unit fractions of quantities. 5F-2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system. 5F-3 Recall decimal fraction equivalents for 1/2, 1/4, 1/5 and 1/10, and for multiples of these proper fractions.	line, whole, equivalent, multiple, factor, tenth, hundred, bead string, compare, order, fraction, decimal, place value, place, ones, hundredths, thousandths, mixed number, improper faction, decimal point, greater than, less than, equal to, whole number, divide, share, group, regroup,

YEAR 5 - Spring 1 - Unit 7: Angles (2 weeks) (23/1/23 & 30/1/23)	Identifying and comparing acute, obtuse and reflex angles. Understanding how to use a protractor to measure and draw angles in degrees.	• know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles • draw given angles, and measure them in degrees (o) • identify: angles at a point and one whole turn (total 360o); angles at a point on a straight line and 1/2 a turn (total 180o); other multiples of 90o	•Classify, compare and order angles •Measure a draw angles with a protractor •Understand and use angle facts to calculate missing angles	5G-1 Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size	Angle, right angle, turn, acute, obtuse, reflex, degrees, classify, vertex, internal, polygon, scale, protractor, straight line, half, quarter, point, full turn, triangle, equilateral, isosceles, scalene, side, quadrilateral, pentagon, octagon,
YEAR 5 - Spring 1 - Reasoning and problem solving involving fractions and decimals (1 week) (6/2/23)					
Half Term					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 5 - Spring 2 - Unit 8: Fractions and percentages (1 weeks) **20/2/23**	Introduces percentage for the first time and come to understand that percentages, decimals and fractions are different ways of expressing proportions.	• add and subtract fractions with the same denominator and denominators that are multiples of the same number • multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams • solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates • recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal • solve problems which require knowing percentage and decimal equivalents of 1/2 , 1/4 , 1/5 , 2/5 , 4/5 and fraction and decimal equivalents of percentages that are multiples of 10 and 25 • solve problems involving number up to three decimal places • use all four operations to solve problems involving measure (for example length, mass, volume, money) using decimal notation, including scaling • associate a fraction with division (Y6)	•Add, subtract fractions with denominators that are multiples of the same number •Multiply fractions (and mixed numbers) by a whole number •Explore percentage, decimal, fractions equivalence	5NPV-1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.	Fraction, part, whole, vinculum, numerator, denominator, multiple, equivalent, mixed number, improper fraction, multiply, product, quantity, multiplication, division, kilometres, metres, centimetres, percent, percentage, equal parts, decimal, hundredths, cent, proportion,

		• use common factors to simplify fractions; use common multiples to express fractions in the same denomination (Y6)			
YEAR 5 - Spring 2 - Unit 8: Fractions and percentages (2 weeks) (27/2/23 & 6/3/23)	Introduces percentage for the first time and come to understand that percentages, decimals and fractions are different ways of expressing proportions.	• add and subtract fractions with the same denominator and denominators that are multiples of the same number • multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams • solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates • recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal • solve problems which require knowing percentage and decimal equivalents of 1/2 , 1/4 , 1/5 , 2/5 , 4/5 and fraction and decimal equivalents of percentages that are multiples of 10 and 25 • solve problems involving number up to three decimal places • use all four operations to solve problems involving measure (for example length, mass, volume, money) using decimal notation, including scaling • associate a fraction with division (Y6) • use common factors to simplify fractions; use common multiples to express fractions in the same denomination (Y6)	•Add, subtract fractions with denominators that are multiples of the same number •Multiply fractions (and mixed numbers) by a whole number •Explore percentage, decimal, fractions equivalence	5NPV-1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.	Fraction, part, whole, vinculum, numerator, denominator, multiple, equivalent, mixed number, improper fraction, multiply, product, quantity, multiplication, division, kilometres, metres, centimetres, percent, percentage, equal parts, decimal, hundredths, cent, proportion,
YEAR 5 - Spring 2 - Unit 9: Transformations (2 weeks) (13/3/23 & 20/3/23)	Consolidating translations and coordinates. Translating polygons across zero. Reflections and translations	• 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 • use the properties of rectangles to deduce related facts and find missing lengths and angles • describe positions on the full coordinate grid (all four quadrants) (Y6) • interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero • use negative numbers in context, and calculate intervals across zero (Y6)	•Coordinates in all four quadrants •Translation and reflection •Calculate intervals across zero as a context for negative numbers		Translate, translation, grid, position, congruent, move, up, down, left, right, x-axis, y-axis, axes, coordinate, horizontal, vertical, reflect, mirror line, reflection, mirror image, transform
YEAR 5 - Spring 2 –					

Reasoning and problem solving involving percentages (1 week) 27/3/23					
Easter Break					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 5 - Summer 1 - Unit 10: Converting units of measure (2 weeks) (17/4/23 & 24/4/23)	Converting between units of time, length and mass. Solving conversion problems.	• convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram) • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 • understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints	•Convert between metric units of length, mass and capacity and units of time •Know and use approximate conversion between imperial and metric	5NPV–5 Convert between units of measure, including using common decimals and fractions	Unit, measure, second, minute, hour, interval, time, day, week, fortnight, month, year, calendar, length, breadth, height, distance, ruler, tape measure, millimetre, centimetre, metre, kilometre, miles, convert, equivalent, approximately, weight, mass, weighing scale, balance scale, gram, kilogram, tonne, pound, estimate, proportion, fraction,
YEAR 5 - Summer 1 - Unit 11: Calculating with whole numbers and decimals (3 weeks) (1/5/23 & 8/5/23 & 15/5/23)	The calculation strategies explored throughout the year are reviewed and extended into calculating with decimal numbers	• use all four operations to solve problems involving measure (for example length, mass, volume, money) using decimal notation, including scaling • solve problems involving number up to three decimal places • 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 • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	•Mental strategies to add and subtract involving decimals •Formal written strategies to add, subtract and multiply involving decimals •Multiply and divide by 10, 100 and 1000 involving decimals •Derive multiplication facts involving decimals	5NPV–1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01. 5NF–2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth),	Parts, equal parts, whole, fraction, decimal, place value, tenth, hundredth, thousandth, multiply, divide, place, value, place value chart, counters, times greater, times smaller, add, subtract, inverse, number bond, known fact, derive, written method, algorithm, strategy, subtract, take away, minus, difference, bar model, array, area, row, column, partition, area model, place holder, short multiplication, double, half, problem, represent, short, long, metre, quarter, half, increasing,

					decreasing, systematically, combination, organise, record,
Year 5 Summer 1 Problem solving decimals (22/5/23)					
Half Term					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 5 - Summer 2 – **MAD WEEK 6/6/23**					
YEAR 5 - Summer 2 - Unit 12: 2-D and 3-D shape (2 weeks) (12/6/23 & 19/6/23)	Reasoning about the properties of 2-D and 3-D shapes, including identifying 3-D shapes from 2-D representations and classifying different triangles and quadrilaterals as well as other geometric shapes according to their properties.	• distinguish between regular and irregular polygons based on reasoning about equal sides and angles • use the properties of rectangles to deduce related facts and find missing lengths and angles • identify 3-D shapes, including cubes and other cuboids, from 2-D representations • recognise, describe and build simple 3-D shapes, including making nets (Y6) • illustrate and name parts of circles, including radius, diameter and circumference and know that diameter is twice the radius. (Y6)	•Classify 2-D shapes and reason about regular and irregular polygons •Properties of diagonals of quadrilaterals •Classify 3-D shapes •2-D representations of 3-D shapes.		Parallel, horizontal, vertical, distance, measure, ruler, perpendicular, polygon, regular, irregular, side, length, angle, degrees, vertices, vertex, triangle angle, equal, equilateral, isosceles, scalene, right angle, obtuse, acute, reflex, quadrilateral, trapezium, parallelogram, rhombus, kite, rectangle, square, diagonal, bisect, dimension, edge, curved surface, face, flat surface, pyramid, prism, 3D, cuboid, cube, cylinder, cone, net, circle, diameter, radius, circumference,
YEAR 5 - Summer 2 - Unit 13: Volume (1 Week) (26/6/23)	Understanding cube numbers. Estimating the volume of solids. Connecting the volume of solids with the volume of liquids and gasses	• estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] • recognise and use cube numbers and the notation for cubed (3)	•Use cube numbers and notation •Estimate volume •Convert units of volume		Square number, squared, equal factors, cube number, cubed, product, property, volume, cube, centimetre cubed, cuboid, cm3, solid, representation, visualise,

					imagine, estimate, liquid, litre, millilitre, 1mm3,
YEAR 5 - Summer 2 - Unit 14: Problem solving (2 weeks) (3/7/23 & 10/7/23)	Negative numbers and interpreting remainders after division. Pupils then apply knowledge and understanding to solve problems and reason about patterns and properties of number	• consolidation and application opportunities	•Negative numbers and calculating intervals across zero •Calculating the mean •Interpret remainders •Investigate numbers: consecutive, palindromic, multiples		Negative, positive, sum, number line, add, subtract, difference, consecutive, divide, share, group, fraction, decimal point, tenths, hundredths, thousandths, regroup, remainder, round, average, mean, equal parts, coin, note, pound, pence, amount, change,
Year 5 summer 2 Responding to needs following gap analysis					
YEAR 6					
Autumn 1	Rationale	Key content from NC	Skills/Processes	Essential Knowledge	Vocabulary
YEAR 6 - Autumn 1 - Unit 1: Integers & Decimals (1 week) (5/9/22)	Read, write, order and compare numbers to ten million. Apply a range of strategies for addition and subtraction to solve multi-step problems.	• 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 • solve problems involving addition and subtraction • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	•Represent, read, write, order and compare numbers up to ten million •Round numbers, make estimates and use this to solve problems in context •Solve multi-step problems involving addition and subtraction	6NPV-1Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000) 6NPV-2 Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning. 6NPV-3 Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round	Integer, place value, numeral, digit, ten thousand, hundred thousand, million, ten million, place holder, greater than, less than, ascending, descending, estimate, rounding, nearest multiple, approximately equal to, magnitude, estimate, appropriate,

				numbers, as appropriate, including in contexts.	
YEAR 6 - Autumn 1 – Mock SATs week (1 week) (12/9/22)					
YEAR 6 - Autumn 1 - Unit 1: Integers & Decimals (1 week) (19/9/22)	Read, write, order and compare numbers to ten million. Apply a range of strategies for addition and subtraction to solve multi-step problems.	• 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 • solve problems involving addition and subtraction • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	•Represent, read, write, order and compare numbers up to ten million •Round numbers, make estimates and use this to solve problems in context •Solve multi-step problems involving addition and subtraction	6NPV-1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000). 6NPV-2 Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning. 6NPV-3 Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.	Integer, place value, strategy, sum, regrouping, efficient, whole, part, subtract, minus, difference, strategy, justify, add, equation, greater than, less than, decimal, plus,
YEAR 6 - Autumn 1 - Unit 2: Multiplication and division (3 weeks) (26/9/22 & 3/10/22 & 10/10/22)	Multiply larger integers and decimal numbers with up to 2 decimal places using a range of strategies, including the formal written algorithms for long and short multiplication. Divide	• identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy • multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of	•Identify and use properties of number, focusing on primes •Multiply larger integers and decimal numbers using a range of strategies •Divide integers by 1-digit and 2-digit numbers representing remainders appropriately	6NPV-4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts	Ones, tenths, hundredths, place value, decimal, decimal point, less than, greater than, multiply, divide, hundred, thousand, number property, prime, square, multiple, factor, composite, cube, common multiple, common factor,

	integers by 1-digit and 2-digit numbers using a range of strategies, representing remainders appropriately.	long multiplication • multiply one-digit numbers with up to two decimal places by whole numbers • 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 • use written division methods in cases where the answer has up to two decimal places • identify common factors, common multiples and prime numbers • perform mental calculations, including with mixed operations and large numbers • solve problems which require answers to be rounded to specified degrees of accuracy	•Illustrate and explain formal multiplication and division strategies		product, inverse, convert, groups, multiplication, equivalents, is equal to, estimate, rounding, integer, strategy, efficient, regroup, estimation, known fact, derived fact, partition, efficient strategy, dividend, divisor, quotient, remainder, fraction,
YEAR 6 - Autumn 1 - Reasoning and problem solving involving multiplication and division (1 week) (17/10/22)					
Half Term					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 6 - Autumn 2 - Unit 3: Calculation problems (2 weeks) (31/10/22 & 7/11/22)	Apply a range of strategies to solve multi-step problems, considering the agreed order of operations. Express missing number problems algebraically and solve equations with unknown values.	• find pairs of numbers that satisfy an equation with two unknowns • enumerate possibilities of combinations of two variables • use knowledge of the order of operations to carry out calculations involving the four operations • generate and describe linear number sequences • express missing number problems algebraically • solve problems involving addition, subtraction, multiplication and division	•Understand the use of brackets •Use knowledge of the order of operations to carry out calculations •Generate and describe linear number sequences •Express missing number problems algebraically •Solve equations with unknown values	6AS/MD1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number). 6AS/MD2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic	Operation, priority, context, order, inverse, order of operation, ambiguous, brackets, expression, sequence term, _th term, term-to-term rule linear, ascending, descending, express, algebra, generalise, variable, algebraic expression, unknown,

				properties, inverse relationships, and place-value understanding.	
YEAR 6 - Autumn 2 - Unit 4: Fractions (2 weeks) (14/11/22 & 21/11/22)	Deepen understanding of equivalence, in order to simplify, compare and order fractions, including those greater than one. Add and subtract fractions.	• use common factors to simplify fractions; use common multiples to express fractions in the same denomination • compare and order fractions, including fractions > 1 • associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8] • recall and use equivalences between simple fractions and decimals, including in different contexts • generate and describe linear number sequences (with fractions) • add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions	•Deepen understanding of equivalence •Order, simplify and compare fractions, including those greater than one •Recall equivalence between common fractions and decimals •Find decimal quotients using short division •Add and subtract fractions	6F-1Recognise when fractions can be simplified, and use common factors to simplify fractions. 6F-2 Express fractions in a common denomination and use this to compare fractions that are similar in value 6F-3 Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy	Fraction, numerator, denominator, equal, value, part whole, equivalent, parts, whole, factor, multiple, simplify, simplest, prime, common factors, form, descending, ascending, compare, less than, greater than, common denominator, improper faction, mixed number, decimal tenths, hundredths, order, common fractions, division, divide, quotient, add, sum, total, common multiple, subtract, difference, simplest form,
YEAR 6 - Autumn 2 - Unit 5: Missing angles and lengths (1 week) (28/11/22)	Compare and classify a range of geometric shapes, using angle facts to find unknown angles in triangles, quadrilaterals and regular polygons.	• recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. • express missing number problems algebraically • compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons	•Compare and classify a range of geometric shapes •Use angle facts to find unknown angles	6G-1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems	Angle, acute, obtuse, reflex, right angle, full turn, half turn, quarter turn, rotation, degree, triangle, scalene, equilateral, isosceles, right sides, equal, quadrilateral, parallel, perpendicular, adjacent, opposite, diagonal, unequal, angle sum, vertically opposite, polygon, regular, vertex/vertices, internal angle,
Year 6 Autumn 2 Responding to gaps following gap analysis (5/12/22 & 12/12/22)					
Christmas Break					

	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 6 – Spring 1 - Unit 6: Coordinates and shape (1 week) (9/1/23)	Describe positions on a full coordinate grid, exploring negative numbers in context. Apply an understanding of the properties of shapes to find missing coordinates and translate and reflect shapes. Recognise the properties of 3-D shapes and know the properties of circles.	• use negative numbers in context, and calculate intervals across zero • describe positions on the full coordinate grid (all four quadrants) • draw 2-D shapes using given dimensions and angles • draw and translate simple shapes on the coordinate plane, and reflect them in the axes • recognise, describe and build simple 3-D shapes, including making nets • illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius • solve number and practical problems that involve all of the above	•Draw a range of geometric shapes using given dimensions and angles •Describe, draw, translate and reflect shapes on a co-ordinate plane •Recognise and construct 3-D shapes •Name and illustrate parts of a circle	6G-1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems	Quadrilateral, side, angle, parallel, vertex/vertices, perpendicular, acute, obtuse, reflex, right angle, coordinate, point, quadrant, axis/axes, position, translate, translation, congruent, mirror line, reflection, reflect, line,
YEAR 6 - Spring 1 - Unit 7: Fractions (1 weeks) (16/1/23)	Multiply and divide fractions. Deepen understanding of the links between fractions, multiplication and division.	• multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 1/4 × 1/2 = 1/8] • divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6] • recall and use equivalences between simple fractions and decimals, including in different contexts	•Represent multiplication involving fractions •Multiply two proper fractions •Divide a fraction by an integer	6F-1 Recognise when fractions can be simplified, and use common factors to simplify fractions 6F-2 Express fractions in a common denomination and use this to compare fractions that are similar in value 6F-3 Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.	Integer, unit fraction, non-unit fraction, numerator, denominator, area model, multiplication, scaling, scale factor, product, fraction of the whole, simplify, efficient, strategy, simplify, divide, share, equal groups,
YEAR 6 - Spring 1 - Unit 8: Decimals and measures (3 weeks) (23/1/23 & 30/1/23 & 6/2/23)	Use, read, write and convert between standard units, including length, mass, volume and time. Calculate the area of shapes including parallelograms and triangles. Calculate the	• solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate • use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places • convert between miles and kilometres	•Use, read, write and convert between standard units of measures; length, mass, time, money and volume as well as imperial units •Calculate the area of parallelograms and triangles •Calculate, estimate and compare the volume of cuboid		Sequence, term, increasing, decreasing, decimal, rule, position, division, number line, unit of measure, length, mass, capacity, volume, scale, division, estimate, approximate, metric, imperial, millimetre, centimetre, mile,

	volume of cubes and cuboids.	• 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 • use simple formulae • 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 [for example, mm3 and km3] • generate and describe linear number sequences (with decimals)			kilometre, multiply, divide, width, height, perimeter, convert, compound rectilinear shape, rectangle, area, equivalents, square centimetres, triangle, parallelogram, side, square, numerically equal, square metres, square millimetres, cube, cuboid, edge, depth, volume, capacity, cubic centimetres,
Half Term					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 6 - Spring 2 - Unit 9: Percentages and statistics (2 weeks) (20/2/23 & 27/2/23)	Recall equivalences between fractions, decimals and percentages. Solve problems involving the calculation of percentages. Interpret and construct pie and line graphs and interpret the mean as an average.	• recall and use equivalences between simple fractions, decimals and percentages, including in different contexts • solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison • interpret and construct pie charts and line graphs and use these to solve problems • calculate and interpret the mean as an average	•Calculate and compare percentages of amounts •Connect percentages with fractions •Explore the equivalence of fractions, decimals and percentages •Calculate the mean •Construct and interpret lines graphs and pie charts •Compare pie charts		Part, whole, per cent, percentage, equivalent, tenth, hundredth, fraction, decimal, less than, greater than, equal to, decrease, mean, average, sum, total, share, graph, line, axis, axes, plot, point, cumulative, data, interval, discrete, continuous, pie chart, segment, value, set, interpret,
YEAR 6 - Spring 2 - Unit 10: Proportion problems (2 weeks) (6/3/23 & 13/3/23)	Solve problems involving unequal sharing, scale factor and the relative size of two quantities.	• solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts • solve problems involving similar shapes where the scale factor is known or can be found • solve problems involving unequal sharing and grouping using knowledge of fractions and multiples	•Use fractions to express proportion •Identify ratio as a relationship between quantities and as a scale factor •Unequal sharing involving ratio	6AS/MD3 Solve problems involving ratio relationships. 6AS/MD4 Solve problems with 2 unknowns.	Part, whole, proportion, out of, fraction, ratio, compare, equivalent, similar, congruent, 2D shape, side, length, scale factor, increase, decrease, decimal, height, width, quantity, multiply, ratio, divide, multiplication
YEAR 6 - Spring 2 – Decimals (2 week) (20/3/23 & 27/3/23)		• Read, write, order and compare numbers up to 10 000 000.			

		• Determine the value of each digit, including decimals. • Round any whole number to a required degree of accuracy. • Use negative numbers in context, and calculate intervals across 0. (Children will have missed some work on decimals in year 5 so this may need revisiting if they are not secure)			
Easter Break					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary
YEAR 6 - Summer 1 – Responding to needs following gap analysis (2 weeks) (17/4/23 & 24/4/23)	Following a full gap analysis – undertake revision programme.				
YEAR 6 - Summer 1 – Algebra & co-ordinates (1 week) (1/5/23)					
YEAR 6 – Summer 1 – Drawing triangles (1 week) SATS week (8/5/23)	To be able to draw shapes accurately, using measuring tools and conventional markings and labels for lines and angles.	• Draw 2-D shapes using given dimensions and angles • Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles… • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	•Draw a range of geometric shapes using given dimensions and angles		
YEAR 6 - Summer 1 - Ratio (1 week) (15/5/23)	To recognise proportionality in contexts when the relations between quantities are in the same ratio.	• Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. • Solve problems involving similar shapes where the scale factor is known or can be found.	•Use fractions to express proportion •Identify ratio as a relationship between quantities and as a scale factor •Unequal sharing involving ratio		
Half Term					
	Rationale	Key content from NC	Skills/Processes	Essential Knowledge & Ready-to-progress criteria	Vocabulary

YEAR 6 - Summer 2 - Mad week - (1 week) (5/6/23)					
YEAR 6 - Summer 2 Calculation and problem solving (2 weeks) (12/6/23 & 19/6/23)	A key feature of the unit is its drawing together of earlier teaching and learning. The emphasis is on enabling pupils to use and apply what they have already learned to solve problems, to test a hypothesis and present an argument to justify their decisions. As pupils come to the end of Key Stage 2 it is important that they can draw upon what they have learned, refreshing what they might have forgotten by applying it in different and interesting contexts. The unit aims to keep pupils engaged and motivated in mathematics, ready to meet the challenges they are to encounter during their secondary education.	• Carry out short multiplication and division of numbers involving decimals. • Carry out long multiplication of a three-digit by a two-digit integer. • Identify and use appropriate operations (including combinations of operations) to solve problems involving numbers and quantities, and explain methods and reasoning. • Choose and use appropriate number operations to solve problems and appropriate ways of calculating: mental, mental with jottings, written methods, calculator. • Factorise numbers into prime factors. • Develop calculator skills and use a calculator effectively.	• DfE Transition Unit Calculation and problem solving – 10 lessons are available – make use of them as necessary including those identified as being suitable for Y7 • Extend written methods to: short multiplication of HTU or U.t by U; long multiplication of TU b y T U; short division of HTU b y U (with integer remaind). • Use all four operations to solve simple word problems involving numbers and quantities and explain methods and reasoning.	• Multiply and divide three-digit b y t w o-digit w hole numbers; extend to multiplying and dividing decimals with one or two places by single-digit whole numbers. • Solve word problems and investigate in the context of number; compare and evaluate solutions	
YEAR 6 - Summer 2 – algebra (3 week) (26/6/23 & 3/7/23 & 10/7/23)	The unit contains materials introducing the use of symbols in algebra. In particular, it explores the representation of variables by letters. The unit makes use of the idea of 'function machines', which	• Use simple formulae • Generate and describe linear number sequences • Express missing number problems algebraically • Express missing number problems algebraically • Find pairs of numbers that satisfy an equation with two unknown • Enumerate possibilities of combinations of two variables	• DfE Bridging Unit Algebra – 15 lessons are available – make use of them as necessary including those identified as being suitable for Y7 • Choose and use appropriate number operations to solve problems (lessons 1, 2, 6, 8 and 10).	• Use symbols and letters to represent variables and unknowns such as missing numbers; focumulae in maths and science; equivalent expressions (e.g., a + b = b + a); generalisations of number patterns	

	provide a powerful image or model for future work on understanding functions and expressing generalisations.		• Recognise and explain patterns and relationships, generalise and predict (lessons 2, 3, 4, 5 and 10). • Make and investigate a general statement about familiar numbers or shapes by finding examples that satisfy it (lessons 3, 4, 5 and 10). • Recognise and extend number sequences (lessons 3, 4, 5 and 10). • Develop from explaining a generalised relationship in words to expressing it in a formula using letters as symbols (lessons 7,8, 9 and 10). • Generate and describe in words sequences from practical contexts (lessons 12 and 16). • Generate terms of a sequence given a rule (lessons 11,12 and 16). Express simple functions in words, then using symbols (lessons 11, 12, 14 and 16) • Use letter symbols to represent variables (lessons 12, 14, 15 and 16). • Know that algebraic operations follow the same conventions and order as arithmetic operations (lesson 13). • Substitute numbers in simple formulae (lessons 11, 14 and 15).	• Number puzzles (e.g. what two numbers can add up to).	
YEAR 6 - Summer 2 – Spirals (1 week) (17/7/23)	The project is primarily concerned with consolidation of mathematical	https://www.lancsngfl.ac.uk/secondary/math/index.php?category_id=817 • Solve multi-step problems, and problems involving fractions, decimals and percentages; choose and use	• Extend knowledge of properties of shape and use these to visualise and solve	A spiral winds in a continuous curve round a point.	

	knowledge and applying this knowledge to new situations. It is intended that pupils of all abilities will be able to complete the activities, though the amount of support needed and the outcomes will vary. The project is presented as a whole project using different activities rather than a series of individual lessons. It is intended that teachers will make their own decisions about how they wish to divide up the activities. Teachers may choose to use the activities as presented in the project, but they are encouraged to develop this project using their own ideas in order to provide an interesting and worthwhile learning experience for the pupils they teach.	appropriate calculation strategies at each stage, including calculator use • Tabulate systematically the information in a problem or puzzle; interpret solutions in the original context and check their accuracy • Suggest, plan and develop lines of enquiry; collect, organise and present information, interpret results and review methods; identify and answer related questions • Represent and interpret sequences, patterns and relationships involving numbers and shapes; suggest and test hypotheses; • Explain reasoning and conclusions, using words, symbols or diagrams as appropriate • Develop and evaluate lines of enquiry; identify, collect, organise and analyse relevant information; decide how best to represent conclusions and what further questions to ask	problems, explaining reasoning.		