Long Term Overview EYFS **Subject: Maths** **Subject Lead: Mr C Bourke**

Nursery	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
General Themes	**All about me**	**Let's Celebrate**	**Winter Wonderland**	**Planting & Growing**	**Who can help me?**	**Once Upon a Time**
Mathematics	Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding -such as using manipulatives, including small pebbles and tens frames for organising counting -children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes. EYFS Statutory Educational Programme					
Numbers **Mastery of Maths approach used as part of NCETM training Numberblocks used when appropriate to support learning.**	Compare small sets of objects by processing language "more than". Build with blocks of different shapes and sizes and loose parts, making good choices based on their understanding of properties. Process simple positional vocabulary in the run of child initiated play. Match pairs to demonstrate a secure grasp of commonality	Compare small sets of objects by processing language "more than" and "fewer than". Count within and up to 5 with correspondence. Count sets to 5, applying the cardinal principle. Use one word informal descriptions of properties of 3D shapes as they build. Process language of everyday size during play. Process and use positional vocabulary in large scale physical play. Sort sets of objects such as building blocks into sets of identical members	Subitise within 3. Show sets on fingers within 5. Process and use positional vocabulary accurately in small world scenes and when building. Arrange 2D shapes, narrating choices with informal descriptions of properties. Create a set out of positive and negative examples of objects. Use everyday language to compare size	Solve everyday problems with numbers up to 5. Process and use positional vocabulary accurately when out in the wider locality. Ascribe meaning to 3D shapes when building, according to their properties. Process language to Fill and empty containers. Process language to create structures or arrangements longer, shorter, taller, wider than mine. Finding out how many by counting 1:1 Understanding the oneness of 1-5.	Link numerals to sets of 1, 2 or 3. Use absolute measurement vocabulary to describe everyday objects such as heavy, tall, big, tiny, full, empty Compare lengths by aligning and accurately identify longer, taller and shorter. Process and use positional vocabulary accurately when describing book illustrations. Continue an ABAB linear pattern with everyday objects.	Link numerals to sets within 5. Predict changes in amounts in stories and rhymes, counting forwards and backwards Use a few of their own symbols and marks to represent mathematical experiences. Combine 2D and 3D shapes to make new shapes and narrate the effects created. Compare area of 2D shapes by placing them on top of each other identifying and naming bigger and smaller Correct an error in an ABAB pattern. Participate accurately in ABAB repeated patterns of actions. Talk about things that have already happened and things that are going to happen.
Possible linked texts	Rosie's Walk Meg and Mog- Making spells	One duck stuck Supermarket zoo	Who sank the boat? Kipper's Toy Box	The Very Hungry caterpillar Handa's surprise	10 Little Rubber ducks The Crayons book of numbers.	10 Little Dinosaurs Walters Wonderful web Nibbles Numbers

Notes, Guidance and planning support: Maths National Curriculum https://www.ncetm.org.uk/ https://whiterosemaths.com/

Reception	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
General Themes	**Me & My Emotions**	**Celebrations of Light**	**I wonder Why?**	**New Life**	**People Who Help Us**	**Terrific Tales**
Mathematics	Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding -such as using manipulatives, including small pebbles and tens frames for organising counting -children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes. EYFS Statutory Educational Programme					
White Rose Maths	Getting to know you Just Like Me	It's Me 1, 2, 3! Light & Dark	Alive in 5! Growing 6, 7, 8	Growing 6, 7, 8 Building 9 and 10	To 20 and Beyond First and Then	Find my Pattern On the Move
Numbers **Numerical Patterns** **Mastery of Maths approach used as part of NCETM training** **Numberblocks used daily/when appropriate to support learning.**	Match objects that are the same Sort sets into groups based on attributes. Comparing amounts saying when they have the same, more or fewer. Use language of big, small, little, large to compare objects and order Use language of tall, long and short to compare and order objects. Exploring Patterns—Complete AB visual linear patterns (NCETM Progression) Narrate pattern of the school day using now, next, after, before.	Sort by one criterion. Recognise the odd one out in a set. Count backwards within 10, understanding the number before and counting back from a given number Number composition to 5. Subitising Positional language with 3D shapes 2D shape properties Qualitative comparison of mass and capacity. Make AB transient linear pattern Talk about the pattern of a day using morning, lunchtime, afternoon, evening, bedtime, daytime, night-time	Count forwards and back within 20. Compare length and height Composition 6, 7 and 8, partitioning and recombining Subitise to 5. Narrate the pattern of a week using today, tomorrow, yesterday Design with 2D shapes. Make 2D shapes out of other 2D shapes	Count forwards and back within 20. Make comparison of length and height using non-standard measures. Demonstrate understanding of the composition 6, 7 and 8 by pair wise and five wise patterns on 10s frames Subitise to 5. Designs with 2D shapes – problems and properties. Sort 2D shapes according to properties. Narrate the pattern of a week using the names of the days	Demonstrate understanding of the composition of 9 and 10 by partitioning and recombining and pair wise and five wise patterns on 10s frames Recall and apply double 1 to double 5 Recall subtraction facts within 5 and apply Recall evens and odds and apply Count by rote to 100, recognising decade numbers. Design 3D shapes on mirrors Make 3D shapes out of 2D shapes Narrate the pattern of a week using the names of days, weekend, today, tomorrow, yesterday	Verbally count beyond 20. Notice and talk about patterns on a 100 square. Recall and apply doubles and halves within 10 Continue and create more complex patterns. Continue and create circular and symmetrical designs with 2D and 3D shapes
Possible linked texts	Squash & Squeeze Monkey Puzzle Button Box A New House for Mouse	Circle /Triangle Rosie's Walk The Very Hungry Caterpillar Kipper's Birthday Bear in a square Day Monkey, Night Monkey The Dark, Dark Tale	Anno's Counting Book None the Number Balancing Act Six Dinner Sid The Ugly Five Simon's Sock	Anno's Counting Book Ten Black Dots Pattern Fish Mouse Count How long is a whale? Titch Mr Wolf's Week	One is a snail ten is a crab Which is Round? Which is Bigger? One to ten and back again Mouse Count Mr Grumpy's Outing One Ted falls out of bed	Double Dave Bean Thirteen One Odd Day The Doorbell Rang How Many Legs? Pattern Fish Once Upon a time map book In every house on every street

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Long Term Overview	Subject: Maths		Subject Lead: Mr C Bourke			
	Y.G	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge (Breadth)	**1**	**Place Value (within 10) 4wks** **Addition + Subtraction (within 10) 5wks**	**Addition+Subtraction cont…** **Shape 1 wk** **Place Value (within 20) 2wks**	**Addition + Subtraction (within 20) 4wks** **Place Value (within 50; Inc. multiples 2 & 5) 3wks**	**Length + Height 2wks** **Weight+Volume 2wks** **Consolidation 1wk**	**Multiplication + Division (inc. 2,5,10) 3wks** **Fractions 2wks**	**Position + Direction 1wk** **Place Value (within 100) 2 wks** **Money 1wk** **Time 2wks**
AIMS		• **become fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. • **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language • **can solve problems** by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.					
Number *Place value*		• count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number • count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens • 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 • read and write numbers from 1 to 20 in numerals and words.					
Number *Addition + Subtraction*		• read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs • represent and use number bonds and related subtraction facts within 20 • add and subtract one-digit and two-digit numbers to 20, including zero • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = – 9.					
Number *Multiplication+ Division*		• solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher					
Number *Fractions*		• recognise, find and name a half as one of two equal parts of an object, shape or quantity • recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.					
Geometry		• 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, half, quarter and three quarter turns.					
Measurement		• 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] • time [for example, quicker, slower, earlier, later] • measure and begin to record the following: ♣ lengths and heights ♣ mass/weight ♣ capacity and volume ♣ time (hours, minutes, seconds) ♣ recognise and know the value of different denominations of coins and notes • sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] ♣ recognise and use language relating to dates, including days of the week, weeks, months and years • tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.					

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Long Term Overview	Subject: Maths		Subject Lead: Mr C Bourke			
	YG	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge (Breadth)	2	Place Value 3wks Addition+Subtraction 5wks	Addition+Subtraction cont… Money 2wks Multiplication+Division 2wks	Multiplication + Division 4wks Statistics 2wks	Shape 3wks Fractions 3wks	Length + Height 2wks Position + Direction 2wks Problem solving 2wks	Time 2wks Capacity + Temp. 3wks Investigation 1 wk
AIMS		• **become fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. • **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language • **can solve problems** by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.					
Number *Place value*		• count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward • recognise the place value of each digit in a two-digit number (tens, ones) • identify, represent and estimate numbers using different representations, including the number line • compare and order numbers from 0 up to 100; use and = signs • read and write numbers to at least 100 in numerals and in words • use place value and number facts to solve problems.					
Number *Addition + Subtraction*		• using concrete objects and pictorial representations, including those involving numbers, quantities and measures • applying their increasing knowledge of mental and written methods • recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones ♣ a two-digit number and tens ♣ two two-digit numbers ♣ adding three one-digit numbers • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.					
Number *Multiplication+ Division*		• recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers • calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot • solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.					
Number *Fractions*		• recognise, find, name and write fractions 3 1 , 4 1 , 4 2 and 4 3 of a length, shape, set of objects or quantity • write simple fractions for example, 2 1 of 6 = 3 and recognise the equivalence of 4 2 and 2 1 .					
Geometry		• identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line • identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces • identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] • compare and sort common 2-D and 3-D shapes and everyday objects • .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).					
Measurement		• choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels • compare and order lengths, mass, volume/capacity and record the results using >, < and = • recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value • find different combinations of coins that equal the same amounts of money • solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change • compare and sequence intervals of time • tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times • know the number of minutes in an hour and the number of hours in a day.					
Statistics		• interpret and construct simple pictograms, tally charts, block diagrams and simple tables • ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity • ask and answer questions about totalling and comparing categorical data.					

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Long Term Overview	Subject: Maths		Subject Lead: Mr C Bourke			
	YG	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge (Breadth)	3	Place Value 3wks Addition + Subtraction 5wks	Addition + Subtraction cont… Multiplication + Division 4wks	Multiplication + Division 3wks Money 1wk Statistics 2wks	Length + Perimeter 3wks Fractions 2 wks	Fractions 3wks Time 3wks	Shape 2wks Mass & capacity 3wks
AIMS		• **become fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. • **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language **can solve problems** by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.					
Number *Place value*		• count from 0 in multiples of 4, 8, 50 and 100; 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 • identify, represent and estimate numbers using different representations • read and write numbers up to 1000 in numerals and in words • solve number problems and practical problems involving these ideas.					
Number *Addition + Subtraction*		• add and subtract numbers mentally, including: a three-digit number and ones ♣ a three-digit number and tens ♣ a three-digit number and hundreds • add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction • estimate the answer to a calculation and use inverse operations to check answers • solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.					
Number *Multiplication+ Division*		• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • write and calculate mathematical statements for multiplication and division using the multiplication tables 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					
Number *Fractions*		• count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 • recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators • recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators • recognise and show, using diagrams, equivalent fractions with small denominators • add and subtract fractions with the same denominator within one whole [for example, 7 5 + 7 1 = 7 6] • compare and order unit fractions, and fractions with the same denominators • solve problems that involve all of the above					
Geometry		• draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them • recognise angles as a property of shape or a description of a turn • identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle • identify horizontal and vertical lines and pairs of perpendicular and parallel lines.					
Measurement		• measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • measure the perimeter of simple 2-D shapes • add and subtract amounts of money to give change, using both £ and p in practical contexts • tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks • estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight • know the number of seconds in a minute and the number of days in each month, year and leap year • compare durations of events [for example to calculate the time taken by particular events or tasks].					
Statistics		• interpret and present data using bar charts, pictograms and tables • solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.					

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Long Term Overview	Subject: Maths		Subject Lead: Mr C Bourke			
	Y G	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge (Breadth)	**4**	**Place Value 4wks** **Addition + Subtraction 3wks**	**Length +Perimeter 2wks** **Multiplication + Division 3wks**	**Multiplication + Division 3wks** **Area 1wk** **Fractions 4wks**	**Fractions cont…** **Decimals 3wks**	**Decimals 2wks** **Money 2wks** **Time 2wks**	**Statistics 2wks** **Shape 2wks** **Position + Direction 2wks**
AIMS		• **become fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. • **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language • **can solve problems** by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.					
Number *Place value*		• count in multiples of 6, 7, 9, 25 and 1000 • find 1000 more or less than a given number • count backwards through zero to include negative numbers • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000 • identify, represent and estimate numbers using different representations • round any number to the nearest 10, 100 or 1000 • solve number and practical problems that involve all of the above and with increasingly large positive numbers • read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.					
Number *Addition + Subtraction*		• add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.					
Number *Multiplication+ Division*		• recall multiplication and division facts for multiplication tables up to 12 × 12 • use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers • recognise and use factor pairs and commutativity in mental calculations • multiply two-digit and three-digit numbers by a one-digit number using formal written layout • solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.					
Number *Fractions+ Decimals*		• recognise and show, using diagrams, families of common equivalent fractions • count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number • add and subtract fractions with the same denominator • recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents to 4 1 , 2 1 , 4 3 • 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 • 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 • solve simple measure and money problems involving fractions and decimals to two decimal places.					
Geometry		• 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.					
Measurement		• Convert between different units of measure [for example, kilometre to metre; hour to minute] • measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • find the area of rectilinear shapes by counting squares • estimate, compare and calculate different measures, including money in pounds and pence • read, write and convert time between analogue and digital 12- and 24-hour clocks • solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.					
Statistics		• interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.					

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	YG	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge (Breadth)	5	Place Value 3wks Addition + Subtraction 2wks Statistics 2wks	Multiplication + Division 3wks Perimeter + Area 2wks	Multiplication + Division 3wks Fractions 6 wks	Fractions cont... Decimals + Percentages 2wks	Decimals 4wks Shape 3wks	Position + Direction 2wks Converting units 2wks Volume 1wk
AIMS		• **become fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. • **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language **can solve problems** by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.					
Number *Place value*		• 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 • interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero • 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.					
Number *Addition + Subtraction*		• add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • add and subtract numbers mentally with increasingly large numbers • 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.					
Number *Multiplication+ Division*		• identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers • establish whether a number up to 100 is prime and recall prime numbers up to 19 • 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 numbers mentally drawing upon known facts • 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 • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000					
Number *Fractions+ Decimals*		• compare and order fractions whose denominators are all multiples of the same number • identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [EG, 5 2 + 5 4 = 5 6 = 1 5 1] • add and subtract fractions with the same denominator and denominators that are multiples of the same number • multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams • read and write decimal numbers as fractions [for example, 0.71 = 100 71] • recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • round decimals with two decimal places to the nearest whole number and to one decimal place • read, write, order and compare numbers with up to three decimal places • solve problems involving number up to three decimal places • recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal solve problems which require knowing percentage and decimal equivalents of 2 1 , 4 1 , 5 1 , 5 2 , 5 4 and those fractions with a denominator of a multiple of 10 or 25.					
Geometry		• identify 3-D shapes, including cubes and other cuboids, from 2-D representations • 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 2 1 a turn (total 180o) ♣ other multiples of 90o • use the properties of rectangles to deduce related facts and find missing lengths and angles • distinguish between regular and irregular polygons based on reasoning about equal sides and angles.					
Measurement		• convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) • understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints • 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 irregular shapes • estimate volume [EG, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [EG, using water] • solve problems involving converting between units of time • use all four operations to solve problems involving measure [EG, length, mass, volume, money] using decimal notation, including scaling.					
Statistics		• solve comparison, sum and difference problems using information presented in a line graph • complete, read and interpret information in tables, including timetables					

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		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge (Breadth)	6	Place Value 2wks 4 operations (+-x\) 4wks	Fractions 4wks Position + Direction 1wk	Decimals 2wks Percentages 2wks Algebra 2wks	Converting units 1wk Perimeter +Area + volume 2wks Ratio 2wks	Properties of Shape 2wks Problem Solving 3wks Statistics 2wks	Investigations 4wks
AIMS		• **become fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. • **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language • **can solve problems** by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.					
Number Place value		• 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 • interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero • 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.					
Number Addition + Subtraction		• add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • add and subtract numbers mentally with increasingly large numbers • 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.					
Number Multiplication+ Division		• identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers • establish whether a number up to 100 is prime and recall prime numbers up to 19 • 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 numbers mentally drawing upon known facts • 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 • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000recognise + use square numbers and cube numbers, and notation for squared+ cubed • solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes • solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign • solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.					
Number Fractions+ Decimals		• compare and order fractions whose denominators are all multiples of the same number ♣ identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths ♣ recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 5 2 + 5 4 = 5 6 = 1 5 1] ♣ add and subtract fractions with the same denominator and denominators that are multiples of the same number ♣ multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams ♣ read and write decimal numbers as fractions [for example, 0.71 = 100 71] ♣ recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents ♣ round decimals with two decimal places to the nearest whole number and to one decimal place ♣ read, write, order and compare numbers with up to three decimal places ♣ solve problems involving number up to three decimal places ♣ recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal ♣ solve problems which require knowing percentage and decimal equivalents of 2 1 , 4 1 , 5 1 , 5 2 , 5 4 and those fractions with a denominator of a multiple of 10 or 25.					
Geometry		• identify 3-D shapes, including cubes and other cuboids, from 2-D representations • 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 2 1 a turn (total 180o) ♣ other multiples of 90o • use the properties of rectangles to deduce related facts and find missing lengths and angles • distinguish between regular and irregular polygons based on reasoning about equal sides and angles. • 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.					
Measurement		• convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) • understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints • 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 irregular shapes • estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] • solve problems involving converting between units of time ♣ use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.					
Statistics		• solve comparison, sum and difference problems using information presented in a line graph ♣ complete, read and interpret information in tables, including timetables.					

Notes, Guidance and planning support: Maths National Curriculum https://www.ncetm.org.uk/ https://whiterosemaths.com/