The Meadows Primary Academy

MATHS INTENT
Nursery - Year 6

Nursery

Nursery			
Experiences	SMSC	British Values	The Meadows Values
	Spiritual development: Creativity and imagination are developed as we encourage children to 'think outside of the box' when reasoning and problem solving. Moral development: We encourage logical thinking and how it relates to finding right/wrong answers. As with all lessons, we follow the school policy for behaviour. Social development: Self and peer assessment. Tables throughout the school are arranged in groups to assist with co-operation and teamwork Cultural development: We explore the idea that maths is a universal language. Through various other topics, children use maths to understand ideas further.	Democracy: Teamwork and cooperation, allowing everyone to take turns and express their own answers and explanations. Rule of Law: Following rules when playing games and following the school rules. Individual Liberty: Being allowed to make mistakes and learn from them Mutual respect: Allowing everyone the opportunity to work to the best of their ability. Take turns and share ideas showing respect to others in the class. Respecting equipment and other people's ideas Tolerance: Using maths to explore different religions, such as patterns and shapes within Islam and Hindu religions.	Respectful Rupert - working with others and respecting other people Aspirational Amar - always challenging children to do their best and aspire to do their best Resilient Rehanna- Children are always encouraged to not give up Kind Kim- showing kindness to others when explaining answers Teamwork Tom- Working as part of a team when learning Curious Colette- Investigating problems and thinking outside of the box.

Nursery vocabulary	
Number	forwards, backwards, share, group,
Shape	Measure, wide, narrow, long, short, length, height, weight, capacity, heavy, light, big, full, empty, more than, less than, half full, time, quicker, slower, earlier, later, before, after, first, next, today, yesterday, tomorrow, morning, afternoon

Nursery End points Autumn	
Number	Shape
• Say one number for each item in order 1, 2, 3, 4, 5 • Know that the last number reached when counting tells you the total • Begin to count by rote from 1-10 • To sing along to number songs and represent numbers on their fingers • Begin to tag a number to each finger for numbers 1-5	• Can recognise and sort objects by colour using the words same and different • Can sort different objects by noticing similarities and differences • Can sort objects by colour/ shape/ size • Can use the language of big/ little, small/large to compare sizes. • Can use language of long and short to describe lengths • To continue a simple repeating pattern.
Nursery End points Spring	
Number	Shape
• Continue to identify representations of numbers 1,2,3 linking numbers and amounts • Can count accurately using 1- 1 correspondence for numbers 1-3 (Up to 5) • Can match objects to numerals using 1-3 • Can count forwards and backwards from 1-10/ 10-1 • Can identify a set that has 'more' or 'less' or the 'same'. • Develop Fast recognition of objects up to 1 and sometimes 2 – subitising • Begin to represent numbers with marks	• To use words such as heavy/light/ heavier/lighter to compare weights. • Start to make direct comparisons using longer/ shorter, taller/ shorter, wider/narrower to describe • Can compare lengths using practical objects and then describe their comparison. • Can name simple 2d shapes of circle, triangle, rectangle and square and group items according to characteristics
Nursery End points Summer	
Number	Shape
• Can subitise 1-3 • Can count accurately using 1-1 correspondence for numbers 1-5 • Can find 1 more and 1 less than a number between 1 and 5 • Can recognise numbers 1-5 then 6-10	• Can describe shapes they see in images and pictures. • Can use words such as round/ straight/ flat to describe shape characteristics. Can talk about and sequence the events within a school day Use time vocabulary of day/ night/ today/ tomorrow/ before/ after that to describe when an event is happening Can compare amounts using the words full/ empty/ half full. • Can use words of more or less when describing quantities • Can use positional language to place and describe items. • Under/ in/ on/ on top of/ behind/ in front of/ • Can use directional language of up/ down / across to describe locations.

Reception

Reception			
Experiences	SMSC	British Values	The Meadows Values
	Spiritual development: Creativity and imagination are developed as we encourage children to 'think outside of the box' when reasoning and problem solving. Moral development: We encourage logical thinking and how it relates to finding right/wrong answers. As with all lessons, we follow the school policy for behaviour. Social development: Self and peer assessment. Tables throughout the school are arranged in groups to assist with co-operation and teamwork Cultural development: We explore the idea that maths is a universal language. Through various other topics, children use maths to understand ideas further.	Democracy: Teamwork and cooperation, allowing everyone to take turns and express their own answers and explanations. Rule of Law: Following rules when playing games and following the school rules. Individual Liberty: Being allowed to make mistakes and learn from them Mutual respect: Allowing everyone the opportunity to work to the best of their ability. Take turns and share ideas showing respect to others in the class. Respecting equipment and other people's ideas Tolerance: Using maths to explore different religions, such as patterns and shapes within Islam and Hindu religions.	Respectful Rupert - working with others and respecting other people Aspirational Amar - always challenging children to do their best and aspire to do their best Resilient Rehanna- Children are always encouraged to not give up Kind Kim- showing kindness to others when explaining answers Teamwork Tom- Working as part of a team when learning Curious Colette- Investigating problems and thinking outside of the box.

Reception vocabulary	
Number	Count, subitise, order, ordinal, compare, forwards, backwards, numerals, digit, one more, one less, equal to, more than, less than, add, subtract, altogether, total, take away, number bonds, part, whole, double, half, equal, unequal, share, group, even, odd,
Shape	Measure, wide, narrow, long, short, length, height, weight, capacity, heavy, light, big, full, empty, more than, less than, half full, time, quicker, slower, earlier, later, before, after, first, next, today, yesterday, tomorrow, morning, afternoon

Reception End points Autumn	
Number	Shape, space, measure
• Through these units and continuous provision, children develop a deep understanding of number to 5, including the composition of each number; they are also able to subitise up to 5. • They are beginning to automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts). • Children can verbally count to 5 recognising the pattern of the counting system. • They can compare quantities up to 5 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.	• Can explore shapes that will roll and slide using language such as curved/flat to describe characteristics • Can recognise and name 2D shapes and describe their features- Square, circle, triangle, rectangle • Using language of in-between, over, above, beneath, besides, to describe routes • Can order 3 items by length or weight using non-standard measures • Can talk about what we use to pay for things.
Reception End points Spring	
Number	Shape, space, measure
• Children have a deep understanding of numbers greater than 5 but less that 10, including the composition of each number. • They can subitise up to 5 and beyond. They can automatically recall number bonds up to 5 (including subtraction facts) and some number bonds to 10, including some double facts. • They can compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. • They explore and represent patterns within numbers up to 10.	• Can recognise faces on 3D shapes comprise of 2D shapes • Uses ordinal number to describe their lined position • Can use 3D shapes to design small worlds • Uses the words faces/ vertices/ edges to describe 3D shapes. • Can recognise cube, cuboid, cylinder, sphere, pyramid as 3D shapes. • Can order 3 items by height or capacity =
Reception End points Summer	
Number	Shape, space, measure
• Children have a deep understanding of number to 10, including the composition of each number. • They can subitise (recognise quantities without counting) up to 5 • They automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. • Children verbally count beyond 20, recognising the pattern of the counting system.	• Can use spatial reasoning to turn and flip objects so that they fit the desired model • Use non-standard measures to match the choice of item e.g., cubes/ long pieces of wood etc • Can take about how to measure time using a countdown and a sand timer as visual support

• They compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. • They explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.	

Year 1

Year 1			
Experiences	SMSC	British Values	The Meadows Values
- Counting and sharing equipment in PE - Timelines in history	Spiritual development: Creativity and imagination are developed as we encourage children to 'think outside of the box' when reasoning and problem solving. Moral development: We encourage logical thinking and how it relates to finding right/wrong answers. As with all lessons, we follow the school policy for behaviour. Social development: Self and peer assessment. Tables throughout the school are arranged in groups to assist with co-operation and teamwork Cultural development: We explore the idea that maths is a universal language. Through various other topics, children use maths to understand ideas further.	Democracy: Teamwork and cooperation, allowing everyone to take turns and express their own answers and explanations. Rule of Law: Following rules when playing games and following the school rules. Using steps when learning new maths skills and calculations. Individual Liberty: Being allowed to make mistakes and learn from them as well as applying their own problems solving strategies when considering efficiency. Mutual respect: Allowing everyone the opportunity to work to the best of their ability. Take turns and share ideas showing respect to others in the class. Respecting equipment and other people's ideas Tolerance: Using maths to explore different religions, such as patterns and shapes within Islam and Hindu religions.	Respectful Rupert - working with others and respecting other people's methods and reasoning Aspirational Amar - always challenging children to do their best and aspire to complete both fluency and problem-solving questions. Resilient Rehanna- Children are always encouraged to not give up and use the scaffolds and support around them to succeed in their maths lessons Kind Kim- showing kindness to others when explaining answers and reasoning. Teamwork Tom- Working as part of a team and paired work in mixed ability pairs. Curious Colette- Investigating problems and thinking outside of the box.

Year 1 vocabulary

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16
Autumn	**Place Value (within 10)** Numeral, count, equal to, equivalent to most, least, half-way, between, compare, order, number, more, less, odd, even, pattern, pair					**Addition and subtraction (within 10)** Addition, half, halve, subtract, equals, is the same as, number bonds/pairs,				**Addition and subtraction (within 10)** missing numbers, add, more, sum, total, altogether, double, one more, two more			**Shape** 2D, point, pointed, 3D, cuboid, cylinder, cube, pyramid, sphere, cone, shape, pattern, flat, curved, straight, round, hollow, solid, sort, size, corner, side, rectangle (square), circle, triangle, face, edge, vertex, vertices			
Spring	**Place Value (within 20)** Numeral, teen numbers, forwards, backwards, equal to, equivalent to, above, below			**Addition and subtraction (within 20)** Add, near double, half, halve, subtract, is the same as, number bonds/pairs, missing numbers, roughly		**Place value (within 50)** Numeral, twenty-one, twenty-two …, forwards, backwards, equal to, equivalent to, above, below		**Length and height** centimetre, ruler, metre stick, metre, length, height, width, depth, low, wide, narrow, thick, thin, long/er/est, short/er/est, tall/er/est, high/er/est,		**Mass and volume** Weight, mass, Capacity and volume, quarter full, weigh, weighs, balances, heavy/ier/iest, light/er/est, scales, full, empty, half full					
Summer	**Multiplication and division** count in ones, twos, fives, tens, multiplication, division			**Fractions** Fraction, equal part, one of two equal parts, one of four equal parts, quarter, half		**Position and direction** Underneath, centre, journey, quarter turn, three-quarter turn			**Place value (within 100)** one hundred		**Money** Change, costs more, costs less, cheaper, costs the same as, How much…?, How many…?, total		**Time** months of the year, seasons, weekend, month, year, earlier, later, first, midnight, date, usually, once, twice, half past, clock face, hour hand, minute hand, hours, minutes			

Year 1 End points and small steps Autumn		
Place value	Addition and subtraction	Shape
RTP: NPV1 Count within 100, forwards and backwards, starting with any number. RTP: NPV2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and = NC: count, read and write numbers to 100 in numerals NC: given a number, identify 1 more and 1 less NC: 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 NC: read and write numbers from 1 to 20 in numerals and words.	RTP: NF1 Develop fluency in addition and subtraction facts within 10. RTP: AS1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers. RTP: AS2 Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to reallife contexts. NC: read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs NC: represent and use number bonds and related subtraction facts within 20 NC: add and subtract one-digit including 0 NC: solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? – 9	RTP: G1 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. NC: 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].
Small steps: sort objects; count objects; count objects from a larger group; represent objects; recognise numbers as words; count on from any number; 1 more, count backwards with 10; 1 less; compare groups by matching; fewer, more, some; less than, greater than, equal to; compare numbers; order objects and numbers; the number line.	Small steps: introduce parts and wholes; part whole model; write number sentences; fact families- addition; number bonds within 10; systematic number bonds within 10; number bonds to 10; addition- add together; addition- add more; addition problems; find a part; subtraction- find a part; fact families- the eight facts; subtraction- take away/cross out; take away; subtraction on a number line.	Small steps: recognise and name 3D shapes; sort 3D shapes; recognise and name 2D shapes; patterns with a 2D and 3D shapes

Year 1 End points and small steps Spring			
Place value	Addition and subtraction	Length and height	Mass and volume
RTP: NPV1 Count within 100, forwards and backwards, starting with any number. RTP: NPV2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and = NC: given a number, identify 1 more and 1 less NC: 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 NC: read and write numbers from 1 to 20 in numerals and words.	RTP: AS2 Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts. NC: read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs NC: represent and use number bonds and related subtraction facts within 20 NC: add and subtract one-digit and two-digit numbers to 20, including 0 NC: solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? – 9	RTP: NPV2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and = RTP: AS2 Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts. NC: compare, describe and solve practical problems for lengths and heights [for example, long/short, longer/shorter, tall/short, double/hal] NC: measure and begin to record lengths and heights	RTP: AS2 Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts. NC: compare, describe and solve practical problems for mass / weight AND capacity and volume NC: measure and begin to record mass/weight AND capacity and volume
Small steps: count within 20; understand 10 ; understand 11, 12 and 13; understand 14, 15 and 16; understand 17, 18 and 19; understand 20; 1 more and 1 less; the number line to 20; use a number line to 20; estimate on a number line 20; compare numbers to 20; order numbers to 20	Small steps: add by counting on within 20; add ones using number bonds; find and make number bonds to 20; doubles; near doubles; subtract ones using number bonds ; subtraction- counting back; subtraction- finding the difference; related facts; missing number problems	Small steps: compare lengths and heights; measure length using objects; measure height in centimetres	Small steps: heavier and lighter; measure mass; compare mass; full and empty; compare volume; measure capacity; compare capacity

Year 1 End points and small steps Summer					
Multiplication and division	Fractions	Position and direction	Place value	Money	Time
RTP: NF2 Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning# NC: 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.	NC: recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity NC: recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity	RTP: G2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations NC: describe position, directions and movements, including whole, half, quarter and three-quarter turns.	RTP: NPV1 Count within 100, forwards and backwards, starting with any number. NC: count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number NC: count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s NC: given a number, identify 1 more and 1 less NC: identify and represent numbers using objects and pictorial representations including the number line, and use the language of correspondence	NC: recognise and know the value of different denominations of coins and notes	NC: compare, describe and solve practical problems for time NC: measure and begin to record time (hours, minutes, seconds) NC: sequence events in chronological order using language NC: recognise and use language relating to dates, including days of the week, weeks, months and years NC: tell the time to the hour and half past the hour and draw the hands on a clock face to show these times
Small steps: count in 2s;10s;5s; recognise equal groups; add equal groups; make arrays; make doubles; make equal groups- groups and sharing	Small steps: recognise a half of an object and shape; find a half; recognise a half of a quantity; find a half of a quantity; recognise a quarter; find a quarter; recognise a quarter; find a quarter	Small steps: describe turns, describe position- left and right; describe position – forwards and backwards; describe position- above and below; ordinal number	Small steps: count from 50 to 100, tens to 100, partition into tens and ones; the number line to 100; 1 more, 1 less; compare numbers with the same number of tens; compare any two numbers	Small steps: unitising; recognise coins; recognise notes; count in coins	Small steps: before and after; days of the week; months of the year; hours, minutes and seconds; tell the time to the hour; tell the time to the half hour

Year 2

Year 2			
Experiences	SMSC	British Values	The Meadows Values
-looking at charts in geography to compare weather including rainfall in different places - use of adjectives in English	Spiritual development: Creativity and imagination are developed as we encourage children to 'think outside of the box' when reasoning and problem solving. Moral development: We encourage logical thinking and how it relates to finding right/wrong answers. As with all lessons, we follow the school policy for behaviour. Social development: Self and peer assessment. Tables throughout the school are arranged in groups to assist with co-operation and teamwork Cultural development: We explore the idea that maths is a universal language. Through various other topics, children use maths to understand ideas further.	Democracy: Teamwork and cooperation, allowing everyone to take turns and express their own answers and explanations. Rule of Law: Following rules when playing games and following the school rules. Using steps when learning new maths skills and calculations. Individual Liberty: Being allowed to make mistakes and learn from them as well as applying their own problems solving strategies when considering efficiency. Mutual respect: Allowing everyone the opportunity to work to the best of their ability. Take turns and share ideas showing respect to others in the class. Respecting equipment and other people's ideas Tolerance: Using maths to explore different religions, such as patterns and shapes within Islam and Hindu religions.	Respectful Rupert - working with others and respecting other people's methods and reasoning Aspirational Amar - always challenging children to do their best and aspire to complete both fluency and problemsolving questions. Resilient Rehanna- Children are always encouraged to not give up and use the scaffolds and support around them to succeed in their maths lessons Kind Kim- showing kindness to others when explaining answers and reasoning. Teamwork Tom- Working as part of a team and paired work in mixed ability pairs. Curious Colette- Investigating problems and thinking outside of the box.

Year 2- vocabulary

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16
Autumn	**Place value** Groups of, tens, ones, sequence, predict, rule, place value, represents, regroup, even, odd, standard and non-standard partition				**Addition and subtraction** one hundred more…, one hundred less … , tens boundary, bridging, inverse, check, mentally, calculation, balance, regroup, partition					**Addition and subtraction**		**Shape** surface, line symmetry, vertical, straight sides, vertices, edges, faces		**Money** Pounds, pence, £ and p, amount		Consolidation
Spring	**Multiplication and division** groups of, division, share, array, row, column, multiplication, repeated addition						**Length and height** measuring scale, standard units (cm, m)		**Mass, capacity and temperature** Temperature, degree celcius, standard units (g, kg, ml, l), thermometer, scales, measure jug		Consolidation					
Summer	**Fractions** equivalent fraction, numerator, denominator, halves, quarters, thirds, equal parts			**Time** 5, 10, 15 minutes past, duration, quarter past, quarter to			**Statistics** Tally, graph, block graph, pictogram, represent, label, title, most popular, most common, least popular, least common			**Position and direction** route, clockwise, anticlockwise, full turn, half turn, quarter turn, three quarter turn		Consolidation				

Year 2 End Points - Autumn

Place value	Addition and subtraction	Shape	Money
RTP: NPV1 Recognise place value of each digit in 2 digit numbers; compose and decompose 2 digit numbers (standard + non- standard partitioning) NC: read and write numbers to at least 100 in numerals and in words RTP: NPV2 Reason about the location of any 2 digit number, including identifying the previous and next multiple of 10. NC: identify, represent and estimate numbers using different representations, including the number line NC: compare and order numbers from 0 up to 100; use <, > and = signs NC: count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward NC: use place value and number facts to solve problems.	RTP: NF1 Secure fluency in addition and subtraction facts within 10, through continued practice. NC: recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 RTP: AS1 Add and subtract across 10. NC: add and subtract numbers using various representations mentally, including: a two-digit and 1s, a two-digit and 10s, 2 two-digit numbers, 3 one-digit numbers NC: show that addition of 2 numbers is commutative and subtraction of one number from another is not NC: recognise and use the inverse relationship between addition and subtraction (use to check and solve missing number problems) NC: solve problems with addition and subtraction using representations, applying their increasing knowledge of mental and written methods	RTP: G1 Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties. NC: identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line NC: identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces NC: identify 2-D shapes on the surface of 3-D shapes NC: compare and sort common 2-D and 3-D shapes and everyday objects.	NC: recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value NC: find different combinations of coins that equal the same amounts of money. NC: solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
Small steps: numbers to 20; count objects to 100 by making 10s; recognise tens and ones; use a place value chart; partition numbers to 100, write numbers to 100 in words; flexibly partition numbers to 100; write numbers to 100 in expanded form; 10s on the number line to 100; estimate numbers; compare objects; compare numbers; order objects; count in 2s, 5s and 10s; count in 3s	Small steps: bonds to 10; fact families- addition and subtraction bonds within 20; related facts; bonds to 100; add and subtract 1s; add by making 10; add three 1 digit numbers; add to the next 10; add across a 10; subtract across 10; subtract from a 10; subtract a 1 digit number from a 2 digi number; 10 more, 10 less; add and subtract 10s; add two 2 digit numbers; add two 2 digit numbers (Across a 10); subtract two 2 digit numbers; subtract two 2 digit numbers (across a 10); mixed addition and subtraction; compare number sentences; missing number problems.	Small steps: recognise 2D and 3D shapes; count sides on 2D shales; count vertices on 2D shapes; draw 2D shapes; lines of symmetry on shapes; use lines of symmetry to complete shapes; sort 2D shapes; count faces on 3D shapes; count edges on 3D shapes; count vertices on 3D shapes; sort 3D shapes; make patterns	Small steps: count money; choose notes and coins; make the same amount; compare amounts of money; calculate with money; make apount; find change; two step problem

Year 2 End Points - Spring

Multiplication and division	Length and height	Mass, capacity and temperature
RTP: MD1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables RTP: MD2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division). NC: recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including odd and even numbers NC: calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs NC: show that multiplication of 2 numbers is commutative and division is not NC: solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	NC: choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); to the nearest appropriate unit using rulers (tape measure etc) NC: compare and order lengths, mass, volume/capacity and record the results using >, < and =	NC: choose and use appropriate standard units for mass (kg/g); temperature (°C); capacity (litres/ml) use scales, thermometers and measuring vessels NC: compare and order measures and record the results using >, < and =
Small steps: recognise equal groups; make equal groups; add equal groups; introduce the multiplication symbol; multiplication sentences; use arrays; make equal groups- grouping; make equal groups- sharing; the 2 times table; divide by 2; doubling and halving; odd and even numbers; the 10 times table; divide by 10; the 5 times table; divide by 5; the 5 and 10 times table	Small steps: measure in cm; measure in m; compare lengths and heights; order lengths and heights; four operations with lengths and heights	Small steps: compare mass; measure in grams; measure in kilograms; four operations with mass; compare volume and capacity; measure in millimetres; measure in litres; four operations with volume and capacity; temperature

Year 2 End Points - Summer

Fractions	Time	Statistics	Position and direction
NC: recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity NC: write simple fractions, for example 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2	NC: compare and sequence intervals of time NC: 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. NC: know the number of minutes in an hour and the number of hours in a day	NC: interpret and construct simple pictograms, tally charts, block diagrams and tables NC: ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity NC: ask and answer questions about totalling and comparing categorical data	NC: order and arrange combinations of mathematical objects in patterns and sequences NC: use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).
Small steps: introduction to parts and whole; equal and unequal parts; recognise a half; find a half; recognise a quarter; find a quarter; recognise a third; find a third; find the whole; unit fractions; non unit fractions; recognise equivalence of a half and two quarters; recognise three quarters; find three quarters; count in fractions up to a whole	Small steps: o'clock and half past; quarter past and quarter to; tell time past the hour; tell time to the hour; tell the time to 5 minutes; minutes in an hour; hours in a day	Small steps: make tally charts; tables' block diagrams; draw pictograms; interpret pictograms; draw pictograms; interpret pictograms	Small steps: language of position; describe movement; describe turns; describe movement and turns; shape patterns with turns

Year 3

Year 3			
Experiences	SMSC	British Values	The Meadows Values
- Recording data in science - Calculating change during life skills day - Looking at timelines in history	Spiritual development: Creativity and imagination are developed as we encourage children to 'think outside of the box' when reasoning and problem solving. Moral development: We encourage logical thinking and how it relates to finding right/wrong answers. As with all lessons, we follow the school policy for behaviour. Social development: Self and peer assessment. Tables throughout the school are arranged in groups to assist with co-operation and teamwork Cultural development: We explore the idea that maths is a universal language. Through various other topics, children use maths to understand ideas further.	Democracy: Teamwork and cooperation, allowing everyone to take turns and express their own answers and explanations. Rule of Law: Following rules when playing games and following the school rules. Using steps when learning new maths skills and calculations. Individual Liberty: Being allowed to make mistakes and learn from them as well as applying their own problems solving strategies when considering efficiency. Mutual respect: Allowing everyone the opportunity to work to the best of their ability. Take turns and share ideas showing respect to others in the class. Respecting equipment and other people's ideas Tolerance: Using maths to explore different religions, such as patterns and shapes within Islam and Hindu religions.	Respectful Rupert - working with others and respecting other people's methods and reasoning Aspirational Amar - always challenging children to do their best and aspire to complete both fluency and problem-solving questions. Resilient Rehana- Children are always encouraged to not give up and use the scaffolds and support around them to succeed in their maths lessons Kind Kim- showing kindness to others when explaining answers and reasoning. Teamwork Tom- Working as part of a team and paired work in mixed ability pairs. Curious Colette- Investigating problems and thinking outside of the box.

Year 3 vocabulary

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16
Autumn	**Place value** ten times the size of, previous and next multiple of 10 or 100, ascending and descending, Scale up, regroup, interval				**Addition and subtraction** partition, regroup, estimate, check, inverse, efficiency, Missing part, minuend, subtrahend, difference sum, addend					**Addition and subtraction** As before		**Multiplication and division A** Factor, product, double and double again, six fours are twenty-four (verbalise sound pattern of 3 relevant numbers), quotient, sharing (partitive), grouping (quotitive)				Consolidation
Spring	**Multiplication and division B** Factor, product, Double and double again, six fours are twenty-four (verbalise sound pattern of 3 relevant numbers), quotient, sharing (partitive), grouping (quotitive)			**Length and perimeter** perimeter, length (m/cm/mm), duration			**Fractions A** tenths, unit/non-unit fraction, numerator, denominator mixed number, equal parts, interval			|**Mass and capacity** volume/capacity (l/ml)Grams, kilograms, mass (kg/g); litres, millilitres,						
Summer	**Mass and capacity** As before	**Fractions B** As before		**Money** add and subtract amounts of money to give change, using both £ and p in practical contexts			consolidation		**Time** Calendar, a.m. p.m., Roman numerals, 12 hour clock and 24 hour clock, analogue and digital, use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight, duration, year and leap year			**Shape** parallel, perpendicular, polygon, sphere, cuboid, cylinder, pyramid, cone, horizontal, vertical, orientation, angles, turn, greater than, less than, half turn, right angle, quarter turn, clockwise, anti-clockwise		**Statistics** = interpret, present, pictogram, bar chart, frequency table, Venn diagram, axis/axes		

Year 3 End Points - Autumn

Place value	Addition and subtraction	Multiplication and division
NPV1 Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three- digit multiples of 10. NPV2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning. NPV3 Reason about the location of any three- digit number in the linear number system, including identifying the previous and next multiple of 100 and 10. NPV4 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. NC: solve number problems and practical problems involving these ideas	AS1 Calculate complements to 100, for example: 46 + ? = 100 AS2 Add and subtract up to three-digit numbers using columnar methods. AS3 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction. NF1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice. NF3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10). NC: solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	MD1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division. NF2 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 NC: 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
Small steps: represent numbers to 100; partition numbers to 100; number line to 100; hundreds; represent numbers to 1000; partition numbers to 1000; flexible partitioning of numbers to 1000; hundreds, tens and ones; find 1, 10 or 100 more or less; number line to 1000; compare numbers to 1000; order numbers to 1000; count in 50s	Small steps: apply number bonds within 10; add and subtract 1s; add and subtract 10s; add and subtract 100s; spot the pattern; add 1s across a 10; add 10s across a 100; subtract 1s across a 10; subtract 10s across a 100; make connections; add two numbers (no exchange); subtract two numbers (no exchange); add two numbers (across a 10); add two numbers (Across 100); subtract two numbers; subtract two numbers (across a 100); add 2 digit and 3 digit numbers; subtract 2 digits from 3 digits; complements to 100; estimate answers; inverse operations; make decisions	Small steps: multiplication- equal groups; use arrays; multiples of 2; multiples of 5 and 10; sharing and grouping; multiply by 3; divide by 3; the 3 times tables; multiply by 4; divide by 4; the 4 times table; multiply by 8; divide by 8; the 8 times table; the 2,4 and 8 times tables

Year 3 End Points - Spring

Multiplication and division	Length and perimeter	Fractions	Mass and capacity
NC: recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables NC: 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 NC: 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	NPV2, AS2 and NPV3 NC: measure, compare, add and subtract: lengths (m/cm/mm) NC: measure the perimeter of simple 2-D shapes	F1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts (unit fractions and non-unit fractions with small denominators) F2 Find unit fractions of quantities using known division facts (multiplication tables fluency). F3 Reason about the location of any fraction within 1 in the linear number system. NC: 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 NC: recognise and show, using diagrams, equivalent fractions with small denominators NC: compare and order unit fractions, and fractions with the same denominators F4 Add and subtract fractions with the same denominator, within 1. NC: solve problems that involve all of the above	NC: measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
Small steps: multiples of 10; related calculations; reasoning about multiplication; multiply a 2 digit number by 1 digit number- no exchange; as previous with exchanging; link multiplication and division; divide a 2 digit number by 1 digit- no exchange; as previous with flexible partitioning; divide a 2 digit number by 1 digit with remainders; scaling	Small steps: measure in metres and cm; measure in millimetres; measure in cm and mm; metres, cm and mm; equivalent lengths (m and cm); equivalent lengths (cm and mm); compare lengths; add lengths; subtract lengths; what is perimeter?; measure perimeter; calculate perimeter	Small steps: understand the denominators of unit fractions; compare and order unit fractions; understand the numerator of non-unit fractions; understand the whole; compare and order non unit fractions; fractions and scales; fractions on a number line; count in fractions on a number line; equivalent fractions on a number line; equivalent fractions and bar models	Small steps: use scales, measure mass in grams; measure mass in kg and g; equivalent masses; compare mass; add and subtract mass; measure capacity and volume in ml; measure capacity and volume in litres and ml;

Year 3 End Points - Summer

Mass and capacity	Fractions	Money	Time	Shape	Statistics
NC: measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	F1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts (unit fractions and non-unit fractions with small denominators) F2 Find unit fractions of quantities using known division facts (multiplication tables fluency). F3 Reason about the location of any fraction within 1 in the linear number system. NC: 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 NC: recognise and show, using diagrams, equivalent fractions with small denominators NC: compare and order unit fractions, and fractions with the same denominators F4 Add and subtract fractions with the same denominator, within 1. NC: solve problems that involve all of the above	NPV2 and AS2 NPV4 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. NC: add and subtract amounts of money to give change, using both £ and p in practical contexts	NC: tell and write the time from an analogue clock, including using Roman numerals from I to XII, NC: estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight NC: know the number of seconds in a minute and the number of days in each month, year and leap year NC: compare durations of events	G1 Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations. NC: recognise that 2 right angles make a half-turn, 3 make three quarters of a turn and 4 a complete turn; identify whether angles are greater than or less than a right angle NC: recognise angles as a property of shape or a description of a turn NC: identify horizontal and vertical lines NC: draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	Interpret and present data - bar charts, pictograms and tables NC: solve one-step and two-step questions using information presented in scaled bar charts and pictograms and tables.
Small steps: equivalent capacity and volume; compare capacity and volume; add and subtract capacity and volume	Small steps: add fractions; subtract fractions; partition the whole; unit fractions of a set of objects; non unit fractions of a set of objects; reasoning with fractions of an amount	Small steps: pounds and pence; convert pounds and pence; add money; subtract money; find change	Small steps: roman numerals to 12; tell the time to 5 minutes; tell th time to the minute; read time on a dig. clock; use AM and PM; years, months, days; days and hours; durations; minutes and seconds; units of time; solve problems	Small steps: turns and angles; right angles; compare angles; measure and draw accurately; horizontal and vertical; parallel and perpendicular; recognise and describe 2D shapes; draw polygons; recognise and describe 3D shapes; make 3D shapes;	Small steps: interpret pictograms; draw pictograms; interpret bar charts; draw bar charts; collect and represent; two-way tables

Year 4

Year 4			
Experiences	SMSC	British Values	The Meadows Values
History - Roman (Roman numerals) PE - Counting in multiples during warm up and games (e.g. the first team to ___ counting in multiples of ___ is the winner). Spanish - Counting to 30 Science - Presenting data in a table and line graph. Reading digital time.	Spiritual development: Creativity and imagination are developed as we encourage children to 'think outside of the box' when reasoning and problem solving. Moral development: We encourage logical thinking and how it relates to finding right/wrong answers. As with all lessons, we follow the school policy for behaviour. Social development: Self and peer assessment. Tables throughout the school are arranged in groups to assist with co-operation and teamwork Cultural development: We explore the idea that maths is a universal language. Through various other topics, children use maths to understand ideas further.	Democracy: Teamwork and cooperation, allowing everyone to take turns and express their own answers and explanations. Rule of Law: Following rules when playing games and following the school rules. Using steps when learning new maths skills and calculations. Individual Liberty: Being allowed to make mistakes and learn from them as well as applying their own problems solving strategies when considering efficiency. Mutual respect: Allowing everyone the opportunity to work to the best of their ability. Take turns and share ideas showing respect to others in the class. Respecting equipment and other people's ideas Tolerance: Using maths to explore different religions, such as patterns and shapes within Islam and Hindu religions.	Respectful Rupert - working with others and respecting other people's methods and reasoning Aspirational Amar - always challenging children to do their best and aspire to complete both fluency and problemsolving questions. Resilient Rehanna- Children are always encouraged to not give up and use the scaffolds and support around them to succeed in their maths lessons Kind Kim- showing kindness to others when explaining answers and reasoning. Teamwork Tom- Working as part of a team and paired work in mixed ability pairs. Curious Colette- Investigating problems and thinking outside of the box.

Year 4 vocabulary

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16
Autumn	**Place Value** consecutive, integer, positive, negative (do not use minus to refer to negative numbers), closest multiple, rounded to					**Addition and subtraction** scaling, formal, columnar, estimate, regroup				**Area** metric unit, rectilinear, mm, cm, m, km (kilo), units of measure, area		**Multiplication and division A and B** dividend, multiple, divisor, remainder, factor pairs, commutative, distributive, quotient, represents, correspondence problems				
Spring	**Multiplication and division B** As before	**Length and perimeter** metric unit, rectilinear, mm, cm, m, km (kilo), units of measure, area		**Fractions** proper and improper, equivalent			**Fractions** As before		**Decimals A** equivalent, 2 decimal places (2dp), round, nearest whole number, tenth, hundredth, estimate, compare							
Summer	**Decimals B** equivalent, 2 decimal places (2dp), round, nearest whole number, tenth, hundredth, estimate, compare		**Money** equivalent, 2 decimal places (2dp), round, nearest whole number, tenth, hundredth, estimate, compare		**Time** convert, approximately, difference		Consolidation		**Shape** quadrilateral, triangle, regular, irregular, symmetry, orientation, edge, vertex, isosceles, equilateral, scalene, trapezium, parallelogram, rhombus, interior angles, acute, obtuse, straight line, properties,	**Statistics** interpret, present discrete and continuous data, using appropriate, time graphs, Carroll diagram		**Position and direction** coordinates, plot, translation, first quadrant, x and y axis		Consolidation	

Year 4 End Points - Autumn			
Place value	Addition and subtraction	Area	Multiplication and division
NPV1 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. NPV2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non- standard partitioning. NC: identify, represent and estimate numbers using different representations NC: count backwards through 0 to include negative numbers NC: solve number and practical problems that involve all of the above and with increasingly large positive numbers NC: count in multiples of 25 and 1,000 NC: read Roman numerals to 100 and know that over time, the numeral system changed to include 0 and place value	NF3 Apply place-value knowledge to known additive facts (scaling facts by 100) NC: add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate NC: estimate and use inverse operations to check answers to a calculation NC: solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	NC: find the area of rectilinear shapes by counting squares	NF1 Recall multiplication and division facts up to 12x12 and recognise products in multiplication tables as multiples of the corresponding number. NF3 Apply place-value knowledge to known multiplicative number facts (scaling facts by 100) MD1 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. MD2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication. NC: count in multiples of 6, 7, 9, 25 and 1,000
Small steps: represent numbers to 1000; partition numbers to 1000; number line to 1000; thousands; represent numbers to 10,000; partition numbers to 10,000; flexible partitioning of numbers to 10,000; find 1, 10, 100, 1000 more or less; number line to 10,000; estimate on a number line o 10,000; compare numbers to 10,000; order numbers to 10,000; roman numerals; round to the nearest 10; nearest 100, nearest 1000	Small steps: add and subtract 1s, 100s, 100s and 1000s; add up to two 4 digits numbers no exchange; add two 4 digit number one exchange; add two 4 digit numbers more than one exchange; subtract two 4 digit numbers no exchange, subtract two 4 digit numbers one exchange; subtract two 4 digit numbers more than one exchange; efficient subtraction; estimate answers; checking strategies	Small steps: what is area; count squares; make shapes; compare areas	Small steps: multiples of 3; multiply and divide by 6; 6 times tables and division; multiply and divide by 9; 9 times tables and division; the 3, 6 and 9 times tables; multiply and divide by 7; 7 times tables and divisions; 11 times table and divisions; 12 times tables and divisions; multiply by 1 and 0; divide a number by 1 and itself; multiply thee numbers

Year 4 End Points - Spring			
Multiplication and division	Length and perimeter	Fractions	Decimals
MD3 Understand and apply the distributive property of multiplication NF2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders NC: use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers NC: recognise and use factor pairs and commutativity in mental calculations NC: multiply two-digit and three-digit numbers by a one-digit number using formal written layout NC: solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	NPV4 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. G2 Find the perimeter of regular and irregular polygons. NC: convert between different units of measure NC: measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres NC: find the area of rectilinear shapes by counting squares	F1 Reason about the location of mixed numbers in the linear number system. F2 Convert mixed numbers to improper fractions and vice versa. F3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers. NC: recognise and show, using diagrams, families of common equivalent fractions NC: count up and down in hundredths; recognise that hundredths arise when dividing an object by a 100 and dividing tenths by 10. NC: 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 NC: solve simple measure and money problems involving fractions and decimals to 2 decimal places	NC: 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 NC: recognise and write decimal equivalents of any number of tenths or hundredths
Small steps: factor pairs; use factor pairs; multiply by 10; multiply by 100; divide by 10; divide by 100; related facts; informal written methods for multiplication; multiply a 2 digit number by a 1 digit; multiply a 3 digit number by a 1 digit; divide a 2 digit by a 1 digit number; divide a 2 digit number by a 1 digit number (2); divide a 3 digit number by a 1 digit number, correspondence problems; efficient multiplication	Small steps: measure in km and m; equivalent lengths; perimeter on a grid; perimeter of a rectangle; perimeter of rectilinear shapes; find missing lengths in rectilinear shapes; calculate the perimeter; perimeter of regular polygons;	Small steps: understand the whole; count beyond 1; partition a mixed number; number lines with mixed numbers; compare and order mixed numbers; understand improper fractions; convert mixed numbers to improper fractions; convert improper fractions to mixed numbers; equivalent fractions on a number line; equivalent fraction families; add two or more fractions; add fractions and mixed numbers; subtract two fractions; subtract from whole amounts; subtract from mixed numbers	Small steps: tenths as fractions; tenths as decimals; tenths on a place value chart; tenths on a number line; divide a 1 digit number by 10; divide a 2 digit number by 10; hundredths as fractions; hundredths as decimals; hundredths on a place value chart; divide a 1 or 2 digit number by 100

Year 4 End Points - Summer

Decimals	Money	Time	Shape	Statistics	Position and direction
NC: compare numbers with the same number of decimal places up to 2 decimal places NC: recognise and write decimal equivalents to ¼; ½; ¾ NC: round decimals with 1 decimal place to the nearest whole number	NC: estimate, compare and calculate different measures, including money in pounds and pence NC: solve simple measure and money problems involving fractions and decimals to 2 decimal places. NC: round decimals with 1 decimal place to the nearest whole number	NC: read, write and convert time between analogue and digital 12 and 24-hour clocks NC: solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days	NC: identify acute and obtuse angles and compare and order angles up to 2 right angles by size G2 Identify regular polygons, including equilateral triangles and squares, as those in which the side lengths are equal and the angles are equal. NC: compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes G3 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.	NPV4 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. NC: interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs NC: solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	NC: describe positions on a 2-D grid as coordinates in the first quadrant G1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant. NC: describe movements between positions as translations of a given unit to the left/right and up/down
Small steps: make a whole with tenths; make a whole with hundredths; partition decimals; flexibly partition decimals; compare decimals; order decimals; round to the nearest whole; halves and quarters as decimals;	Small steps: write money using decimals; convert between pounds and pence; compare amounts of money; estimate with money; calculate with money; solve problems with money	Small steps: years, months, weeks and days; hours, minutes and seconds; convert between analogue and digital times; convert to the 24 hour clock; convert from the 24 hour clock	Small steps: understand angles as turns; identify angles; compare and order angles; triangles; quadrilaterals; polygons; lines of symmetry; complete a symmetric figure	Small steps: interpret charts; comparison, sum and difference; interpret line graphs; draw line graphs	Small steps: describe position using co-ordinates; plot coordinates; draw 2D shapes on a grid; translate on a grid; describe translation on a grid

Year 5

Year 5			
Experiences	SMSC	British Values	The Meadows Values
- Roman numerals linked throughout - Measure time intervals and presenting data in graphs in science - In DT, weighing food and measuring ingredients - Making shapes using scratch in computing and giving numbered and logical instructions	Spiritual development: Creativity and imagination are developed as we encourage children to 'think outside of the box' when reasoning and problem solving. Moral development: We encourage logical thinking and how it relates to finding right/wrong answers. As with all lessons, we follow the school policy for behaviour. Social development: Self and peer assessment. Tables throughout the school are arranged in groups to assist with co-operation and teamwork Cultural development: We explore the idea that maths is a universal language. Through various other topics, children use maths to understand ideas further.	Democracy: Teamwork and cooperation, allowing everyone to take turns and express their own answers and explanations. Rule of Law: Following rules when playing games and following the school rules. Using steps when learning new maths skills and calculations. Individual Liberty: Being allowed to make mistakes and learn from them as well as applying their own problems solving strategies when considering efficiency. Mutual respect: Allowing everyone the opportunity to work to the best of their ability. Take turns and share ideas showing respect to others in the class. Respecting equipment and other people's ideas Tolerance: Using maths to explore different religions, such as patterns and shapes within Islam and Hindu religions.	Respectful Rupert - working with others and respecting other people's methods and reasoning Aspirational Amar - always challenging children to do their best and aspire to complete both fluency and problemsolving questions. Resilient Rehanna- Children are always encouraged to not give up and use the scaffolds and support around them to succeed in their maths lessons Kind Kim- showing kindness to others when explaining answers and reasoning. Teamwork Tom- Working as part of a team and paired work in mixed ability pairs. Curious Colette- Investigating problems and thinking outside of the box.

Year 5 vocabulary

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16
Autumn	**Place Value** negative/positive, ascending/ descending order, ten thousand, hundred thousand, midpoint,				**Four operations:** = inverse, integer, regroup, factor pair, common factor, divisibility, square number, cube number, prime number, composite number , one tenth times the size, one hundredth times the size, regroup, scale, remainders					**Fractions** common denominator, mixed number, proper, improper, 'of', partition				**Multiplication and division B** As before		
Spring	**Fractions B** As before		**Decimals and percentages** hundredth, zero point (0.), thousandth, percent, approximate, bonds, sequences,			**Perimeter and area** compound, formula, square metre, adjacent, opposite			**Statistics** discrete, continuous, two-way tables		Consolidation					
Summer	**Shape** , vertex/vertices, image and object			**Position and direction** first quadrant, translation, reflection, point		**Decimals** As before			Negative numbers	**Converting units** Metric, imperial, inches, pounds (lb)			**Volume** compound, formula, square metre, adjacent, opposite		Consolidation	

Year 5 End Points - Autumn

Place value	Addition and subtraction	Multiplication and division	Fractions
NPV2 NPV3 NC: read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit NC: count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 NC: interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0 NC: round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 NC: solve number problems and practical problems that involve all of the above NC: read Roman numerals to 1,000 (M) and recognise years written in Roman numerals	NF2 Apply place-value knowledge to known additive facts NC: add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar) NC: add and subtract numbers mentally with increasingly large numbers NC: use rounding to check answers and determine, in context, levels of accuracy NC: solve + AND - multi-step problems in contexts, deciding which operations and methods to use and why.	NC: solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes NC: solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. MD3 NC: 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 MD4 NC: solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign NC: know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers and establish whether a number up to 100 is prime; recall prime numbers to 19 NC: multiply and divide numbers mentally drawing upon known facts NC: recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed	5F2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system. 5F1 Find non-unit fractions of quantities NC: compare and order fractions whose denominators are all multiples of the same number NC: identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths NC: recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number NC: add and subtract fractions with the same denominator and denominators that are multiples of the same number
Small steps: Roman numerals to 1000; numbers to 10000; numbers to 100000; numbers to 1000000; read and write numbers to 1000000; powers of 10; 10/100 etc more or less; partition numbers to 1000000; number line to 1000000; compare and order numbers to 100000' compare and order numbers to 1000000; round to the nearest 10, 100 or 1000; round within 100000; round withing 100000	Small steps: mental strategies; add whole numbers with more than four digits; subtract whole numbers with more than four digits; round to check answers; inverse operations; multi step problems; compare calculations; find missing numbers	Small steps: multiples; common multiples; factors; common factors; prime numbers; square numbers; cube numbers; multiply by 10,100 or 1000; divide by 10, 100 or 1000; multiples of 10, 100 and 1000; Small steps: multiply up to a 4 digit number by 1 digit; multiply a 2 digit number by 2 digit number; multiply a 2 digit number by 2 digit number; multiply a 3 digit number by a 2 digit number; multiply a 4 digit number by a 2 digit number; solve problems ; short division; divide a 4 digit number by 1 digit; divide with remainders; efficient division; solve problems	Small steps: find fractions equivalent to a unit fraction; find fractions to non-unit fractions; recognise equivalent fractions; convert improper fractions to mixed numbers; convert mixed numbers to improper fractions; compare fractions less than 1; order fractions less than 1; compare and order fractions greater than 1; add and sub fractions same denominator; add fractions within 1; add greater than 1; add to a mixed numbers; add two mixed numbers; subtract fractions; subtract from a mixed numbers; subtract two mixed numbers

Year 5 End Points - Spring

Fractions	Decimals and percentages	Perimeter and area	Statistics
5F1 Find non-unit fractions of quantities NC: multiply proper fractions and mixed numbers by whole numbers, supported by materials and objects	NC: read and write decimal numbers as fractions NC: recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents NC: read, write, order and compare numbers with up to 3 decimal places NC: solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and fractions with a denominator of a multiple of 10 or 25. NC: recognise the per cent symbol (%) and understand that per cent relates to "number of parts per 100", and write percentages as a fraction with denominator 100, and as a decimal fraction NC: use rounding to check answers	G2 Compare areas and calculate the area of rectangles (including squares) using standard units. NC: including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes NC: measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	NPV4 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. NC: solve comparison, sum and difference problems using information presented in a line graph NC: complete, read and interpret information in tables, including timetables
Small steps: multiply a unit fraction by an integer; multiply a non-unit fraction by an integer; multiply a mixed number by an integer; calculate a fraction of a quantity; fraction of an amount; find the whole; use fractions as operators	Small steps: decimals up to 2 decimal places; equivalent fractions and decimals x2; thousandths as fractions; thousandths as decimals; thousandths on a place value chart; order and compare decimals; as before up to three decimal places; round to the nearest whole; round to 1 decimal place; understand percentage; percentages as fractions; percentages as decimals; equivalent FDP	Small steps: perimeter of rectangles; perimeter of rectilinear shapes; perimeter of polygons; area of rectangles; are of compound shapes; estimate area	Small steps: draw line graphs; read and interpret line graphs; read and interpret tables; two way tables; read and interpret timetables.

Year 5 End Points - Summer

Shape	Position and direction	Decimals	Negative numbers	Converting units	Volume
G1. NC: acute, obtuse and reflex angles NC: identify: angles at a point and 1 whole turn (total 360°), angles at a point on a straight line and half a turn (total 180°) other multiple of 90° NC: use the properties of rectangles to deduce related facts and find missing lengths and angles NC: distinguish between regular and irregular polygons based on reasoning about equal sides and angles. NC: identify 3-D shapes, including cubes and other cuboids, from 2-D representations	NC: 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	NC: multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 NC: solve problems involving number up to 3 decimal places NC: use all four operations to solve problems involving measure using decimal notation including scaling. NC: solve problems involving numbers up to 3 decimal places	NC: interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0	NPV5 Convert between units of measure, including using common decimals and fractions. NC: understand and use approximate equivalences between metric units and common imperial units (inches, pounds, pints) NC: solve problems involving converting between units of time NC: use all four operations to solve problems involving measure using decimal notation including scaling.	NC: Estimate volume and capacity
Small steps: understand and use degrees; classify angles; estimate angles; measure angles up to 180; draw lines and angles accurately; calculate angles around a point; calculate angles on a straight line; lengths and angles in shapes; regular and irregular polygons; 3D shapes	Small steps: read and plot coordinates; problem solving with coordinates; translation; translation with coordinates; lines of symmetry; reflections in horizontal and vertical lines	Small steps: use known facts to within 1; complements to 1; add and subtract decimals across 1; add decimals with the same number DP; subtract decimals with the same number of DP; add decimals with different DP; subtract decimals with different DP; efficient strategies; decimals sequences; multiply by 10,100 and 1000; divide by 10,100 and 1000; multiply and divide decimals	Small steps: understand negative numbers; count through zero in 1s; count through zero in multiples; compare and order negative numbers; find the difference	Small steps: kilograms and kilometres; mm and ml; convert units of length; convert between metric and imperial units; convert units fo time; calculate with timetables	Small steps: cubic cm; compare volume; estimate volume; estimate capacity

Year 6

Year 6			
Experiences	SMSC	British Values	The Meadows Values
History- looking at the Mayan number system Science- Use graphs and tables to present data. Life skills- look at budgeting a meal for a family of 4 during DT- scale up recipes during 'The Great British Bread Off'	Spiritual development: Creativity and imagination are developed as we encourage children to 'think outside of the box' when reasoning and problem solving. Moral development: We encourage logical thinking and how it relates to finding right/wrong answers. As with all lessons, we follow the school policy for behaviour. Social development: Self and peer assessment. Tables throughout the school are arranged in groups to assist with co-operation and teamwork Cultural development: We explore the idea that maths is a universal language. Through various other topics, children use maths to understand ideas further.	Democracy: Teamwork and cooperation, allowing everyone to take turns and express their own answers and explanations. Rule of Law: Following rules when playing games and following the school rules. Using steps when learning new maths skills and calculations. Individual Liberty: Being allowed to make mistakes and learn from them as well as applying their own problems solving strategies when considering efficiency. Mutual respect: Allowing everyone the opportunity to work to the best of their ability. Take turns and share ideas showing respect to others in the class. Respecting equipment and other people's ideas Tolerance: Using maths to explore different religions, such as patterns and shapes within Islam and Hindu religions.	Respectful Rupert - working with others and respecting other people's methods and reasoning Aspirational Amar - always challenging children to do their best and aspire to complete both fluency and problemsolving questions. Resilient Rehanna- Children are always encouraged to not give up and use the scaffolds and support around them to succeed in their maths lessons Kind Kim- showing kindness to others when explaining answers and reasoning. Teamwork Tom- Working as part of a team and paired work in mixed ability pairs. Curious Colette- Investigating problems and thinking outside of the box.

Year 6 vocabulary

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16
Autumn	**Place value** digit total, 10 million			**Four operations** prime factor, Highest Common Factor, Lowest Common						**Fractions** Highest Common Factor, Lowest Common Multiple, Simplify				**Converting units** Miles	**Statistics** Mean, average, pie charts, circle, circumference, diameter, radius	
Spring	**Ratio** proportion, scale, scale factor, part:part relationship, multiplicative relationship		**Algebra** Expression, substitute, formula, equation, represent, possibilities, enumerate, combinations, variables	**Decimal** thousandth, integer, equivalence			**Fractions, decimals and percentages**			**Area, perimeter and volume** dimensions, cubic centimetres, cubic metres						
Summer	**Shape and Position and direction** Angles, protractor, reflex, regular, irregular, equilateral, scalene, isosceles, quadrilaterals, vertically opposite angles, interior and exterior angles			Consolidation					Themed projects, consolidation and problem solving							

Year 6 End Points - Autumn

Place value	Four operations	Fractions	Converting units	Statistics
NPV2. NPV3 NPV4 NC: read, write, order and compare numbers up to 10 000 000 and determine the value of each digit NC: use negative numbers in context, and calculate intervals across 0 NC: solve number and practical problems that involve all of the above	AS/MD–1 NC: multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication NC: 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 NC: 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 NC: perform mental calculations, including with mixed operations and large numbers. NC: identify common factors, common multiples and prime numbers NC: use their knowledge of the order of operations to carry out calculations involving the 4 operations NC: solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why NC: solve problems involving addition, subtraction, multiplication and division NC: use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.	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. 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. NC: add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions NC: multiply simple pairs of proper fractions, writing the answer in its simplest form NC: divide proper fractions by whole numbers NC: associate a fraction with division and calculate decimal fraction equivalents for a simple fraction.	NC: solve problems involving the calculation and conversion of units of measure, using decimal notation up to 2 decimal places where appropriate NC: use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places NC: convert between miles and kilometres	NC: illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius NC: interpret and construct pie charts and line graphs and use these to solve problems NC: calculate and interpret the mean as an average
Small steps: numbers to one million; numbers to ten million ; read and write numbers to ten million; powers of 10; number line to ten million; compare and order any integers; round any integer; negative numbers	Small steps: add and subtract integers; common factors; common multiples; rules of divisibility; primes to 100; square and cube numbers; multiply up to a 4 digit number by a 2 digit number; solve problems with multiplication; short division; division using factors; introduction to long division; long division with remainders; solve problems with division; solve multi steps problems; order of operations; mental calculations and estimation; reason from known facts	Small steps: equivalent fractions and simplifying; on a number line; compare and order; add and subtract simple fractions; add and subtract any two fractions; add mixed numbers; subtract mixed numbers; multistep problems multiply fractions by integers; multiply fractions by fractions; divide fractions by an integer; divide any fraction by any integer; mixed questions; fractions of amounts; fraction of amounts (find the whole)	Small steps: metric measures; convert metric measures; calculate with metric measures; miles and km; imperial measures	Small steps: line graphs; dual bar charts; read and interpret pie charts; pie charts with percentages; draw pie charts; the mean

Year 6 End Points - Spring

Ratio	Algebra	Fractions, decimals and percentages	Area, perimeter and volume
AS/MD3 Solve problems involving ratio relationships. NC: solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts NC: solve problems involving the calculation of %s and the use of % for comparison NC: solve problems involving similar shapes where the scale factor is known or can be found NC: solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	6AS/MD–4 Solve problems with 2 unknowns. NC: use simple formulae NC: generate and describe linear number sequences NC: express missing number problems algebraically NC: find pairs of numbers that satisfy an equation with two unknowns NC: enumerate possibilities of combinations of 2 variables.	NC: identify the value of each digit in numbers given to three decimal places NPV1 (NC) giving answers are up to three decimal places NC: multiply one-digit numbers with up to 2 decimal places by whole numbers NC: use written division methods in cases where the answer has up to 2 decimal places NC: solve problems which require answers to be rounded to specified degrees of accuracy NC: solve problems involving the calculation of percentages NC: recall and use equivalences between simple fractions, decimals and percentages, including in different contexts NC: recall and use equivalences between simple fractions, decimals and percentages, including in different contexts	NC: recognise that shapes with the same areas can have different perimeters and vice versa NC: recognise when it is possible to use formulae for area and volume of shapes NC: calculate the area of parallelograms and triangles NC: calculate, estimate and compare volume of cubes and cuboids using standard units (cm3 and m3 and other units)
Small steps: add or multiply?; ratio language; ratio symbol; ratio and fractions; scale drawings; use scale factors; similar shapes; ratio problems; proportion problems; recipes	Small steps: 1 step function machine; 2 step function machine; form expressions; substitution; formulae; form equations; solve 1 step equations; solve 2 step equations; find pairs of values; solve problems with two unknowns	Small steps: place value within 1; place value integers and decimals; round decimals; add and subtract decimals; multiply and divide by 10,100 and 1000; multiply decimals by integers; divide decimals by integers; multiply and divide in context Small steps: decimal and fraction equivalents; fractions as division; understand percentages; fractions to percentages; equivalent FDP; order FDP; percentage of an amount- one step; percentage of an amount- multistep; percentage- missing values	Small steps: shapes- same area; are and perimeter; area of a triangle; area of a right angled triangle; area of any triangle; area of a parallelogram; volume- counting squares; volume of a cuboid

Year 6 End Points - Summer

Shape	Position and direction	
G1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems. NC: recognise, describe and build simple 3-D shapes, including making nets NC: compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons NC: recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	NC: describe positions on the full coordinate grid (all 4 quadrants) NC: draw and translate simple shapes on the coordinate plane, and reflect them in the axes	Theme projects
Small steps: measure and classify angles; calculate angles; vertically opposite angles; angles in a triangle; angles in a triangle x2; angles in quadrilaterals; angles in polygons; circles; draw shapes accurately; nets of 3D shapes;	Small steps: the first quadrant; read and plot points in four quadrants; solve problems with coordinates; translations; reflections	