



**LITTLE BOWDEN
PRIMARY SCHOOL**

'Working together to love learning'

**THE MATHEMATICS CURRICULUM:
A PROGRESSION**

Whole School Mathematics Progression Map

At Little Bowden, we *work together to love learning*. Our mathematics curriculum is **ambitious, memorable and diverse**; aiming to take children on a progressive, clear and exciting journey from the time they start with us in EYFS, to the time they leave us in Year 6. Our ambition is to ensure our maths curriculum is accessible to all and caters for every child's ability, whilst ensuring we provide every opportunity for children to reach their full potential. We believe Mathematics is a tool for everyday life. Mathematics teaches us how to make sense of the world around us. Our maths curriculum enables us to develop children's ability to calculate, communicate, reason and solve problems.

We endeavour to ensure all children become fluent in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. We deliver lessons that are creative and engaging. We want children to make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems using a Concrete, Pictorial, into Abstract approach.

We intend for our children to be able to apply their mathematical knowledge to science and across a range of other subjects. We want children to recognise that Mathematics has developed over centuries and has been the fundamental basis for huge advances in Science, Engineering, Technology and Sport.

We believe in making mathematical learning come alive within a real-life context and endeavour to make sure that the children realise the subject is essential to everyday life and financial literacy. Irrespective of year group, we want our children to have the ability to reason mathematically and have an appreciation of the beauty and power of mathematics, whilst embracing a sense of enjoyment and curiosity about the subject. We strive for all to be actively engaged in their own learning, to be motivated and eager and to achieve and attain to their full potential in Mathematics.

Planning is based on National Curriculum objectives with priority given to those objectives covered in the NCETM Ready to Progress materials and documents. Teachers utilise resources from the White Rose scheme of work as a basis for their planning. Lessons are designed so that conceptual understanding underpins learning, and that opportunities are provided to embed learning before moving on to the next step. Lessons are planned and sequenced so that new knowledge and skills build on what has been taught before.

As mathematics is a logically structured subject, based on a set of axioms, gaps in understanding directly impact on subsequent learning. The aim of all lessons is to develop children's knowledge, understanding and skills, applying these to a variety of contexts. When planning a sequence of lessons, teachers will:

- Use precise questioning to test conceptual and procedural knowledge.
- Know how and when manipulatives should be used to scaffold tasks or enhance understanding.
- Introduce new concepts in small steps.
- Provide opportunities to use skills in a range of contexts.
- Include tasks and challenge questions which challenge pupils to apply and deepen their learning and mathematical reasoning.
- Provide opportunities for individual, group and whole-class activities and discussions.
- Ensure the use of high-quality maths language. (Children should read, spell and pronounce mathematical vocabulary correctly – see Little Bowden mathematics progression across the school).
- Provide opportunities to use technology (laptops and iPads) as a mathematical tool.
- Revisit concepts and number facts to ensure learning is committed to long term memory. Revisiting prior learning will be carried out as part of a daily maths lesson but can also take place separately as a quick activity, or quiz. Children's skill, knowledge and understanding is assessed against the National Curriculum attainment targets. The impact of the mathematics curriculum on learners will be monitored primarily by the class teacher who is responsible for all teacher assessment. Teacher assessment is recorded at the end of each term.

The Mathematics Lead, KS2 Lead, Deputy and Headteacher monitor progress on a regular basis in the form of observations, learning walks, data analysis, pupil progress meetings, work sampling and pupil voice.

Formative assessment will be a key part of every lesson. The teacher will share the objectives for the lesson along with a clear success criterion in order for children to be clear on what is being expected of them to successfully achieve the objective.

Furthermore, short-term assessment will also involve the teacher checking the children's understanding at the end of the session to inform future planning and lessons.

Summative assessment is undertaken using standardised tests at the end of every term.

Statutory assessment

We follow all statutory endpoint assessments as follows:

Reception Year: Children are assessed using the Early Years Foundation Stage (EYFS) Profile. At the end of Reception, teachers will make judgements across 17 aspects of learning (7 in the Prime Areas and 10 in the Specific Areas). Children will be judged as either 'Emerging' or 'Expected' in each of these areas. This will include a judgement for Number.

Year 2: Children are assessed using a Statutory Teacher Assessment Framework for Reading, Writing, Maths and Science. Teachers use government-provided tests but these are not reported to anyone externally and only inform overall teacher judgements.

Year 4: Children take a multiplication tables check (MTC) to determine whether pupils can recall their times tables fluently, which is essential for future success in mathematics. It will help schools to identify pupils who have not yet mastered their times tables, so that additional support can be provided.

Year 6: Children sit government regulated 'SAT' tests in Reading, Maths and Grammar, Punctuation and Spelling. They are also assessed using a statutory Teacher Assessment Framework for Reading, Writing, Maths and Science.

Mathematics in the Early Years

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.

MATHEMATICS: Progress through Reception

Number and numerical pattern

Baseline Checkpoint	End of Autumn Term Checkpoint	End of Spring Term Checkpoint	End of Summer Term Checkpoint
<p>Number – children can: *Count with 1:1 correspondence to 5 *Match numerals to amounts to 5</p> <p>Numerical Patterns – children can: *Identify patterns and continue a simple repeated pattern.</p>	<p><u>Children should be working at a level which sees them:</u></p> <p>*Beginning to familiarise themselves with the tens structure of the number system;</p> <p>*Counting up to three or four objects by saying one number name for each item;</p> <p>*Counting objects to 10 and beginning to count beyond 10;</p> <p>*Counting out up to six objects from a larger group;</p>	<p><u>Children should be working at a level which sees them:</u></p> <p>*Show a number of fingers together without counting;</p> <p>*Beginning to use 'teens' to count beyond 10;</p> <p>*Counting an irregular arrangement of up to ten objects;</p> <p>*Finding one more or one fewer from a group of up to five objects, then ten objects;</p> <p>*Estimating how many objects</p>	<p><u>Children at the expected level of development will:</u></p> <p><u>Number:</u></p> <p>*Have a deep understanding of number to 10, including the composition of each number;</p> <p>*Subitise (recognise quantities without counting) up to 5;</p> <p>*Automatically recall (without reference to rhymes, counting or other aids) number bonds</p>

	<p>*Selecting the correct numeral to represent 1 to 5, then 1 to 10 objects;</p> <p>*Recognising some numerals of personal significance;</p> <p>*Linking the number symbol (numeral) with its cardinal value.</p>	<p>they can see and checking by counting them;</p> <p>*Using the language of 'more' and 'fewer' to compare two sets of objects;</p> <p>*Understanding 5, 6, 7 etc and all manipulations of the number;</p> <p>*Finding the total number of items in two groups by counting all of them; <small>[L] [SEP]</small></p> <p>*Beginning to use the vocabulary involved in adding and subtracting including counting on and back;</p> <p>*Understand addition up to 5 using all combinations. Then 6, 7, 8, 9, 10;</p> <p>*Automatically recall number bonds for numbers 0 to 10..</p>	<p>up to 5 (including subtraction facts) and some number bonds to 10, including double facts.</p> <p><u>Numerical patterns:</u></p> <p>*Verbally count beyond 20, recognising the pattern of the counting system; <small>[L] [SEP]</small></p> <p>*Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity; <small>[L] [SEP]</small></p> <p>*Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. <small>[L] [SEP]</small></p>
--	---	--	--

MATHEMATICS: Progress through Reception
Shape, space and measures (not in expectations)

Baseline Checkpoint	End of Autumn Term Checkpoint	End of Spring Term Checkpoint	End of Summer Term Checkpoint
<p>Children can: *Confidently name basic shapes by their properties.</p>	<p><u>Children should be working at a level which sees them:</u></p> <ul style="list-style-type: none"> *Talking about the routine of the day and using language like, before and after; <small>[L] [SEP]</small> *Using comparative language such as, 'taller', 'shorter' and 'the same'; <small>[L] [SEP]</small> *Being more confident in identifying shapes in the environment; <small>[L] [SEP]</small> *Recognising particular shapes that may be useful for certain tasks; <small>[L] [SEP]</small> *Making more meaningful pictures, patterns and arrangements with shapes. 	<p><u>Children should be working at a level which sees them:</u></p> <ul style="list-style-type: none"> *Beginning to experiment with length, height and capacity; *Beginning to compare length, weight and capacity; *Identifying money and using money in play; *Recalling the names of some 2D and 3D shapes; *Ordering and sorting according to simple properties; *Using the language of direction when programming toys. 	<p><u>Note there is no early learning goal for this section</u></p> <p><u>Children at the expected level of development will:</u> _____ *Use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities;</p> <ul style="list-style-type: none"> *Create and describe patterns; *Explore characteristics of everyday objects and shapes and use mathematical language to describe them; *Use money with increasing confidence.

Little Bowden Primary School maths long term plan

Year 1	1	2	3	4	5	6	7	8	9	10	11	12	
Autumn	<p>Number: Place Value (within 10) NPV-1 Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =</p> <ul style="list-style-type: none"> count numbers to 100 in numerals count in multiples of twos, fives and tens identify and represent numbers using objects and pictorial representations read and write numbers to 100 in numerals read and write numbers from 1 to 20 in numerals and words given a number, identify one more and one less 					<p>Number: Addition and subtraction (within 10) 1NF-1 Develop fluency in addition and subtraction facts within 10. 1AS-1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers 1AS-2 Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts</p> <ul style="list-style-type: none"> 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 $7 = \square - 9$ 				<p>Geometry: Shape 1G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another. 1G-2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.</p> <ul style="list-style-type: none"> recognise and name common 2-D shapes [for example, rectangles (including squares), circles and triangles] recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] 			Consolidation

Year 1	1	2	3	4	5	6	7	8	9	10	11	12
Spring	<p>Number: Place Value (within 20) NPV-1_Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number</p>			<p>Number: Addition and subtraction (within 10) 1NF-1 Develop fluency in addition and subtraction facts within 10 1AS-2 Read, write and interpret equations</p>			<p>Number: Place Value (within 50) NPV-1 Count to and across 100, forwards and backwards, beginning with 0 or 1, or from</p>		<p>Measurement: Length and Height</p>		<p>Measurement: Mass and Volume Compare, describe and solve practical problems for:</p>	

	<p>NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =</p> <ul style="list-style-type: none"> count numbers to 100 in numerals; count in multiples of twos, fives and tens identify and represent numbers using objects and pictorial representations read and write numbers to 100 in numerals read and write numbers from 1 to 20 in numerals and words given a number, identify one more and one less 	<p>containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts 1AS-2 Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts</p> <ul style="list-style-type: none"> 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 $7 = \square - 9$ 	<p>any given number NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =</p> <ul style="list-style-type: none"> count numbers to 100 in numerals; count in multiples of twos, fives and tens identify and represent numbers using objects and pictorial representations read and write numbers to 100 in numerals read and write numbers from 1 to 20 in numerals and words given a number, identify one more and one less 	<p>Compare, describe and solve practical problems for:</p> <ul style="list-style-type: none"> lengths and heights Measure and begin to record: lengths and heights 	<ul style="list-style-type: none"> mass/weight capacity and volume Measure and begin to record: mass/weight capacity and volume
--	---	---	--	--	---

Year 1	1	2	3	4	5	6	7	8	9	10	11	12
Summer	<p>Number: Multiplication and Division 1NF-2</p> <p>Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.</p>			<p>Number: Fractions</p> <ul style="list-style-type: none"> recognise, find and name a half as one of two equal parts of an object, shape or quantity 	<p>Geometry: Shape 1G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are</p>	<p>Number: Place Value (within 100) NPV-1 Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =</p>	<p>Measurement: Money</p> <ul style="list-style-type: none"> recognise and know the value of different denominations of coins and notes 	<p>Measurement: Time</p> <p>Compare, describe and solve practical problems for:</p> <ul style="list-style-type: none"> time Measure and begin to record: 	Consolidation			

	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> recognise, find and name a quarter as one of four equal parts of an object, shape or quantity 	<p>not always similar to one another. <u>1G-2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.</u></p> <ul style="list-style-type: none"> describe position, direction and movement, including whole, half, quarter and three-quarter turns 	<ul style="list-style-type: none"> count numbers to 100 in numerals; count in multiples of twos, fives and tens identify and represent numbers using objects and pictorial representations read and write numbers to 100 in numerals read and write numbers from 1 to 20 in numerals and words given a number, identify one more and one less 		<ul style="list-style-type: none"> time (hours, minutes, seconds) 	
--	---	---	--	---	--	--	--

Year 2	1	2	3	4	5	6	7	8	9	10	11	12
Autumn	<p><u>Number: Place Value 2NPV-1</u> Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning. 2NPV-2 Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10.</p> <ul style="list-style-type: none"> count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward 				<p><u>Number: Addition and Subtraction 2NF-1</u> Secure fluency in addition and subtraction facts within 10, through continued practice 2AS-1 Add and subtract across 10 2AS-3 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number. 2AS-4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers</p> <ul style="list-style-type: none"> add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones a two-digit number and tens two two-digit numbers adding three one-digit numbers solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods 				<p><u>Geometry: Shape 2G-1</u> 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.</p> <ul style="list-style-type: none"> identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line 			

	<ul style="list-style-type: none"> • read and write numbers to at least 100 in numerals and in words • identify, represent and estimate numbers using different representations, including the number line • recognise the place value of each digit in a two-digit number (tens, ones) • compare and order numbers from 0 up to 100; use and = signs • use place value and number facts to solve problems 		<ul style="list-style-type: none"> • 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 shapes and everyday objects • recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] • compare and sort common 3-D shapes and everyday objects
--	---	--	--

Year 2	1	2	3	4	5	6	7	8	9	10	11	12
Spring	<p>Measure: Money 2AS-2</p> <p>Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more...?" 2AS-4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers</p> <ul style="list-style-type: none"> • recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value 		<p>Number: Multiplication and Division 2MD-1</p> <p>Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables. 2MD-2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).</p> <ul style="list-style-type: none"> • recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers 				<p>Measurement: Length and Height 2AS-4</p> <p>Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers</p> <ul style="list-style-type: none"> • 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 			<p>Measurement: Mass, Capacity, Temperature</p> <ul style="list-style-type: none"> • 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 = 		

<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\cdot), division (\div) and equals ($=$) signs solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts 	<ul style="list-style-type: none"> compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$ 	
---	---	---	--

Year 2	1	2	3	4	5	6	7	8	9	10	11	12
Summer	<u>Number: Fractions</u> <ul style="list-style-type: none"> recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ write simple fractions for example, $\frac{1}{2}$ of $6 = 3$ 			<u>Measurement: Time</u> <ul style="list-style-type: none"> 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 			<u>Statistics</u> <ul style="list-style-type: none"> 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 		<u>Geometry: Position and Direction</u> <ul style="list-style-type: none"> order and arrange combinations of mathematical objects in patterns and sequence 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) 		Consolidation	

Year 3	1	2	3	4	5	6	7	8	9	10	11	12
Autumn	<p>Number: Place Value 3NPV-1</p> <p>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 3NPV-2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning 3NPV-3 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 3NPV-4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts</p> <ul style="list-style-type: none"> count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number identify, represent and estimate numbers using different representations read and write numbers up to 1000 in numerals and in words recognise the place value of each digit in a three-digit number (hundreds, tens, ones) compare and order numbers up to 1000 <p>solve number problems and practical problems involving these ideas</p>			<p>Number: Addition and Subtraction 3NF-1</p> <p>Secure fluency in addition and subtraction facts that bridge 10, through continued practice 3AS-1 Calculate complements to 100 3AS-2 Add and subtract up to three-digit numbers using columnar methods 3AS-3 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part-part-whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction</p> <ul style="list-style-type: none"> 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 <p>solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction</p>				<p>Number: Multiplication and Division (a) 3NF-2</p> <p>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 3MD-1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division</p> <ul style="list-style-type: none"> 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 				

Year 3	1	2	3	4	5	6	7	8	9	10	11	12
Spring	<p>Number: Multiplication and Division (b) 3NF-3</p> <p>Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10) 3MD-1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division</p> <ul style="list-style-type: none"> 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 			<p>Measurement: Length and Perimeter</p> <ul style="list-style-type: none"> measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) measure the perimeter of simple 2-D shapes 			<p>Number: Fractions (a) 3NF-3</p> <p>Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10) 3F-1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts 3F-3 Reason about the location of any fraction within 1 in the linear number system</p> <ul style="list-style-type: none"> 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 compare and order unit fractions, and fractions with the same denominators solve problems that involve all of the above 			<p>Measurement: Mass and Capacity</p> <ul style="list-style-type: none"> measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) 		

Year 3	1	2	3	4	5	6	7	8	9	10	11	12
Summer	<p>Number: Fractions (b) 3F-2</p> <p>Find unit fractions of quantities using known division facts (multiplication tables fluency) 3F-4 Add and subtract fractions with the same denominator, within 1</p> <ul style="list-style-type: none"> add and subtract fractions with the same denominator within one whole [for example, $5/7 + 1/7 = 6/7$] solve problems that involve the above 	<p>Measurement: Money 3AS-1 Calculate complements to 100 3AS-3</p> <p>Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part-whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction</p> <ul style="list-style-type: none"> add and subtract amounts of money to give change, using both £ and p in practical contexts 	<p>Measurement: Time</p> <ul style="list-style-type: none"> 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] 	<p>Geometry: Shape 3G-1</p> <p>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 3G-2 Draw polygons by joining marked points, and identify parallel and perpendicular sides</p> <ul style="list-style-type: none"> draw 2-D shapes 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 	<p>Statistics</p> <ul style="list-style-type: none"> 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 	Consolidation						

Year 4	1	2	3	4	5	6	7	8	9	10	11	12		
Autumn	<p>Number: Place Value 4NPV-1</p> <p>Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100 4NPV-2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning 4NPV-3 Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each 4NPV-4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts</p> <ul style="list-style-type: none"> count in multiples of 6, 7, 9, 25 and 1000 count backwards through zero to include negative numbers identify, represent and estimate numbers using different representations 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 find 1000 more or less than a given number recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) order and compare numbers beyond 1000 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 				<p>Number: Addition and Subtraction</p> <ul style="list-style-type: none"> add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why 		<p>Measurement: Area</p> <ul style="list-style-type: none"> measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares 		<p>Number: Multiplication and Division (a) 4NF-1</p> <p>Recall multiplication and division facts up to 12 x 12 and recognise products in multiplication tables as multiples of the corresponding number 4NF-2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context 4NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100) 4MD-2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication</p> <ul style="list-style-type: none"> count in multiples of 6, 7, 9, 25 and 1000 recall multiplication and division facts for multiplication tables up to 12 x 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 				Consolidation	

Year 4	1	2	3	4	5	6	7	8	9	10	11	12
Spring	<p>Number: Multiplication and Division (b) 4NF-1 Recall multiplication and division facts up to 12 x 12 and recognise products in multiplication tables as multiples of the corresponding number 4NF-2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context 4NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100) 4NPV-1 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100 4MD-1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size 4MD-3 Understand and apply the distributive property of multiplication</p> <ul style="list-style-type: none"> recall multiplication and division facts for multiplication tables up to 12 x 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 			<p>Measurement: Length and Perimeter 4G-2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons</p> <ul style="list-style-type: none"> Convert between different units of measure [for example, kilometre to metre; hour to minute] estimate, compare and calculate different measures measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares 		<p>4F-1 Reason about the location of mixed numbers in the linear number system 4F-2 Convert mixed numbers to improper fractions and vice versa 4F-3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers</p> <ul style="list-style-type: none"> recognise and show, using diagrams, families of common equivalent fractions add and subtract fractions with the same denominator 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 solve simple measure and money problems involving fractions and decimals to two decimal places 			<p>Number: Decimals (a) 4NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100)</p> <ul style="list-style-type: none"> count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to 14,12,34 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 			

- | | | | |
|---|--|--|--|
| <ul style="list-style-type: none">• 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 | | | |
|---|--|--|--|

Year 4	1	2	3	4	5	6	7	8	9	10	11	12
Summer	<p>Number: Decimals (b)</p> <ul style="list-style-type: none"> ● count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten ● recognise and write decimal equivalents of any number of tenths or hundredths ● recognise and write decimal equivalents to 14,12,34 ● 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 		<p>Measurement: Money</p> <ul style="list-style-type: none"> ● estimate, compare and calculate different measures, including money in pounds and pence 		<p>Measurement: Time</p> <ul style="list-style-type: none"> ● Convert between different units of measure [for example, kilometre to metre; hour to minute] ● estimate, compare and calculate different measures ● 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 		Consolidation	<p>Geometry: Shape 4G-1</p> <p>Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant 4G-2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons 4G-3 Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry</p> <ul style="list-style-type: none"> ● compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes ● identify lines of symmetry in 2-D shapes presented in different orientations ● 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 		<p>Statistics</p> <ul style="list-style-type: none"> ● 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 	<p>Geometry: Position and Direction</p> <ul style="list-style-type: none"> ● describe positions on a 2-D grid as coordinates in the first quadrant ● describe movements between positions as translations of a given unit to the left/right and up/down ● plot specified points and draw sides to complete a given polygon 	

	and decimals to two decimal places						
--	---------------------------------------	--	--	--	--	--	--

Year 5	1	2	3	4	5	6	7	8	9	10	11	12
Autumn	<p>Number: Place Value</p> <ul style="list-style-type: none"> interpret negative numbers in context 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 count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 count forwards and backwards with positive and negative whole numbers, including through zero read, write, (order and compare) numbers to at least 1 000 000 and determine the value of each digit read Roman numerals to 1000 (M) and recognise years written in Roman numerals 			<p>Number: Addition and Subtraction</p> <ul style="list-style-type: none"> 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 solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign 		<p>Number: Multiplication and Division (a) 5NF-1</p> <p>Secure fluency in multiplication table facts, and corresponding division facts, through continued practice 5NF-2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth) 5MD-1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size 5MD-2 Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors</p> <ul style="list-style-type: none"> 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 (non-prime) numbers establish whether a number up to 100 is prime and recall prime numbers up to 19 recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) multiply 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 			<p>Number: Fractions (a) 5F-2</p> <p>Find equivalent fractions and understand that they have the same value and the same position in the linear number system</p> <ul style="list-style-type: none"> identify, name and write equivalent fractions of a given fraction, represented visually, including tenth and hundredths recognise mixed numbers and impro fractions and convert from one form the other and write mathematical statements > 1 as a mixed number [f example, $2/5+4/5=6/5=1\ 1/5$] compare and order fractions whose denominators are all multiples of the same number add and subtract fractions with the same denominator and denominator that are multiples of the same numb multiply proper fractions and mixed numbers by whole numbers, support by materials and diagram 			

			<ul style="list-style-type: none">• solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes• solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	
--	--	--	--	--

Year 5	1	2	3	4	5	6	7	8	9	10	11	12
Spring	<p>Number: Multiplication and Division (b) 5NF-1</p> <p>Secure fluency in multiplication table facts, and corresponding division facts, through continued practice 5MD-3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method 5MD-4 Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context</p> <ul style="list-style-type: none"> 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 solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes solve problems involving multiplication and division, 			<p>Number: Fractions (b) 5NF-1</p> <p>Secure fluency in multiplication table facts, and corresponding division facts, through continued practice 5F-1 Find non-unit fractions of quantities</p> <ul style="list-style-type: none"> 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 		<p>Number: Decimals and Percentages 5NPV-1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01 5NPV-2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning. 5NPV-3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. 5NPV-4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts 5NF-2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth) 5F-3 Recall decimal fraction equivalents for 1/4, 1/2, 1/5 and 1/10 and for multiples of these proper fractions</p> <ul style="list-style-type: none"> read and write decimal numbers as fractions [for example, $0.71 = 71/100$] 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 recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 			<p>Measure: Perimeter and Area 5G-2</p> <p>Compare areas and calculate the area of rectangles (including squares) using standard units</p> <ul style="list-style-type: none"> convert between different units of metric measure understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling 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 blocks to build cuboids] and capacity [for example, using water] 		<p>Statistics</p> <ul style="list-style-type: none"> interpret and construct simple pictograms, tally charts, block diagrams and 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 	

	including scaling by simple fractions and problems involving simple rates <ul style="list-style-type: none">● solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign		and those fractions with a denominator of a multiple of 10 or 25		
--	--	--	--	--	--

Year 5	1	2	3	4	5	6	7	8	9	10	11	12	
Summer	<p>Geometry: Shape 5G-1</p> <p>Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size</p> <ul style="list-style-type: none"> distinguish between regular and irregular polygons based on reasoning about equal sides and angles. use the properties of rectangles to deduce related facts and find missing lengths and angles identify 3-D shapes, including cubes and other cuboids, from 2-D representations 			<p>Geometry: Position and Direction</p> <ul style="list-style-type: none"> know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles draw given angles, and measure them in degrees identify: angles at a point and one whole turn (total 360°) angles at a point on a straight line and ½ a turn (total 180°) other multiples of 90° 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 		<p>Number: Decimals 5MD-1</p> <p>Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size</p> <ul style="list-style-type: none"> read and write decimal numbers as fractions [for example, 0.71 = 71/100] 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 use all four operations to solve problems involving measure [for example, money] 		<p>Negative Numbers</p> <ul style="list-style-type: none"> count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 count forwards and backwards with positive and negative whole numbers, including through zero 		<p>Measure: Converting Measures 5NPV-5</p> <p>Convert between units of measure, including using common decimals and fractions.</p> <ul style="list-style-type: none"> convert between different units of metric measure understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling solve problems involving converting between units of time 		<p>Measure: Volume</p> <ul style="list-style-type: none"> convert between different units of metric measure understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling measure and calculate the perimeter of composite 	

						<p>rectilinear shapes in centimetres and metres</p> <ul style="list-style-type: none">● 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 blocks to build cuboids] and capacity [for example, using water]
--	--	--	--	--	--	---

Year 6	1	2	3	4	5	6	7	8	9	10	11	12	
Autumn	<p>Number: Place Value</p> <p>6NPV-1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000)</p> <p>6NPV-2 Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and non-standard partitioning</p> <p>6NPV-3 Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts</p> <p>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</p> <ul style="list-style-type: none"> ● read, write, (order and compare) numbers up to 10 000 000 and determine the value of each digit ● (read, write), order and compare numbers up to 10 000 000 and determine the value of each digit ● round any whole number to a required degree of accuracy 		<p>Number: Addition, Subtraction, Multiplication and Division 6AS/MD-2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding</p> <ul style="list-style-type: none"> ● perform mental calculations, including with mixed operations and large numbers ● use their knowledge of the order of operations to carry out calculations involving the four operations ● solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why ● identify common factors, common multiples and prime numbers ● use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy ● multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication ● divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context ● divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context ● perform mental calculations, including with mixed operations and large numbers ● solve problems involving addition, subtraction, multiplication and division ● use their knowledge of the order of operations to carry out calculations involving the four operations 					<p>6F-1 Recognise when fractions can be simplified, and use common factors to simplify fractions</p> <p>6F-2 Express fractions in a common denomination and use this to compare fractions that are similar in value</p> <p>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</p> <ul style="list-style-type: none"> ● use common factors to simplify fractions; use common multiples to express fractions in the same denomination ● compare and order fractions, including fractions > 1 ● add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions ● multiply simple pairs of proper fractions, writing the answer in its 		<p>Number: Fractions (b) 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</p> <ul style="list-style-type: none"> ● add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions ● multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $1/4 \times 1/2 = 1/8$] ● divide proper fractions by whole numbers [for example $1/3 \div 2 = 1/6$] 		<p>Measure: Converting Units</p> <ul style="list-style-type: none"> ● solve problems involving the calculation and conversion of unit of measure, using decimal notation u to 3 d.p. where appropriate ● use, read, write an convert between standard units, converting measurements of length, mass, volume and time from a smaller un of measure to a larger unit, and vice versa, using decimal notation to up to 3 d.p. ● convert between miles and kilometres ● use, read, write an 	

	<ul style="list-style-type: none">● use negative numbers in context, and calculate intervals across zero● solve number and practical problems that involve all of the above		simplest form [for example, $1/4 \times 1/2 = 1/8$] <ul style="list-style-type: none">● divide proper fractions by whole numbers [for example $1/3 \div 2 = 1/6$]		convert between standard units, converting measurements of time from a smaller unit of measure to larger unit, and vice versa
--	--	--	---	--	---

Year 6	1	2	3	4	5	6	7	8	9	10	11	12
Spring	<p>Number: Ratio 6AS/MD-1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number)</p> <p>6AS/MD-3 Solve problems involving ratio relationships</p> <ul style="list-style-type: none"> • solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts • solve problems involving the calculation/use of percentages for comparison • solve problems involving similar shapes where the scale factor is known or can be found • solve problems involving unequal sharing and grouping using knowledge of fractions and multiples 		<p>Number: Algebra 6AS/MD-4 Solve problems with 2 unknowns</p> <ul style="list-style-type: none"> • use simple formulae • generate and describe linear number sequences • express missing number problems algebraically • find pairs of numbers that satisfy an equation with two unknowns • enumerate possibilities of combinations of two variables 		<p>Number: Decimals 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</p> <ul style="list-style-type: none"> • identify the value of each digit in numbers given to three decimal places • associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 38] • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts 		<p>Number: Fractions, Decimals and Percentages</p> <ul style="list-style-type: none"> • associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 38] • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts 		<p>Measure: Area, Perimeter and Volume 6G-1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems</p> <ul style="list-style-type: none"> • recognise that shapes with the same areas can have different perimeters and vice versa • recognise when it is possible to use formulae for area and volume of shapes • calculate the area of parallelograms and triangles • calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units 		<p>Statistics</p> <ul style="list-style-type: none"> • interpret and construct pie charts and line graphs and use these to solve problems • calculate and interpret the mean as an average 	

Year 6	1	2	3	4	5	6	7	8	9	10	11	12
Summer	<p>Geometry: Shape 6G-1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems</p> <ul style="list-style-type: none"> draw 2-D shapes using given dimensions and angles compare and classify geometric shapes based on their properties and sizes illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius recognise, describe and build simple 3-D shapes, including making nets find unknown angles in any triangles, quadrilaterals, and regular polygons recognise angles where they meet at a point, are on a straight line or are vertically opposite, and find missing angles 			<p>Geometry: Position and Direction</p> <p>* describe positions on the full coordinate grid (all four quadrants) Draw and translate simple shapes on the coordinate plan, and reflect them in the axes</p>	<p>Themed projects, consolidation and problem solving</p>							

