



A FAMILY, A FOUNDATION, A FUTURE

Whitminster Endowed C of E Primary School

Mathematics Policy

(See also Calculation Policy)

Agreed by Curriculum Committee: Summer 23
Review Date: Summer Term 25

Intent

Mathematics is important and integral in all aspects of everyday life and with this in mind we aim to ensure that all children leave Whitminster with an enthusiasm and resilience towards calculations, solving problems and reasoning that will stay with them forever.

This policy, combined with our calculations policy, should be read in conjunction with the 2014 National Curriculum for Mathematics and the Revised Statutory Framework for the EYFS (2021). This should enable teachers to design a programme of activities that is responsive to their own and children's skills and needs in Mathematics at that particular time whilst ensuring continuity, progression and high expectations for attainment. We aim to develop the children's understanding of why we learn maths and how we use it in our everyday lives.

At Whitminster we are committed to and aim to:

- ensure that all pupils achieve mastery in the key concepts of mathematics, appropriate for their age group, in order to make genuine progress and avoid gaps in their understanding that provide barriers to learning as they move through education.
- provide an emphasis on investigation, fluency, problem solving and reasoning within mathematics.
- develop mathematical talk and thinking.
- provide high quality teaching that produces individuals who are numerate, creative, independent, inquisitive, enquiring and confident.
- provide a stimulating environment and resources to develop mathematical skills to the full.
- ensure all pupils become confident and proficient in a range of maths skills and are able to use them in a range of contexts as an essential life skill.

- develop an appreciation of relationships within mathematics.
- develop ability to think clearly and logically with independence in order to be to be numerate in a range of situations and contexts.

- develop mathematical skills and knowledge and quick recall of basic facts.
- give opportunities to apply maths in real contexts across all curriculum areas.
- take pride in being effective mathematicians, whatever their gender, race or home context.
- engage in a range purposeful mathematical play activities to make mathematics fun.

Implementation

Mathematics is a core subject in the National Curriculum, and we use the Mathematics Programmes of Study: Key stages 1 and 2 National Curriculum in England (2013), The Foundation Stage Framework (2021) our school long term documentation as the basis for implementing the statutory requirements of the programme of study for mathematics. The Head Teacher and Mathematics Subject Leader are responsible for monitoring the mathematics teaching and learning within our school.

To provide adequate time for developing mathematics, maths is taught daily and discretely. Maths lessons may vary in length but will aim to last about 45 minutes. These lessons focus on fluency, reasoning and problem solving. Our school scheme of work is a working document and as such is composed of ongoing plans. These are adapted daily as teachers are reactive to the learning of the children.

In addition to the daily maths lesson all children will receive an additional arithmetic lesson:

EYFS – opportunities throughout the day to embed the maths focus of the day

Key Stage 1 – 15 minutes daily doing mastering number programme

Key Stage 2 – 2-3 times a week of 30 minutes to boost and extend the children that need it.

5 mins of arithmetic everyday

All of these lessons have the opportunity for follow up activities if children require further support and recap of the learning taking place.

Mathematical development is taught in a holistic way wherever possible at the Foundation Stage. Teachers of the Reception classes base their teaching on objectives in the Framework for Reception; this ensures that they are working towards the Early Learning Goals for Mathematical Development. Work undertaken within the Foundation Stage is guided by the requirements and recommendations set out in the Revised Statutory Framework for the EYFS (2021) and The White Rose planning documentation. We give all the children ample opportunity to develop their understanding of mathematics. We aim to do this through varied activities that allow them to use, enjoy, explore, practise and talk confidently about mathematics.

Staff are encouraged to use practical and visual models to support children's learning in mathematics. Children of all ages have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work. Children use ICT in mathematics lessons where it will enhance their learning, as in modelling ideas and methods.

Differentiation in our maths lessons at Whitminster should:

- Allow children to reach their highest potential.
- Not pre determine achievement. Intervention at the appropriate time supports the child.
- Promote independent learning.
- Be incorporated into all mathematics lessons in response to pupils' needs and can be done in various ways.
- Provide stepped or supported activities which allow access to activities for the less able pupils.
- Allow for open-ended activities/investigations where differentiation is through outcome and depth of understanding.
- Provide resourcing which provides a variety of resources depending on abilities e.g. place value counters, dienes, numicon, counters, cubes, 100 squares, number lines, mirrors, visual representations.

Teachers plan problem solving and investigational activities daily, following a mastery approach to ensure that pupils develop the skills of mathematical thinking, fluency and enquiry. Mathematics contributes to many subjects and it is important the children are given opportunities to apply and use mathematics in real contexts. It is important that time is found in other subjects for pupils to develop their numeracy skills e.g. measuring in science, properties of shape in technology and the collection and presentation of data in geography.

Working Walls

Maths working walls are in every classroom. They are updated regularly to reflect the learning journey through key vocabulary and key challenging questions.

- Display (removable) key vocabulary which you will expect children to use in the lessons
- Vocabulary can be supported with definitions, examples, images etc to support understanding
- Make links to previously taught skills, knowledge or understanding
- Break down methods or steps, showing them visually

Oracy

Oracy is incorporated in maths lessons to increase mathematical vocabulary, support children in proving or justifying their answer and to address misconceptions.

Oracy has a particularly important role in Maths reasoning lessons, which have a focus on children verbally communicating their understanding of mathematics accurately. Children work collaboratively to solve a problem and justify their answers. Sentence stems are used to support discussion and used by the children to explain their answers. This is currently being used in Key Stage two.

We use a progression in vocabulary from Reception to Year six (attached to the calculation policy) This is modelled by both teachers and T.As through teaching a lesson, individual and group support. Teachers will model verbally and with written examples.

Stem sentences are used to support the children's understanding of concepts, these are also displayed in the classroom.

Use of additional Adult Support (including TAs)

Adult support where available should be used to support children in a variety of ways. Where additional adults are used it is important that they understand the overall aims and objectives for the lesson, so that they are able to reinforce what the teacher has said.

- To support children with SEN.
- To support other children while the teachers supports children with SEN.
- To help implement intervention programmes.
- To help children record their work.
- To help supervise children doing practical work outside the classroom.
- To help children read Mathematical questions.
- To help children to go deeper when required

Homework

Reception

Weekly homework is set to link to the learning that is happening in the classroom that week.

Years 1 and 2

Weekly maths homework which will be mostly linked to the number skills the children will have been working on that week in school. Occasionally they may receive work linked to shape or measure. This will be work they are familiar with from prior teaching and should be a manageable activity for them. It is also aimed to be an opportunity for parents to see what their children have been doing in Maths that week. This can be in paper form or on purplemash.

Years 3 and 4

Weekly maths is set linked to the weeks teaching, this is in paper form or on purplemash.

Years 5 and 6

Children will be given one to two pieces of homework once a week, which will reflect either what they have been doing within that week, or the one previously. These tasks will be differentiated depending on the progress of the pupils within those lessons. This will therefore help to secure their learning and allow them to practice methods taught at school.

Impact

At Whitminster we endeavour at all times to set work that is challenging, motivating and encourages pupils to think about how they learn and to talk about what they have been learning. Effective pupil tracking enables identification of pupils who may benefit from early 'intervention' at an appropriate level. We also recognise, and aim to make provision for, pupils who have a particular ability in mathematics.

Assessment has two main purposes:

- assessment of learning (also known as summative assessment).
- assessment for learning (also known as formative assessment).

At Whitminster we recognise that assessment for learning (AFL) lies at the heart of promoting learning and in raising standards of attainment. We further recognise that effective AFL depends crucially on using the information gained.

The assessment procedures within our school encompass:

- Making ongoing assessments and responding appropriately to pupils during 'day-to-day' teaching. These 'immediate' responses are mainly verbal and are not always recorded.
- Using knowledge of pupils drawn from ongoing pupil tracking records, Rising Star assessment materials and the Classroom monitor statements to inform prior learning at the beginning of each unit of work to guide our planning and teaching.
- Adjusting planning and teaching within units in response to pupils' performance.

- Use of ongoing teacher assessment in order to identify gaps in attainment on a half termly basis and after each pupil review meeting with the headteacher.
- Use of information gained from Rising Stars assessment materials, statutory and optional tests. Analysis is done at both a quantitative and qualitative level. Information gained is used to set focused curricular targets (what to teach) and also to determine which strategies or methods are particularly effective in respect of specific areas of mathematics (the how and why).

The school supports teacher assessment through the use of the Sonar statements which provide clear criteria against which judgements can be made about year group attainment alongside the termly Rising Star and Twinkl assessments. This is then recorded onto Sonar and analysed in half termly or termly pupil progress review meetings with the Head Teacher.

Autumn Year 1

Week	Main focus	Programmes of Study (I can)	National Curriculum
1	Number, place value and money	<p>I can count to and across 100, forwards and backwards.</p> <p>I can read and write numbers from 1 to 20 in digits.</p> <p>I can count in multiples of 1 and 2s.</p>	<p>Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.</p> <p>Read and write numbers from 1 to 20 in numerals.</p> <p>Count in multiples of ones and twos.</p> <hr/> <p>Pupils practise counting (1, 2, 3...), ordering (for example, first, second, third...), and to indicate a quantity (for example, 3 apples, 2 centimetres), including solving simple concrete problems, until they are fluent.</p> <p>Pupils begin to recognise place value in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100, supported by objects and pictorial representations.</p> <p>They practise counting as reciting numbers and counting as enumerating objects, and counting in twos, fives and tens from different multiples to develop their recognition of patterns in the number system (for example, odd and even numbers), including varied and frequent practice through increasingly complex questions.</p>
2	Number - addition and subtraction	<p>I can add one digit numbers to 10.</p> <p>I can show and use addition facts within 10.</p> <p>I can solve one step problems using addition.</p>	<p>Represent and use number bonds within 10.</p> <p>Add one-digit and one-digit numbers to 10, including zero.</p> <p>Solve one-step problems that involve addition, using concrete objects and pictorial representations, and missing number problems such as $7 = \square + 3$.</p> <hr/> <p>Pupils memorise and reason with number bonds to 10 in several forms (for example, $2 + 7 = 9$; $9 = 7 + 2$). They should realise the effect of adding zero.</p> <p>Pupils combine and increase numbers, counting forwards and backwards.</p> <p>They discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms: put together, add, altogether, total, more than and less than, so that pupils develop the concept of addition and are enabled to use these operations flexibly.</p>
3	Number - addition and subtraction	<p>I can subtract one digit numbers to 10.</p> <p>I can show and use subtraction facts within 10.</p> <p>I can solve one step problems using subtraction.</p>	<p>Represent and use subtraction facts within 10.</p> <p>Subtract one-digit and one-digit numbers to 10, including zero.</p> <p>Solve one-step problems that involve subtraction, using concrete objects and pictorial representations, and missing number problems such as $2 = \square - 7$.</p> <hr/> <p>Pupils memorise and reason with number bonds to 10 in several forms (for example, $9 - 2 = 7$; $7 = 9 - 2$). They should realise the effect of subtracting zero.</p>

			<p>Pupils combine and increase numbers, counting forwards and backwards.</p> <p>They discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms: take away, distance between, difference between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.</p>
4	Number - multiplication and division	<p>I can count in 1s, 2s, and 10s.</p> <p>I can double single digit numbers.</p> <p>I can recognise and know the value of coins and notes.</p>	<p>Count in multiples of twos, fives and tens.</p> <p>Recognise and know the value of different denominations of coins and notes.</p> <p>They practise counting as reciting numbers and counting as enumerating objects, and counting in twos, fives and tens from different multiples to develop their recognition of patterns in the number system (for example, odd and even numbers), including varied and frequent practice through increasingly complex questions.</p>
5	Measurement, geometry and statistics	<p>I can recognise and name 2-D shapes.</p> <p>I can recognise and name 2-D shapes from everyday objects.</p> <p>I can order and arrange combinations of objects and shapes in patterns.</p> <p>I can read simple information from a pictogram.</p>	<p>Recognise and name common 2-D shapes, including rectangles (including squares), circles and triangles].</p> <p>They recognise and create repeating patterns with objects and with shapes.</p> <p>Pupils handle common 2-D shapes, naming these and related everyday objects fluently. They recognise these shapes in different orientations and sizes, and know that rectangles, triangles, cuboids and pyramids are not always similar to each other.</p>
6	Number - fractions	<p>I can find and name a half of an object.</p> <p>I can find and name a half of a shape.</p> <p>I can find and name a half of a quantity.</p>	<p>Recognise, find and name a half as one of two equal parts of an object, shape or quantity.</p> <p>Pupils are taught half as 'fraction of' discrete and continuous quantities by solving problems using shapes, objects and quantities. For example, they could recognise and find half a length, quantity, sets of objects or shape. Pupils connect halves to the equal sharing and grouping of sets of objects and to measures, as well as recognising and combining halves as parts of a whole.</p>
7	Number, place value and money	<p>I can count to and across 100, forwards and backwards.</p> <p>I can read and write numbers from 1 to 20 in digits.</p> <p>I can find one more or one less of a given number.</p> <p>I can count in multiples of 1 and 2 and 10.</p>	<p>Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.</p> <p>Read and write numbers from 1 to 20 in numerals and words.</p> <p>Given a number, identify one more and one less.</p> <p>Count in multiples of ones, twos and tens.</p> <p>Pupils practise counting (1, 2, 3...), ordering (for example, first, second, third...), and to indicate a quantity (for example, 3 apples, 2 centimetres), including solving simple concrete problems, until they are fluent.</p> <p>Pupils begin to recognise place value in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100, supported by objects and pictorial representations.</p>

			<p>They practise counting as reciting numbers and counting as enumerating objects, and counting in twos, fives and tens from different multiples to develop their recognition of patterns in the number system (for example, odd and even numbers), including varied and frequent practice through increasingly complex questions.</p> <p>They recognise and create repeating patterns with objects and with shapes.</p>
8	Number - addition and subtraction	<p>I can add one digit numbers to 10.</p> <p>I can subtract one digit numbers to 10.</p> <p>I can solve one step problems using addition.</p> <p>I can solve one step problems using subtraction.</p> <p>I can read, write and understand calculations with +, - and = signs.</p>	<p>Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.</p> <p>Represent and use number bonds and related subtraction facts within 10.</p> <p>Add and subtract one-digit and two-digit numbers to 10, including zero.</p> <p>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> <hr/> <p>Pupils memorise and reason with number bonds to 10 and 20 in several forms (for example, $2 + 7 = 9$; $9 - 7 = 2$; $2 = 9 - 7$). They should realise the effect of adding or subtracting zero. This establishes addition and subtraction as related operations.</p> <p>Pupils combine and increase numbers, counting forwards and backwards.</p> <p>They discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms: put together, add, altogether, total, take away, distance between, difference between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.</p>
9	Number - multiplication and division	<p>I can count in 1s, 2s, 5s and 10s.</p> <p>I can complete simple number patterns.</p> <p>I can double single digit numbers.</p> <p>I can recognise and know the value of coins and notes.</p>	<p>Count in multiples of twos, fives and tens.</p> <p>Recognise and know the value of different denominations of coins and notes.</p> <hr/> <p>They practise counting as reciting numbers and counting as enumerating objects, and counting in twos, fives and tens from different multiples to develop their recognition of patterns in the number system (for example, odd and even numbers), including varied and frequent practice through increasingly complex questions.</p> <p>Through grouping small quantities, pupils begin to understand: multiplication; and doubling numbers and quantities.</p>
10	Number - multiplication and division	<p>I can count in 1s, 2s, 5s and 10s.</p> <p>I can complete simple number patterns.</p> <p>I can double single digit numbers.</p> <p>I can recognise and know the value of coins and notes.</p>	<p>Count in multiples of twos, fives and tens</p> <p>Recognise and know the value of different denominations of coins and notes.</p> <hr/> <p>They practise counting as reciting numbers and counting as enumerating objects, and counting in twos, fives and tens from different multiples to develop their recognition of patterns in the number system (for example, odd and even numbers), including varied and frequent practice through</p>

			<p>increasingly complex questions.</p> <p>Through grouping small quantities, pupils begin to understand: multiplication; and doubling numbers and quantities.</p>
11	Measurement, geometry and statistics	<p>I can tell the time to the hour and half past the hour.</p> <p>I know and use words relating to dates such as days, weeks & months.</p>	<p>Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening].</p> <p>Recognise and use language relating to dates, including days of the week, weeks, months and years.</p> <p>Tell the time to the hour and half past the hour and draw the hands on a clock face to how these times.</p> <hr/> <p>Pupils use the language of time, including telling the time throughout the day, first using o'clock and then half past.</p>
12	Measurement, geometry and statistics	<p>I am beginning to measure and record mass /weight.</p> <p>I can compare, describe and solve problems involving measures.</p> <p>I can read simple information from a block diagram.</p>	<p>Compare, describe and solve practical problems for mass/weight [for example, heavy/light, heavier than, lighter than].</p> <p>Measure and begin to record mass/weight.</p> <hr/> <p>The pairs of terms mass and weight are used interchangeably at this stage.</p> <p>Pupils move from using and comparing different types of quantities and measures using non-standard units, including discrete (for example, counting) and continuous measurement, to using manageable common standard units.</p> <p>In order to become familiar with standard measures, pupils begin to use measuring tools such as weighing scales.</p>

Spring Year 1

Week	Main focus	Programmes of Study (I can)	National Curriculum
1	Number, place value and money	<p>I can count to and across 100, forwards and backwards.</p> <p>I can count, read and write numbers to 100.</p> <p>I can count in multiples of 1, 2, 5 and 10.</p> <p>I can recognise and know the value of coins and notes.</p>	<p>Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.</p> <p>Count, read and write numbers to 100 in numerals.</p> <p>Count in multiples of ones, twos, fives and tens.</p> <p>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.</p> <p>Recognise and know the value of different denominations of coins and notes.</p> <hr/> <p>Pupils practise counting (1, 2, 3...), ordering (for example, first, second, third...), and to indicate a quantity (for example, 3 apples, 2 centimetres), including solving simple concrete problems, until they are fluent.</p> <p>Pupils begin to recognise place value in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100, supported by objects and pictorial representations.</p> <p>They practise counting as reciting numbers and counting as enumerating objects, and counting in twos, fives and tens from different multiples to develop their recognition of patterns in the number system (for example, odd and even numbers), including varied and frequent practice through increasingly complex questions.</p> <p>They recognise and create repeating patterns with objects and with shapes.</p>
2	Number - addition and subtraction	<p>I can add one digit numbers to 20.</p> <p>I can show and use addition facts within 20.</p> <p>I can solve one step problems using addition.</p> <p>I can read, write and understand calculations with + and = signs.</p>	<p>Read, write and interpret mathematical statements involving addition (+) and equals (=) signs.</p> <p>Represent and use number bonds within 20.</p> <p>Add one-digit and two-digit numbers to 20, including zero.</p> <p>Solve one-step problems that involve addition, using concrete objects and pictorial representations, and missing number problems such as $7 = \square + 4$.</p> <hr/> <p>Pupils memorise and reason with number bonds to 20 in several forms (for example, $9 + 7 = 16$; $16 = 7 + 9$). They should realise the effect of adding zero.</p>

			<p>Pupils combine and increase numbers, counting forwards and backwards.</p> <p>They discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms: put together, add, altogether, total, more than and less than, so that pupils develop the concept of addition and are enabled to use these operations flexibly.</p>
3	Number - addition and subtraction	<p>I can subtract one digit numbers to 20.</p> <p>I can show and use subtraction facts within 20.</p> <p>I can solve one step problems using subtraction.</p> <p>I can read, write and understand calculations with - and = signs.</p>	<p>Read, write and interpret mathematical statements involving subtraction (−) and equals (=) signs.</p> <p>Represent and use subtraction facts within 20.</p> <p>Subtract one-digit and two-digit numbers to 20, including zero.</p> <p>Solve one-step problems that involve subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$.</p> <hr/> <p>Pupils memorise and reason with number bonds to 20 in several forms (for example, $16 - 7 = 9$; $7 = 16 - 9$). They should realise the effect of subtracting zero.</p> <p>Pupils combine and increase numbers, counting forwards and backwards.</p> <p>They discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms: take away, distance between, difference between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.</p>
4	Number - multiplication and division	<p>I can count in 1s, 2s, 5s and 10s to 100.</p> <p>I can show multiplication using arrays.</p>	<p>Count, read and write numbers to 100 in numerals.</p> <p>Count in multiples of twos, fives and tens.</p> <p>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.</p> <hr/> <p>They practise counting as reciting numbers and counting as enumerating objects, and counting in twos, fives and tens from different multiples to develop their recognition of patterns in the number system (for example, odd and even numbers), including varied and frequent practice through increasingly complex questions.</p>

			<p>Through grouping small quantities, pupils begin to understand: multiplication; and doubling numbers and quantities.</p> <p>They make connections between arrays, number patterns, and counting in twos, fives and tens.</p>
5	Measurement, geometry and statistics	<p>I can recognise and name 3-D shapes.</p> <p>I can recognise and name 3-D shapes from everyday objects.</p> <p>I can recognise/name 2-D and 3-D shapes in different sizes.</p> <p>I can read simple information from a tally chart.</p> <p>I can read information from a simple table.</p>	<p>Recognise and name common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles]; and 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].</p> <hr/> <p>Pupils handle common 2-D and 3-D shapes, naming these and related everyday objects fluently. They recognise these shapes in different orientations and sizes, and know that rectangles, triangles, cuboids and pyramids are not always similar to each other.</p>
6	Number - fractions	<p>I can find and name a half and quarter of an object.</p> <p>I can find and name a half and quarter of a shape.</p> <p>I can find and name a half and quarter of a quantity.</p>	<p>Recognise, find and name a half as one of two equal parts of an object, shape or quantity.</p> <p>Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.</p> <hr/> <p>Pupils are taught half and quarter as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities. For example, they could recognise and find half a length, quantity, set of objects or shape. Pupils connect halves and quarters to the equal sharing and grouping of sets of objects and to measures, as well as recognising and combining halves and quarters as parts of a whole.</p>
7	Number, place value and money	<p>I can read and write numbers from 1 to 20 in digits and words.</p> <p>I can count in multiples of 1, 2, 5 and 10 to 100.</p> <p>I can recognise and know the value of coins and notes.</p>	<p>Read and write numbers from 1 to 20 in numerals and words.</p> <p>Count in multiples of ones, twos, fives and tens.</p> <p>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.</p> <p>Recognise and know the value of different denominations of coins and notes.</p> <hr/> <p>Pupils practise counting (1, 2, 3...), ordering (for example, first, second, third...), and to indicate a quantity (for example, 3 apples, 2 centimetres), including solving simple concrete problems, until they are fluent.</p> <p>Pupils begin to recognise place value in numbers beyond 20 by reading, writing, counting and comparing</p>

			<p>numbers up to 100, supported by objects and pictorial representations.</p> <p>They practise counting as reciting numbers and counting as enumerating objects, and counting in twos, fives and tens from different multiples to develop their recognition of patterns in the number system (for example, odd and even numbers), including varied and frequent practice through increasingly complex questions.</p> <p>They recognise and create repeating patterns with objects and with shapes.</p>
8	Number - addition and subtraction	<p>I can add one digit numbers to 20.</p> <p>I can subtract one digit numbers to 20.</p> <p>I can solve one step problems using addition.</p> <p>I can solve one step problems using subtraction.</p> <p>I can read, write and understand calculations with +, - and = signs.</p>	<p>Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.</p> <p>Represent and use number bonds and related subtraction facts within 20.</p> <p>Add and subtract one-digit and two-digit numbers to 20, including zero.</p> <p>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> <hr/> <p>Pupils memorise and reason with number bonds to 10 and 20 in several forms (for example, $9 + 7 = 16$; $16 - 7 = 9$; $7 = 16 - 9$). They should realise the effect of adding or subtracting zero. This establishes addition and subtraction as related operations.</p> <p>Pupils combine and increase numbers, counting forwards and backwards.</p> <p>They discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms: put together, add, altogether, total, take away, distance between, difference between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.</p>
9	Number - multiplication and division	<p>I can count in 1s, 2s, 5s and 10s to 100.</p> <p>I can show multiplication using arrays.</p> <p>I can solve simple multiplication problems.</p>	<p>Count, read and write numbers to 100 in numerals.</p> <p>Count in multiples of twos, fives and tens.</p> <p>Solve one-step problems involving multiplication, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.</p>

			<p>They practise counting as reciting numbers and counting as enumerating objects, and counting in twos, fives and tens from different multiples to develop their recognition of patterns in the number system (for example, odd and even numbers), including varied and frequent practice through increasingly complex questions.</p> <p>Through grouping small quantities, pupils begin to understand: multiplication; and doubling numbers and quantities.</p> <p>They make connections between arrays, number patterns, and counting in twos, fives and tens.</p>
10	Number - multiplication and division	<p>I can count in 1s, 2s, 5s and 10s forwards and backwards.</p> <p>I can share and group small amounts.</p> <p>I can solve simple division problems.</p>	<p>Count, read and write numbers to 100 in numerals.</p> <p>Count in multiples of twos, fives and tens.</p> <p>Solve one-step problems involving division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.</p> <p>They practise counting as reciting numbers and counting as enumerating objects, and counting in twos, fives and tens from different multiples to develop their recognition of patterns in the number system (for example, odd and even numbers), including varied and frequent practice through increasingly complex questions.</p> <p>Through sharing small quantities, pupils begin to understand: division; and finding simple fractions of objects, numbers and quantities.</p>

Summer Year 1

Week	Main focus	Programmes of Study (I can)	National curriculum
1	Number, place value and money	<p>I can count to and across 100, forwards and backwards.</p> <p>I can count, read and write numbers to 100.</p> <p>I can read and write numbers from 1 to 20 in digits and words.</p> <p>I can find one more or one less of a given number.</p>	<p>Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.</p> <p>Count, read and write numbers to 100 in numerals.</p> <p>Given a number, identify one more and one less.</p> <p>Identify and represent numbers using objects and pictorial representations including the number line, and</p>

			<p>use the language of: equal to, more than, less than (fewer), most, least.</p> <p>Read and write numbers from 1 to 20 in numerals and words.</p> <hr/> <p>Pupils practise counting (1, 2, 3...), ordering (for example, first, second, third...), and to indicate a quantity (for example, 3 apples, 2 centimetres), including solving simple concrete problems, until they are fluent.</p> <p>Pupils begin to recognise place value in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100, supported by objects and pictorial representations.</p> <p>They practise counting as reciting numbers and counting as enumerating objects, and counting in twos, fives and tens from different multiples to develop their recognition of patterns in the number system (for example, odd and even numbers), including varied and frequent practice through increasingly complex questions.</p> <p>They recognise and create repeating patterns with objects and with shapes.</p>
2	Number - addition and subtraction	<p>I can add and subtract 2 digit numbers to 20.</p> <p>I can show and use number bonds to 20.</p> <p>I can read, write and understand calculations with +, - and = signs.</p> <p>I can solve one step problems using addition.</p> <p>I can solve one step problems using subtraction.</p>	<p>Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.</p> <p>Represent and use number bonds and related subtraction facts within 20.</p> <p>Add and subtract one-digit and two-digit numbers to 20, including zero.</p> <p>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> <hr/> <p>Pupils memorise and reason with number bonds to 10 and 20 in several forms (for example, $9 + 7 = 16$; $16 - 7 = 9$; $7 = 16 - 9$). They should realise the effect of adding or subtracting zero. This establishes addition and subtraction as related operations.</p> <p>Pupils combine and increase numbers, counting forwards and backwards.</p> <p>They discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms: put together, add, altogether, total,</p>

			take away, distance between, difference between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.
3	Number - addition and subtraction	<p>I can add and subtract 2 digit numbers to 20.</p> <p>I can show and use number bonds to 20.</p> <p>I can read, write and understand calculations with +, - and = signs.</p> <p>I can solve one step problems using addition.</p> <p>I can solve one step problems using subtraction.</p>	<p>Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.</p> <p>Represent and use number bonds and related subtraction facts within 20.</p> <p>Add and subtract one-digit and two-digit numbers to 20, including zero.</p> <p>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> <hr/> <p>Pupils memorise and reason with number bonds to 10 and 20 in several forms (for example, $9 + 7 = 16$; $16 - 7 = 9$; $7 = 16 - 9$). They should realise the effect of adding or subtracting zero. This establishes addition and subtraction as related operations.</p> <p>Pupils combine and increase numbers, counting forwards and backwards.</p> <p>They discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms: put together, add, altogether, total, take away, distance between, difference between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.</p>
4	Number - multiplication and division	<p>I can count in 1s, 2s, 5s and 10s to 100</p> <p>I can show multiplication using arrays.</p> <p>I can share and group small amounts.</p>	<p>Count, read and write numbers to 100 in numerals.</p> <p>Count in multiples of twos, fives and tens.</p> <p>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.</p> <hr/> <p>Through grouping and sharing small quantities, pupils begin to understand: multiplication and division; doubling numbers and quantities; and finding simple fractions of objects, numbers and quantities.</p> <p>They make connections between arrays, number patterns, and counting in twos, fives and tens.</p>

5	Number - fractions	I can solve simple half and quarter problems.	<p>Recognise, find and name a half as one of two equal parts of an object, shape or quantity.</p> <p>Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.</p> <hr/> <p>Pupils are taught half and quarter as ‘fractions of’ discrete and continuous quantities by solving problems using shapes, objects and quantities. For example, they could recognise and find half a length, quantity, set of objects or shape. Pupils connect halves and quarters to the equal sharing and grouping of sets of objects and to measures, as well as recognising and combining halves and quarters as parts of a whole.</p>
6	Measurement, geometry and statistics	<p>I can describe position, directions and movements.</p> <p>I am beginning to measure and record lengths and heights.</p> <p>I can count in multiples of 10.</p> <p>I can compare, describe and solve problems involving measures.</p>	<p>Describe position, direction and movement including whole, half, quarter and three-quarter turns.</p> <p>Compare, describe and solve practical problems for lengths and heights [for example, long/short, longer/shorter, tall/short, double/half].</p> <p>Measure and begin to record lengths and heights.</p> <hr/> <p>Pupils use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside.</p> <p>Pupils make whole, half, quarter and three-quarter turns in both directions and connect turning clockwise with movement on a clock face.</p> <p>Pupils move from using and comparing different types of quantities and measures using non-standard units, including discrete (for example, counting) and continuous measurement, to using manageable common standard units.</p> <p>In order to become familiar with standard measures, pupils begin to use measuring tools such as a ruler.</p>
7	Number - place value and money	<p>I can count in multiples of 1, 2, 5 and 10 to 100.</p> <p>I can recognise and know the value of coins and notes.</p>	<p>Count in multiples of ones, twos, fives and tens.</p> <p>Recognise and know the value of different denominations of coins and notes.</p> <hr/> <p>Pupils begin to recognise place value in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100, supported by objects and pictorial representations.</p>

			They practise counting as reciting numbers and counting as enumerating objects, and counting in twos, fives and tens from different multiples to develop their recognition of patterns in the number system (for example, odd and even numbers), including varied and frequent practice through increasingly complex questions.
8	Number - addition and subtraction	<p>I can add and subtract 2 digit numbers to 20.</p> <p>I can show and use number bonds to 20.</p> <p>I can read, write and understand calculations with +, - and = signs.</p> <p>I can solve one step problems using addition.</p> <p>I can solve one step problems using subtraction.</p>	<p>Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs.</p> <p>Represent and use number bonds and related subtraction facts within 20.</p> <p>Add and subtract one-digit and two-digit numbers to 20, including zero.</p> <p>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> <hr/> <p>Pupils memorise and reason with number bonds to 10 and 20 in several forms (for example, $9 + 7 = 16$; $16 - 7 = 9$; $7 = 16 - 9$). They should realise the effect of adding or subtracting zero. This establishes addition and subtraction as related operations.</p> <p>Pupils combine and increase numbers, counting forwards and backwards.</p> <p>They discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms: put together, add, altogether, total, take away, distance between, difference between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.</p>
9	Number - multiplication and division	<p>I can count in 1s, 2s, 5s and 10s to 100.</p> <p>I can solve simple multiplication and division problems.</p>	<p>Count, read and write numbers to 100 in numerals.</p> <p>Count in multiples of twos, fives and tens.</p> <p>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.</p> <hr/> <p>Through grouping and sharing small quantities, pupils begin to understand: multiplication and division; doubling numbers and quantities; and finding simple fractions of objects, numbers and quantities.</p>

10	Number - multiplication and division	<p>I can count in 1s, 2s, 5s and 10s to 100</p> <p>I can solve simple multiplication and division problems.</p>	<p>Count, read and write numbers to 100 in numerals.</p> <p>Count in multiples of twos, fives and tens.</p> <p>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.</p> <hr/> <p>Through grouping and sharing small quantities, pupils begin to understand: multiplication and division; doubling numbers and quantities; and finding simple fractions of objects, numbers and quantities.</p>
11	Measurement, geometry and statistics	<p>I am beginning to measure and record capacity and volume.</p> <p>I can compare, describe and solve problems involving measures.</p> <p>I am beginning to measure and record time.</p> <p>I can organise information in a simple way.</p>	<p>Compare, describe and solve practical problems for capacity and volume [for example, full/empty, more than, less than, half, half full, quarter].</p> <p>Measure and begin to record capacity and volume.</p> <p>Compare, describe and solve practical problems for time [for example, quicker, slower, earlier, and later].</p> <p>Measure and begin to record (hours, minutes, and seconds).</p> <hr/> <p>The pairs of terms volume and capacity, are used interchangeably at this stage.</p> <p>Pupils move from using and comparing different types of quantities and measures using non-standard units, including discrete (for example, counting) and continuous (for example, liquid) measurement, to using manageable common standard units.</p> <p>In order to become familiar with standard measures, pupils begin to use measuring tools such as containers.</p>

Autumn Year 2

Week	Main focus	Programmes of Study (I can)	National Curriculum
1	Number, place value and money	<p>I can read and write numbers to at least 100 in digits.</p> <p>I can count in steps of 2, 3 and 5 from 0.</p> <p>I can compare numbers from 0 up to 100.</p>	<p>Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.</p> <p>Recognise the place value of each digit in a two-digit number (tens, ones).</p> <p>Identify, represent and estimate numbers using different representations, including the number line.</p> <p>Compare and order numbers from 0 up to 100.</p>

			<p>-----Using materials and a range of representations, pupils practise counting, reading, writing and comparing numbers to at least 100 and solving a variety of related problems to develop fluency. They count in multiples of three to support their later understanding of a third.</p> <p>As they become more confident with numbers up to 100, pupils are introduced to larger numbers to develop further their recognition of patterns within the number system and represent them in different ways, including spatial representations.</p> <p>Pupils should partition numbers in different ways (for example, $23 = 20 + 3$ and $23 = 10 + 13$) to support subtraction. They become fluent and apply their knowledge of numbers to reason with, discuss and solve problems that emphasise the value of each digit in two-digit numbers. They begin to understand zero as a place holder.</p>
2	Number - addition and subtraction (written and mental)	<p>I can recall and use + facts to 20 and use number facts to 100.</p> <p>I can add a two- digit number and ones and a two-digit number and tens.</p> <p>I can solve simple one step problems with addition.</p>	<p>Solve problems with addition:</p> <ul style="list-style-type: none"> ▪ using concrete objects and pictorial representations, including those involving numbers, quantities and measures ▪ applying their increasing knowledge of mental and written methods. <p>Recall and use addition facts to 20 fluently, and derive and use related facts up to 100.</p> <p>Add numbers using concrete objects, pictorial representations, and mentally, including:</p> <ul style="list-style-type: none"> ▪ a two-digit number and ones ▪ a two-digit number and tens. <p>-----</p> <p>Pupils extend their understanding of the language of addition to include sum.</p> <p>Pupils practise addition to 20 to become increasingly fluent in deriving facts such as using $3 + 7 = 10$ to calculate $30 + 70 = 100$.</p> <p>Recording addition in columns supports place value and prepares for formal written methods with larger numbers.</p>
3	Number - addition and subtraction (written and mental)	<p>I can recall and use - facts to 20</p> <p>I can subtract a two- digit number and ones and a two-digit number and tens.</p> <p>I can solve simple one step problems with subtraction.</p>	<p>Solve problems with subtraction:</p> <ul style="list-style-type: none"> ▪ using concrete objects and pictorial representations, including those involving numbers, quantities and measures ▪ applying their increasing knowledge of mental and written methods. <p>Recall and use subtraction facts to 20 fluently, and derive and use related facts up to 100.</p> <p>Subtract numbers using concrete objects, pictorial representations, and mentally, including:</p> <ul style="list-style-type: none"> ▪ a two-digit number and ones ▪ a two-digit number and tens. <p>-----</p> <p>Pupils extend their understanding of the language of subtraction to include difference.</p> <p>Pupils practise subtraction to 20 to become increasingly fluent in deriving facts such as using $10 - 7 = 3$ and $7 = 10 - 3$ to calculate $100 - 70 = 30$ and $70 = 100 - 30$.</p> <p>Recording subtraction in columns supports place value and prepares for formal written methods with larger numbers.</p>
4	Number - multiplication and division (written and mental)	<p>I can recognise odd and even numbers.</p> <p>I can recall and use x and ÷ facts for the 2, 5 and 10 x tables.</p> <p>I can solve one step problems involving multiplication and division.</p>	<p>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</p> <p>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs.</p> <p>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p> <p>-----</p> <p>Pupils use a variety of language to describe multiplication and division.</p>

			<p>Pupils are introduced to the multiplication tables. They practise to become fluent in the 2, 5 and 10 multiplication tables and connect them to each other. They connect the 10 multiplication table to place value, and the 5 multiplication table to the divisions on the clock face. They begin to use other multiplication tables and recall multiplication facts, including using related division facts to perform written and mental calculations.</p> <p>Pupils work with a range of materials and contexts in which multiplication and division relate to grouping and sharing discrete and continuous quantities, to arrays and to repeated addition. They begin to relate these to fractions and measures (for example, $40 \div 2 = 20$, 20 is a half of 40).</p>
5	Measurement, geometry and statistics	<p>I can identify and describe the properties of 2-D shapes.</p> <p>I can identify and describe the properties of 3-D shapes.</p> <p>I can order and arrange combinations of objects in patterns.</p> <p>I can interpret and construct simple pictograms.</p> <p>I can organise information using 'many-to-one' in pictograms using simple ratios (2, 5 and 10).</p>	<p>Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.</p> <p>Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.</p> <p>Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid].</p> <p>Compare and sort common 2-D and 3-D shapes and everyday objects.</p> <p>Order and arrange combinations of mathematical objects in patterns and sequences.</p> <p>Interpret and construct simple pictograms.</p> <p>-----</p> <p>Pupils handle and name a wide variety of common 2-D and 3-D shapes including: quadrilaterals and polygons, and cuboids, prisms and cones, and identify the properties of each shape (for example, number of sides, number of faces). Pupils identify, compare and sort shapes on the basis of their properties and use vocabulary precisely, such as sides, edges, vertices and faces.</p> <p>Pupils read and write names for shapes that are appropriate for their word reading and spelling.</p> <p>Pupils draw lines and shapes using a straight edge.</p> <p>Pupils should work with patterns of shapes, including those in different orientations.</p> <p>Pupils record, interpret, collate, organise and compare information (for example, using many-to-one correspondence in pictograms with simple ratios 2, 5, 10).</p>
6	Number - fractions	<p>I can recognise, find, name and write fractions of a shape ($1/4$, $1/3$, $1/2$ and $3/4$).</p> <p>I can find, name and write fractions of a set of objects ($1/4$, $1/3$, $1/2$ and $3/4$).</p>	<p>Recognise, find, name and write fractions $1/4$, $1/3$, $1/2$ and $3/4$ of a shape or set of objects.</p> <p>Write simple fractions for example, $1/2$ of 6 = 3 and recognise the equivalence of $2/4$ and $1/2$.</p> <p>-----</p> <p>Pupils use fractions as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities. They connect unit fractions to equal sharing and grouping, to numbers when they can be calculated, and to measures, finding fractions of lengths, quantities, sets of objects or shapes. They meet $3/4$ as the first example of a non-unit fraction.</p>
7	Number, place value and money	<p>I can read and write numbers to at least 100 in digits.</p> <p>I can count in steps of 2, 3 and 5 from 0.</p> <p>I can compare numbers from 0 up to 100.</p> <p>I can use the <, > and = signs.</p>	<p>Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.</p> <p>Recognise the place value of each digit in a two-digit number (tens, ones).</p> <p>Identify, represent and estimate numbers using different representations, including the number line.</p> <p>Compare and order numbers from 0 up to 100; use <, > and = signs.</p> <p>-----</p> <p>Using materials and a range of representations, pupils practise counting, reading, writing and comparing numbers to at least 100 and solving a variety of related problems to develop fluency. They count in multiples of three to support their later understanding of a third.</p>

			<p>As they become more confident with numbers up to 100, pupils are introduced to larger numbers to develop further their recognition of patterns within the number system and represent them in different ways, including spatial representations.</p> <p>Pupils should partition numbers in different ways (for example, $23 = 20 + 3$ and $23 = 10 + 13$) to support subtraction. They become fluent and apply their knowledge of numbers to reason with, discuss and solve problems that emphasise the value of each digit in two-digit numbers. They begin to understand zero as a place holder.</p>
8	<p>Number - addition and subtraction (written and mental)</p>	<p>I can recall and use + and - facts to 20.</p> <p>I can add and subtract a two-digit number and ones and a two-digit number and tens.</p> <p>I can solve simple one step problems with addition and subtraction.</p>	<p>Solve problems with addition and subtraction:</p> <ul style="list-style-type: none"> ▪ using concrete objects and pictorial representations, including those involving numbers, quantities and measures ▪ applying their increasing knowledge of mental and written methods. <p>Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.</p> <p>Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:</p> <ul style="list-style-type: none"> ▪ a two-digit number and ones ▪ a two-digit number and tens. <p>-----</p> <p>Pupils extend their understanding of the language of addition and subtraction to include sum and difference.</p> <p>Pupils practise addition and subtraction to 20 to become increasingly fluent in deriving facts such as using $3 + 7 = 10$; $10 - 7 = 3$ and $7 = 10 - 3$ to calculate $30 + 70 = 100$; $100 - 70 = 30$ and $70 = 100 - 30$.</p> <p>Recording addition and subtraction in columns supports place value and prepares for formal written methods with larger numbers.</p>
9	<p>Number - multiplication and division (written and mental)</p>	<p>I can solve one step problems involving multiplication and division.</p> <p>I can recall and use x and ÷ facts for the 2, 5 and 10 x tables.</p>	<p>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</p> <p>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs.</p> <p>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p> <p>-----</p> <p>Pupils use a variety of language to describe multiplication and division.</p> <p>Pupils are introduced to the multiplication tables. They practise to become fluent in the 2, 5 and 10 multiplication tables and connect them to each other. They connect the 10 multiplication table to place value, and the 5 multiplication table to the divisions on the clock face. They begin to use other multiplication tables and recall multiplication facts, including using related division facts to perform written and mental calculations.</p> <p>Pupils work with a range of materials and contexts in which multiplication and division relate to grouping and sharing discrete and continuous quantities, to arrays and to repeated addition. They begin to relate these to fractions and measures (for example, $40 \div 2 = 20$, 20 is a half of 40).</p>
10	<p>Number - multiplication and division (written and mental)</p>	<p>I can solve one step problems involving multiplication and division.</p> <p>I can recall and use x and ÷ facts for the 2, 5 and 10 x tables.</p>	<p>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</p> <p>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs.</p> <p>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p> <p>-----</p> <p>Pupils use a variety of language to describe multiplication and division.</p>

			<p>Pupils are introduced to the multiplication tables. They practise to become fluent in the 2, 5 and 10 multiplication tables and connect them to each other. They connect the 10 multiplication table to place value, and the 5 multiplication table to the divisions on the clock face. They begin to use other multiplication tables and recall multiplication facts, including using related division facts to perform written and mental calculations.</p> <p>Pupils work with a range of materials and contexts in which multiplication and division relate to grouping and sharing discrete and continuous quantities, to arrays and to repeated addition. They begin to relate these to fractions and measures (for example, $40 \div 2 = 20$, 20 is a half of 40).</p>
11	Measurement, geometry and statistics	<p>I can tell the time the hour, half past, quarter past and quarter to.</p> <p>I can ask and answer simple questions by sorting categories by quantity.</p> <p>I can ask and answer questions about totalling.</p>	<p>Compare and sequence intervals of time.</p> <p>Tell and write the time to the hour, half past, quarter past/to the hour and draw the hands on a clock face to show these times.</p> <p>Know the number of minutes in an hour and the number of hours in a day.</p> <p>Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.</p> <p>Ask and answer questions about totalling and comparing categorical data.</p> <p>-----</p> <p>They become fluent in telling the time on analogue clocks and recording it.</p> <p>Pupils record, interpret, collate, organise and compare information.</p>
12	Measurement, geometry and statistics	<p>I can compare and order mass/weight.</p> <p>I can compare and order temperature.</p> <p>I can read relevant scales to the nearest numbered unit.</p> <p>I can use different equipment to measure accurately.</p> <p>I use the correct standard units to estimate and measure.</p> <p>I can interpret and construct simple block diagrams.</p>	<p>Choose and use appropriate standard units to estimate and measure mass (kg/g) and temperature ($^{\circ}\text{C}$); to the nearest appropriate unit, using scales and thermometers.</p> <p>Compare and order mass and temperature and record the results using $>$, $<$ and $=$.</p> <p>Interpret and construct simple block diagrams.</p> <p>-----</p> <p>Pupils use standard units of measurement with increasing accuracy, using their knowledge of the number system. They use the appropriate language and record using standard abbreviations.</p> <p>Comparing measures includes simple multiples such as 'half as heavy'; 'twice as heavy'.</p> <p>Pupils record, interpret, collate, organise and compare information.</p>

Spring Year 2

Week	Main focus	Programmes of Study (I can)	National Curriculum
1	Number, place value and money	<p>I can read and write numbers to at least 100 in digits.</p> <p>I can compare and order numbers from 0 up to 100.</p> <p>I can count forwards and backwards in tens from any number.</p> <p>I can use the $<$, $>$ and $=$ signs.</p> <p>I can recognise and use symbols for pounds and pence.</p>	<p>Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.</p> <p>Recognise the place value of each digit in a two-digit number (tens, ones).</p> <p>Identify, represent and estimate numbers using different representations, including the number line.</p> <p>Compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs.</p> <p>Read and write numbers to at least 100 in numerals and in words.</p>

			<p>Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.</p> <p>Find different combinations of coins that equal the same amounts of money.</p> <p>-----</p> <p>Using materials and a range of representations, pupils practise counting, reading, writing and comparing numbers to at least 100 and solving a variety of related problems to develop fluency. They count in multiples of three to support their later understanding of a third.</p> <p>As they become more confident with numbers up to 100, pupils are introduced to larger numbers to develop further their recognition of patterns within the number system and represent them in different ways, including spatial representations.</p> <p>Pupils should partition numbers in different ways (for example, $23 = 20 + 3$ and $23 = 10 + 13$) to support subtraction. They become fluent and apply their knowledge of numbers to reason with, discuss and solve problems that emphasise the value of each digit in two-digit numbers. They begin to understand zero as a place holder.</p> <p>Pupils become fluent in counting and recognising coins. They read and say amounts of money confidently and use the symbols £ and p accurately, recording pounds and pence separately.</p>
2	<p>Number - addition and subtraction (written and mental)</p>	<p>I can recall and use + facts to 20 and use number facts to 100.</p> <p>I can add a two-digit number and ones, a two-digit number and tens and two two-digit numbers.</p> <p>I can show that addition can be done in any order.</p> <p>I can solve simple one step problems with addition.</p>	<p>Solve problems with addition:</p> <ul style="list-style-type: none"> ▪ using concrete objects and pictorial representations, including those involving numbers, quantities and measures ▪ applying their increasing knowledge of mental and written methods. <p>Recall and use addition facts to 20 fluently, and derive and use related facts up to 100.</p> <p>Add numbers using concrete objects, pictorial representations, and mentally, including:</p> <ul style="list-style-type: none"> ▪ a two-digit number and ones ▪ a two-digit number and tens ▪ two two-digit numbers. <p>Show that addition of two numbers can be done in any order (commutative).</p> <p>-----</p> <p>Pupils extend their understanding of the language of addition and subtraction to include sum and difference.</p> <p>Pupils practise addition and subtraction to 20 to become increasingly fluent in deriving facts such as using $3 + 7 = 10$; $10 - 7 = 3$ and $7 = 10 - 3$ to calculate $30 + 70 = 100$; $100 - 70 = 30$ and $70 = 100 - 30$. They check their calculations, including by adding numbers in a different order to check addition (for example, $5 + 2 + 1 = 1 + 5 + 2 = 1 + 2 + 5$). This establishes associativity of addition.</p> <p>Recording addition and subtraction in columns supports place value and prepares for formal written methods with larger numbers.</p>
3	<p>Number - addition and subtraction (written and mental)</p>	<p>I can recall and use— facts to 20 and use number facts to 100.</p> <p>I can subtract a two-digit number and ones, a two-digit number and tens and two two-digit numbers.</p> <p>I can show that subtraction can't be done in any order.</p> <p>I can solve simple one step problems with subtraction.</p>	<p>Solve problems with subtraction:</p> <ul style="list-style-type: none"> ▪ using concrete objects and pictorial representations, including those involving numbers, quantities and measures ▪ applying their increasing knowledge of mental and written methods. <p>Recall subtraction facts to 20 fluently, and derive and use related facts up to 100.</p> <p>Subtract numbers using concrete objects, pictorial representations, and mentally, including:</p> <ul style="list-style-type: none"> ▪ a two-digit number and ones ▪ a two-digit number and tens ▪ two two-digit numbers. <p>Show that subtraction of one number from another cannot be done in any order.</p> <p>Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</p>

			<p>-----</p> <p>Pupils extend their understanding of the language of addition and subtraction to include sum and difference.</p> <p>Pupils practise addition and subtraction to 20 to become increasingly fluent in deriving facts such as using $3 + 7 = 10$; $10 - 7 = 3$ and $7 = 10 - 3$ to calculate $30 + 70 = 100$; $100 - 70 = 30$ and $70 = 100 - 30$. They check their calculations, including by adding numbers in a different order to check addition (for example, $5 + 2 + 1 = 1 + 5 + 2 = 1 + 2 + 5$). This establishes associativity of addition.</p> <p>Recording addition and subtraction in columns supports place value and prepares for formal written methods with larger numbers.</p>
4	Number - multiplication and division (written and mental)	<p>I can solve one step problems involving multiplication and division.</p> <p>I can recall and use \times and \div facts for the 2, 5 and 10 \times tables.</p> <p>I can recognise odd and even numbers.</p> <p>I can show that \times of 2 numbers can be done in any order.</p>	<p>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</p> <p>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs.</p> <p>Show that multiplication of two numbers can be done in any order (commutative).</p> <p>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p> <p>-----</p> <p>Pupils use a variety of language to describe multiplication and division.</p> <p>Pupils are introduced to the multiplication tables. They practise to become fluent in the 2, 5 and 10 multiplication tables and connect them to each other. They connect the 10 multiplication table to place value, and the 5 multiplication table to the divisions on the clock face. They begin to use other multiplication tables and recall multiplication facts, including using related division facts to perform written and mental calculations.</p> <p>Pupils work with a range of materials and contexts in which multiplication and division relate to grouping and sharing discrete and continuous quantities, to arrays and to repeated addition. They begin to relate these to fractions and measures (for example, $40 \div 2 = 20$, 20 is a half of 40).</p>
5	Measurement, geometry and statistics	<p>I can compare and sort common 2-D and 3-D shapes</p> <p>I can identify lines of symmetry in 2-D shapes.</p> <p>I can identify 2-D shapes on the surface of 3-D shape.</p> <p>I can interpret and construct simple tally charts.</p> <p>I can interpret and construct simple tables.</p>	<p>Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.</p> <p>Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.</p> <p>Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid].</p> <p>Compare and sort common 2-D and 3-D shapes and everyday objects.</p> <p>Order and arrange combinations of mathematical objects in patterns and sequences.</p> <p>Interpret and construct simple tally charts and simple tables.</p> <p>-----</p> <p>Pupils handle and name a wide variety of common 2-D and 3-D shapes including: quadrilaterals and polygons, and cuboids, prisms and cones, and identify the properties of each shape (for example, number of sides, number of faces). Pupils identify, compare and sort shapes on the basis of their properties and use vocabulary precisely, such as sides, edges, vertices and faces.</p> <p>Pupils read and write names for shapes that are appropriate for their word reading and spelling.</p> <p>Pupils draw lines and shapes using a straight edge.</p> <p>Pupils record, interpret, collate, organise and compare information.</p>

6	Number - fractions	<p>I can recognise, find, name and write fractions of a length ($\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$ and $\frac{3}{4}$).</p> <p>I can recognise, find, name and write fractions of a quantity ($\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$ and $\frac{3}{4}$).</p> <p>I can count in fractions up to 10 starting from any number. ($\frac{1}{4}$ and $\frac{1}{2}$ including placing on a number line)</p>	<p>Recognise, find, name and write fractions $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity.</p> <p>Write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.</p> <hr/> <p>Pupils use fractions as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities. They connect unit fractions to equal sharing and grouping, to numbers when they can be calculated, and to measures, finding fractions of lengths, quantities, sets of objects or shapes. They meet $\frac{3}{4}$ as the first example of a non-unit fraction.</p> <p>Pupils should count in fractions up to 10, starting from any number and using the $\frac{1}{2}$ and $\frac{2}{4}$ equivalence on the number line (for example, 1, 1 and $\frac{1}{4}$, 1 and $\frac{2}{4}$ or 1 and $\frac{1}{2}$, 1 and $\frac{3}{4}$, 2). This reinforces the concept of fractions as numbers and that they can add up to more than one.</p>
7	Number, place value and money	<p>I know the place value of each digit in a 2 digit number.</p> <p>I can count forwards and backwards in tens from any number,</p> <p>I can use the <, > and = signs.</p> <p>I can count in steps of 2, 3 and 5 from 0.</p> <p>I can recognise and use symbols for pounds and pence.</p>	<p>Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.</p> <p>Recognise the place value of each digit in a two-digit number (tens, ones).</p> <p>Identify, represent and estimate numbers using different representations, including the number line.</p> <p>Compare and order numbers from 0 up to 100; use <, > and = signs.</p> <p>Read and write numbers to at least 100 in numerals and in words.</p> <p>Use place value and number facts to solve problems.</p> <p>Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.</p> <p>Find different combinations of coins that equal the same amounts of money.</p> <hr/> <p>Using materials and a range of representations, pupils practise counting, reading, writing and comparing numbers to at least 100 and solving a variety of related problems to develop fluency. They count in multiples of three to support their later understanding of a third.</p> <p>As they become more confident with numbers up to 100, pupils are introduced to larger numbers to develop further their recognition of patterns within the number system and represent them in different ways, including spatial representations.</p> <p>Pupils should partition numbers in different ways (for example, $23 = 20 + 3$ and $23 = 10 + 13$) to support subtraction. They become fluent and apply their knowledge of numbers to reason with, discuss and solve problems that emphasise the value of each digit in two-digit numbers. They begin to understand zero as a place holder.</p> <p>Pupils become fluent in counting and recognising coins. They read and say amounts of money confidently and use the symbols £ and p accurately, recording pounds and pence separately.</p>
8	Number - addition and subtraction (written and mental)	<p>I can recall and use + and - facts to 20 and use number facts to 100.</p> <p>I can add and subtract a two-digit number and ones, a two-digit number and tens and two two-digit numbers.</p> <p>I can solve simple one step problems with addition and subtraction.</p>	<p>Solve problems with addition and subtraction:</p> <ul style="list-style-type: none"> ▪ using concrete objects and pictorial representations, including those involving numbers, quantities and measures ▪ applying their increasing knowledge of mental and written methods. <p>Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.</p> <p>Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:</p> <ul style="list-style-type: none"> ▪ a two-digit number and ones ▪ a two-digit number and tens ▪ two two-digit numbers. <hr/>

			<p>Pupils extend their understanding of the language of addition and subtraction to include sum and difference.</p> <p>Pupils practise addition and subtraction to 20 to become increasingly fluent in deriving facts such as using $3 + 7 = 10$; $10 - 7 = 3$ and $7 = 10 - 3$ to calculate $30 + 70 = 100$; $100 - 70 = 30$ and $70 = 100 - 30$. They check their calculations, including by adding numbers in a different order to check addition (for example, $5 + 2 + 1 = 1 + 5 + 2 = 1 + 2 + 5$). This establishes associativity of addition.</p> <p>Recording addition and subtraction in columns supports place value and prepares for formal written methods with larger numbers.</p>
9	<p>Number - multiplication and division (written and mental)</p>	<p>I can solve one step problems involving multiplication and division.</p> <p>I can recall and use \times and \div facts for the 2, 5 and 10 \times tables.</p> <p>I can show that \times of 2 numbers can be done in any order.</p>	<p>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</p> <p>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs.</p> <p>Show that multiplication of two numbers can be done in any order (commutative).</p> <p>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p> <p>-----</p> <p>Pupils use a variety of language to describe multiplication and division.</p> <p>Pupils are introduced to the multiplication tables. They practise to become fluent in the 2, 5 and 10 multiplication tables and connect them to each other. They connect the 10 multiplication table to place value, and the 5 multiplication table to the divisions on the clock face. They begin to use other multiplication tables and recall multiplication facts, including using related division facts to perform written and mental calculations.</p> <p>Pupils work with a range of materials and contexts in which multiplication and division relate to grouping and sharing discrete and continuous quantities, to arrays and to repeated addition. They begin to relate these to fractions and measures (for example, $40 \div 2 = 20$, 20 is a half of 40).</p>
10	<p>Number - multiplication and division (written and mental)</p>	<p>I can solve one step problems involving multiplication and division.</p> <p>I can recall and use \times and \div facts for the 2, 5 and 10 \times tables.</p> <p>I know that division of 1 number by another cannot be done in any order.</p>	<p>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</p> <p>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs.</p> <p>Show that division of one number by another cannot be done in any order.</p> <p>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p> <p>-----</p> <p>Pupils use a variety of language to describe multiplication and division.</p> <p>Pupils are introduced to the multiplication tables. They practise to become fluent in the 2, 5 and 10 multiplication tables and connect them to each other. They connect the 10 multiplication table to place value, and the 5 multiplication table to the divisions on the clock face. They begin to use other multiplication tables and recall multiplication facts, including using related division facts to perform written and mental calculations.</p> <p>Pupils work with a range of materials and contexts in which multiplication and division relate to grouping and sharing discrete and continuous quantities, to arrays and to repeated addition. They begin to relate these to fractions and measures (for example, $40 \div 2 = 20$, 20 is a half of 40).</p>

Summer Year 2

Week	Main focus	Programmes of Study (I can)	National Curriculum
1	Number, place value and money	<p>I can read and write numbers to at least 100 in numerals and words.</p> <p>I know the place value of each digit in a 2 digit number.</p> <p>I can compare and order numbers from 0 up to 100.</p> <p>I can use place value and number facts to solve problems.</p> <p>I can solve simple problems in a practical context for money.</p>	<p>Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.</p> <p>Recognise the place value of each digit in a two-digit number (tens, ones).</p> <p>Identify, represent and estimate numbers using different representations, including the number line.</p> <p>Compare and order numbers from 0 up to 100; use <, > and = signs.</p> <p>Read and write numbers to at least 100 in numerals and in words.</p> <p>Use place value and number facts to solve problems.</p> <p>Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.</p> <p>-----</p> <p>Using materials and a range of representations, pupils practise counting, reading, writing and comparing numbers to at least 100 and solving a variety of related problems to develop fluency. They count in multiples of three to support their later understanding of a third.</p> <p>As they become more confident with numbers up to 100, pupils are introduced to larger numbers to develop further their recognition of patterns within the number system and represent them in different ways, including spatial representations.</p> <p>Pupils should partition numbers in different ways (for example, $23 = 20 + 3$ and $23 = 10 + 13$) to support subtraction. They become fluent and apply their knowledge of numbers to reason with, discuss and solve problems that emphasise the value of each digit in two-digit numbers. They begin to understand zero as a place holder.</p>
2	Number - addition and subtraction (written and mental)	<p>I can recall and use + and - facts to 20 and use number facts to 100.</p> <p>I can add and subtract a two-digit number and ones, a two-digit number and tens, two two-digit numbers and adding three one-digit numbers.</p> <p>I can show that addition can be done in any order and subtraction can't.</p> <p>I can solve simple one step problems with addition and subtraction.</p> <p>I can apply mental strategies to problems.</p>	<p>Solve problems with addition and subtraction:</p> <ul style="list-style-type: none"> ▪ using concrete objects and pictorial representations, including those involving numbers, quantities and measures ▪ applying their increasing knowledge of mental and written methods. <p>Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.</p> <p>Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:</p> <ul style="list-style-type: none"> ▪ a two-digit number and ones ▪ a two-digit number and tens ▪ two two-digit numbers ▪ adding three one-digit numbers. <p>Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.</p>

		I can apply written strategies to problems.	<p>Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</p> <p>-----</p> <p>Pupils extend their understanding of the language of addition and subtraction to include sum and difference.</p> <p>Pupils practise addition and subtraction to 20 to become increasingly fluent in deriving facts such as using $3 + 7 = 10$; $10 - 7 = 3$ and $7 = 10 - 3$ to calculate $30 + 70 = 100$; $100 - 70 = 30$ and $70 = 100 - 30$. They check their calculations, including by adding to check subtraction and adding numbers in a different order to check addition (for example, $5 + 2 + 1 = 1 + 5 + 2 = 1 + 2 + 5$). This establishes commutativity and associativity of addition.</p> <p>Recording addition and subtraction in columns supports place value and prepares for formal written methods with larger numbers.</p>
3	Number - addition and subtraction (written and mental)	<p>I can recall and use + and - facts to 20 and use number facts to 100.</p> <p>I can add and subtract a two-digit number and ones, a two-digit number and tens, two two-digit numbers and adding three one-digit numbers.</p> <p>I can show that addition can be done in any order and subtraction can't.</p> <p>I can solve simple one step problems with addition and subtraction.</p> <p>I can apply mental strategies to problems.</p> <p>I can apply written strategies to problems.</p>	<p>Solve problems with addition and subtraction:</p> <ul style="list-style-type: none"> ▪ using concrete objects and pictorial representations, including those involving numbers, quantities and measures ▪ applying their increasing knowledge of mental and written methods. <p>Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.</p> <p>Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:</p> <ul style="list-style-type: none"> ▪ a two-digit number and ones ▪ a two-digit number and tens ▪ two two-digit numbers ▪ adding three one-digit numbers. <p>Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.</p> <p>Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</p> <p>-----</p> <p>Pupils extend their understanding of the language of addition and subtraction to include sum and difference.</p> <p>Pupils practise addition and subtraction to 20 to become increasingly fluent in deriving facts such as using $3 + 7 = 10$; $10 - 7 = 3$ and $7 = 10 - 3$ to calculate $30 + 70 = 100$; $100 - 70 = 30$ and $70 = 100 - 30$. They check their calculations, including by adding to check subtraction and adding numbers in a different order to check addition (for example, $5 + 2 + 1 = 1 + 5 + 2 = 1 + 2 + 5$). This establishes commutativity and associativity of addition.</p> <p>Recording addition and subtraction in columns supports place value and prepares for formal written methods with larger numbers.</p>
4	Number - multiplication and division (written and mental)	<p>I can solve one step problems involving multiplication and division.</p> <p>I can calculate mathematical statements for x.</p> <p>I can calculate mathematical statements for division.</p> <p>I can recognise odd and even numbers.</p> <p>I can recognise and use inverse relationships between x and division.</p>	<p>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</p> <p>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs.</p> <p>Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.</p> <p>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p> <p>-----</p> <p>Pupils use a variety of language to describe multiplication and division.</p>

			<p>Pupils are introduced to the multiplication tables. They practise to become fluent in the 2, 5 and 10 multiplication tables and connect them to each other. They connect the 10 multiplication table to place value, and the 5 multiplication table to the divisions on the clock face. They begin to use other multiplication tables and recall multiplication facts, including using related division facts to perform written and mental calculations.</p> <p>Pupils work with a range of materials and contexts in which multiplication and division relate to grouping and sharing discrete and continuous quantities, to arrays and to repeated addition. They begin to relate these to fractions and measures (for example, $40 \div 2 = 20$, 20 is a half of 40). They use commutativity and inverse relations to develop multiplicative reasoning (for example, $4 \times 5 = 20$ and $20 \div 5 = 4$).</p>
5	Number - fractions	<p>I can write simple fractions and recognise equivalence ($1/2$ and $2/4$).</p> <p>I can count in fractions up to 10 starting from any number ($1/4$, $1/2$ and $2/4$ including placing on a number line).</p> <p>I can solve simple problems involving fractions.</p>	<p>Recognise, find, name and write fractions $1/4$, $1/3$, $1/2$ and $3/4$ of a length, shape, set of objects or quantity.</p> <p>Write simple fractions for example, $1/2$ of $6 = 3$ and recognise the equivalence of $2/4$ and $1/2$.</p> <p>-----</p> <p>Pupils use fractions as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities. They connect unit fractions to equal sharing and grouping, to numbers when they can be calculated, and to measures, finding fractions of lengths, quantities, sets of objects or shapes. They meet $3/4$ as the first example of a non-unit fraction.</p> <p>Pupils should count in fractions up to 10, starting from any number and using the $1/2$ and $2/4$ equivalence on the number line (for example, 1, 1 and $1/4$, 1 and $2/4$ or 1 and $1/2$, 1 and $3/4$, 2). This reinforces the concept of fractions as numbers and that they can add up to more than one.</p>
6	Measurement, geometry and statistics	<p>I can use mathematical vocabulary to describe position, direction and movement.</p> <p>I can compare and order length.</p> <p>I can read relevant scales to the nearest numbered unit.</p> <p>I can use different equipment to measure accurately.</p> <p>I use the correct standard units to estimate and measure.</p>	<p>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).</p> <p>Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers.</p> <p>Compare and order lengths and record the results using $>$, $<$ and $=$.</p> <p>-----</p> <p>Pupils use the concept and language of angles to describe 'turn' by applying rotations, including in practical contexts (for example, pupils themselves moving in turns, giving instructions to other pupils to do so, and programming robots using instructions given in right angles).</p> <p>Pupils use standard units of measurement with increasing accuracy, using their knowledge of the number system. They use the appropriate language and record using standard abbreviations.</p> <p>Comparing measures includes simple multiples such as 'half as high'; 'twice as wide'.</p>
7	Number - place value and money	<p>I know the place value of each digit in a 2 digit number.</p> <p>I can identify, represent and estimate numbers.</p> <p>I can use place value and number facts to solve problems.</p> <p>I can solve simple problems in a practical context for money.</p>	<p>Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward.</p> <p>Recognise the place value of each digit in a two-digit number (tens, ones).</p> <p>Identify, represent and estimate numbers using different representations, including the number line.</p> <p>Compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs.</p> <p>Read and write numbers to at least 100 in numerals and in words.</p> <p>Use place value and number facts to solve problems.</p> <p>Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.</p> <p>-----</p>

			<p>Using materials and a range of representations, pupils practise counting, reading, writing and comparing numbers to at least 100 and solving a variety of related problems to develop fluency. They count in multiples of three to support their later understanding of a third.</p> <p>As they become more confident with numbers up to 100, pupils are introduced to larger numbers to develop further their recognition of patterns within the number system and represent them in different ways, including spatial representations.</p> <p>Pupils should partition numbers in different ways (for example, $23 = 20 + 3$ and $23 = 10 + 13$) to support subtraction. They become fluent and apply their knowledge of numbers to reason with, discuss and solve problems that emphasise the value of each digit in two-digit numbers. They begin to understand zero as a place holder.</p>
8	<p>Number - addition and subtraction (written and mental)</p>	<p>I can recall and use + and - facts to 20 and use number facts to 100.</p> <p>I can add and subtract a two-digit number and ones, a two-digit number and tens, two two-digit numbers and adding three one-digit numbers.</p> <p>I can show that addition can be done in any order and subtraction can't.</p> <p>I can solve simple one step problems with addition and subtraction.</p> <p>I can apply mental strategies to problems.</p> <p>I can apply written strategies to problems.</p>	<p>Solve problems with addition and subtraction:</p> <ul style="list-style-type: none"> ▪ using concrete objects and pictorial representations, including those involving numbers, quantities and measures ▪ applying their increasing knowledge of mental and written methods. <p>Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.</p> <p>Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:</p> <ul style="list-style-type: none"> ▪ a two-digit number and ones ▪ a two-digit number and tens ▪ two two-digit numbers ▪ adding three one-digit numbers. <p>Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.</p> <p>Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</p> <p>-----</p> <p>Pupils extend their understanding of the language of addition and subtraction to include sum and difference.</p> <p>Pupils practise addition and subtraction to 20 to become increasingly fluent in deriving facts such as using $3 + 7 = 10$; $10 - 7 = 3$ and $7 = 10 - 3$ to calculate $30 + 70 = 100$; $100 - 70 = 30$ and $70 = 100 - 30$. They check their calculations, including by adding to check subtraction and adding numbers in a different order to check addition (for example, $5 + 2 + 1 = 1 + 5 + 2 = 1 + 2 + 5$). This establishes commutativity and associativity of addition.</p> <p>Recording addition and subtraction in columns supports place value and prepares for formal written methods with larger numbers.</p>
9	<p>Number - multiplication and division (written and mental)</p>	<p>I can solve one step problems involving multiplication and division.</p> <p>I can calculate mathematical statements for x.</p> <p>I can calculate mathematical statements for division.</p> <p>I can recognise and use inverse relationships between x and division.</p>	<p>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</p> <p>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs.</p> <p>Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.</p> <p>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p> <p>-----</p> <p>Pupils use a variety of language to describe multiplication and division.</p> <p>Pupils are introduced to the multiplication tables. They practise to become fluent in the 2, 5 and 10 multiplication tables and connect them to each other. They connect the 10 multiplication table to place value, and the 5 multiplication table to the divisions on the</p>

			<p>clock face. They begin to use other multiplication tables and recall multiplication facts, including using related division facts to perform written and mental calculations.</p> <p>Pupils work with a range of materials and contexts in which multiplication and division relate to grouping and sharing discrete and continuous quantities, to arrays and to repeated addition. They begin to relate these to fractions and measures (for example, $40 \div 2 = 20$, 20 is a half of 40). They use commutativity and inverse relations to develop multiplicative reasoning (for example, $4 \times 5 = 20$ and $20 \div 5 = 4$).</p>
10	<p>Number - multiplication and division (written and mental)</p>	<p>I can solve one step problems involving multiplication and division.</p> <p>I can calculate mathematical statements for x.</p> <p>I can calculate mathematical statements for division.</p> <p>I can recognise and use inverse relationships between x and division.</p>	<p>Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</p> <p>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs.</p> <p>Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.</p> <p>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p> <p>-----</p> <p>Pupils use a variety of language to describe multiplication and division.</p> <p>Pupils are introduced to the multiplication tables. They practise to become fluent in the 2, 5 and 10 multiplication tables and connect them to each other. They connect the 10 multiplication table to place value, and the 5 multiplication table to the divisions on the clock face. They begin to use other multiplication tables and recall multiplication facts, including using related division facts to perform written and mental calculations.</p> <p>Pupils work with a range of materials and contexts in which multiplication and division relate to grouping and sharing discrete and continuous quantities, to arrays and to repeated addition. They begin to relate these to fractions and measures (for example, $40 \div 2 = 20$, 20 is a half of 40). They use commutativity and inverse relations to develop multiplicative reasoning (for example, $4 \times 5 = 20$ and $20 \div 5 = 4$).</p>
11	<p>Measurement, geometry and statistics</p>	<p>I can tell and write the time to the nearest 5 minutes.</p> <p>I can compare and sequence intervals of time.</p> <p>I can compare and order capacity.</p> <p>I can read relevant scales to the nearest numbered unit.</p> <p>I can use different equipment to measure accurately.</p> <p>I use the correct standard units to estimate and measure.</p>	<p>Compare and sequence intervals of time.</p> <p>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.</p> <p>Know the number of minutes in an hour and the number of hours in a day.</p> <p>Choose and use appropriate standard units to estimate and measure capacity (litres/ml) to the nearest appropriate unit, using measuring vessels.</p> <p>Compare and order capacity and record the results using $>$, $<$ and $=$.</p> <p>-----</p> <p>They become fluent in telling the time on analogue clocks and recording it.</p> <p>Pupils use standard units of measurement with increasing accuracy, using their knowledge of the number system. They use the appropriate language and record using standard abbreviations.</p> <p>Comparing measures includes simple multiples such as 'half as full'; 'twice as full'.</p>

Autumn Year 3

Week	Main focus	Programmes of Study (I can)	National Curriculum
1	Number, place value and money	<p>I can read and write numbers to at least 1000 in numerals and words</p> <p>I can recognise the place value of each digit in a 3 digit number.</p> <p>I can count from 0 in multiples of 50 and 100.</p>	<p>read and write numbers up to 1000 in numerals and in words</p> <p>recognise the place value of each digit in a three-digit number (hundreds, tens, ones)</p> <p>count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number</p> <p>Pupils now use multiples of 2, 3, 4, 5, 8, 10, 50 and 100.</p> <p>Using a variety of representations, including those related to measure, pupils continue to count in ones, tens and hundreds, so that they become fluent in the order and place value of numbers to 1000.</p>
2	Number - addition and subtraction	<p>I can add and subtract numbers mentally - '3 digit number and ones'.</p> <p>I can + numbers with up to 3 digits using an efficient written method.</p>	<p>add and subtract numbers mentally, including:</p> <ul style="list-style-type: none"> ▪ a three-digit number and ones ▪ a three-digit number and tens ▪ a three-digit number and hundreds <p>add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</p> <p>Pupils practise solving varied addition and subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100.</p> <p>Pupils use their understanding of place value and partitioning, and practise using columnar addition and subtraction with increasingly large numbers up to three digits to become fluent</p>
3	Number - addition and subtraction	<p>I can add and subtract numbers mentally - '3 digit number and ones'.</p> <p>I can + numbers with up to 3 digits using an efficient written method.</p>	<p>add and subtract numbers mentally, including:</p> <ul style="list-style-type: none"> ▪ a three-digit number and ones ▪ a three-digit number and tens ▪ a three-digit number and hundreds <p>add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</p> <p>Pupils practise solving varied addition and subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100.</p> <p>Pupils use their understanding of place value and partitioning, and practise using columnar addition and subtraction with increasingly large numbers up to three digits to become fluent</p>
4	Number - multiplication and division	<p>I can recall and use X and ÷ facts for the 3 and 9 times tables.</p> <p>I can recall and use x and ÷ facts for 2,5 and 10 times tables.</p> <p>I can use simple scales (e.g. 2,5,10 units per cm) in pictograms and bar charts.</p>	<p>recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</p> <p>interpret and present data using bar charts, pictograms and tables</p> <p>Pupils continue to practise their mental recall of multiplication tables when they are calculating mathematical statements in order to improve fluency. Through doubling, they connect the 2, 4 and 8 multiplication tables.</p> <p>Pupils understand and use simple scales (for example, 2, 5, 10 units per cm) in pictograms and bar charts with increasing accuracy.</p>

5	Measurement, geometry and statistics	<p>I can identify right angles.</p> <p>I can identify horizontal, vertical, perpendicular and parallel lines in relation to other lines.</p> <p>I can recognise angles as a property of shapes and associate angles with turning.</p> <p>I know that 2 right angles make a half turn, 3 make 3/4 of a turn and 4 make a complete turn.</p>	<p>recognise angles as a property of shape or a description of a turn</p> <p>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</p> <p>identify horizontal and vertical lines and pairs of perpendicular and parallel lines.</p> <p>They should be able to describe the properties of 2-D and 3-D shapes using accurate language, including lengths of lines and acute and obtuse for angles greater or lesser than a right angle.</p>
6	Number - fractions	<p>I can recognise, find and write fractions for a set of objects.</p> <p>I can recognise and use fractions as numbers eg $1/4 + 3/4 = 1$</p> <p>I can compare and order fractions with the same denominator.</p>	<p>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</p> <p>recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators</p> <p>recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators</p> <p>compare and order unit fractions, and fractions with the same denominators</p> <p>Pupils understand the relation between unit fractions as operators (fractions of), and division by integers.</p> <p>They continue to recognise fractions in the context of parts of a whole, numbers, measurements, a shape, and unit fractions as a division of a quantity.</p>
7	Number, place value and money	<p>I can compare and order number up to 1000.</p> <p>I can find 10 or 100 more or less than a given number.</p> <p>I can recognise and write the Roman numerals from I to XII.</p>	<p>read and write numbers up to 1000 in numerals and in words</p> <p>recognise the place value of each digit in a three-digit number (hundreds, tens, ones)</p> <p>count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number</p> <p>Pupils now use multiples of 2, 3, 4, 5, 8, 10, 50 and 100.</p> <p>Using a variety of representations, including those related to measure, pupils continue to count in ones, tens and hundreds, so that they become fluent in the order and place value of numbers to 1000.</p>
8	Number - addition and subtraction	<p>I can add and subtract numbers mentally - '3 digit number and ones'.</p> <p>I can - numbers with up to 3 digits using an efficient written method.</p>	<p>add and subtract numbers mentally, including:</p> <p>add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</p> <p>Pupils practise solving varied addition and subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100.</p> <p>Pupils use their understanding of place value and partitioning, and practise using columnar addition and subtraction with increasingly large numbers up to three digits to become fluent</p>

9	Number - multiplication and division	I can recall and use X and \div facts for the 4 times tables.	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
		I can recall and use X and \div facts for the 8 times tables.	Pupils continue to practise their mental recall of multiplication tables when they are calculating mathematical statements in order to improve fluency. Through doubling, they connect the 2, 4 and 8 multiplication tables.
10	Number - multiplication and division	I can use efficient written methods to X a 2 digit and 1 digit number.	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
		I can recall and use X and \div facts for the 3 times 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
		I can recall and use x and \div facts for 2,5 and 10 times tables.	Pupils continue to practise their mental recall of multiplication tables when they are calculating mathematical statements in order to improve fluency. Through doubling, they connect the 2, 4 and 8 multiplication tables. Pupils develop efficient mental methods, for example, using commutativity and associativity (for example, $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$) and multiplication and division facts (for example, using $3 \times 2 = 6$, $6 \div 3 = 2$ and $2 = 6 \div 3$) to derive related facts (for example, $30 \times 2 = 60$, $60 \div 3 = 20$ and $20 = 60 \div 3$). Pupils develop reliable written methods for multiplication and division, starting with calculations of two-digit numbers by one-digit numbers and progressing to the formal written methods of short multiplication and division.
11	Measurement, geometry and statistics	I can tell and write the time from an analogue clock and 24 hour clock.	tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
		I know the number of seconds in a minute and the number of days in each month, year and leap year.	<ul style="list-style-type: none"> ▪ 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].
		I can compare durations of events.	Pupils use both analogue and digital 12-hour clocks and record their times. In this way they become fluent in and prepared for using digital 24-hour clocks in year 4.
		I can interpret data presented in many contexts.	They continue to interpret data presented in many contexts.
12	Measurement, geometry and statistics	I can measure, compare, add and subtract mass (kg/g).	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
		I can solve one step problems such as 'How many more? How many fewer?'	Pupils continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed units (for example, 1 kg and 200g) and simple equivalents of mixed units (for example, 5m = 500cm).
		I can interpret and present data using pictograms.	
		I can interpret data presented in many contexts.	

Spring Year 3

Week	Main focus	Programmes of Study (I can)	National Curriculum
1	Number, place value and money	<p>I can read and write numbers to at least 1000 in numerals and words</p> <p>I can recognise the place value of each digit in a 3 digit number.</p> <p>I can count from 0 in multiples of 4 and 8.</p>	<p>read and write numbers up to 1000 in numerals and in words</p> <p>recognise the place value of each digit in a three-digit number (hundreds, tens, ones)</p> <p>count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number</p>
			<p>Pupils now use multiples of 2, 3, 4, 5, 8, 10, 50 and 100.</p> <p>Using a variety of representations, including those related to measure, pupils continue to count in ones, tens and hundreds, so that they become fluent in the order and place value of numbers to 1000.</p>
2	Number - addition and subtraction	<p>I can add and subtract numbers mentally - '3 digit number and tens'.</p> <p>I can - numbers with up to 3 digits using an efficient written method.</p>	<p>add and subtract numbers mentally, including:</p> <ul style="list-style-type: none"> ▪ a three-digit number and ones ▪ a three-digit number and tens ▪ a three-digit number and hundreds <p>add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</p> <p>Pupils practise solving varied addition and subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100.</p> <p>Pupils use their understanding of place value and partitioning, and practise using columnar addition and subtraction with increasingly large numbers up to three digits to become fluent</p>
3	Number - addition and subtraction	<p>I can - numbers with up to 3 digits using an efficient written method.</p> <p>I can + numbers with up to 3 digits using an efficient written method.</p> <p>I can solve word problems for + and -.</p>	<p>add and subtract numbers mentally, including:</p> <ul style="list-style-type: none"> ▪ a three-digit number and ones ▪ a three-digit number and tens ▪ a three-digit number and hundreds <p>add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</p> <p>Pupils practise solving varied addition and subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100.</p> <p>Pupils use their understanding of place value and partitioning, and practise using columnar addition and subtraction with increasingly large numbers up to three digits to become fluent</p>
4	Number - multiplication and division	<p>I can recall and use \times and \div facts for the 3,4 and 8 times tables.</p> <p>I can recall and use \times and \div facts for 2,5 and 10 times tables.</p> <p>I can use mental strategies to multiply a 2 digit number by a 1 digit.</p>	<p>recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</p> <p>Pupils continue to practise their mental recall of multiplication tables when they are calculating mathematical statements in order to improve fluency. Through doubling, they connect the 2, 4 and 8 multiplication tables.</p> <p>Pupils understand and use simple scales (for</p>

5	Measurement, geometry and statistics	<p>I can recognise and describe 3-D shapes in different orientations.</p> <p>I can make 3-D shapes using modelling materials.</p> <p>I can interpret and present data using tables.</p> <p>I can interpret data presented in many contexts.</p>	<p>draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them</p> <p>interpret and present data using bar charts, pictograms and tables</p> <hr/> <p>Pupils' knowledge of the properties of shapes is extended at this stage to symmetrical and non-symmetrical polygons and polyhedra. Pupils extend their use of the properties of shapes.</p> <p>They continue to interpret data presented in many contexts.</p>
6	Number - fractions	<p>I can + and - fractions with the same denominator within 1 whole.</p> <p>I know that tenths arise from dividing an object into 10 equal parts.</p> <p>I can count up and down in tenths.</p>	<p>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</p> <p>recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators</p> <p>add and subtract fractions with the same denominator within one whole</p> <p>[for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]</p> <hr/> <p>Pupils practise adding and subtracting fractions with the same denominator through a variety of increasingly complex problems to improve fluency.</p> <p>Pupils connect tenths to place value, decimal measures and to division by 10.</p>
7	Number, place value and money	<p>I can compare and order number up to 1000.</p> <p>I can + and – amounts of money to give change using £ and p.</p> <p>I can solve number problems and practical problems.</p>	<p>read and write numbers up to 1000 in numerals and in words</p> <p>add and subtract amounts of money to give change, using both £ and p in practical contexts</p> <hr/> <p>Pupils continue to become fluent in recognising the value of coins, by adding and subtracting amounts, including mixed units, and giving change using manageable amounts. They record £ and p separately. The decimal recording of money is introduced formally in year 4.</p>
8	Number - addition and subtraction	<p>I can add and subtract numbers mentally - '3 digit number and tens'.</p> <p>I can estimate the answer to a calculation and use inverse operations to check answers.</p>	<p>add and subtract numbers mentally, including:</p> <ul style="list-style-type: none"> ▪ a three-digit number and ones ▪ a three-digit number and tens <p>estimate the answer to a calculation and use inverse operations to check answers</p> <hr/> <p>Pupils practise solving varied addition and subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100.</p>
9		<p>I can use efficient written methods to X a 2 digit and 1 digit number.</p>	

	Number - multiplication and division	I can solve problems using multiplication.	<p>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> <p>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.</p>
			<p>Pupils develop reliable written methods for multiplication and division, starting with calculations of two-digit numbers by one-digit numbers and progressing to the formal written methods of short multiplication and division. Pupils solve simple problems in contexts, deciding which of the four operations to use and why. These include measuring and scaling contexts, (for example, four times as high, eight times as long etc.) and correspondence problems in which m objects are connected to n objects (for example, 3 hats and 4 coats, how many different outfits?; 12 sweets shared equally between 4 children; 4 cakes shared equally between 8 children).</p>
10	Number - multiplication and division	<p>I can use efficient written methods to \div a 2 digit and 1 digit number.</p> <p>I can solve problems using division.</p>	<p>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> <p>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.</p>
			<p>Pupils develop reliable written methods for multiplication and division, starting with calculations of two-digit numbers by one-digit numbers and progressing to the formal written methods of short multiplication and division. Pupils solve simple problems in contexts, deciding which of the four operations to use and why. These include measuring and scaling contexts, (for example, four times as high, eight times as long etc.) and correspondence problems in which m objects are connected to n objects (for example, 3 hats and 4 coats, how many different outfits?; 12 sweets shared equally between 4 children; 4 cakes shared equally between 8 children).</p>

Summer Year 3

Week	Main focus	Programmes of Study (I can)	National Curriculum
1	Number, place value and money	<p>I can recognise the place value of each digit in a 3 digit number.</p> <p>I can round a 2 and 3 digit numbers to the nearest 10.</p> <p>I can count from 0 in multiples of 50 and 100.</p> <p>I can count from 0 in multiples of 4 and 8.</p>	<p>recognise the place value of each digit in a three-digit number (hundreds, tens, ones)</p> <p>count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number</p> <p>They use larger numbers to at least 1000, applying partitioning related to place value using varied and increasingly complex problems, building on work in year 2 (for example, $146 = 100 + 40$ and $6, 146 = 130 + 16$).</p> <p>Using a variety of representations, including those related to measure, pupils continue to count in ones, tens and hundreds, so that they become fluent in the order and place value of numbers to 1000.</p> <p>Pupils now use multiples of 2, 3, 4, 5, 8, 10, 50 and 100.</p>
2	Number - addition and subtraction	I can + and—numbers mentally - '3 digit number and hundreds'.	<p>add and subtract numbers mentally, including:</p> <ul style="list-style-type: none"> ▪ a three-digit number and ones ▪ a three-digit number and tens

		<p>I can estimate the answer to a calculation and use inverse operations to check answers.</p> <p>I can solve missing number problems for + and –.</p>	<p>a three-digit number and hundreds</p> <p>estimate the answer to a calculation and use inverse operations to check answers</p> <p>solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</p> <p>Pupils practise solving varied addition and subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100.</p>
3	Number - addition and subtraction	<p>I can + and—numbers mentally - ‘3 digit number and hundreds’.</p> <p>I can estimate the answer to a calculation and use inverse operations to check answers.</p> <p>I can solve missing number problems for + and –.</p>	<p>add and subtract numbers mentally, including: a three-digit number and ones a three-digit number and tens a three-digit number and hundreds</p> <p>estimate the answer to a calculation and use inverse operations to check answers</p> <p>solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction</p> <p>Pupils practise solving varied addition and subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100.</p>
4	Number - multiplication and division	<p>I can recall and use X and ÷ facts for the 3, 4 and 8 times tables.</p> <p>I can recall and use x and ÷ facts for 2, 5 and 10 times tables.</p> <p>I can use mental strategies to multiply a 2 digit number by a 1 digit.</p> <p>I can calculate mathematical statements for X and ÷ facts that I know.</p>	<p>recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</p> <p>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 methods</p> <p>Pupils continue to practise their mental recall of multiplication tables when they are calculating mathematical statements in order to improve fluency. Through doubling, they connect the 2, 4 and 8 multiplication tables.</p>
5	Number - fractions	<p>I can recognise and show, using diagrams, equivalent fractions.</p> <p>I can find the effect of multiplying a number by 10</p> <p>I can solve problems that involve fractions.</p>	<p>recognise and show, using diagrams, equivalent fractions with small denominators</p> <p>solve problems that involve fractions</p> <p>They continue to recognise fractions in the context of parts of a whole, numbers, measurements, a shape, and unit fractions as a division of a quantity.</p>
6	Measurement, geometry and statistics	<p>I can measure, compare, add and subtract lengths (m/cm/mm).</p> <p>I can measure the perimeter of simple 2-D shapes.</p> <p>I can draw 2-D shapes.</p>	<p>measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</p> <p>measure the perimeter of simple 2-D shapes</p> <p>draw 2-D shapes</p> <p>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</p>

		I can identify right angles.	Pupils continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed units (for example, 1 kg and 200g) and simple equivalents of mixed units (for example, 5m = 500cm). The comparison of measures includes simple scaling by integers (for example, a given quantity or measure is twice as long or five times as high) and this connects to multiplication.
7	Number - place value and money	I can + and – amounts of money to give change using £ and p. I can identify, represent and estimate numbers in different contexts. I can solve number problems and practical problems. I can find the effect of multiplying a number by 10.	add and subtract amounts of money to give change, using both £ and p in practical contexts solve number problems and practical problems involving these ideas. Pupils continue to become fluent in recognising the value of coins, by adding and subtracting amounts, including mixed units, and giving change using manageable amounts. They record £ and p separately. The decimal recording of money is introduced formally in year 4.
8	Number - addition and subtraction	I can - numbers with up to 3 digits using an efficient written method. I can + numbers with up to 3 digits using an efficient written method. I can solve word problems for + and –. I can + and—numbers mentally - ‘3 digit number and hundreds’.	add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction <ul style="list-style-type: none"> ▪ estimate the answer to a calculation and use inverse operations to check answers ▪ solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. add and subtract numbers mentally, including: <ul style="list-style-type: none"> ▪ a three-digit number and ones ▪ a three-digit number and tens ▪ a three-digit number and hundreds Pupils practise solving varied addition and subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100. Pupils use their understanding of place value and partitioning, and practise using columnar addition and subtraction with increasingly large numbers up to three digits to become fluent
9	Number - multiplication and division	I can use efficient written methods to ÷ a 2 digit and 1 digit number. I can solve problems using multiplication and division. I can solve missing number problems using multiplication and division.	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables <ul style="list-style-type: none"> ▪ write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods ▪ solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects. Pupils continue to practise their mental recall of multiplication tables when they are calculating mathematical statements in order to improve fluency. Through doubling, they connect the 2, 4 and 8 multiplication tables. Pupils develop efficient mental methods, for example, using commutativity and associativity (for example, $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$) and multiplication and division facts (for example, using $3 \times 2 = 6$, $6 \div 3 = 2$ and $2 = 6 \div 3$) to derive related facts (for example, $30 \times 2 = 60$, $60 \div 3 = 20$ and $20 = 60 \div 3$). Pupils develop reliable written methods for multiplication and division, starting with calculations of two-digit numbers by one-digit numbers and progressing to the formal written methods of short multiplication and division.
10	Number - multiplication and division	I can use efficient written methods to ÷ a 2 digit and 1 digit number. I can use efficient written methods to x a 2 digit and 1 digit number.	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables <ul style="list-style-type: none"> ▪ write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods ▪ solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.

		<p>I can calculate mathematical statements for \times and \div facts that I know.</p> <p>I can solve missing number problems using multiplication and division.</p>	<p>Pupils continue to practise their mental recall of multiplication tables when they are calculating mathematical statements in order to improve fluency. Through doubling, they connect the 2, 4 and 8 multiplication tables.</p> <p>Pupils develop efficient mental methods, for example, using commutativity and associativity (for example, $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$) and multiplication and division facts (for example, using $3 \times 2 = 6$, $6 \div 3 = 2$ and $2 = 6 \div 3$) to derive related facts (for example, $30 \times 2 = 60$, $60 \div 3 = 20$ and $20 = 60 \div 3$).</p> <p>Pupils develop reliable written methods for multiplication and division, starting with calculations of two-digit numbers by one-digit numbers and progressing to the formal written methods of short multiplication and division.</p>
11	Measurement, geometry and statistics	<p>I can measure, compare, add and subtract volume/capacity (l/ml).</p> <p>I can interpret and present data using bar charts.</p> <p>I can use simple scales (e.g. 2,5,10 units per cm) in pictograms and bar charts.</p> <p>I can interpret data presented in many contexts.</p> <p>I can solve two step problems such as 'How many more? How many fewer?'</p>	<p>measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</p> <p><input type="checkbox"/> interpret and present data using bar charts, pictograms and tables</p> <p><input type="checkbox"/> 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.</p> <p>Pupils understand and use simple scales (for example, 2, 5, 10 units per cm) in pictograms and bar charts with increasing accuracy.</p> <p>They continue to interpret data presented in many contexts.</p>

Autumn Year 4

Week	Main focus	Programmes of Study (I can)	
1	Number, place value and money	<p>I can recognise the place value of each digit in a 4-digit number.</p> <p>I can count in multiples of 25 and 1000.</p> <p>I can find the effect of \times a number by 10 and 100 and identify the value of the digits in the answer.</p> <p>I can read and write numbers to at least 10,000</p>	<p>recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)</p> <p>count in multiples of 6, 7, 9, 25 and 1000</p> <p>Using a variety of representations, including measures, pupils become fluent in the order and place value of numbers beyond 1000, including counting in tens and hundreds, and maintaining fluency in other multiples through varied and frequent practice.</p>
2	Number - addition and subtraction	<p>I can add numbers with up to 4 digits using efficient written methods.</p> <p>I can estimate to check answers to calculations.</p>	<p>add and subtract numbers with up to 4 digits using the formal written methods of columnar addition</p> <p>estimate and use inverse operations to check answers to a calculation</p> <p>Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency</p>

3	Number - addition and subtraction	<p>I can add numbers with up to 4 digits using efficient written methods.</p> <p>I can estimate to check answers to calculations.</p> <p>I can solve 'sum' problems using information presented in bar charts, pictograms, tables and simple line graphs.</p>	<p>add and subtract numbers with up to 4 digits using the formal written methods of columnar addition</p> <p>estimate and use inverse operations to check answers to a calculation</p> <p>solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</p> <p>Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency</p>
4	Number - multiplication and division	<p>I can recall and use X and \div facts for the 3,6,9 and 12 times tables.</p> <p>I can recognise and use factor pairs in mental calculations.</p> <p>I can multiply together three numbers.</p> <p>I use a range of scales when interpreting and presenting data.</p>	<p>recall multiplication and division facts for multiplication tables up to 12×12</p> <p>recognise and use factor pairs and commutativity in mental calculations</p> <p>Pupils practise mental methods and extend this to three-digit numbers to derive facts, (for example $600 \div 3 = 200$ can be derived from $2 \times 3 = 6$).</p> <p>Pupils understand and use a greater range of scales in their representations.</p>
5	Measurement, geometry and statistics	<p>I can identify acute and obtuse angles.</p> <p>I can compare and order angles up to two right angles by size.</p>	<p>identify acute and obtuse angles and compare and order angles up to two right angles by size</p> <p>Pupils compare and order angles in preparation for using a protractor and compare lengths and angles to decide if a polygon is regular or irregular.</p>
6	Number - fractions	<p>I can identify, name and write equivalent fractions of a given fraction.</p> <p>I can add and subtract fractions with the same denominator.</p> <p>I can recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$.</p> <p>I can count up and down in tenths.</p>	<p>recognise and show, using diagrams, families of common equivalent fractions</p> <p>add and subtract fractions with the same denominator</p> <p>recognise and write decimal equivalents to $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$</p> <p>They practise counting using simple fractions and decimals, both forwards and backwards.</p>

7	Number, place value and money	<p>I can read Roman numerals to 100 (I to C) and understand how the numeral system changed.</p> <p>I can find 100 more or less than a given number.</p> <p>I can order and compare numbers beyond 1000.</p> <p>I can identify, represent and estimate numbers.</p>	<p>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.</p> <p>find 1000 more or less than a given number</p> <p>☑ order and compare numbers beyond 1000</p> <p>identify, represent and estimate numbers using different representations</p> <hr/> <p>Roman numerals should be put in their historical context so pupils understand that there have been different ways to write whole numbers and that the important concepts of zero and place value were introduced over a period of time.</p>
8	Number - addition and subtraction	<p>I can subtract numbers with up to 4 digits using efficient written methods.</p> <p>I can estimate to check answers to calculations.</p> <p>I can solve 'difference' problems using information presented in bar charts, pictograms, tables and simple line graphs.</p>	<p>add and subtract numbers with up to 4 digits using the formal written methods of columnar addition</p> <p>estimate and use inverse operations to check answers to a calculation</p> <hr/> <p>Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency</p>
9	Number - multiplication and division	<p>I can multiply two-digit numbers by a one-digit number. Written methods</p> <p>I can solve problems involving multiplying.</p> <p>I can solve simple money problems involving decimals to two decimal places.</p>	<p>multiply two-digit and three-digit numbers by a one-digit number using formal written layout</p> <p>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.</p> <p>solve simple measure and money problems involving fractions and decimals to two decimal places.</p>
10	Number - multiplication and division	<p>I can divide two-digit numbers by a one-digit number. Written methods</p> <p>I can solve problems involving dividing.</p>	<p>multiply two-digit and three-digit numbers by a one-digit number using formal written layout</p> <p>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.</p>

			Pupils continue to practise recalling and using multiplication tables and related division facts to aid fluency.
11	Measurement, geometry and statistics	<p>I can read, write and convert time between analogue and digital 12 and 24-hour clocks.</p> <p>I can solve problems involving converting from hours to minutes; minutes to seconds; years to months and weeks to days.</p> <p>I can convert between different units of measure (e.g. hour to minute).</p> <p>I can interpret and present data using bar charts.</p> <p>I can interpret and present data using line graphs.</p>	<p>read, write and convert time between analogue and digital 12- and 24-hour clocks</p> <p>solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.</p> <p>Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.</p>
			<p>Pupils understand and use a greater range of scales in their representations.</p> <p>Pupils begin to relate the graphical representation of data to recording change over time.</p>
12	Measurement, geometry and statistics	I can convert between different units of measure (e.g. Kilometre to metre; kg-g, l - ml).	Convert between different units of measure [for example, kilometre to metre; hour to minute]

Spring Year 4

Week	Main focus	Programmes of Study (I can)	
1	Number, place value and money	<p>I can read and write numbers to at least 10,000</p> <p>I can count backwards through zero to include negative numbers.</p> <p>I can count in multiples of 6, 7, 9, 25 and 1000.</p> <p>I can recognise the place value of each digit in a 4-digit number.</p>	<p>count backwards through zero to include negative numbers</p> <p>recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)</p> <p>count in multiples of 6, 7, 9, 25 and 1000</p> <p>Using a variety of representations, including measures, pupils become fluent in the order and place value of numbers beyond 1000, including counting in tens and hundreds, and maintaining fluency in other multiples through varied and frequent practice.</p>
2	Number - addition and subtraction	I can subtract numbers with up to 4 digits using efficient written methods.	<p>subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</p> <p>subtraction two-step problems in contexts, deciding which operations and methods to use and why.</p>

		<p>I can solve 'difference' problems using information presented in bar charts, pictograms, tables and simple line graphs.</p> <p>I can solve mental calculations with increasingly large numbers.</p>	<p>Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency</p>
3	Number - addition and subtraction	<p>I can subtract numbers with up to 4 digits using efficient written methods.</p> <p>I can add numbers with up to 4 digits using efficient written methods.</p> <p>I can solve two-step subtraction and addition problems deciding which operations and methods to use and why.</p> <p>I can solve simple money problems involving decimals to two decimal places.</p>	<p>add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</p> <p>solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</p> <p>solve simple measure and money problems involving fractions and decimals to two decimal places.</p> <p>Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency</p>
4	Number - multiplication and division	<p>I can recall \times and \div facts for multiplication tables up to 12×12 (7 and 11).</p> <p>I can recognise and use factor pairs in mental calculations.</p> <p>I can multiply together three numbers.</p>	<p>recall multiplication and division facts for multiplication tables up to 12×12</p> <p>recognise and use factor pairs and commutativity in mental calculations</p> <p>multiply two-digit and three-digit numbers by a one-digit number using formal written layout</p> <p>Pupils continue to practise recalling and using multiplication tables and related division facts to aid fluency.</p> <p>Pupils practise mental methods and extend this to three-digit numbers to derive facts, (for example $600 \div 3 = 200$ can be derived from $2 \times 3 = 6$).</p>
5	Measurement, geometry and statistics	<p>I can compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.</p> <p>I can identify lines of symmetry in 2-D shapes presented in different orientations.</p> <p>I can complete a simple symmetric figure with respect to a specific line of symmetry.</p>	<p>compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</p> <p>identify lines of symmetry in 2-D shapes presented in different orientations</p> <p>complete a simple symmetric figure with respect to a specific line of symmetry.</p> <p>Pupils continue to classify shapes using geometrical properties, extending to classifying different triangles (for example, isosceles, equilateral, scalene) and quadrilaterals (for example, parallelogram, rhombus, trapezium).</p>

			Pupils draw symmetric patterns using a variety of media to become familiar with different orientations of lines of symmetry; and recognise line symmetry in a variety of diagrams, including where the line of symmetry does not dissect the original shape.
6	Number - fractions	<p>I can count up and down in 100ths and recognise that 100ths arise when dividing an object by 100 and dividing 10ths by 10.</p> <p>I can recognise and write decimal equivalents of any number of 10ths or 100ths.</p> <p>I can round decimals with 1 decimal place to the nearest whole number.</p>	<p>count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.</p> <p>recognise and write decimal equivalents to $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$</p> <p>round decimals with one decimal place to the nearest whole number</p> <p>Pupils should connect hundredths to tenths and place value and decimal measure.</p> <p>They extend the use of the number line to connect fractions, numbers and measures.</p> <p>Pupils understand the relation between non-unit fractions and multiplication and division of quantities, with particular emphasis on tenths and hundredths.</p> <p>Pupils make connections between fractions of a length, of a shape and as a representation of one whole or set of quantities. Pupils use factors and multiples to recognise equivalent fractions and simplify where appropriate $\frac{6}{9} = \frac{2}{3}$ $\frac{1}{4} = \frac{2}{8}$</p>
7	Number, place value and money	<p>I can solve simple money problems involving decimals to two decimal places.</p> <p>I can estimate, compare and money in pounds and pence.</p> <p>I can solve number and practical problems using place value.</p>	<p>solve simple measure and money problems involving fractions and decimals to two decimal places.</p> <p>estimate, compare and calculate different measures, including money in pounds and pence</p> <p>solve number and practical problems that involve place value and with increasingly large positive numbers</p> <p>Pupils build on their understanding of place value and decimal notation to record metric measures, including money.</p> <p>Using a variety of representations, including measures, pupils become fluent in the order and place value of numbers beyond 1000, including counting in tens and hundreds, and maintaining fluency in other multiples through varied and frequent practice.</p>
8	Number - addition and subtraction	<p>I can use inverses to check answers to calculations.</p> <p>I can subtract numbers with up to 4 digits using efficient written methods.</p>	<p>estimate and use inverse operations to check answers to a calculation</p> <p>add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</p>

		I can add numbers with up to 4 digits using efficient written methods.	Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency
9	Number - multiplication and division	I can multiply two-digit numbers by a one-digit number. Written methods.	multiply two-digit and three-digit numbers by a one-digit number using formal written layout
		I can solve problems involving multiplying.	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.
		I can solve simple money problems involving decimals to two decimal places.	solve simple measure and money problems involving fractions and decimals to two decimal places.
10	Number - multiplication and division	I can divide two-digit numbers by a one-digit number. Written methods.	recall multiplication and division facts for multiplication tables up to 12×12
		I can solve problems involving dividing.	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
		I can solve simple money problems involving decimals to two decimal places.	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.
			solve simple measure and money problems involving fractions and decimals to two decimal places.
			Pupils continue to practise recalling and using multiplication tables and related division facts to aid fluency.
			Pupils practise mental methods and extend this to three-digit numbers to derive facts, (for example $600 \div 3 = 200$ can be derived from $2 \times 3 = 6$).

Summer Year 4

Week	Main focus	Programmes of Study (I can)	
1	Number, place value and money	I can recognise the place value of each digit in a 4-digit number.	recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) round any number to the nearest 10, 100 or 1000

		I can round any number to the nearest 10, 100 or 1000.	Using a variety of representations, including measures, pupils become fluent in the order and place value of numbers beyond 1000, including counting in tens and hundreds, and maintaining fluency in other multiples through varied and frequent practice.
2	Number - addition and subtraction	<p>I can use inverses to check answers to calculations.</p> <p>I can solve two-step subtraction and addition problems deciding which operations and methods to use and why.</p> <p>I can solve simple money problems involving decimals to two decimal places.</p> <p>I can solve mental calculations with increasingly large numbers.</p>	<p>estimate and use inverse operations to check answers to a calculation</p> <p>solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</p> <p>solve simple measure and money problems involving fractions and decimals to two decimal places.</p> <p>Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency</p>
3	Number - addition and subtraction	<p>I can solve two-step subtraction and addition problems deciding which operations and methods to use and why.</p> <p>I can solve simple money problems involving decimals to two decimal places.</p> <p>I can solve mental calculations with increasingly large numbers.</p>	<p>solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</p> <p>solve simple measure and money problems involving fractions and decimals to two decimal places.</p> <p>Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency</p>
4	Number - multiplication and division	<p>I can recall and use X and \div facts for the 12 x 12 times tables.</p> <p>I can use place value, known and derived facts to multiply and divide mentally.</p> <p>I can recognise and use factor pairs in mental calculations.</p> <p>I can multiply together three numbers.</p>	<p>recall multiplication and division facts for multiplication tables up to 12×12</p> <p>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> <p>recognise and use factor pairs and commutativity in mental calculations</p> <p>Pupils continue to practise recalling and using multiplication tables and related division facts to aid fluency.</p> <p>Pupils practise mental methods and extend this to three-digit numbers to derive facts, (for example $600 \div 3 = 200$ can be derived from $2 \times 3 = 6$).</p>
5	Number - fractions	<p>I can find the effect of \div a number by 10 and 100 and identify the value of the digits in the answer.</p> <p>I can round decimals with 1 decimal place to the nearest whole number.</p> <p>I can compare numbers with the same number of decimal places.</p>	<p>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</p> <p>round decimals with one decimal place to the nearest whole number</p> <p>compare numbers with the same number of decimal places up to two decimal places</p> <p>solve simple measure and money problems involving fractions and decimals to two decimal places.</p>

		I can solve simple measure and money problems involving fractions and decimals to two decimal places.	
			Pupils' understanding of the number system and decimal place value is extended at this stage to tenths and then hundredths. This includes relating the decimal notation to division of whole number by 10 and later 100.
6	Measurement, geometry and statistics	I can measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. I can find the area of rectilinear shapes by counting.	measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares Perimeter can be expressed algebraically as $2(a + b)$ where a and b are the dimensions in the same unit.
7	Number - place value and money	I can solve simple measure and money problems involving decimals to two decimal places. I can estimate, compare and money in pounds and pence. I can solve number and practical problems using place value.	solve simple measure and money problems involving fractions and decimals to two decimal places. estimate, compare and calculate different measures, including money in pounds and pence solve number and practical problems that involve place value and with increasingly large positive numbers
8	Number - addition and subtraction	I can solve two-step subtraction and addition problems deciding which operations and methods to use and why. I can solve simple money problems involving decimals to two decimal places. I can solve mental calculations with increasingly large numbers. I can solve 'comparison' problems using information presented in bar charts, pictograms, tables and simple line graphs.	solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. solve simple measure and money problems involving fractions and decimals to two decimal places. solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency
9	Number - multiplication and division	I can multiply and divide three-digit numbers by a one-digit number. (written) I can solve problems involving multiplying and dividing.	Pupils practise to become fluent in the formal written method of short multiplication and short division with exact answers
10		I can multiply and divide three-digit numbers by a one-digit number (written)	multiply two-digit and three-digit numbers by a one-digit number using formal written layout

	Number - multiplication and division	I can solve problems involving multiplying and dividing.	<p>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.</p> <p>Pupils continue to practise recalling and using multiplication tables and related division facts to aid fluency.</p> <p>Pupils practise to become fluent in the formal written method of short multiplication and short division with exact answers</p> <p>Pupils solve two-step problems in contexts, choosing the appropriate operation, working with increasingly harder numbers. This should include correspondence questions such as the numbers of choices of a meal on a menu, or three cakes shared equally between 10 children.</p>
11	Measurement, geometry and statistics	<p>I can convert between different units of measure (e.g. Kilometre to metre; hour to minute).</p> <p>I can plot specified points and draw sides to complete a given polygon.</p> <p>I can describe position on a 2-D grid as co-ordinates in the first quadrant.</p> <p>I can translate shapes.</p>	<p>Convert between different units of measure [for example, kilometre to metre; hour to minute]</p> <p>describe positions on a 2-D grid as coordinates in the first quadrant</p> <p>describe movements between positions as translations of a given unit to the left/right and up/down</p> <p>plot specified points and draw sides to complete a given polygon.</p> <p>Pupils draw a pair of axes in one quadrant, with equal scales and integer labels. They read, write and use pairs of coordinates, for example (2, 5), including using coordinate-plotting ICT tools.</p>

Autumn Year 5

Week	Main focus	Programmes of Study (I can)	National Curriculum
1	Number - number and place value	<p>I can read, write, order and compare numbers to at least 1,000,000.</p> <p>I know what each digit represents in numbers to 1,000,000.</p> <p>I can read Roman numerals to 1000 (M).</p> <p>I can recognise years written in Roman numerals.</p>	<p>Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.</p> <p>Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.</p> <p>Pupils identify the place value in large whole numbers.</p>

2	Number - addition and subtraction	<p>I can add mentally using increasingly large numbers.</p> <p>I can subtract mentally using increasingly large numbers.</p> <p>I can use rounding to check answers to calculations.</p>	<p>Add and subtract numbers mentally with increasingly large numbers.</p> <p>Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.</p> <p>-----</p> <p>They practise mental calculations with increasingly large numbers to aid fluency (for example, $12\,462 - 2300 = 10\,162$).</p>
3	Number - addition and subtraction	<p>I can add numbers with more than 4 digits using efficient written methods.</p> <p>I can subtract numbers with more than 4 digits using efficient written methods.</p> <p>I can use rounding to check answers to calculations.</p>	<p>Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).</p> <p>Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.</p> <p>-----</p> <p>Pupils practise using the formal written methods of columnar addition and subtraction with increasingly large numbers to aid fluency (see Mathematics Appendix 1).</p>
4	Number - multiplication and division	<p>I can multiply numbers up to 4 digits by a one or 2 digit number using an efficient written method.</p> <p>I can divide numbers up to 4 digits by a 1 digit number using an efficient written method.</p> <p>I can identify multiples and factors, including finding all factor pairs.</p>	<p>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.</p> <p>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.</p> <p>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</p> <p>Solve problems involving multiplication and division including using their knowledge of factors and multiples.</p> <p>-----</p> <p>Pupils practise and extend their use of the formal written methods of short multiplication and short division (see Mathematics Appendix 1). They apply all the multiplication tables and related division facts frequently, commit them to memory and use them confidently to make larger calculations.</p> <p>They use and understand the terms factor and multiple.</p> <p>They understand the terms factor and multiple, and use them to construct equivalence statements (for example, $4 \times 35 = 2 \times 2 \times 35$; $3 \times 270 = 3 \times 3 \times 9 \times 10 = 9^2 \times 10$).</p>
5	Measurement, geometry and statistics	<p>I can identify 3-D shapes, including cubes and cuboids, from 2-D presentations.</p> <p>I can distinguish between regular and irregular polygons.</p> <p>I can state and use the properties of a rectangle to deduce related facts.</p> <p>I can describe positions on the full co-ordinate grid (all four quadrants).</p>	<p>Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.</p> <p>Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</p> <p>Use the properties of rectangles to deduce related facts and find missing lengths and angles.</p> <p>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> <p>-----</p> <p>Pupils use the term diagonal and make conjectures about the angles formed between sides, and between diagonals and parallel sides, and other properties of quadrilaterals, for example using dynamic geometry ICT tools.</p> <p>Pupils use angle sum facts and other properties to make deductions about missing angles and relate these to missing number problems.</p> <p>Pupils recognise and use reflection and translation in a variety of diagrams, including continuing to use a 2-D grid and coordinates in the first quadrant. Reflection should be in lines that are parallel to the axes.</p>
6	Number - fractions	<p>I can compare and order fractions whose denominators are all multiples of the same number.</p>	<p>Compare and order fractions whose denominators are all multiples of the same number.</p> <p>Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.</p>

	(including decimals and percentages)	<p>I can recognise mixed numbers and improper fractions and convert from one form to another.</p> <p>I can + and - fractions with the same denominator and related fractions.</p>	<p>Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (for example, $2/5 + 4/5 = 6/5 = 1$ and $1/5$).</p> <p>Add and subtract fractions with the same denominator and denominators that are multiples of the same number.</p> <p>-----</p> <p>Pupils should be taught throughout that percentages, decimals and fractions are different ways of expressing proportions.</p> <p>Pupils extend counting from year 4, using decimals and fractions including bridging zero, for example on a number line.</p> <p>Pupils continue to practise counting forwards and backwards in simple fractions.</p> <p>Pupils connect equivalent fractions > 1 that simplify to integers with division and other fractions > 1 to division with remainders, using the number line and other models, and hence move from these to improper and mixed fractions.</p> <p>Pupils practise adding and subtracting fractions to become fluent through a variety of increasingly complex problems. They extend their understanding of adding and subtracting fractions to calculations that exceed 1 as a mixed number.</p>
7	Number - number and place value	<p>I can read, write, order and compare numbers to at least 1,000,000.</p> <p>I know what each digit represents in numbers to 1,000,000.</p> <p>I can solve number problems and practical problems.</p>	<p>Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.</p> <p>Solve number problems and practical problems that involve all of the above.</p> <p>-----</p> <p>Pupils identify the place value in large whole numbers.</p> <p>They continue to use number in context, including measurement. Pupils extend and apply their understanding of the number system to the decimal numbers and fractions that they have met so far.</p>
8	Number - fractions (including decimals and percentages)	<p>I can multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.</p>	<p>Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.</p> <p>-----</p> <p>Pupils should be taught throughout that percentages, decimals and fractions are different ways of expressing proportions.</p> <p>Pupils connect multiplication by a fraction to using fractions as operators (fractions of), and to division, building on work from previous years. This relates to scaling by simple fractions, including fractions > 1.</p>
9	Number - multiplication and division	<p>I can \times and \div whole numbers and those involving decimals by 10, 100 & 1000.</p> <p>I can solve problems using multiplication and division.</p>	<p>Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</p> <p>Multiply and divide numbers mentally drawing upon known facts.</p> <p>Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.</p> <p>-----</p> <p>Pupils practise and extend their use of the formal written methods of short multiplication and short division (see Mathematics Appendix 1). They apply all the multiplication tables and related division facts frequently, commit them to memory and use them confidently to make larger calculations.</p> <p>Pupils interpret non-integer answers to division by expressing results in different ways according to the context, including with remainders, as fractions, as decimals or by rounding (for example, $98 \div 4 = 98/4 = 24 \text{ r } 2 = 24\frac{1}{2} = 24.5 \approx 25$).</p> <p>Pupils use and explain the equals sign to indicate equivalence, including in missing number problems (for example, $13 + 24 = 12 + 25$; $33 = 5 \times \square$).</p>

			Pupils use multiplication and division as inverses to support the introduction of ratio in year 6, for example, by multiplying and dividing by powers of 10 in scale drawings or by multiplying and dividing by powers of a 1000 in converting between units such as kilometres and metres.
10	Number - multiplication and division	<p>I know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.</p> <p>I can establish whether a number up to 100 is prime and recall prime numbers up to 19.</p> <p>I can recognise and use square numbers and cube numbers.</p>	<p>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</p> <p>Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.</p> <p>Establish whether a number up to 100 is prime and recall prime numbers up to 19.</p> <p>Recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³).</p> <p>Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.</p> <p>-----</p> <p>They use and understand the terms factor, multiple and prime, square and cube numbers.</p> <p>They understand the terms factor, multiple and prime, square and cube numbers and use them to construct equivalence statements (for example, $4 \times 35 = 2 \times 2 \times 35$; $3 \times 270 = 3 \times 3 \times 9 \times 10 = 9^2 \times 10$).</p>
11	Measurement, geometry and statistics	<p>I can compare different angles.</p> <p>I can draw shapes using given dimensions and angles.</p> <p>I can draw a given angle, writing its size in degrees.</p> <p>I know angles are measured in degrees and can estimate and measure them.</p>	<p>Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.</p> <p>Draw given angles, and measure them in degrees (°).</p> <p>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°), and other multiples of 90°.</p> <p>-----</p> <p>Pupils become accurate measuring with a protractor. They use conventional markings for right angles.</p> <p>Pupils use angle sum facts and other properties to make deductions about missing angles and relate these to missing number problems.</p>
12	Measurement, geometry and statistics	<p>I can recognise and estimate length.</p> <p>I can convert between different units of measure (e.g. kilometre to metre; metre and centimetre; centimetre and millimetre).</p> <p>I can understand and use basic equivalences between metric and common imperial units (millimetres and inches; metres and yards; kilometres and miles).</p> <p>I can measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.</p> <p>I can calculate and compare the area of squares and rectangles.</p> <p>I can estimate the area of irregular shapes.</p> <p>I can solve problems involving addition and subtraction of units of measures using decimal notation.</p>	<p>Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre).</p> <p>Understand and use approximate equivalences between metric units and common imperial units (millimetres and inches; metres and yards; kilometres and miles).</p> <p>Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.</p> <p>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.</p> <p>Use all four operations to solve problems involving measure (length) using decimal notation, including scaling.</p> <p>-----</p> <p>Pupils use their knowledge of place value and multiplication and division to convert between standard units.</p> <p>Pupils calculate the perimeter of rectangles and related composite shapes, including using the relations of perimeter or area to find unknown lengths. Missing measures questions such as these can be expressed algebraically, for example $4 + 2b = 20$ for a rectangle of sides 2 cm and b cm and perimeter of 20cm.</p> <p>Pupils calculate the area from scale drawings using given measurements.</p> <p>Pupils continue to develop their understanding of fractions as numbers, measures and operators by finding fractions of numbers and quantities.</p>

Pupils become accurate in drawing with a ruler to the nearest millimetre. They use conventional markings for parallel lines.

Spring Year 5

Week	Main focus	Programmes of Study (I can)	National Curriculum
1	Number - number and place value	<p>I can read, write, order and compare numbers to at least 1,000,000.</p> <p>I know what each digit represents in numbers to 1,000,000.</p> <p>I can round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100, 000.</p> <p>I can count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.</p>	<p>Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.</p> <p>Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.</p> <p>Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.</p> <p>-----</p> <p>Pupils identify the place value in large whole numbers.</p> <p>They should recognise and describe linear number sequences, including those involving fractions and decimals, and find the term-to-term rule.</p> <p>They should recognise and describe linear number sequences (for example, 3, 3 ½, 4, 4½ ...), including those involving fractions and decimals, and find the term-to-term rule in words (for example, add ½).</p>
2	Number - addition and subtraction	<p>I can add mentally using increasingly large numbers.</p> <p>I can add numbers with more than 4 digits using efficient written methods.</p> <p>I can solve multi-step addition problems in contexts, deciding which operations and methods to use and why.</p>	<p>Add numbers mentally with increasingly large numbers.</p> <p>Add whole numbers with more than 4 digits, including using formal written methods (columnar addition).</p> <p>Solve addition multi-step problems in contexts, deciding which operations and methods to use and why.</p> <p>-----</p> <p>Pupils practise using the formal written methods of columnar addition with increasingly large numbers to aid fluency (see Mathematics Appendix 1).</p> <p>They practise mental calculations with increasingly large numbers to aid fluency.</p>
3	Number - addition and subtraction	<p>I can subtract mentally using increasingly large numbers.</p> <p>I can subtract numbers with more than 4 digits using efficient written methods.</p> <p>I can solve multi-step subtraction problems in contexts, deciding which operations and methods to use and why.</p>	<p>Subtract numbers mentally with increasingly large numbers.</p> <p>Subtract whole numbers with more than 4 digits, including using formal written methods (columnar subtraction).</p> <p>Solve subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</p> <p>-----</p> <p>Pupils practise using the formal written methods of columnar subtraction with increasingly large numbers to aid fluency (see Mathematics Appendix 1).</p> <p>They practise mental calculations with increasingly large numbers to aid fluency (for example, 12 462 – 2300 = 10 162).</p>
	Number - multiplication and division	<p>I can multiply numbers up to 4 digits by a one or 2 digit number using an efficient written method.</p>	<p>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.</p>

		<p>I can divide numbers up to 4 digits by a 1 digit number using an efficient written method.</p> <p>I can solve problems including scaling by simple fractions and simple rates.</p>	<p>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.</p> <p>Multiply and divide numbers mentally drawing upon known facts.</p> <p>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</p> <p>-----</p> <p>Pupils practise and extend their use of the formal written methods of short multiplication and short division (see Mathematics Appendix 1). They apply all the multiplication tables and related division facts frequently, commit them to memory and use them confidently to make larger calculations.</p> <p>Pupils interpret non-integer answers to division by expressing results in different ways according to the context, including with remainders, as fractions, as decimals or by rounding (for example, $98 \div 4 = 98/4 = 24 \text{ r } 2 = 24\frac{1}{2} = 24.5 \approx 25$).</p>
5	Measurement, geometry and statistics	<p>I can identify reflex angles.</p> <p>I can identify angles at a point and one whole turn.</p> <p>I can identify angles at a point on a straight line and $\frac{1}{2}$ a turn.</p> <p>I can identify multiples of 90 degrees.</p>	<p>Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.</p> <p>Draw given angles, and measure them in degrees ($^{\circ}$).</p> <p>Identify angles at a point and one whole turn (total 360°), angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°), and other multiples of 90°.</p> <p>-----</p> <p>Pupils become accurate in measuring with a protractor. They use conventional markings for right angles.</p>
6	Number - fractions (including decimals and percentages)	<p>I can read and write decimal numbers as fractions.</p> <p>I can read, write, order and compare numbers with up to 3 decimal places.</p> <p>I can round decimals with 2 decimal places to the nearest whole number and to one decimal place.</p> <p>I can solve number problems up to 3 decimal places.</p>	<p>Read and write decimal numbers as fractions (for example, $0.71 = 71/100$).</p> <p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</p> <p>Read, write, order and compare numbers with up to three decimal places.</p> <p>Round decimals with two decimal places to the nearest whole number and to one decimal place.</p> <p>Solve problems involving number up to three decimal places.</p> <p>-----Pupils should be taught throughout that percentages, decimals and fractions are different ways of expressing proportions.</p> <p>Pupils extend counting from year 4, using decimals and fractions including bridging zero, for example on a number line.</p> <p>Pupils say, read and write decimal fractions and related tenths, hundredths and thousandths accurately and are confident in checking the reasonableness of their answers to problems.</p> <p>They mentally add and subtract tenths, and one-digit whole numbers and tenths.</p> <p>Pupils should go beyond the measurement and money models of decimals, for example, by solving puzzles involving decimals.</p>
7	Number - number and place value	<p>I can read, write, order and compare numbers to at least 1,000,000.</p> <p>I know what each digit represents in numbers to 1,000,000.</p> <p>I can round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100, 000.</p> <p>I can count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.</p>	<p>Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.</p> <p>Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000.</p> <p>Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.</p> <p>-----</p> <p>Pupils identify the place value in large whole numbers.</p> <p>They should recognise and describe linear number sequences, including those involving fractions and decimals, and find the term-to-term rule.</p>

			They should recognise and describe linear number sequences (for example, 3, $3\frac{1}{2}$, 4, $4\frac{1}{2}$...), including those involving fractions and decimals, and find the term-to-term rule in words (for example, add $\frac{1}{2}$).
8	Number - fractions (including decimals and percentages)	<p>I can write percentages as a fraction.</p> <p>I can recognise the % symbol and understand what it means.</p>	<p>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.</p> <p>Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$ and $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.</p> <p>-----</p> <p>Pupils should be taught throughout that percentages, decimals and fractions are different ways of expressing proportions.</p> <p>Pupils should make connections between percentages, fractions and decimals (for example, 100% represents a whole quantity and 1% is $\frac{1}{100}$, 50% is $\frac{50}{100}$, 25% is $\frac{25}{100}$) and relate this to finding 'fractions of'.</p>
9	Number - multiplication and division	<p>I know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.</p> <p>I can establish whether a number up to 100 is prime and recall prime numbers up to 19.</p> <p>I can recognise and use square numbers and cube numbers.</p>	<p>Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.</p> <p>Establish whether a number up to 100 is prime and recall prime numbers up to 19.</p> <p>Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).</p> <p>Solve problems involving multiplication and division including using their knowledge of squares and cubes.</p> <p>-----</p> <p>They use and understand the terms prime, square and cube numbers.</p> <p>They understand the terms factor, multiple and prime, square and cube numbers and use them to construct equivalence statements (for example, $4 \times 35 = 2 \times 2 \times 35$; $3 \times 270 = 3 \times 3 \times 9 \times 10 = 9^2 \times 10$).</p>
10	Number - multiplication and division	<p>I can \times and \div whole numbers and those involving decimals by 10, 100 & 1000.</p> <p>I can solve problems using multiplication and division.</p>	<p>Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</p> <p>Multiply and divide numbers mentally drawing upon known facts.</p> <p>Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.</p> <p>-----</p> <p>Pupils practise and extend their use of the formal written methods of short multiplication and short division (see Mathematics Appendix 1). They apply all the multiplication tables and related division facts frequently, commit them to memory and use them confidently to make larger calculations.</p> <p>Pupils interpret non-integer answers to division by expressing results in different ways according to the context, including with remainders, as fractions, as decimals or by rounding (for example, $98 \div 4 = 98/4 = 24 \text{ r } 2 = 24\frac{1}{2} = 24.5 \approx 25$).</p> <p>Pupils use multiplication and division as inverses to support the introduction of ratio in year 6, for example, by multiplying and dividing by powers of 10 in scale drawings or by multiplying and dividing by powers of a 1000 in converting between units such as kilometres and metres.</p> <p>Pupils use and explain the equals sign to indicate equivalence, including in missing number problems (for example, $13 + 24 = 12 + 25$; $33 = 5 \times \square$).</p>

Summer Year 5

Week	Main focus	Programmes of Study (I can)	National Curriculum
1	Number - number and place value	<p>I can use negative numbers in context and can count forwards and backwards with positive and negative numbers through 0.</p> <p>I can solve number problems and practical problems.</p>	<p>Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.</p> <p>Solve number problems and practical problems that involve all of the above.</p> <p>-----</p> <p>They continue to use number in context, including measurement. Pupils extend and apply their understanding of the number system to the decimal numbers and fractions that they have met so far.</p>
2	Number - addition and subtraction	<p>I can add and subtract mentally using increasingly large numbers.</p> <p>I can solve multi-step addition and subtraction problems in contexts, deciding which operations and methods to use and why.</p>	<p>Add and subtract numbers mentally with increasingly large numbers.</p> <p>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</p> <p>-----</p> <p>Pupils practise using the formal written methods of columnar addition and subtraction with increasingly large numbers to aid fluency (see Mathematics Appendix 1).</p> <p>They practise mental calculations with increasingly large numbers to aid fluency (for example, $12\,462 - 2300 = 10\,162$).</p>
3	Number - addition and subtraction	<p>I can add and subtract mentally using increasingly large numbers.</p> <p>I can solve multi-step addition and subtraction problems in contexts, deciding which operations and methods to use and why.</p>	<p>Add and subtract numbers mentally with increasingly large numbers.</p> <p>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</p> <p>-----</p> <p>Pupils practise using the formal written methods of columnar addition and subtraction with increasingly large numbers to aid fluency (see Mathematics Appendix 1).</p> <p>They practise mental calculations with increasingly large numbers to aid fluency (for example, $12\,462 - 2300 = 10\,162$).</p>
4	Number - multiplication and division	<p>I can solve problems using multiplication and division.</p> <p>I can solve problems including scaling by simple fractions and simple rates.</p>	<p>Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.</p> <p>Multiply and divide numbers mentally drawing upon known facts.</p> <p>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</p> <p>-----</p> <p>Pupils practise and extend their use of the formal written methods of short multiplication and short division (see Mathematics Appendix 1). They apply all the multiplication tables and related division facts frequently, commit them to memory and use them confidently to make larger calculations.</p> <p>Pupils interpret non-integer answers to division by expressing results in different ways according to the context, including with remainders, as fractions, as decimals or by rounding (for example, $98 \div 4 = 98/4 = 24\text{ r }2 = 24\frac{1}{2} = 24.5 \approx 25$).</p> <p>Pupils use multiplication and division as inverses to support the introduction of ratio in year 6, for example, by multiplying and dividing by powers of 10 in scale drawings or by multiplying and dividing by powers of a 1000 in converting between units such as kilometres and metres.</p> <p>Distributivity can be expressed as $a(b + c) = ab + ac$.</p> <p>Pupils use and explain the equals sign to indicate equivalence, including in missing number problems (for example, $13 + 24 = 12 + 25$; $33 = 5 \times \square$).</p>

5	Number - fractions (including decimals and percentages)	<p>I can read and write decimal numbers as fractions.</p> <p>I can read, write, order and compare numbers with up to 3 decimal places.</p> <p>I can round decimals with 2 decimal places to the nearest whole number and to one decimal place.</p> <p>I can recognise and use 1000ths and relate them to 10ths, 100ths and decimal equivalents.</p> <p>I can solve number problems up to 3 decimal places.</p>	<p>Read and write decimal numbers as fractions (for example, $0.71 = 71/100$).</p> <p>Read, write, order and compare numbers with up to three decimal places.</p> <p>Round decimals with two decimal places to the nearest whole number and to one decimal place.</p> <p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</p> <p>Solve problems involving number up to three decimal places.</p> <p>-----</p> <p>Pupils should be taught throughout that percentages, decimals and fractions are different ways of expressing proportions.</p> <p>Pupils extend counting from year 4, using decimals and fractions including bridging zero, for example on a number line.</p> <p>Pupils say, read and write decimal fractions and related tenths, hundredths and thousandths accurately and are confident in checking the reasonableness of their answers to problems.</p> <p>They mentally add and subtract tenths, and one-digit numbers and tenths.</p> <p>Pupils should go beyond the measurement and money models of decimals, for example, by solving puzzles involving decimals.</p> <p>They extend their knowledge of fractions to thousandths and connect to decimals and measures.</p>
6	Measurement, geometry and statistics	<p>I can recognise and estimate weight.</p> <p>I can convert between different units of measure (kilogram and gram).</p> <p>I understand and use basic equivalences between metric and common imperial units (kilograms and pounds, grams and ounces).</p> <p>I can solve problems involving addition and subtraction of units of measures using decimal notation.</p>	<p>Convert between different units of metric measure (gram and kilogram).</p> <p>Understand and use approximate equivalences between metric units and common imperial units (kilograms and pounds, grams and ounces).</p> <p>Use all four operations to solve problems involving measure (mass) using decimal notation, including scaling.</p> <p>-----</p> <p>Pupils use their knowledge of place value and multiplication and division to convert between standard units.</p>
7	Number - number and place value	<p>I can use negative numbers in context and can count forwards and backwards with positive and negative numbers through 0.</p> <p>I can solve number problems and practical problems.</p>	<p>Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.</p> <p>Solve number problems and practical problems that involve all of the above.</p> <p>-----</p> <p>They continue to use number in context, including measurement. Pupils extend and apply their understanding of the number system to the decimal numbers and fractions that they have met so far.</p>
8	Number - fractions (including decimals and percentages)	<p>I can recognise and use 1000ths and relate them to 10ths, 100ths and decimal equivalents.</p>	<p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</p> <p>-----</p> <p>Pupils should be taught throughout that percentages, decimals and fractions are different ways of expressing proportions.</p> <p>They extend their knowledge of fractions to thousandths and connect to decimals and measures.</p>
9	Measurement, geometry and statistics	<p>I can solve 'difference' problems using information presented in line graphs.</p> <p>I can solve 'sum' problems using information presented in line graphs.</p>	<p>Solve comparison, sum and difference problems using information presented in a line graph.</p> <p>-----Pupils connect their work on coordinates and scales to their interpretation of time graphs.</p> <p>They begin to decide which representations of data are most appropriate and why.</p>

		I can solve 'comparison' problems using information presented in line graphs. I can present information using ICT.	
10	Measurement, geometry and statistics	I can solve problems involving converting between units of time. I can read and interpret information in tables including timetables. I can complete information in tables including timetables. I can present information using ICT.	Solve problems involving converting between units of time. Complete, read and interpret information in tables, including timetables. ----- Pupils use all four operations in problems involving time and money, including conversions (for example, days to weeks, expressing the answer as weeks and days). Pupils connect their work on scales to their interpretation of time graphs. They begin to decide which representations of data are most appropriate and why.
11	Measurement, geometry and statistics	I can recognise and estimate volume and capacity. I can convert between different units of measure (litre and millilitre). I understand and use basic equivalences between metric and common imperial units (millilitres and fluid ounces, pints and litres). I can solve problems involving addition and subtraction of units of measures using decimal notation.	Estimate volume [for example, using 1 cm ³ blocks to build cuboids (including cubes)] and capacity [for example, using water]. Convert between different units of metric measure (litre and millilitre). Understand and use approximate equivalences between metric units and common imperial units (millilitres and fluid ounces, pints and litres). Use all four operations to solve problems involving measure (volume) using decimal notation, including scaling. ----- Pupils use their knowledge of place value and multiplication and division to convert between standard units.

Autumn Year 6

Week	Main focus	Programmes of Study (I can)	National Curriculum
1	Number - number and place value/algebra	I can read, write, order and compare numbers up to 10,000,000. I can read Roman numerals to 1000 (M). I can recognise years written in Roman numerals. I can use simple formulae expressed in words.	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. Use simple formulae. ----- Pupils use the whole number system, including saying, reading and writing numbers accurately. Pupils should be introduced to the use of symbols and letters to represent variables and unknowns in mathematical situations that they already understand, such as formulae in mathematics and science and equivalent expressions (for example, $a + b = b + a$).
2	Number - addition, subtraction multiplication and division	I can calculate mentally, including with mixed operations and large numbers. I can solve addition and subtraction multi-step problems. I use estimation to check answers to calculations.	Perform mental calculations, including with mixed operations and large numbers. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. ----- Pupils practise addition, subtraction, multiplication and division for larger numbers, using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division (see Mathematics Appendix 1).

			<p>They undertake mental calculations with increasingly large numbers and more complex calculations.</p> <p>Pupils continue to use all the multiplication tables to calculate mathematical statements in order to maintain their fluency.</p> <p>Pupils round answers to a specified degree of accuracy, for example, to the nearest 10, 20, 50 etc., but not to a specified number of significant figures.</p>
3	<p>Number - addition, subtraction multiplication and division</p>	<p>I can multiply multi-digit numbers up to 4 digits by a 2 digit whole number using a written method.</p> <p>I can divide numbers up to 4 digits by a 2-digit whole number using an efficient written method.</p> <p>I can interpret remainders as whole number remainders, fractions, or by rounding.</p> <p>I can use estimation to check answers to calculations.</p>	<p>Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.</p> <p>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.</p> <p>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.</p> <p>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</p> <p>-----</p> <p>Pupils practise addition, subtraction, multiplication and division for larger numbers, using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division (see Mathematics Appendix 1).</p> <p>Pupils continue to use all the multiplication tables to calculate mathematical statements in order to maintain their fluency.</p> <p>Pupils round answers to a specified degree of accuracy, for example, to the nearest 10, 20, 50 etc., but not to a specified number of significant figures.</p>
4	<p>Number - addition, subtraction multiplication and division</p>	<p>I can identify common factors, common multiples and prime numbers.</p> <p>I can multiply multi-digit numbers up to 4 digits by a 2 digit whole number using a written method.</p> <p>I can divide numbers up to 4 digits by a 2-digit whole number using an efficient written method.</p> <p>I can interpret remainders as whole number remainders, fractions, or by rounding.</p>	<p>Identify common factors, common multiples and prime numbers.</p> <p>Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.</p> <p>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.</p> <p>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.</p> <p>Perform mental calculations, including with mixed operations and large numbers.</p> <p>-----</p> <p>Pupils practise addition, subtraction, multiplication and division for larger numbers, using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division (see Mathematics Appendix 1).</p> <p>Pupils continue to use all the multiplication tables to calculate mathematical statements in order to maintain their fluency.</p> <p>Common factors can be related to finding equivalent fractions.</p>
5	<p>Measurement, geometry and statistics</p>	<p>I can recognise, describe and build simple 3-D shapes, including making nets.</p> <p>I can compare and classify geometric shapes based on their properties and sizes.</p> <p>I can describe positions on the full co-ordinates grid (all four quadrants).</p>	<p>Draw 2-D shapes using given dimensions and angles.</p> <p>Recognise, describe and build simple 3-D shapes, including making nets.</p> <p>Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.</p> <p>Describe positions on the full coordinate grid (all four quadrants).</p> <p>Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</p>

		I can draw and translate simple shapes and reflect them in the axes.	-----Pupils draw shapes and nets accurately, using measuring tools and conventional markings and labels for lines and angles. Pupils draw and label a pair of axes in all four quadrants with equal scaling. This extends their knowledge of one quadrant to all four quadrants, including the use of negative numbers. Pupils draw and label rectangles (including squares), parallelograms and rhombuses, specified by coordinates in the four quadrants, predicting missing coordinates using the properties of shapes. These might be expressed algebraically for example, translating vertex (a, b) to (a - 2, b + 3); (a, b) and (a + d, b + d) being opposite vertices of a square of side d.
6	Number - fractions (including decimals and percentages)	I can compare and order fractions, including fractions >1. I can use common factors to simplify fractions and use common multiples to express fractions in the same denomination. I can add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.	Compare and order fractions, including fractions > 1. Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. ----- They practise calculations with simple fractions and decimal fraction equivalents to aid fluency, including listing equivalent fractions to identify fractions with common denominators. Pupils should practise, use and understand the addition and subtraction of fractions with different denominators by identifying equivalent fractions with the same denominator. They should start with fractions where the denominator of one fraction is a multiple of the other (for example, $\frac{1}{2} + \frac{1}{2} = \frac{2}{2}$) and progress to varied and increasingly complex problems.
7	Number - number and place value/algebra	I can read, write, order and compare numbers up to 10,000,000. I can solve number problems and practical problems. I can use simple formulae expressed in words.	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. Solve number and practical problems that involve all of the above. Use simple formulae. ----- Pupils use the whole number system, including saying, reading and writing numbers accurately. Pupils should be introduced to the use of symbols and letters to represent variables and unknowns in mathematical situations that they already understand, such as formulae in mathematics and science and equivalent expressions (for example, $a + b = b + a$).
8	Number - fractions (including decimals and percentages)	I can multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$). I can divide proper fractions by whole numbers (e.g. $\frac{1}{2} \div 2 = \frac{1}{4}$).	Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times 2 = \frac{1}{2}$]. Divide proper fractions by whole numbers [for example, $\frac{1}{2} \div 2 = \frac{1}{4}$]. Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$]. ----- Pupils should use a variety of images to support their understanding of multiplication with fractions. This follows earlier work about fractions as operators (fractions of), as numbers, and as equal parts of objects, for example as parts of a rectangle. Pupils use their understanding of the relationship between unit fractions and division to work backwards by multiplying a quantity that represents a unit fraction to find the whole quantity (for example, if $\frac{1}{4}$ of a length is 36cm, then the whole length is $36 \times 4 = 144$ cm).
9	Number - fractions (including decimals and percentages)	I can recall and use equivalences between simple fractions, decimals and percentages.	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. ----- Pupils can explore and make conjectures about converting a simple fraction to a decimal fraction (for example, $3 \div 8 = 0.375$). For simple fractions with recurring decimal equivalents, pupils learn about rounding the decimal to three decimal places, or other appropriate approximations depending on the context. Pupils multiply and divide numbers with up to two decimal places by one-digit and two-digit whole numbers. Pupils multiply decimals by whole numbers, starting with the simplest cases, such as $0.4 \times 2 =$

			0.8, and in practical contexts, such as measures and money.
10	Number - addition, subtraction multiplication and division	<p>I can identify common factors, common multiples and prime numbers.</p> <p>I use knowledge of the order of operations to carry out calculations involving the four operations.</p>	<p>Identify common factors, common multiples and prime numbers.</p> <p>Use their knowledge of the order of operations to carry out calculations involving the four operations.</p> <p>-----</p> <p>Pupils practise addition, subtraction, multiplication and division for larger numbers, using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division (see Mathematics Appendix 1).</p> <p>Pupils continue to use all the multiplication tables to calculate mathematical statements in order to maintain their fluency.</p> <p>They undertake mental calculations with increasingly large numbers and more complex calculations.</p> <p>Pupils explore the order of operations using brackets; for example, $2 + 1 \times 3 = 5$ and $(2 + 1) \times 3 = 9$.</p> <p>Common factors can be related to finding equivalent fractions.</p>
11	Measurement, geometry and statistics	<p>I can find unknown angles in any triangles, quadrilaterals and regular polygons.</p> <p>I can find unknown angles where they meet at a point, are on a straight line, and are vertically opposite.</p>	<p>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</p> <p>----- Pupils describe the properties of shapes and explain how unknown angles and lengths can be derived from known measurements.</p> <p>These relationships might be expressed algebraically for example, $d = 2 \times r$; $a = 180 - (b + c)$.</p>
12	Measurement, geometry and statistics	<p>I use, read, write and convert between standard units of measure (length).</p> <p>I can convert between kilometres and miles.</p> <p>I can convert kilometres to miles using a graphical representation.</p> <p>I can calculate the area of parallelograms and triangles.</p> <p>I can recognise that shapes with the same areas can have different perimeters and vice versa.</p> <p>I recognise when it is necessary to use the formulae for area of shapes.</p>	<p>Use, read, write and convert between standard units, converting measurements of length from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places.</p> <p>Convert between kilometres and miles.</p> <p>Recognise that shapes with the same areas can have different perimeters and vice versa.</p> <p>Recognise when it is possible to use formulae for area of shapes.</p> <p>Calculate the area of parallelograms and triangles.</p> <p>-----</p> <p>Pupils connect conversion (for example, from kilometres to miles) to a graphical representation as preparation for understanding linear/proportional graphs.</p> <p>They know approximate conversions and are able to tell if an answer is sensible.</p> <p>They relate the area of rectangles to parallelograms and triangles, for example, by dissection, and calculate their areas, understanding and using the formulae (in words or symbols) to do this.</p> <p>Pupils could be introduced to compound units for speed, such as miles per hour, and apply their knowledge in science or other subjects as appropriate.</p>

Spring Year 6

Week	Main focus	Programmes of Study (I can)	National Curriculum
1	Number -	<p>I can read, write, order and compare numbers up to 10,000,000.</p> <p>I can round any whole number.</p>	<p>Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.</p> <p>Round any whole number to a required degree of accuracy.</p>

	<p>number and place value/algebra</p>	<p>I can express missing number problems algebraically.</p> <p>I can find pairs of numbers that satisfy numbers sentences involving two unknowns.</p>	<p>Express missing number problems algebraically.</p> <p>Find pairs of numbers that satisfy an equation with two unknowns.</p> <p>Enumerate possibilities of combinations of two variables.</p> <p>-----</p> <p>Pupils use the whole number system, including saying, reading and writing numbers accurately.</p> <p>Pupils should be introduced to the use of symbols and letters to represent variables and unknowns in mathematical situations that they already understand, such as missing numbers, lengths, coordinates and angles, and number puzzles (for example, what two numbers can add up to).</p>
2	<p>Number - addition, subtraction multiplication and division</p>	<p>I can multiply multi-digit numbers up to 4 digits by a 2 digit whole number using a written method.</p> <p>I can divide numbers up to 4 digits by a 2-digit whole number using an efficient written method.</p> <p>I can solve problems involving any operation.</p>	<p>Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.</p> <p>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.</p> <p>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.</p> <p>Solve problems involving addition, subtraction, multiplication and division.</p> <p>-----</p> <p>Pupils practise addition, subtraction, multiplication and division for larger numbers, using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division (see Mathematics Appendix 1).</p> <p>Pupils continue to use all the multiplication tables to calculate mathematical statements in order to maintain their fluency.</p>
3	<p>Number - addition, subtraction multiplication and division</p>	<p>I use knowledge of the order of operations to carry out calculations involving the four operations.</p> <p>I can solve problems involving any operation.</p>	<p>Use their knowledge of the order of operations to carry out calculations involving the four operations.</p> <p>Solve problems involving addition, subtraction, multiplication and division.</p> <p>-----</p> <p>Pupils practise addition, subtraction, multiplication and division for larger numbers, using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division (see Mathematics Appendix 1).</p> <p>They undertake mental calculations with increasingly large numbers and more complex calculations.</p> <p>Pupils continue to use all the multiplication tables to calculate mathematical statements in order to maintain their fluency.</p> <p>Pupils explore the order of operations using brackets; for example, $2 + 1 \times 3 = 5$ and $(2 + 1) \times 3 = 9$.</p>
4	<p>Number - fractions (including decimals and percentages)</p>	<p>I can identify the value of each digit to 3 decimal places.</p> <p>I can multiply and divide numbers by 10, 100 and 1000 where the answers are up to 3 decimal places.</p> <p>I can multiply one-digit numbers with up to 2 decimal places by whole numbers.</p> <p>I can use written division methods in cases where the answer has up to 2 decimal places.</p>	<p>Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.</p> <p>Multiply one-digit numbers with up to two decimal places by whole numbers.</p> <p>Use written division methods in cases where the answer has up to two decimal places.</p> <p>-----</p> <p>Pupils are introduced to the division of decimal numbers by one-digit whole number, initially, in practical contexts involving measures and money. They recognise division calculations as the inverse of multiplication.</p>

5	Measurement, geometry and statistics	<p>I can illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.</p> <p>I can find unknown angles where they meet at a point, are on a straight line, and are vertically opposite.</p>	<p>Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.</p> <p>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</p> <p>----- Pupils describe the properties of shapes and explain how unknown angles and lengths can be derived from known measurements.</p> <p>These relationships might be expressed algebraically for example, $d = 2 \times r$; $a = 180 - (b + c)$.</p>
6	Number - fractions (including decimals and percentages)	<p>I can recall and use equivalences between simple fractions, decimals and percentages.</p>	<p>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</p> <p>-----</p> <p>Pupils can explore and make conjectures about converting a simple fraction to a decimal fraction (for example, $3 \div 8 = 0.375$). For simple fractions with recurring decimal equivalents, pupils learn about rounding the decimal to three decimal places, or other appropriate approximations depending on the context.</p> <p>Pupils multiply and divide numbers with up to two decimal places by one-digit and two-digit whole numbers. Pupils multiply decimals by whole numbers, starting with the simplest cases, such as $0.4 \times 2 = 0.8$, and in practical contexts, such as measures and money.</p>
7	Number - number and place value/algebra	<p>I can read, write, order and compare numbers up to 10,000,000.</p> <p>I can round any whole number.</p> <p>I can express missing number problems algebraically.</p> <p>I can find pairs of numbers that satisfy numbers sentences involving two unknowns.</p>	<p>Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.</p> <p>Round any whole number to a required degree of accuracy.</p> <p>Express missing number problems algebraically.</p> <p>Find pairs of numbers that satisfy an equation with two unknowns.</p> <p>Enumerate possibilities of combinations of two variables.</p> <p>----- Pupils use the whole number system, including saying, reading and writing numbers accurately.</p> <p>Pupils should be introduced to the use of symbols and letters to represent variables and unknowns in mathematical situations that they already understand, such as missing numbers, lengths, coordinates and angles, and number puzzles (for example, what two numbers can add up to).</p>
8	Ratio and proportion	<p>I can solve ratio and proportion problems involving the relative sizes of two quantities, including similarity.</p> <p>I can solve ratio and proportion problems involving unequal sharing and grouping.</p>	<p>Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.</p> <p>Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</p> <p>Solve problems involving similar shapes where the scale factor is known or can be found.</p> <p>-----</p> <p>Pupils recognise proportionality in contexts when the relations between quantities are in the same ratio (for example, similar shapes and recipes).</p> <p>Pupils should consolidate their understanding of ratio when comparing quantities, sizes and scale drawings by solving a variety of problems. They might use the notation a:b to record their work.</p> <p>Pupils solve problems involving unequal quantities, for example, 'for every egg you need three spoonfuls of flour', '$\frac{3}{5}$ of the class are boys'. These problems are the foundation for later formal approaches to ratio and proportion.</p>
9	Ratio and proportion	<p>I can solve ratio and proportion problems involving the relative sizes of two quantities, including similarity.</p> <p>I can solve ratio and proportion problems involving unequal sharing and grouping.</p>	<p>Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.</p> <p>Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.</p>

		I can solve problems involving the calculation of percentages of whole numbers or measures such as 15% of 360.	<p>Solve problems involving similar shapes where the scale factor is known or can be found.</p> <p>-----</p> <p>Pupils recognise proportionality in contexts when the relations between quantities are in the same ratio (for example, similar shapes and recipes).</p> <p>Pupils link percentages or 360° to calculating angles of pie charts.</p> <p>Pupils should consolidate their understanding of ratio when comparing quantities, sizes and scale drawings by solving a variety of problems. They might use the notation a:b to record their work.</p> <p>Pupils solve problems involving unequal quantities, for example, 'for every egg you need three spoonfuls of flour', '3/5 of the class are boys'. These problems are the foundation for later formal approaches to ratio and proportion.</p>
10	Number - fractions (including decimals and percentages)	<p>I can identify the value of each digit to three decimal places.</p> <p>I can multiply and divide numbers by 10, 100 and 1000 where the answers are up to 3 decimal places.</p> <p>I can solve problems which require answers to be rounded to specified degrees of accuracy.</p>	<p>Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.</p> <p>Solve problems which require answers to be rounded to specified degrees of accuracy.</p> <p>-----</p> <p>Pupils also develop their skills of rounding and estimating as a means of predicting and checking the order of magnitude of their answers to decimal calculations. This includes rounding answers to a specified degree of accuracy and checking the reasonableness of their answers.</p>

Summer Year 6

Week	Main focus	Programmes of Study (I can)	National Curriculum
1	Number - number and place value/algebra	<p>I can use negative numbers in context.</p> <p>I can calculate intervals across '0' when using negative numbers.</p> <p>I can solve number problems and practical problems.</p> <p>I can generate and describe linear number sequences.</p>	<p>Use negative numbers in context, and calculate intervals across zero.</p> <p>Solve number and practical problems that involve all of the above.</p> <p>Generate and describe linear number sequences.</p> <p>-----</p> <p>Pupils use the whole number system, including saying, reading and writing numbers accurately.</p> <p>Pupils should be introduced to the use of symbols and letters to represent variables and unknowns in mathematical situations that they already understand, such as generalisations of number patterns and number puzzles (for example, what two numbers can add up to).</p>
2	Number - addition, subtraction multiplication and division	<p>I can multiply multi-digit numbers up to 4 digits by a 2 digit whole number using a written method.</p> <p>I can divide numbers up to 4 digits by a 2-digit whole number using an efficient written method.</p> <p>I can solve problems involving any operation.</p>	<p>Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.</p> <p>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.</p> <p>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.</p> <p>Solve problems involving addition, subtraction, multiplication and division.</p> <p>-----</p> <p>Pupils practise addition, subtraction, multiplication and division for larger numbers, using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division (see Mathematics Appendix 1).</p> <p>Pupils continue to use all the multiplication tables to calculate mathematical statements in order to maintain their fluency.</p>

3	Number - addition, subtraction multiplication and division	<p>I use knowledge of the order of operations to carry out calculations involving the four operations.</p> <p>I can solve problems involving any operation.</p>	<p>Use their knowledge of the order of operations to carry out calculations involving the four operations.</p> <p>Solve problems involving addition, subtraction, multiplication and division.</p> <p>-----Pupils practise addition, subtraction, multiplication and division for larger numbers, using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division (see Mathematics Appendix 1).</p> <p>They undertake mental calculations with increasingly large numbers and more complex calculations.</p> <p>Pupils continue to use all the multiplication tables to calculate mathematical statements in order to maintain their fluency.</p> <p>Pupils explore the order of operations using brackets; for example, $2 + 1 \times 3 = 5$ and $(2 + 1) \times 3 = 9$.</p>
4	Number - fractions (including decimals and percentages)	<p>I can associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$).</p> <p>I can recall and use equivalences between simple fractions, decimals and percentages.</p>	<p>Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$].</p> <p>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</p> <p>-----</p> <p>Pupils can explore and make conjectures about converting a simple fraction to a decimal fraction (for example, $3 \div 8 = 0.375$). For simple fractions with recurring decimal equivalents, pupils learn about rounding the decimal to three decimal places, or other appropriate approximations depending on the context.</p> <p>Pupils multiply and divide numbers with up to two decimal places by one-digit and two-digit whole numbers. Pupils multiply decimals by whole numbers, starting with the simplest cases, such as $0.4 \times 2 = 0.8$, and in practical contexts, such as measures and money.</p>
5	Number - fractions (including decimals and percentages)	<p>I can identify the value of each digit to three decimal places.</p> <p>I can multiply and divide numbers by 10, 100 and 1000 where the answers are up to 3 decimal places.</p> <p>I can multiply one-digit numbers with up to 2 decimal places by whole numbers.</p> <p>I can use written division methods in cases where the answer has up to 2 decimal places.</p>	<p>Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.</p> <p>Multiply one-digit numbers with up to two decimal places by whole numbers.</p> <p>Use written division methods in cases where the answer has up to two decimal places.</p> <p>-----</p> <p>Pupils are introduced to the division of decimal numbers by one-digit whole number, initially, in practical contexts involving measures and money. They recognise division calculations as the inverse of multiplication.</p>
5	Number - fractions (including decimals and percentages)	<p>I can associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$).</p> <p>I can recall and use equivalences between simple fractions, decimals and percentages.</p>	<p>Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$].</p> <p>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</p> <p>-----</p> <p>Pupils can explore and make conjectures about converting a simple fraction to a decimal fraction (for example, $3 \div 8 = 0.375$). For simple fractions with recurring decimal equivalents, pupils learn about rounding the decimal to three decimal places, or other appropriate approximations depending on the context.</p> <p>Pupils multiply and divide numbers with up to two decimal places by one-digit and two-digit whole numbers. Pupils multiply decimals by whole numbers, starting with the simplest cases, such as $0.4 \times 2 = 0.8$, and in practical contexts, such as measures and money.</p>
6	Measurement, geometry and statistics	<p>I use, read, write and convert between standard units of measure (mass).</p>	<p>Use, read, write and convert between standard units, converting measurements of mass from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places.</p> <p>Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.</p>

		I can solve problems involving the calculation and conversion of units of measure, using decimal notation to 3 decimal places where appropriate.	----- Pupils connect conversion (for example, from ounces to grams) to a graphical representation as preparation for understanding linear/proportional graphs. They know approximate conversions and are able to tell if an answer is sensible. Pupils could be introduced to compound units for speed, such as miles per hour, and apply their knowledge in science or other subjects as appropriate.
7	Number - number and place value/algebra	I can use negative numbers in context. I can calculate intervals across '0' when using negative numbers. I can solve number problems and practical problems. I can generate and describe linear number sequences.	Use negative numbers in context, and calculate intervals across zero. Solve number and practical problems that involve all of the above. Generate and describe linear number sequences. ----- Pupils use the whole number system, including saying, reading and writing numbers accurately. Pupils should be introduced to the use of symbols and letters to represent variables and unknowns in mathematical situations that they already understand, such generalisations of number patterns and number puzzles (for example, what two numbers can add up to).
8	Number - fractions (including decimals and percentages)	I can multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$). I can divide proper fractions by whole numbers (e.g. $\frac{1}{2} \div 2 = \frac{1}{4}$).	Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$]. Divide proper fractions by whole numbers [for example, $\frac{1}{2} \div 2 = \frac{1}{4}$]. Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$]. ----- Pupils should use a variety of images to support their understanding of multiplication with fractions. This follows earlier work about fractions as operators (fractions of), as numbers, and as equal parts of objects, for example as parts of a rectangle. Pupils use their understanding of the relationship between unit fractions and division to work backwards by multiplying a quantity that represents a unit fraction to find the whole quantity (for example, if $\frac{1}{4}$ of a length is 36cm, then the whole length is $36 \times 4 = 144$ cm).
9	Measurement, geometry and statistics	I can interpret line graphs. I can construct line graphs. I can draw graphs relating two variables.	Interpret and construct line graphs and use these to solve problems. ----- Pupils both encounter and draw graphs relating two variables, arising from their own enquiry and in other subjects. They should connect conversion from kilometres to miles in measurement to its graphical representation.
10	Measurement, geometry and statistics	I can construct pie charts. I can interpret pie charts. I can calculate and interpret the mean as an average.	Interpret and construct pie charts and use these to solve problems. Calculate and interpret the mean as an average. ----- Pupils connect their work on angles, fractions and percentages to the interpretation of pie charts. Pupils know when it is appropriate to find the mean of a data set.
11	Measurement, geometry and statistics	I can calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed and cubic metres. I recognise when it is necessary to use the formulae volume of shapes.	Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3]. Recognise when it is possible to use formulae for volume of shapes. ----- Pupils connect conversion (for example, from litres to pints) to a graphical representation as preparation for understanding linear/proportional graphs.

UNIT CONTENT:						
		LEARNING OBJECTIVE <i>What do you want pupils to learn and how?</i>	INPUT <i>What will the content be? What will you ask to move their learning on? What will you do to model the learning?</i>	ACTIVITY <i>How will you know if they have learnt it? What will they do to show you they have understood?</i>	WLT ASSESSMENT (PLANNED) <i>How will you find out if they have learnt it? What feedback will you give?</i>	EVALUATION (completed after lesson) <i>Were learning intentions achieved? How will you build on what has been learnt?</i>
Monday	HA	WALT:	Mental/Oral:			
		WILF:				
	H/M.A	WALT:	Mental/Oral:			
		WILF:				
	L	WALT:	Mental/Oral:			
		WILF:				
	LA	WALT:	Mental/Oral:			
		WILF:				
Tuesday	HA	WALT:	Mental/Oral:			
		WILF:				
		WALT:	Mental/Oral:			
		WILF:				
	A	WALT:	Mental/Oral:			
		WILF:				
	LA	WALT:	Mental/Oral:			
		WILF:				

Wednesday	HA	WALT:	Mental/Oral:			
		WILF:				
	H/M.A	WALT:	Mental/Oral:			
		WILF:				
	L	WALT:	Mental/Oral:			
		WILF:				
	LA	WALT:	Mental/Oral:			
		WILF:				
Thursday	HA	WALT:	Mental/Oral:			
		WILF:				
	H/M.A	WALT:	Mental/Oral:			
		WILF:				
	L	WALT:	Mental/Oral:			
		WILF:				
	LA	WALT:	Mental/Oral:			
		WILF:				
Friday	HA	WALT:	Mental/Oral:			
		WILF:				
	H/M.A	WALT:	Mental/Oral:			
		WILF:				
	L	WALT:	Mental/Oral:			

		WILF:				
	LA	WALT:	Mental/Oral:			
		WILF:				
Vocabulary						
Resources that need preparation						

	Groups	Focussed session 1	Focussed session 2	Focussed session 3
MO	HA			
	A			
	LA			
TUE	HA			
	A			
	LA			
WE	HA			
	A			
	LA			
THU	HA			
	A			
	LA			
FRI	HA			
	A			
	LA			

Indicate what activity each group is doing e.g. having input from adult (T or TA), working independently on task, S and L, Prove it! Extra factor, WALT assessment

