An Overview of Mathematics at Bexton Primary School

Bexton Primary School believes that every child should succeed at maths. We use the mastery approach through a detailed, structured curriculum which is planned out across all phases, ensuring continuity and support transition through the year groups and the key stages. Our mathematics curriculum is designed in moderately small, carefully sequenced steps, which must each be mastered before pupils move to the next stage. Fundamental skills and knowledge are secured first. This often entails focusing on curriculum content in considerable depth at early stages. We aim to build all children's confidence and promote a love of maths for life.

Bexton Primary School teach as a whole class, using a step-by-step teaching approach; children can move through the curriculum at approximately the same pace. As a result of spending more time on fundamentals, the children can establish firm foundations to build their understanding. We focus on the concrete-pictorial-abstract approach; this allows children to learn and to see the connections in maths and understand that mathematics can be represented differently. The maths curriculum provides sufficient opportunities for planned revisits of previously learned knowledge, concepts and procedures to ensure that, once learned, mathematical knowledge becomes deeply embedded. This contributes to working with independence and applying mathematical knowledge to more complex mathematics. Those pupils behind age-related expectations are supported with pre-teaching, interventions, targeted questioning and targeted support in lessons from adults. Children who grasp concepts rapidly are challenged with greater-depth problems from within lessons. Lessons begin with problem-solving and involve open discussion and collaborative work before consolidating understanding with extra work. Teachers plan lessons aligned with the NCETM and

White Rose to meet the key objectives. Teachers plan lessons using their professional judgement. Staff use their professional judgement to determine how long to spend on a particular objective; they must produce detailed written plans for each lesson. Feedback is provided to pupils through the Whole Class Feedback, peer marking, and self-marking. This informs teaching for the next lesson.

Our EYFS children.

We believe that a structured Mastery approach, based on NCETM, White Rose and Mastering Number, is implemented throughout the provision and focused teaching sessions ensure that children learn new concepts that they can then demonstrate in their independent learning. The component of Number is enabled through, for example: encouraging children to count the things they see and talk about and use numbers beyond ten, providing a wide range of number resources, and encouraging children to be creative in identifying and devising problems and solutions in all areas of learning.

At Bexton, we understand that the first few years of a child's life are especially important for mathematics development. Early mathematical knowledge supports the children's reading abilities and general education and social progress. Our Early Years Team strive to ensure that all children develop firm mathematical foundations in a way that is engaging and appropriate for their age. Our Reception Provision focuses on key concepts to underpin many of the objectives in the early year's curriculum. Progression is made through a range of experiences, activities and opportunities within the provision.

There are six key areas of early mathematics learning, which collectively provide a platform for everything children will encounter as they progress through their maths learning at Bexton Primary School.

Cardinality and Counting

The cardinal value of a number refers to the number of things it represents, e.g. the numerosity, 'howmany ness', or 'threeness' of three. When children understand the cardinality of numbers, they know what the numbers mean in terms of knowing how many things they refer to. Counting is one way of establishing how many things are in a group because the last number you say tells you how many there are. Children enjoy learning the sequence of counting numbers long before they understand the cardinal values of the numbers. Subitising is another way of recognising how many there are without counting.

Comparison

Comparing numbers involves knowing which numbers are worth more or less than each other. This depends both on understanding the cardinal values of numbers and also knowing that the later counting numbers are worth more (because the next number is always one more). This understanding underpins the mental number line that children will develop later, which represents the relative value of numbers, i.e. how much bigger or smaller they are than each other.

Composition

Knowing numbers are made up of two or more other smaller numbers involves 'part–whole' understanding. Learning to 'see' a whole number and its parts simultaneously is a key development in children's number understanding. Partitioning numbers into other numbers and putting them back together again underpins an understanding of addition and subtraction as inverse operations.

Pattern

Developing an awareness of patterns helps young children to notice and understand mathematical relationships. This section focuses on repeating patterns, progressing from children copying simple, alternating AB patterns to identifying different structures in the 'unit of repeat', such as ABB or ABBC. Patterns can be made with objects like coloured cubes, small toys, buttons and keys, and with outdoor materials like pine cones, leaves or large blocks, as well as with movements and sounds, linking with music, dance, phonics and rhymes. Children can also spot and create patterns in a range of other contexts, such as printed patterns, timetables, numbers and stories.

Shape and Space

Mathematically, the areas of shape and space are about developing visualising skills and understanding relationships, such as the effects of movement and combining shapes together, rather than just knowing vocabulary. Spatial skills are important for understanding other areas of maths, and children need structured experiences to ensure they develop these. Here, the focus is on actively exploring spatial relations and the properties of shapes in order to develop mathematical thinking (rather than on shape classification, which requires prior knowledge of properties). This section is concerned with developing the two aspects of spatial awareness and shape awareness, with some progression identified within each.

Measures

Mathematically, measuring is based on the idea of using numbers of units in order to compare attributes, such as length or capacity. However, young children engage with using rulers and experience being measured in centimetres, kilos – and years! – the measuring units themselves are hard to understand. Children need to realise which attribute is being measured, e.g. weight as opposed to size, and the idea of conservation: that the amount stays the same, even if the appearance alters, e.g. if the dough is stretched out or in bits. In order to understand units, they need to realise that two items can be compared using the third item or 'go between', such as a stick. Finally, children need to understand how equal size units are used repeatedly to express an amount as a number. While young children can engage actively in making comparisons and exploring the equivalence of length, volume, capacity and weight in different ways, some of these ideas are challenging and will develop later in primary school. For instance, weight (mass or density) is difficult to distinguish from size since it is invisible, and the concept of conservation is harder to understand for weight and capacity. Measuring with non-standard units of different sizes in order to appreciate the need for equal units is less effective with younger children, so centimetre cubes are recommended as accessible units. While time is also elusive to measure, young children can sequence events and, for example, count 'sleeps'. (Money as a measure of value is too advanced to consider here.)
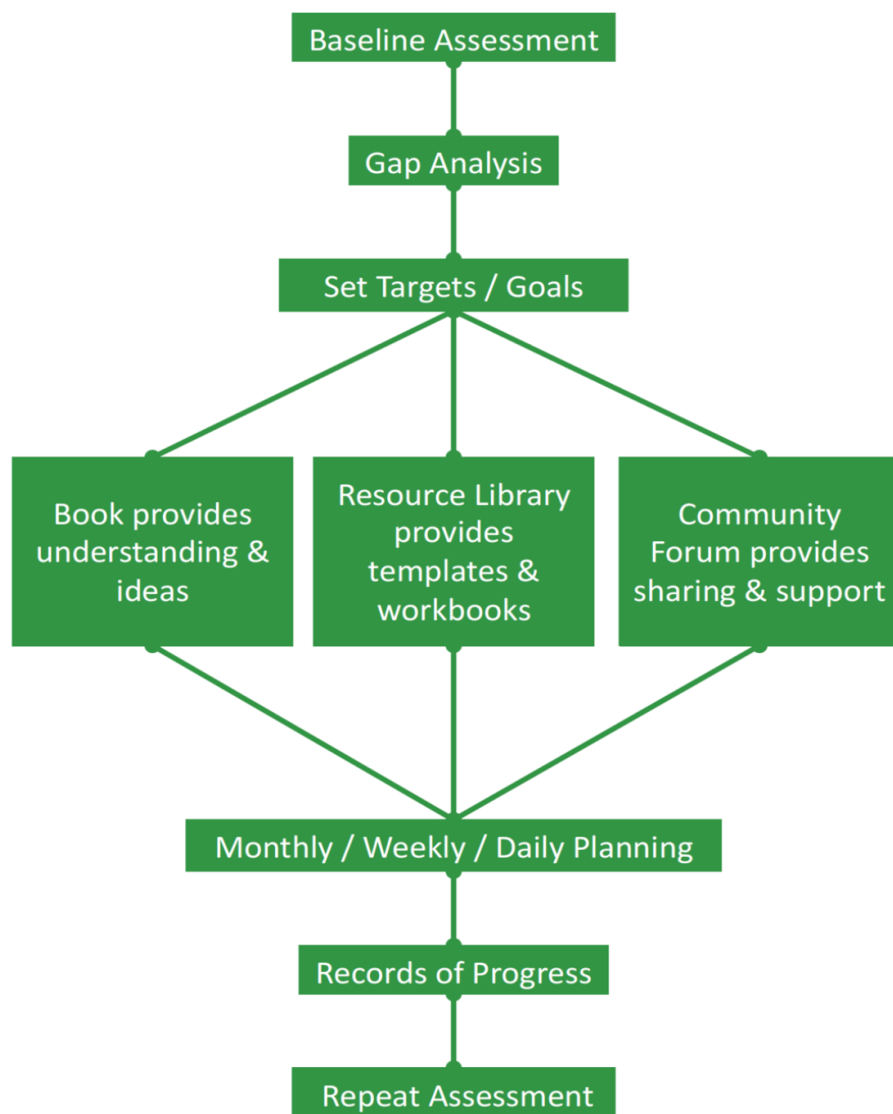
Mastering Number

Mastering Number aims to secure firm foundations in the development of good number sense for all children from Reception through to Year 1 and Year 2. The aim over time is that children will leave KS1 with fluency in calculation and confidence and flexibility with numbers. Attention will be given to key knowledge and understanding needed in Reception classes and progression through KS1 to support success in the future. It focuses on intentional teaching strategies focused on developing fluency in calculation and number sense for all children. The children will be able to communicate their mathematical ideas clearly and will understand manipulatives and how to use them appropriately to support their learning.

Resource Base

The children working in the R&R use a different scheme to suit their educational requirements, Maths for Life. The Foundations of Maths for Life is the scheme of work that takes a child's development in maths from birth to Level 1 content. It maps out the mathematical milestones and steps needed to achieve them at the micro level required for children with additional learning needs.

Maths for Life

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│   Baseline Assessment   │
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│      Gap Analysis       │
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│    Set Targets / Goals  │
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│   Monthly / Weekly / Daily Planning │
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│    Repeat Assessment    │
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Baseline Assessment	Baseline Assessment is a good starting point to identify current level of attainment and independence.
Gap Analysis	The findings of the Baseline Assessment will generate a gap analysis - identifying the areas of strength and weakness, highlighting core foundations that are missing.
Set Targets / Goals	The gap analysis provides a focus for learning and helps to set targets / goals that feed into IEPs and EHCPs.
Book(s)	With the targets / goals set, the book is used to understand how to break down each target / goal into incremental micro steps, objectives and provides structure and ideas for teaching.
Resource Library	The library contains templates and workbooks for every objective with lots of repetition. The same structure / language repeated with different context supporting the little and often approach.
Forum	The community forum offers a way to share ideas and celebrate successes with other parents / schools who are following the Maths For Life programme.
Planning	Utilise the monthly / weekly / daily templates to plan work to achieve each target / goals set. These might be used for a structured weekly timetable at home or used by a teaching assistant to align to the school's scheme of work.
Records of Progress	The Record of Progress is used intermittently to review progress taking into account both attainment of understanding and ability to complete independently. It is a good way of communicating progress between home and school. It should be used at times of handover between academic years / schools.
Repeat Assessment	To compare against the Baseline Assessment, further assessments will take place at 6- and 12-month intervals. The results will feed into Project Baseline and provide detailed analysis on progress and feasibility of the Maths For Life programme.

Maths for Life

Independent	The question was read, understood and completed independently by the student.
Assisted Reading	An adult helped the student to read the question but thereafter the question was understood and completed independently by the student.
Indirect Prompts Used	An adult used indirect prompts (verbal and non-verbal) to help the student progress through the question - e.g. "What should we do?", "Now what?", expectant facial expression, questioning with hand or body gestures.
Direct Prompts Used	An adult used direct prompts (verbal and non-verbal) to help the student progress through the question - e.g. "Shall we use number line?", "Do you think we need to count?", pointing to, tapping on a focal point.
Direct Model	An adult used direct modelling to help the student progress through the question - e.g. "This one matches the number.", "Now we add together", "We put our answer here."
Demonstrated	An adult demonstrated how to answer the question with little or no input from the student.

Teaching for Mastery

- Access
- Pattern
- Making Connections

- Chains of Reasoning Problem Solving
- Making Connections

Representation & Structure

Mathematical Thinking

Coherence

Small steps are easier to take

Variation

Fluency

- Procedural
- Conceptual
- Making Connections

- Number Facts
- Table Facts
- Making Connections
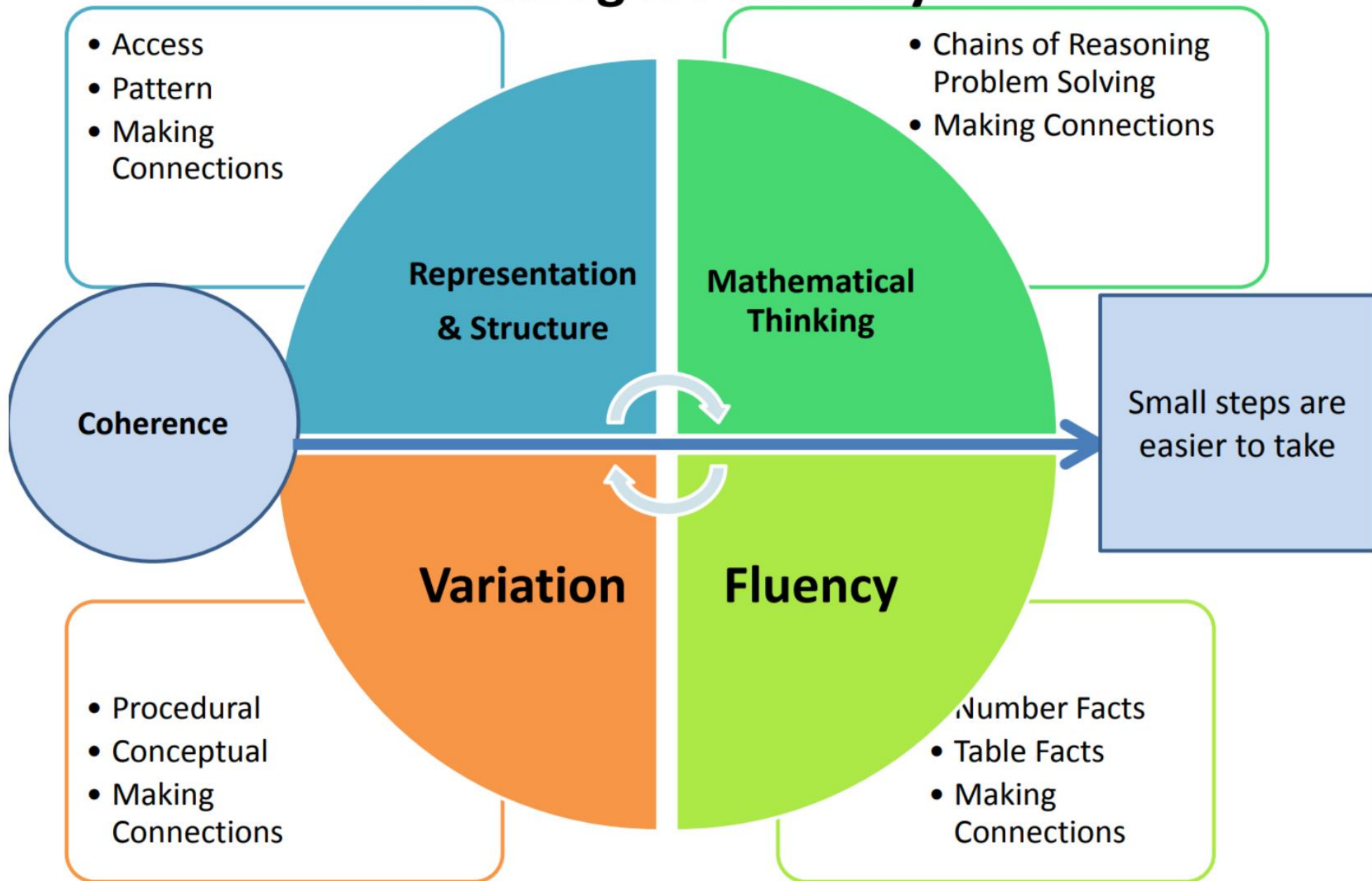
Mastery Explained

A true understanding of these ideas will probably come about only after discussion with other teachers and by exploring how the ideas are reflected in day-to-day maths teaching, but here's a flavour of what lies behind them:

Coherence

Teaching is designed to enable a coherent learning progression through the curriculum, providing access for all pupils to develop a deep and connected understanding of mathematics that they can apply in various contexts.

Representation and Structure

Teachers carefully select representations of mathematics to expose the mathematical structure. The intention is to support pupils in 'seeing' the mathematics rather than using the representation as a tool to 'do' the mathematics. These representations become mental images that students can use to think about mathematics, supporting them in achieving a deep understanding of mathematical structures and connections.

Mathematical Thinking

Mathematical thinking is central to how pupils learn mathematics and includes looking for patterns and relationships, making connections, conjecturing, reasoning, and generalising. Pupils should actively engage in mathematical thinking in all lessons, communicating their ideas using precise mathematical language.

Fluency

Efficient, accurate recall of key number facts and procedures is essential for fluency, freeing pupils' minds to think deeply about concepts and problems, but fluency demands more than this. It requires pupils to have the flexibility to move between different contexts and representations of mathematics, to recognise relationships and make connections, and to choose appropriate methods and strategies to solve problems.

Variation

The purpose of variation is to draw closer attention to a key feature of a mathematical concept or structure by varying some elements while keeping others constant.

- Conceptual variation involves varying how a concept is represented to draw attention to critical features. Often more than one representation is required to look at the concept from different perspectives and gain comprehensive knowledge.
- Procedural variation considers how the student will 'proceed' through a learning sequence. Purposeful changes are made so that pupils' attention is drawn to key features of mathematics, scaffolding students' thinking to enable them to reason logically and make connections.

The Essence of Maths Teaching for Mastery

- Maths teaching for mastery rejects the idea that a large proportion of people can't do maths.

- All pupils are encouraged by the belief that they can succeed by working hard at maths.

- Pupils are taught through whole-class interactive teaching. The focus is on all pupils working together on the same lesson content simultaneously, as happens in Shanghai and several other regions that successfully teach maths. This ensures that all can master concepts before moving to the next part of the curriculum sequence, allowing no pupil to be left behind.

- If a pupil fails to grasp a concept or procedure, this is identified quickly, and early intervention ensures the pupil is ready to move forward with the whole class in the next lesson.

- Lesson design identifies the new mathematics to be taught, the key points, the difficult points and a carefully sequenced journey through the learning. In a typical lesson, pupils sit facing the teacher, and the teacher leads back-and-forth interaction, including questioning, short tasks, explanation, demonstration, and discussion.

- Procedural fluency and conceptual understanding are developed in tandem because each supports the development of the other.

- It is recognised that practice is a vital part of learning, but the practice used is an intelligent practice that both reinforces pupils' procedural fluency and develops their conceptual understanding.

- Significant time is spent developing a deep knowledge of the key ideas needed to underpin future learning. The structure and connections within mathematics are emphasised so that pupils develop a deep understanding that can be sustained.

- Key facts such as multiplication tables and addition facts within ten are learnt automatically to avoid cognitive overload in the working memory and enable pupils to focus on new concepts.

Nursery

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Cardinality (Counting principles) **Counting** **Subitising**	• Verbal Counting- To know and say number names to 5. Can use actions to support: claps, taps, and jumps. • Understand that numbers have a quantity • Know that the last number reached when counting a small set of objects tells you how many there are in total • Identify the numerals in the environment.	• Understand the concept of subitising 1. • Understand the concept and amount of 1. • Count the number of songs and identify the quantity. • Recite numbers to 5.	• Begin and describe a sequence of events, real or fictional, using words such as 'first,' 'then.' • Object Counting Use counting skills to count up to 5 things. The last number I say is how many I've got. So, we've got 5 bananas. • Subitise to 2. Understand the concept and amount of 2.	• To link numerals to amounts • Know how to mark make and ascribe some concept of number to the marks • Understand the concept and amount of 3 • Say one number for each item 1, 2, 3, 4, 5.	• Subitise to 3 • Understand the concept and amount of 4. • Verbal Counting- Understand the concept that numbers are not linear. We can count from different numbers. • Object counting - count accurately up to 5 objects.	• Recite numbers past 5. • Solve real-world mathematical problems with numbers up to 5 • Subitise up to 4 objects. • Link numerals and amounts: for example, showing the right number of objects to match the numeral up to 5. • To use fingers to calculate/represent a character from a number song. • Understand the concept and amount of 5.
Composition (Whole into parts and parts into a whole)	• Single objects can be split into unequal parts. • A banana can be split into two unequal parts and put back together to make the whole banana. So I can put the big part of the banana and the small part of the banana back together to make the whole.	• Composition-Inverse • Children to show an understanding that a group of objects can be called a whole.	• Composition-Inverse Children understand that all parts make a whole.	• Understand that the whole is bigger than the parts.	• Composition – Seeing parts. Children understand numbers from what they see. Fruit kebabs "I've got two pieces of banana and two strawberries; the whole is four."	• Composition – Seeing parts. Children start applying numbers to what they see. There are 2 cows in this field and 2 cows in this field; the whole number of cows is 4.
Comparison (Purpose of seeing which set has more) **Sorting**	• Perceptual Comparison – Children can compare two sets of objects which are the same object with varying quantities.	• Perceptual Comparison Children can compare two sets of objects which are not the same. Prove it; convince me.	• Comparison- Children can compare when objects are matched using two lines.	• Comparison-Binary. Children can sort objects into two or 3 set groups.	• Comparison-Binary Sort. Sort into more complex arrangements.	• Comparison-Binary Sort. Children to sort objects and create their own rules, purple animals and non-purple animals.
Pattern (Recognising repetition and regularity governed by a rule) Repeating pattern – it keeps repeating over	• Recognise patterns. • Talk about, and identify patterns in the environment: clothes, rugs, and books. Also stripes, spots, zigzags, blobs.	• Extend (step 1) • Children to extend an AB pattern by giving them the colours.	• Copy (AB pattern) (step 2) • Children to extend an AB pattern by identifying and selecting the colours.	• Show the pattern and then cover. Children begin to 'read' the pattern.	• Children create their own patterns.	• Children to read and repair the pattern.

and over, again and again.						
Space, shape and measure	• Know how to fit shapes into board puzzles • To begin to explore block play. • To fill and empty containers • To match the shapes and resources to the continuous provision shelves.	• Make comparisons between objects relating to size. • Know how to use small-world play to experiment with size, shape – differences and similarities. • Understand the daily routine and what is happening next.	• Discuss routes and locations, using words like 'in front of and 'behind.' • Make comparisons between objects relating to length • Understand the concept of 'now' and 'next.'	• Describe a familiar route • Combine shapes to make new ones, an arch, and a bigger triangle. • Make comparisons between objects relating to weight • Explore the properties of 2D shapes – curved/straight sides • Identify shapes in the environment	• Understand position through words alone. The bag is under the table. • Make comparisons between objects relating to capacity • To make meaningful pictures and arrangements with shapes.	• Select shapes appropriately: flat surfaces for building, a triangular prism for a roof. • Make comparisons between objects relating to size, length, weight and capacity. • Talk about and explore 2D and 3D shapes (for example – circles, rectangles, triangles, and cuboids) using informal and mathematical language: 'sides', corners', 'straight', 'flat',

Reception Autumn

	Week 1 – 3 Block 1	Week 4 – 6 Block 2	Week 7 – 9 Block 3	Week 10 - 12 Block 4
Blocks	**Getting to Know You**	**Just Like Me!** **Number: Match, sort and compare amounts.** **Measure/Shape: Compare size, mass and capacity, and explore patterns.**	**It's Me, 1,2,3** **Number: Representing and comparing 1,2, and 3.** **Composition of numbers1,2 and 3.** **Measure/Shape: Circle and triangle; positional language**	**Light and Dark** **Number: Representing numbers to 5; One more and one less.** **Masure/Shape: Shapes with four sides; Time.**
Small Steps	Opportunity for the Reception Team to get to know the children and introduce them to the continuous provision and key routines in EYFS. There will be a focus on positional language, e.g. where do things belong. Key times of the day will be explored with the children. The reception Team will carry out the DfE baseline as well as our own GSA baseline for maths during this time.	During this block of learning, children will know, understand and be able to do the following: • Match - Find and match objects which are the same. • Sort: - Know that objects can be sorted based on attributes such as colour, size or shape. - Know how different sets are the same or different based on how they have been sorted. • Compare amounts: - know that the sets we have sorted can be compared and ordered. - Understand that when comparing sets, they can have the same, more or fewer items. • Compare size: - Know that objects can be compared by their size (use language like big, small, little, and large and begin to introduce language such as tall, long and short). • Make simple patterns: - Copy, complete, and continue a simple pattern (patterns with at least 3 full units of repeat).	During this block of learning, children will know, understand and be able to do the following: • Represent 1,2 and 3: - Identify 1, 2 and 3 in representations. - Know how to subitise or count to work out how many. - Know number names and match them to numerals and quantities. - Count up to three objects in different arrangements, knowing that the final number they say names the quantity of the set. - Mark-make to represent 1, 2 and 3. • Compare 1, 2 and 3: - Know that, when we count, each number is one more than the number before. - Know that when we count back, each number is one less than the number before. • Composition of 1,2 and 3: - know that all numbers are made up of smaller numbers. - Know how 1, 2 and 3 are composed. • Circles and triangles: - Know that circles have one curved side and triangles have three straight sides. - Recognise shapes in different contexts and through different orientations.	During this block of learning, children will know, understand and be able to do the following: • The Number Four: - Know how to count on or back from 4. - Know how to count or subitise sets of up to 4 objects. - Know how to match the number names to the numerals and quantities. - Use mark-making to represent numbers up to 4. • The Number Five: - Know how to subitise up to 5 items. - Know how to count forwards and backwards using the counting principles. - Know how to represent up to 5 objects on a fives frame and understand that when the frame is full, there are 5. - Link to children's birthdays' as most will be turning 5. • One more, one less: - Know how to count, subitise and compare when exploring one more and one less. - Understand the link between one more and one less and count forwards and backwards. • Shapes with 4 sides: - Know that squares and rectangles have 4 straight sides and 4 corners. - Recognise shapes in everyday items. • Night and Day: - Talk about night and day. - Know the order of key events in their day. Know key language to describe when events happen, e.g. day, night, morning, afternoon, before, after, today, and tomorrow. Know how to measure time in simple ways, e.g. 10 sleeps to go.
ELG Links		• Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.	• Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. • Have a deep understanding of numbers up to 10, including the composition of each number; Subitise (recognise quantities without counting) up to 5.	• Have a deep understanding of numbers up to 10, including the composition of each number. • Subitise (recognise quantities without counting) up to 5. • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. Express their ideas and feelings about their experiences using full sentences, including the use of past, present and future tenses

Reception Spring Term

	Week 1-3 Block 2	Week 4-6 Block 3	Week 7-9 Block 4	Week 10-12
Blocks	**Alive in Five!** **Number: Introducing zero;** **Comparing numbers to 5;** **Composition of 4 and 5.** **Measure/Shape: Compare mass and capacity.**	**Growing 6, 7 and 8** **Number: 6, 7 and 8; Combing 2 amounts; Making pairs.** **Measure/Shape: Length and height; Time.**	**Buildings 9 and 10** **Number: Counting to 9 and 10; Comparing numbers to 10; Bonds to 10.** **Measure/Shape: 3D shapes; Spatial awareness; Patterns.**	**Consolidation**
Small Steps	During this block of learning, children will know, understand and be able to do the following: • Zero: - Know the number name 'zero' and understand that the numeral '0' is used to represent this. • Compare numbers to 5: - Continue to understand that when comparing numbers, one quantity can be more than, the same as or fewer than another quantity (with numbers up to 5). • Composition of 4 and 5: - Continue to understand that all numbers are made of smaller numbers. - Know the different compositions of 4 and 5. • Compare mass: - Link the idea of weight to their experiences of carrying heavy and light things. - Compare two items' weights, estimating which is heavier and using a balance scale to check. - Know and use the language to describe mass, e.g. heavy, heavier than, heaviest, light, lighter than, lightest, to compare items. • Compare capacity: Know when something is full and empty; use this understanding to know when something is half full, nearly full or nearly empty.	During this block of learning, children will know, understand and be able to do the following: • 6, 7 and 8: - Apply the counting principles when counting to 6, 7 and 8. - Know how to represent 6, 7 and 8 in different ways. - Know how to count out the required number of objects from a larger group of items. - Know how they can conceptually subitise to help them count by seeing that numbers are made up of smaller numbers, e.g. I know it is 7 because I see 4 and 3. • Making Pairs - Understand how their previous work on matching links to making pairs. - Know that a pair is 2. - Arrange small quantities into pairs and know that some quantities will have an odd one left over with no pair. • Combing 2 groups: - Know how to combine 2 groups to find how many altogether. - Use subitising and counting in ones to find how many altogether. • Length and height: - Know the language used to describe length (longer, shorter), height (taller, shorter) and width (wider, narrower). - Begin to make comparisons between the length and height of two objects through measuring, e.g. the length of the table is 5 cubes, and the length of the sand tray is 3 cubes long. • Time: - Continue to order and sequence important events in their day. Use language like now, before, later, soon, after, then and next. - Recognise that regular events happen on the same day each week and know how to use vocabulary such as 'yesterday', 'today' and 'tomorrow' to describe when these events happen. - Describe significant events in their lives and talk about events they are looking forward to.	During this block of learning, children will know, understand and be able to do the following: • 9 and 10: - Apply the counting principles when counting to 9 and 10 (forwards and backwards). - Know how to represent 9 and 10 in different ways. - Know how they can conceptually subitise to help them count by seeing that numbers are made up of smaller numbers, e.g. I know it is 10 because I see 5 and 5. - Know that when a tens frame is full, there are 10. - Use a finger, tens frames and bead strings to subitise 9 and 10. • Comparing numbers to 10: - Understand comparisons by lining items up with 1-1 correspondence to compare them directly or by counting each set and comparing their position in the counting order. - Understand that when making comparisons, a set can have more items, fewer items or the same number of items as another set. - Compare 2 quantities, progressing onto 3 or more quantities when comparing. • Bonds to 10: - Understand number bonds to 10 using real objects in different contexts. • 3-D Shapes: - Know which shapes stack and which role, explaining why this is. - Know how to build using a variety of different shapes. - Know the names of key shapes. - Know the similarities and differences between these key shapes. • Pattern: Copy, complete, and continue patterns that use items more than once in each repeat (at least 3 units of repeat).	**Consolidation**

| ELG Links | • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.
• Have a deep understanding of numbers up to 10, including the composition of each number;
• Subitise (recognise quantities without counting) up to 5.
Offer explanations for why things might happen, making use of recently introduced vocabulary. | • Have a deep understanding of numbers up to 10, including the composition of each number.
• Subitise (recognise quantities without counting) up to 5.
• Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.
• Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally
Express their ideas and feelings about their experiences using full sentences, including the use of past, present and future tenses | • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.
• Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.
• Have a deep understanding of numbers up to 10, including the composition of each number;
• Subitise (recognise quantities without counting) up to 5.
• Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally | |

Reception Summer Term

	Week 1 – 3 Block 1	Week 4 – 6 Block 2	Week 7 – 9 Block 3	Week 10 – 12 Block 4
Blocks	**To 20 and Beyond** **Number: Building numbers beyond 10; Counting patterns beyond 10.** **Measure/Shape: Spatial reasoning; Match, rotate, manipulate.**	**First Then Now** **Number: Adding more; Taking away.** **Measure/Shape: Spatial awareness; Compose and decompose.**	**Find My Pattern** **Number: Doubling; Sharing and grouping; Even and odd.** **Measure/Shape: Spatial reasoning; Visualise and build.**	**On the Move** **Number: Deepening understanding, Patterns, and relationships.** **Measure/Shape: Spatial awareness; Mapping.**

Small Steps	During this block of learning, children will know, understand and be able to do the following:
	
	• Building numbers beyond 10:
	  - Identify numbers beyond 10 using resources, e.g. tens frames and rekenreks.
	  - Know that larger numbers are composed of full 10s and part of the next 10.
	  - Know that the numbers 1-9 repeat after every full 10; describe this process using tens frames, e.g. one full 10 and 1, 2 full tens and 3.
	• Counting patterns beyond 10:
	  - Know how to count on and back beyond 10.
	  - Know how to place a sequence of numbers in order.
	  - Know how to count on or back from different starting points and say what comes before or after.
	  - Use their understanding of representations which show full 10s and parts of 10 to help them count and sequence.
	• Combing 2 groups:
	  - Know how to combine 2 groups to find how many altogether.
	  - Use subitising and counting in ones to find how many altogether.
	• Spatial awareness:
	  - Complete a range of jigsaws and puzzles.
	  - Know how to select and rotate shapes to fill a given space.
	  - Understand and explain why they chose a particular shape and why a different piece would not fit.
	  - Know how to match an arrangement of shapes, using positional language to describe where the shapes are in relation to one another.
	Understand which shapes could be selected and used to complete picture boards and tangrams.
		During this block of learning, children will know, understand and be able to do the following:
		
		• Adding more:
		  - Know that the quantity of a group can be changed by adding more, using representations to show this (use first, then, now structure).
		  - Apply their understanding of counting to check how many there are altogether in a group.
		  - Know how to represent a number of stories using a range of representations.
		• Taking away:
		  - Know that the quantity of a group can be changed by taking items away, using representations to show this (use first, then, now structure).
		  - Apply their understanding of counting to check how many items are in the group, and subitise to check how many are left when taking away the required amount.
		  - Know how to represent a number of stories using a range of representations.
		• Spatial awareness
		  - Know that shapes can be combined and separated to make new shapes.
		  - Investigate how many different ways a given shape can be built using smaller shapes.
			During this block of learning, children will know, understand and be able to do the following:
			
			• Doubling:
			  - Know that doubling means twice as many.
			  - Know how to build doubles using real objects and mathematical equipment.
			  - Recognise and sort doubles and non-doubles, explaining why.
			• Sharing and grouping:
			  - Know that when we share equally, we should have the same amount.
			  - Know how to make and recognise equal groups.
			  - Know that sometimes there are items left over when they share and group.
			• Even and odd:
			  - Know that some items will share equally into 2 groups and others will not.
			  - Know that some items can be grouped into pairs, and some are left over.
			  - Understand the odd and even structures using different representations.
			• Spatial awareness:
			  - Understand that places and models can be replicated and experience looking at these from different positions.
			  - Replicate simple constructions, models, real places and places in stories.
			Know how to use positional language to describe where objects are in relation to other items.
				During this block of learning, children will know, understand and be able to do the following:
				
				• Deepening understanding:
				  - Engage in extended problem-solving and develop their critical thinking skills, which are linked to familiar stories or problems that arise through play.
				  - Discuss different possible starting points.
				  - Review and discuss the strategies they have used.
				• Patterns and relationships:
				  - Investigate relationships between numbers and shapes.
				  - Continue to copy, complete and continue a wider range of simple patterns and symmetrical contractions.
				  - Know some patterns used in different cultures.
				• Spatial awareness
				  - Understand that we can make maps and plans to represent places and use these to see where things are in relation to other things.
				  - Opportunity to explore and use a range of maps and plans, answering questions about these.
				Understand how to create their own maps to represent the models they build, familiar places and places from stories.

ELG Links	• Verbally count beyond 20, recognising the pattern of the counting system. • Subitise (recognise quantities without counting) up to 5. • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. • Offer explanations for why things might happen, making use of recently introduced vocabulary. Express their ideas and feelings about their experiences using full sentences, including using past, present and future tenses and conjunctions, with modelling and support from their teacher.	• Have a deep understanding of numbers up to 10, including the composition of each number. • Subitise (recognise quantities without counting) up to 5. • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. • Offer explanations for why things might happen, making use of recently introduced vocabulary. Offer explanations for why things might happen, making use of recently introduced vocabulary.	• Verbally count beyond 20, recognising the pattern of the counting system. • Subitise (recognise quantities without counting) up to 5. • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. • Offer explanations for why things might happen, making use of recently introduced vocabulary. • Express their ideas and feelings about their experiences using complete sentences, including using past, present and future tenses and conjunctions, with modelling and support from their teacher.	• Have a deep understanding of the numbers up to 10, including the composition of each number. • Subitise (recognise quantities without counting) up to 5. • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. • Offer explanations for why things might happen, making use of recently introduced vocabulary. • Offer explanations for why things might happen, making use of recently introduced vocabulary.

Year 1 - Autumn

	Week 1 – 5 Block 1	Week 6 – 10 Block 2	Week 11 Block 3
Blocks	Number: Place Value (within 10)	Number: Addition and Subtraction (within 10)	Geometry: Shape
Small Steps	1. **Sort objects** - Know that collections of objects can be sorted into sets based on attributes such as colour, shape or size. 2. **Count objects** – Know how to count to 10 when counting objects; know how to count using the counting principles. 3. **Count objects from a larger group** - Know how to count specific objects from a large group. 4. **Represent objects** – Know how to match real-life objects using manipulatives. 5. **Recognise numbers as words.** 6. **Count on from any number.** 7. **1 more** – Know that 1 more is the number after. 8. **Count backwards within 10.** 9. **1 less** – Know that 1 less is the number before. 10. **Compare groups by matching** – Know how to match one object with another to compare groups (1-1 correspondence). 11. **Fewer, more, same** – Know how to compare numbers of objects. 12. **Less than, greater than, equal to** – Know how to compare numerical values using the vocabulary "less than", "greater than", or "equal to" alongside the symbols <, > and =. 13. **Compare numbers** – Know how to compare numbers within 10. 14. **Order objects and numbers** – know how to order three groups of objects alongside numbers. 15. **The number line** – Know how to use a number line to consolidate knowledge from this block.	1. **Introduce parts and wholes and part-whole model** – Know that a whole group of objects can be composed of two or more parts and that they can represent this using a part-whole model. 2. **Write number sentences** - that the addition symbol (+) can be used to represent combining two or more parts, and the equals symbol (=) can be used to show the equivalence between the whole and the sum of the parts. 3. **Fact families (addition facts)** – Know that the order of an addition sentence can be varied and begin to discover that addition is commutative. 4. **Number bonds within 10** – Know how fact families and the part-whole model help us calculate number bonds within 10. 5. **Systematic number bonds within 10** – Know how to work systematically to find all number bonds within 10. 6. **Number bonds to 10** 7. **Addition (add together)** – Understand that addition can mean bringing two or more parts together to create a whole. 8. **Addition: adding more** – Understand that adding more can mean increasing one quantity by a given amount. 9. **Additional problems.** 10. **Find a part** – Know how their knowledge of number bonds can help them find missing parts of the whole. 11. **Subtraction (find the part)** – Recognise the subtraction symbol and know that subtraction is about finding the part. 12. **Fact families (the eight facts)** – Understand that there are 8 facts in a fact family. 13. **Subtraction (take away - how many left?)** – Know that subtraction means taking away. 14. **Subtraction on a number line** – Know how to use counting back on a number line to solve subtraction calculations. 15. **Add or subtract 1 or 2** – Apply their knowledge from this block to add and subtract 1 or 2 in different contexts.	1. **Recognise and describe 3D shapes** – Know the names of simple 3-D shapes such as cubes, cuboids, cylinders, pyramids, cones and spheres. 2. **Sort 3D shapes** – Know how to sort 3D more formally according to simple properties, including type, size and colour. Identify how given groups of shapes have been sorted. 3. **Recognise and name 2D shapes** – Know the names of simple 2D shapes such as triangles, squares, rectangles and circles. Know that 2D shapes are completely flat. 4. **Sort 2D shapes** – Know how to sort 2D according to simple properties, including type, size and colour. 5. **Patterns with 2D and 3D shapes** – Know how to create and recognise patterns made from 2D and 3D shapes: experience repeating patterns (ABAB) and symmetrical patterns (ABBCBBA). Recognise the rule within a pattern and use this to continue it in any direction.
Vocabulary	Sort, group, number track, digit, pattern, one more, one less, matched, fewer, greater than (>), less than (<), equal to (=), most, least, fewest, greatest, number line, order, tens (10s), ones (1s), more, smallest, number bond, fact family, compare, 100 square, number square, place value grid.	Group, plus, part-whole model, whole, part, number sentence, altogether, in total, add, count on, missing part, how many are left, in total, taken away, subtract, subtraction, addition, count backwards, How many more? How many fewer? difference.	3D, cube, cuboid, sphere, pyramid, cylinder, cone, 2D, circle, triangle, square, rectangle, face, repeated.

| **NC Links** | • Count to ten, forwards and backwards, beginning with 0 or 1, or from any given number.
• Count, read and write numbers up to 10 in numerals and words.
• Given a number, identify one more or one less.
• Identify and represent numbers using objects and pictorial representations, including the number line, and use the language of equal to, more than, less than (fewer), most, and least. | • Represent and use number bonds and related subtraction facts within 10.
• Read, write and interpret mathematical statements involving addition (+), subtraction ((--) and equals (=)
• Add and subtract one-digit numbers to 10, including zero.
• Solve one-step problems involving addition and subtraction, using concrete objects, pictorial representations, and missing number problems. | • Recognise and name common 2-D and 3-D shapes, including 2-D shapes [for example, rectangles (including squares), circles and triangles]; 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]. |

Year 1 - Spring

	Week 1 – 3 Block 1	Week 4 – 6 Block 2	Week 7 – 8 Block 3	Week 9 – 10 Block 4	Week 11 – 12 Block 5
Blocks	Number: Place Value (within 20)	Number: Addition and subtraction (within 20)	Number: Place Value (within 50)	Measurement: Length and Height	Measurement: Mass and Volume
Small Steps	1. **Count and write numbers up to 20.** 2. **Numbers from 11 to 20** – Understand the place value of numbers 11 to 20 and use a range of representations to show this. 3. **Tens and ones** – Know that every number from 11 to 19 has '1 ten and some ones'. 4. **Count one more and one less** – Understand that one more means one more 1, not one more 10, when encountering 2-digit numbers. 5. **Compare groups of objects** – Know how to compare objects greater than 10. 6. **Compare numbers** – Know how to compare numbers to 20. 7. **Order groups of objects** – Know how to order objects greater than 10. 8. **Order numbers** – Know how to order numbers up to 20.	1. **Add by counting on** – Understand that addition is commutative, and it is more efficient to start from the biggest number when counting on. 2. **Find and make number bonds** – Know that working systematically helps them to find all number bonds to 20. 3. **Add by making 10.** 4. **Subtraction Not crossing 10** – Recognise and use the subtraction symbol within 20; know that when nothing is taken away, the start number remains the same. 5. **Subtraction Crossing 10 (1)** – Know how to use partitioning to subtract. 6. **Subtraction Crossing 10 (2)** – Understand the different structures of subtraction (take away, partitioning, difference). 7. **Related Facts** – Know that addition and subtraction are inverse operations. 8. **Compare Number Sentences** – Know how to use inequality symbols to compare number sentences within 20.	1. **Numbers to 50** – Know how to count forwards and backwards within 50. 2. **Tens and ones** – Understand how numbers within 50 are made of tens and ones. 3. **Represent numbers to 50.** 4. **One more, one less** – Know how to find 1 more and one less of all numbers within 50; recognise that it is the ones column that changes the most apart from when the ones. Number is a 9. 5. **Compare objects within 50** – Know how to compare numbers to 50 using inequality symbols and language such as 'more than', 'less than' and 'equal to'. 6. **Compare numbers within 50** – Know how to compare numbers within 50 using inequality symbols. 7. **Order numbers within 50** – Know how to order numbers within 50 using the language 'largest', 'smallest', 'more than', 'less than', 'least', 'most' and 'equal to'. 8. **Count in 2s.** 9. **Count in 5s.**	1. **Compare lengths and heights** – Understand the language of length (long, longer, short, shorter, tall and taller); Know that this language will change depending on what type of length or height they are describing; Understand that height is a type of length. 2. **Measure the length (1)** – Use non-standard units to measure height and length; know that non-standard unit must line up exactly with the object. 3. **Measure the length (2)** – Use a ruler (standard units) to measure length and height; Understand that standard units are needed to measure because objects vary in length and height; Know to measure from 0cm.	1. **Introduce weight and mass** – Understand the language of weight and mass (heavy, light, heavier than, lighter than). 2. **Measure mass** – Know how to measure the mass of objects using non-standard units. 3. **Compare mass** – Know how to use language such as 'lighter', 'heavier' or 'equal to' and inequality symbols to compare the mass of two objects. 4. **Introduce capacity and volume** – Understand how to describe the capacity and volume of an object (full, nearly full, empty, nearly empty). Know that capacity is the amount a container can hold. Volume is the amount it is actually holding. 5. **Measure capacity** – Know how to use non-standard units to measure capacity; understand that the container or non-standard unit must be full. 6. **Compare capacity** – Know how to use inequality symbols to compare the capacity of objects.
Vocabulary	Sort, group, number track, digit, pattern, one more, one less, matched, fewer, greater than (>), less than (<), equal to (=), most, least, fewest, greatest, number line, order, tens (10s), ones (1s), more, smallest, number bond, fact family, compare, 100 square, number square, place value grid.	Group, plus, part-whole model, whole, part, number sentence, altogether, in total, add, count on, missing part, how many are left? In total, taken away, subtract, subtraction, addition, count backwards, How many more? How many fewer? Difference.	Sort, group, number track, digit, pattern, one more, one less, matched, fewer, greater than (>), less than (<), equal to (=), most, least, fewest, greatest, number line, order, tens (10s), ones (1s), more, smallest, number bond, fact family, compare, 100 square, number square, place value grid.	Long, longer, longest short, shorter, shortest, tall, taller, tallest, length height, compare measure distance ruler centimetre. Measure, estimate.	heavier, heaviest, lighter, lightest, full, empty, capacity, balance scales, weight, weigh, balanced, measure, estimate.

NC Links				
• Count to twenty, forwards and backwards, beginning with 0 or 1, from any given number. • Count, read and write numbers up to 20 in numerals and words. • Given a number, identify one more or one less. • Identify and represent numbers using objects and pictorial representations, including the number line, and use the language of equal to, more than, less than (fewer), most, and least.	• Represent and use number bonds and related subtraction facts within 20. • Read, write and interpret mathematical statements involving addition (+), subtraction (--) and equals (=) signs. • Add and subtract one-digit and two-digit numbers to 20, including zero. • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7= 9.	• Count to 50 forwards and backwards, beginning with 0 or 1, or from any number. • Count, read and write numbers up to 50 in numerals. • Given a number, identify one more or one less. • Identify and represent numbers using objects and pictorial representations, including the number line, and use the language o: equal to, more than, less than (fewer), most, and least. • Count in multiples of twos, fives and tens.	• Measure and begin to record lengths and heights. • Compare, describe and solve practical problems for lengths and heights (for example, long/short, longer/shorter, tall/short, double/half).	• Measure and begin to record mass/weight, capacity and volume. • Compare, describe and solve practical problems for mass/weight: [for example, heavy/light, heavier than, lighter than]; capacity and volume [for example, full/empty, more than, less than, half, half full, quarter].

Year 1 - Summer

	Week 1 – 3 Block 1	Week 4 – 5 Block 2	Week 6 Block 3	Week 7 – 8 Block 4	Week 9 Block 5	Week 10 – 11 Block 6
Blocks	Number: Multiplication and Division	Number: Fractions	Geometry: Position and Direction of Shape	Number: Place Value (within 100)	Measurement: Money	Measurement: Time
Small Steps	1. **Count in 10s.** 2. **Make equal groups** – Know that equal groups require the same quantity in each group. 3. **Add equal groups** – Know how to make equal groups of 2, 5 and 10 and work out the total. 4. **Make arrays** – Know that arrays should be structured in columns or rows. 5. **Make doubles** – Know that double is two groups of a number or an amount. 6. **Make equal groups grouping.** 7. **Make equal groups sharing.**	1. **Find a half (1)** – Know that half means one of two equal parts. 2. **Find a half (2)** – Know how to find half of a small quantity using equal sharing. 3. **Find a quarter (1)** – know that a quarter means one of four equal parts. 4. **Find a quarter (2)** – Know how to find a quarter of a small quantity using equal sharing.	1. **Describe turns** – Know and use the language 'full', 'half', 'quarter' and 'three quarter' to describe turns made by shapes/objects. 2. **Describe Position (1)** – Know and use the language 'left', 'right', 'forwards' and 'backwards' to describe the position. 3. **Describe Position (2)** – Know and use the language 'top', 'in between', 'bottom', 'above' and 'below' to describe the position.	1. **Counting to 100.** 2. **Partitioning numbers** – Continue to group in tens to work out how many tens and ones are in any number to 100. 3. **Comparing numbers (1)** – Know how to compare numbers to 100 using inequality symbols. 4. **Comparing numbers (2)** - Know how to compare numbers to 100 using inequality symbols. 5. **Ordering numbers** – Know how to order numbers up to 100. 6. **One more, one less** – Know how to find one more and one less than any number to 100.	1. **Recognising coins** – Know the value of different denominations of coins. 2. **Recognising notes** – Understand that notes can represent many pounds; understand that one note may be worth many times the value of another note. 3. **Counting in coins** – Understand how to count in 2s. 5s and 10s can help them count coins quickly.	1. **Before and after** – Know how to use language such as 'before', 'after', 'morning', 'afternoon', and 'evening' to describe sort and order events. 2. **Dates** – Know the days of the week and that there are 7 days in a week; know about the months of the year. 3. **Time to the hour** – Know how to tell the time to the nearest hour using an analogue clock; Know that the hour hand is the shorter hand, and the minute hand is the longer hand. 4. **Time to the half-hour** – Know how to tell the time to the nearest half-hour; understand that, at half past the hour, the minute hand has travelled halfway around the clock from the twelve and is pointing at the six, and the hour hand is halfway between the hours. 5. **Writing time.** 6. **Comparing time.**
Vocabulary	Equal groups, array, row, column, double, twice, share.	Half, halves, quarter.	Turn, half turn, quarter turn, three-quarter turn, whole turn, position, left-right forwards backwards, above, below, top, middle, bottom, up, down, in between.	Sort, group, number track, digit, pattern, one more, one less, matched, fewer, greater than (>), less than (<), equal to (=), most, least, fewest, greatest, number line, order, tens (10s), ones (1s), more, smallest, number bond, fact family, compare, 100 square, number square, place value grid.	Pound, pence, coin, note, pence (p).	Before, after, yesterday, today, tomorrow, day, week, slower, faster, month, year. calendar date, minute hand, hour hand, o'clock, half past, second, minute, hour.
NC Links	• Count in multiples of twos, fives and tens. • Solve one-step problems involving multiplication and division by calculating the answer using concrete objects,	• Recognise, find and name a half as one of two equal parts of an object, shape or quantity. • Recognise, find and name a quarter as one	• Describe position, direction and movement, including whole, half, quarter, and three-quarter turns	• Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. • Count, read and write numbers up to 100 in numerals.	• Recognise and know the value of different denominations of coins and notes.	• Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening.

pictorial representations and arrays with the teacher's support.	of four equal parts of the shape or quantity of an object. • Compare, describe and solve practical problems for mass/weight [for example, heavy/light, heavier than, lighter than]; capacity and volume [for example, full/empty, more than, less than, half, half full, quarter].		• Given a number, identify one more and one less. • Identify and represent numbers using objects and pictorial representations, including the number line, and use the language of equal to, more than, less than, most, and least.		• Recognise and use language relating to dates, including days of the week, weeks, months and years. • Tell the time to the hour and a half past the hour and draw the hands on a clock face to show these times. • Compare, describe and solve practical problems for time [for example, quicker, slower, earlier, later]. • Measure and begin to record time (hours, minutes, seconds).

Year 2 - Autumn

	Week 1 – 4 Block 1	Week 5 – 12 Block 2
Blocks	Number: Place Value	Number: Addition and Subtraction
Small Steps	1. **Numbers to 20** – Consolidation from Y1. 2. **Count objects to 100 by making 10**. 3. **Tens and ones** – Recognise when something is labelled as 'ten' and understand its value in relation to the corresponding one. 4. **Use a place value chart** – Know how to organise numbers onto a place value chart. 5. **Partition numbers to 100** – Know how to use standard partitioning. 6. **Write numbers to 100** – Know how to write numbers to 100, understanding the tens within a hundred, e.g. 4 tens. 7. **Flexibly partition numbers to 100** 8. **Write numbers up to 100 in expanded form.** 9. 10s on the number line to 100 – Know the position of 10s on a number line. 10. **10s and 1s on a number line to 100** – Know the numbers that lie between multiples of 10 on a number line. 11. **Estimate numbers on a number line.** 12. **Compare objects** – Know how to compare objects to 100; use the language of "greater than", "less than", and "equal to" alongside the inequality symbols to compare. 13. **Compare numbers** – Know how to compare numbers to 100. 14. **Order objects and numbers** – Know that when comparing two objects or numbers, we use 'more' or 'greater', whereas when working in a set, the one with the highest value is the 'most' or the 'greatest'. 15. **Count in 2s, 5s and 10s**. 16. **Count in 3s**.	1. **Bonds to 10.** 2. **Fact families (addition and subtraction bonds within 20)** – Know how to calculate the number of bonds within 20. 3. **Related facts** – Understand how their knowledge of the number bonds to 10 can help them solve related facts, e.g. 2 + 5 = 7, so 20 + 50 = 70. 4. **Bonds to 100 (tens)** – Know how to use their knowledge of bonds to 10 and related facts to find bonds to 100. 5. **Add and subtract 1s** – Know how to add and subtract 1 from any given number. 6. **Add by making 10** – Know how to use their number bonds to 10 to make numbers within 20. 7. **Add three 1-digit numbers** - Know that to add three numbers, you need to add two of them and then add the third to the answer. 8. **Add to the next 10** – Know how to use number bonds to 10 and related facts to make the next 10. 9. **Add across a 10** – Know how to add a 1-digit number to a 2-digit number that crosses 10, understanding that ten ones make 10. 10. **Subtract across 10** – Know how to subtract from 2-digit numbers less than 20 where crossing 10 is required, using knowledge of previous strategies. 11. **Subtract from a 10** – Know how to subtract a 1-digit number from any multiple of 10 within 100; know how their knowledge of fact families can support this. 12. **Subtract a 1-digit number from a 2-digit number (across a 10).** 13. **Find the difference (2-digit numbers)** - Know how to use a number line to find the difference between two 2-digit numbers. 14. **10 more, 10 less** – Know how to find 10 more or 10 less than a given number within 100. 15. **Add and subtract 10s** – Know how to add and subtract multiples of 10 from any given number within 100. 16. **Add two 2-digit numbers (not across a 10)** – Know how to add two 2-digit numbers (without exchanges). 17. **Add two 2-digit numbers (across a 10)** – Know how to add two 2-digit numbers which require an exchange.
Vocabula	Digit, tens, ones, place value grid, partition, more, fewer, fewest, greatest, smallest, partition.	fact family, number sentence, number bond, 10 more, 10 less, total, tens ones, subtract, difference, bar model, represent, how many are left?, in total, taken away, subtract, count backwards, How many more? How many fewer? Difference.
NC Links	• Read and write numbers to at least 100 in numerals and words. • Recognise the place value of each digit in a two-digit number (tens, ones). Identify, represent and estimate numbers using different representations, including the number line. • Compare and order numbers from 0 up to	• Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. • Add and subtract numbers using concrete objects, pictorial representations, and mentally, including a two-digit number and ones; a two-digit number and tens; two-digit numbers; adding three one-digit numbers.

• 100; use <, > and = signs. • Use place value and number facts to solve problems. • Count steps 2, 3 and 5 from 0 and tens from any number, forward and backward	• show that the addition of two numbers can be done in any order (commutative) and the subtraction of one number from another cannot. • Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures, applying their increasing knowledge of mental and written methods.

Year 2 - Spring

	Week 1 – 5 Block 1	Week 6 – 9 Block 2	Week 10 – 11 Block 3	Week 11 – 12 Block 4
Blocks	**Number: Multiplication and Division**	**Number: Fractions**	**Measurement: Money**	**Measurement: Length and Height**
Small Steps	1. **Recognise equal groups** – Know that groups are equal when they have the same amount and unequal when they have different amounts. 2. **Make equal groups.** 3. **Add equal groups** – Understand the connection between equal groups and repeated addition. 4. **Multiplication sentences using the x symbol** – Recognise and understand the meaning of the multiplication symbol. 5. **Multiplication sentences from pictures.** 6. **Use arrays** – Understand the commutativity of multiplication facts. 7. **Make doubles** – Know that doubles are two groups of a number or an amount. 8. **2 times table** - Understand the structure of the 2x table. 9. **5 times table** - Understand the structure of the 5x table. 10. **10 times table** - Understand the structure of the 10x table. 11. **Make equal groups – sharing** – Recognise the division symbol and know that division can mean sharing into equal groups. 12. **Make equal groups – grouping** - Recognise the division symbol and know that division can mean sharing into equal groups. 13. **Divide by 2.** 14. **Odd and even numbers** – Recognise odd and even numbers. 15. **Divide by 5.** 16. **Divide by 10.**	1. **Make equal parts** – Recognise equal and unequal parts of a whole. 2. **Recognise half** – Understand that halving is splitting a whole into two equal parts; Recognise the notation $\frac{1}{2}$ to mean half; understand the terms 'numerator' and 'denominator' and what these represent. 3. **Find half** – Know that finding half is the same as dividing by 2. 4. **Recognise quarter** – Understand that they are splitting the whole into 4 equal parts and that each part is one quarter; Recognise the notation $\frac{1}{4}$ to mean a quarter. 5. **Find a quarter** – Know that they can find a quarter by sharing into 4 equal groups. 6. **Recognise a third** - Understand that one-third is equal to one part out of three equal parts. 7. **Find a third** – Know how to find a third of a quantity. 8. **Unit fractions** - Understand the concept of a unit fraction by recognising it as one equal part of a whole; Know that the denominator represents the number of parts that a shape or quantity is split into. 9. **Non-unit fractions** – Recognise the non-unit fractions 2/3 and $\frac{3}{4}$; Know that the numerator and denominator are the same when the fraction is equivalent to one whole. 10. **Equivalence of $\frac{1}{2}$ and $^2/_4$** - Know that $\frac{1}{2}$ and 2/4 are the same. 11. **Find three quarters** – Understand $\frac{3}{4}$ by using their knowledge of quarters. 12. **Count in fractions** – Understand that fractions can be greater than 1.	1. **Count money (pence)** – Recognise the p symbol; Know how to count in 1p, 2p, 5p and 10p coins and use related facts to count in 20p coins. 2. **Count money (pounds)** – Recognise the £ symbol; Know how to count in £1, £2, £5, £10 and £20s. 3. **Count money (notes and coins).** 4. **Select money** – Understand how to make an amount by selecting the correct coins. 5. **Make the same amount** – Know that different combinations can make the same amount of money. 6. **Compare money** – Use inequality symbols to compare money. 7. **Find the total** – Build on their knowledge of addition to add amounts of money. 8. **Find the difference** - Build on their knowledge of addition and subtraction to find the difference between two amounts of money. 9. **Find change** – Identify the amount given and know which strategy is the most efficient to calculate the change. 10. **Two-step problems.**	1. **Measure length (cm)** – Know how to measure length and height using a ruler or tape measure; Remember the importance of starting from 0cm. 2. **Measure length (m)** – Know how to measure objects in metres and decide whether it is better to measure an object in metres or centimetres. 3. **Compare lengths** – Know how to compare lengths using inequality symbols. 4. **Order lengths** – Know how to order objects based on their length, measuring these beforehand. 5. **Four operations with lengths** – Understand how their knowledge of the four operations can help them solve problems involving length.
Vocabulary	equal groups, multiplication (×), times-table, times, divide (÷), division, share, group, odd, even.	Whole, equal, equal parts, $\frac{1}{2}$, fraction, denominator, fraction bar, numerator, $\frac{1}{4}$, $\frac{3}{4}$, third 1/3, unit fraction, non-unit fraction, equivalent.	pound (£), pence (p), coin, note, change.	long, longer, longest short, shorter, shortest, tall, taller, tallest, length height, compare measure distance ruler centimetre. Measure, estimate.
NC Link	• Recall and use multiplication and division facts for the 2, 5 and 10 times tables, including recognising odd and even numbers.	• Recognise, find, name and write fractions 1/3, 1/4, 2/4 and $\frac{3}{4}$ of a length, shape, set of objects or quantity.	• Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.	• Choose and use appropriate standard units to estimate and measure length/height in any

• Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs. • Solve problems involving multiplication and division using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts. • Show that the multiplication of two numbers can be done in any order (commutative) and the division of one number by another cannot.	• Write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of 2/4 and 1/2.	• Find different combinations of coins that equal the same amounts of money. • Solve simple problems in a practical context involving adding and subtracting money of the same unit, including giving change.	direction (m/cm); mass (kg/g); temperature C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. • Compare and order lengths, mass, volume/capacity and record the results using >, < and =.

Year 2 - Summer

	Week 1 - 3 Block 1	Week 4 - 6 Block 2	Week 7 - 8 Block 2	Week 9 - 10 Block 3	Week 11 - 12 Block 4
Blocks	Measurement: Mass, Capacity and Temperature	Measurement: Time	Statistics	Geometry: Shape	Geometry: Position and Direction
Small Steps	1. **Introduce weight and mass** – Y1 recap step 2. **Measure mass** – Y1 recap step. 3. **Compare mass.** 4. **Measure mass in grams** – Know that we use grams as a standard unit to measure mass. 5. **Measure mass in kilograms** - Know that we use kilograms as a standard unit to measure mass. 6. **Introduce capacity and volume** – Y1 recap step. 7. **Measure capacity** – Y1 recap step. 8. **Compare volume** - Know how to compare volume using inequality symbols. 9. **Millilitres** – Know that we use millilitres (ml) as a standard unit to measure capacity. 10. **Litres** - Know that we use litres as a standard unit to measure capacity. 11. **Temperature** – Know that temperature is the measure of how hot or cold something is; know that temperature is measured in degrees centigrade, and we use a thermometer to measure temperature.	1. **O'clock and half past** – Recap knowledge from Y1. 2. **Quarter past and quarter to** – Know how to read and draw the times 'quarter past' and 'quarter to'. 3. **Telling time to 5 minutes** – Know how to read and show analogue time to 5-minute intervals. 4. **Writing time** – Y1 recap step. 5. **Minutes in an hour, hours in a day** – Know that there are 24 hours in a day and 60 minutes in an hour. 6. **Find durations of time** – Identify the start and end time of an event; Know how to use these times to work out how long an event lasted and understand that this shows the duration of an event. 7. **Compare durations of time** – Know how to compare time using 'longer' and 'shorter' and order these events.	1. **Make tally charts.** 2. **Draw pictograms (1 1).** 3. **Interpret pictograms (1 1).** 4. **Draw pictograms (2, 5 and 10).** 5. **Interpret pictograms (2, 5 and 10).** 6. **Block diagrams.**	1. **Recognise 2D and 3D shapes (Year 1 recap).** 2. **Count sides on 2D shapes** - Know that a shape's sides are the straight lines that form its outline. 3. **Count vertices on 2D shapes** – Know that a vertex is formed where two sides meet, and "vertices" is used when referring to more than one vertex. 4. **Draw 2D shapes** 5. **Lines of symmetry in shapes** – Know that a shape is symmetrical when both sides are the same. 6. **Use lines of symmetry to complete shapes.** 7. **Sort 2D shapes** – Know how to sort 2D shapes based on simple properties like size and colour and more formal properties such as the number of sides and vertices. 8. **Count faces on 3D shapes** – Know that a face is a flat or curved surface on a 3D shape and identify the 2D shapes that make these faces. 9. **Count edges on 3D shapes** – Know what an edge is formed where two faces meet. 10. **Count vertices on 3D shapes.** 11. **Sort 3D shapes.** 12. **Make patterns with 2D and 3D shapes** – understand the properties of 2D and 3D shapes to create and identify patterns.	1. **Recognise 2D and 3D shapes** – Understand that 2-D shapes are actually flat and that the manipulatives they handle in class are representations of the shapes. 2. **Count sides on 2D shapes** - Understand that not all same-sided shapes look the same, such as irregular 2-D shapes. 3. **Count vertices on 2D shapes** – Know that 'corners' are 'vertices' and a single corner is a 'vertex'. 4. **Draw 2D shapes.** 5. **Lines of symmetry** – Identify vertical lines of symmetry. 6. **Sort 2D shapes** - Recognise and sort 2-D shapes, including circles, squares, triangles, rectangles, pentagons, hexagons and octagons, using a range of different orientations. 7. **Make patterns with 2D shapes** – Know that a shape doesn't change just because of its position. 8. **Count faces on 3D shapes** – Know how to use their knowledge of 2-D shapes to identify the shapes of faces on 3-D shapes. 9. **Count edges on 3D shapes** – Know that an edge is where 2 faces meet or where a face and a curved surface meet. 10. **Count vertices on 3D shapes** – Know that a vertex is where 2 or more edges meet. 11. **Sort 3D shapes** – Know how to sort 3-D shapes based on their properties, e.g. faces, shapes of faces, edges, vertices, if they roll, if they stack 12. **Make patterns with 3D shapes.**

Vocabulary	Mass, heavier than, lighter than, gram (g), hundreds, kilogram (kg), volume, millilitre (ml), litre (l), temperature, degrees Celsius (°C), thermometer.	O'clock, half past, quarter past, quarter to, minute hand, hour hand, duration.	Pictogram, key, bar chart, scale, table, row, column, vertical axis, horizontal axis.	Quadrilateral, polygon, pentagon, hexagon, vertex, vertices, line of symmetry, symmetrical, octagon, edge, prism.	Clockwise, anticlockwise, forwards, backwards, left, right, middle, turn, half turn, quarter turn, three-quarter turn.
NC Links	• Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. • Compare and order lengths, mass, volume/capacity and record the results using >, < and =.	• Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. • Know the number of minutes in an hour and the number of hours in a day. • Compare and sequence intervals of time.	• Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. • Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. • Ask and answer questions about totalling and comparing categorical data.	• Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. • Find different combinations of coins that equal the same amounts of money. • Solve simple problems in a practical context involving adding and subtracting of the same unit, including giving change.	• Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. • Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. • Identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid]. • Compare and sort common 2-D and 3-D shapes and everyday objects.

Year 3 - Autumn

	Week 1 – 3 Block 1	Week 4 – 8 Block 2	Week 9 – 12 Block 3
Blocks	**Number: Place Value**	**Number: Addition and Subtraction**	**Number: Multiplication and Division**
Small Steps	1. **Represent numbers to 100** – Y2 consolidation. 2. **Partition numbers to 100** – Know what each digit represents when partitioning a number. 3. **Number line to 100** – Y2 consolidation. 4. **Hundreds** - Understand that 10 tens are equivalent to 1 hundred and that 100 is 10 times the size of 10. 5. **Represent numbers to 1000**. 6. **Partition numbers to 1000** – Understand the value of hundreds, tens and ones digits in a number when partitioning; understand the purpose of a placeholder zero. 7. **Flexible partitioning of numbers to 1000** – Understand that numbers to 1000 can be partitioned in a variety of ways. 8. **Hundreds, tens and ones** – Understand the structure of a number by considering how many hundreds, tens and ones it is made up of. 9. **Find 1, 10 or 100, more or less**. 10. **Number line to 1000** – Know the exact position of numbers to 1000 on a number line. 11. **Estimate on a number line to 1000** – Understand that key intervals need to be factors of 1000; understand that their answers might be different to other children's because they are estimating. 12. **Compare numbers to 1000** – Know how to compare numbers to 1000 using concrete resources, pictorial representations, words and symbols. 13. **Oder numbers to 1000** – Recognise the language of 'smallest' and 'greatest'; know that 'ascending' means smallest to greatest and 'descending' means greatest to smallest.	1. **Apply number bonds to 10** – Consolidation ready for formal written methods. 2. **Add and subtract 1s** – Know how to add and subtract 1s from 3-digit numbers (no crossing). 3. **Add and subtract 10s** – Know how to add and subtract 10s from 3-digit numbers (no crossing) 4. **Add and subtract 100s** – Know how to add and subtract hundreds from 3-digit numbers (no crossing). 5. **Spot the pattern** – Recognise patterns when subtracting 1s, 10s and 100s from 3-digit numbers. 6. **Add 1s across 10** – Know how to use mental strategies to add a 1-digit number to a 3-digit number. 7. **Add 10s across 100** – Know how to use mental strategies to add multiples of 10 to any 3-digit number where they are required to cross the next hundred. 8. **Subtract 1s across 10** – Know how to use mental strategies to subtract a 1-digit number from a 3-digit number, crossing 10. 9. **Subtract 10s across 100** – Know how to use mental strategies to subtract 10s from 3-digit numbers, crossing a 100. 10. **Make connections** – Consolidate steps 6-9. 11. **Add two numbers (no exchange)** – Know how to add two 2-digit or two 3-digit numbers using the formal written method for column addition. 12. **Subtract two numbers (no exchange)** - Know how to subtract two 2-digit or two 3-digit numbers using the formal written method for column subtraction. 13. **Add two numbers (across a 10)** – Know how to add two numbers using column addition with exchanges into the tens column; know that when the ones are added together, they will (sometimes) total more than 9. 14. **Add two numbers (across a 100)** - Know that 10 tens can be exchanged for one hundred. 15. **Subtract two numbers (across a 10)** – Know how to subtract both 2- and 3-digit numbers, exchanging 1 ten for 10 ones. 16. **Subtract two numbers (across 100)** – Know how to make exchanges across 100. Recognise whether they need to make an exchange. 17. **Add 2-digit and 3-digit numbers** – Know how to add 2-digit and 3-digit numbers together using column addition. 18. **Subtract a 2-digit number from a 3-digit number** - Know how to subtract 2-digit and 3-digit numbers using column subtraction. 19. **Find the difference (3-digit numbers)** – Know how to use a number line to find the difference between two 3-digit numbers. 20. **Complements to 100** – Know the complements to 100 for any given starting number. 21. **Estimate answers** – Understand why estimates are important in real life; know that estimates allow us to quickly and easily get an idea of what an answer should be near to or if an already calculated answer is appropriate. 22. **Inverse operations** – Understand the inverse relationship between addition and subtraction and how this relates to the part-whole structure; Know that they can perform two different subtractions as the inverse to an addition due to addition's commutative property, but there is only one possible addition as the inverse to a subtraction.	1. **Multiplication (equal groups)** – Y2 consolidation. 2. **Use arrays** – Understand the link between repeated addition and multiplication and explore commutativity. 3. **Multiples of 2** – Y2 consolidation – Know that multiples of 2 are numbers that can be divided into two equal groups. 4. **Multiples of 5 and 10** - Know that a whole number is a multiple of 5 if the ones digit is either 5 or 0 and that a whole number is a multiple of 10 if the ones digit is 0. 5. **Sharing and grouping** – Y2 consolidation. 6. **Multiply by 3** – Recognise the link between counting in 3s, repeated addition and multiplication. 7. **Divide by 3** – Know that dividing by 3 means sharing into 3 equal groups or grouping into 3s. 8. **The 3 times table** – Understand the structure of the 3x table and derive unknown facts from known facts. 9. **Multiply by 4** – Know that multiplying by 4 is the same as doubling and doubling again. 10. **Divide by 4** – Know that dividing by 4 means sharing into 4 equal groups and grouping into 4s. 11. **The 4 times table** – Understand the structure of the 4x table and derive unknown facts from known facts. 12. **Multiply by 8** – Know how the 4 times table can help them multiply by 8 by doubling its equivalent multiply of 4. 13. **Divide by 8** - Know that dividing by 8 means sharing into 8 equal groups and grouping into 8s. 14. **The 8 times tables** - Understand the structure of the 8x table and derive unknown facts from known facts.

	14. Count in 50s – Recognise how their 5 x tables supports with counting in 50s.	**23. Make decisions** – Apply strategies from this block in a range of contexts, choosing the most appropriate method.	**15. The 2, 4 and 8 times tables** – Know the connections between the 2, 4 and 8 times tables.
Vocabulary	hundreds (100s), tens (10s), ones (1s), digit, place value, more, less, greater than (>), less than (<), equal to, order, compare, partition, estimate, exchange, ascending, descending.	Addition, subtraction, mental method, column method, exchange, estimate, approximate/ly, digit.	Equal, multiply, divide, times-table, sharing, grouping, array, bar model, remainder, repeated addition, multiplication sentence, division statement, division fact, partition.
NC Links	• Identify, represent and estimate numbers using different representations. • Find 10 or 100 more or less than a given number. • Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). • Compare and order numbers up to 1000. • Read and write numbers up to 1000 in numerals and in words. • Solve a number of problems and practical problems involving these ideas. • Count from 0 in multiples of 4, 8, 50 and 100.	• Add and subtract numbers mentally, including a three-digit number and ones; a three-digit number and tens; a three-digit number and hundreds. • Add and subtract numbers with up to three digits using formal written methods of columnar addition and subtraction. • Estimate the answer to a calculation and use inverse operations to check answers. • Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	• Count from 0 in multiples of 4, 8, 50 and 100. • Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. • Write and calculate mathematical statements for multiplication and division using the multiplication tables 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 objectives.

Year 3 - Spring

	Week 1 – 3 Block 1	Week 4 – 6 Block 2	Week 7 – 9 Block 3	Week 10 – 12 Block 4
Blocks	Number: Multiplication and Division	Measurement: Length and Perimeter	Number: Fractions	Measurement: Mass and Capacity
Small Steps	1. **Comparing statements** – Use knowledge of multiplication and division to compare statements using inequality symbols. 2. **Related calculations** – Know how to use known multiplication facts to solve known facts; understand that when a number in the calculation is ten times bigger, the answer will need to be ten times bigger. 3. **Multiply 2-digit by 1-digit using the grid method.** 4. **Multiply 2 digits by 1 digit (1)** – Know how to use short multiplication to multiply a 2-digit number by a 1-digit number (no carrying). 5. **Multiply 2 digits by 1 digit (2)** - Know how to use short multiplication to multiply a 2-digit number by a 1-digit number (carrying). 6. **Divide 2 digits by 1 digit (1)** – Know how to divide by partitioning into tens and ones and sharing into equal groups (no exchange). 7. **Divide 2 digits by 1 digit (2)** – Know how to divide by partitioning into tens and ones and sharing into equal groups (with exchanges). 8. **Divide 2 digits by 1 digit (3)** - Know how to solve division calculations with remainders. 9. **Scaling** – Know that scaling means how many times bigger or smaller an amount/object is. 10. **How many ways?** – Know how to systematically list the possible combinations resulting from two groups of objects.	1. **Measure length** – Understand millimetres in relation to centimetres and metres. 2. **Equivalent lengths m & cm** – Know that 100cm is equivalent to 1m. 3. **Equivalent lengths mm & cm** – Know that 10mm is equivalent to 1cm. 4. **Compare lengths** – Know how to compare m, cm and mm, recognising equivalents. 5. **Add lengths** – Recognise that converting lengths to the same unit is a more efficient method to add lengths. 6. **Subtraction lengths** – Know how to use finding the difference to subtract lengths. 7. **Measure perimeter** – Know that perimeter is the distance around the outside of a 2D shape. 8. **Calculate perimeter** – Know that we calculate the perimeter of a 2D shape by adding all the lengths of the sides together.	1. **Understand the denominators of unit fractions** - explore the denominators of unit fractions. From Year 2, they know about halves, quarters and thirds, and they now look at fractions with other denominators. 2. **Compare and order unit fractions** - understanding of denominators developed in the previous step to compare and order unit fractions. 3. **Understand the numerators of non-unit fractions** - explore and understand the role of the numerator in the unit and non-unit fractions. 4. **Understand the whole** - explore the whole in relation to fractions. They use diagrams and other representations to develop their understanding that when the numerator of a fraction is equal to its denominator, then the fraction is equivalent to 1 whole. 5. **Compare and order non-unit fractions** - use their knowledge of comparing and ordering unit fractions from Step 2 as they start to compare and order non-unit fractions. 6. **Fractions and scales** - apply the learning from previous steps to explore real-life contexts of measure by interpreting scales. 7. **Fractions on a number line** - explore how fractions can be represented on a number line. They have seen some examples of this earlier in the block, where bar models were used above number lines for support, but they explicitly focus on number lines. 8. **Count in fractions on a number line** - build on their understanding from the previous two steps to count fractions on a number line. 9. **Equivalent fractions on a number line** - explore finding equivalent fractions by comparing multiple number lines and using double number lines. 10. **Equivalent fractions as bar models** – deepen understanding by exploring bar models as another way of representing equivalent fractions.	11. **Measure mass (1)** - Know how to read a range of scales to measure mass, including scales with missing intervals. 12. **Measure mass (2)** – Know how to record the mass in both grams and kilograms. 13. **Compare mass** – Understand that heavier objects are measured in kg and use this to compare mass. 14. **Add and subtract mass** – Recognise the most efficient method for adding and subtracting masses. 15. **Measure capacity (1)** – Know how to use litres, millilitres and standard scales to explore capacity (no mixing). 16. **Measure capacity (2)** - Know how to use litres, millilitres and standard scales to explore capacity (mixing scales). 17. **Compare capacity** – Understand that litres are used for larger containers and use this knowledge to compare capacity. 18. **Add and subtract capacity** - Recognise the most efficient method for adding and subtracting volume and capacity.
Vocabulary	multiply (×), divide (÷), multiplication fact, division fact, lots of, groups of, times-table, array, partition, bar model, part-whole model, remainder, commutative.	Length, height, width, perimeter, distance, centimetre (cm), millimetre (mm), metre (m), a unit of Measurement, measure, equivalent, convert, greater than (>), less than (<), ruler, metre stick, Interval, scale.	Fraction, Numerator, Denominator, Equal, Unit Fractions, Non-unit fractions, Whole, Halves, Quarters, Thirds, Three Quarters, Eighths, Tenths, Fraction Wall, Quantity, Decimals.	Mass, heavier than, lighter than, gram (g), hundreds, kilogram (kg), volume, millilitre (ml), litre (l).
NC	• Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.	• Measure, compare, add and subtract lengths	• Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	• Measure, compare, add and subtract: lengths (m/cm/mm);

	• Write and calculate mathematical statements for multiplication and division using the multiplication tables 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 objectives.	(m/cm/mm); mass (kg/g); volume/capacity (l/ml). • Measure the perimeter of simple 2D shapes.	• Compare and order unit fractions and fractions with the same denominators • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators • Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	mass (kg/g); volume/capacity (l/ml).

Year 3 - Summer

	Week 1 – 2 Block 1	Week 3 – 4 Block 2	Week 5 – 7 Block 3	Week 8 – 9 Block 4	Week 10 – 11 Block 5
Blocks	Number: Fractions	Measurement: Money	Measurement: Time	Geometry: Shape	Statistics
Small Steps		1. **Pounds and pence** – Understand that money can be represented in different ways but still have the same value. 2. **Converting pounds and pence** – Know that 100p is equivalent to £1 and apply this knowledge to convert between pounds and pence. 3. **Adding money** – Know that it is more efficient to add pounds, then pence, then convert when adding money. 4. **Subtracting money** – Recognise different strategies, such as converting money or finding the difference, when subtracting money. 5. **Giving change** – Know how to use number lines and part-whole models to calculate change.	1. **Months and years** – Know that there are 365 days in 1 year; Know that there are 12 months in 1 year; Know that a lead year occurs every 4 years and there are 366 days in a leap year; Know that there are 7 days in 1 week. 2. **Hours in a day** – Remember that there are 24 hours in a day; Remember the days of the week; Recognise and use language like 'midday', 'noon' and 'midnight'. 3. **Telling the time to 5 minutes** – Know how to tell the time to the nearest 5 minutes on an analogue clock; Recognise and use Roman numerals on a clock face. 4. **Telling the time to the minute** - Know how to tell the time to the nearest minute on an analogue clock. 5. **AM and PM** – Understand the language of 'morning', 'afternoon', 'a.m.' and 'p.m.' to describe the time of day. 6. **24-hour clock** - Know how to tell the time using digital clocks. 7. **Finding the duration** – Understand how to find the most efficient ways to break the time down to work out the duration. 8. **Comparing the duration** – Know how to use an empty number line to compare durations of time. 9. **Start and end times** – Use analogue and digital times to find start and end times to the nearest minute. 10. **Measuring time in seconds** – Know that there are 60 seconds in 1 minute.	1. **Turns and angles** – Recognise angles as a measure of a turn; Know how to make $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$, and full turns from different starting points, both clockwise and anti-clockwise. 2. **Right angles in shapes** – Recognise that a right angle is a quarter turn, 2 right angles make a half-turn, 3 right angles make three-quarters of a turn, and 4 right angles make a complete turn. 3. **Compare angles** – Know that the word 'acute' describes an angle smaller than a right angle, and the word 'obtuse' describes an angle bigger than a right angle. 4. **Draw accurately** – Know how to draw straight lines accurately in cm and mm; Remember that we start from 0cm when using a ruler. 5. **Horizontal and vertical** – Know that a horizontal line runs from left to right, and a vertical line runs up and down. 6. **Parallel and perpendicular** – Know that straight lines that meet at a right angle are called perpendicular, and lines that never meet are called parallel. 7. **Recognise and describe 2D shapes.** 8. **Recognise and describe 3D shapes.** 9. **Make 3D shapes** – Know how to construct cubes, cuboids, prisms, cylinders, pyramids, cones, and spheres.	1. **Pictograms** – Know the value of the symbol used in a pictogram and know what it means when half the symbol is used. 2. **Bar charts** – Know how to read and interpret bar charts with scales of 1, 2, 5 and 10. Know which scale will be the most appropriate when drawing their own bar charts. 3. **Tables** – Know how to interpret information from tables to answer one or two-step problems.
Vocabulary		Convert, total, difference, pound (£), pence (p), coin, note, change.	Month, year, midnight, midday, am, pm, duration, estimate, consecutive, hour, minute, second, past, to, start, end, digital clock, analogue clock.	Right angle, acute, obtuse, parallel, perpendicular, vertical, horizontal, triangle, quadrilateral, kite, trapezium, rhombus, parallelogram, cuboid, triangular prism, square-based, pyramid, cone, cylinder, sphere, edge, face, vertices.	Pictogram, key, bar chart, scale, table, row, column, vertical axis, horizontal axis.
NC Link		• Add and subtract amounts of money to give change, using	• Tell and write the time from an analogue clock, including using	• Recognise angles as a property of shape or a description of a turn.	• Interpret and present data using bar charts, pictograms and tables.

| | | both £ and p in practical contexts. | • Roman numerals from I to XII and 12-hour and 24-hour clocks.
• Estimate and read time with increasing accuracy to the nearest minute.
• Record and compare time in terms of seconds, minutes and hours.
• Use vocabularies 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]. | • Identify right angles, recognise that two right angles make a half turn, three make three-quarters of a turn, and four a complete turn; identify whether angles are greater than or less than a right angle.
• Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.
• Draw 2-D shapes and make 3-D shapes using modelling materials.
• Recognise3-DD shapes in different orientations and describe them. | • 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. |

Year 4 - Autumn

	Week 1 – 4 Block 1	Week 5 – 7 Block 2	Week 8 – 10 Block 3	Week 11 Block 4
Blocks	**Number: Place Value**	**Number: Addition and Subtraction**	**Number: Multiplication and Division**	**Measurement: Area**
Small Steps	1. **Represent numbers to 1000** – Y3 recap step. 2. **Partition numbers to 1000** - Understand the value of hundreds, tens and ones digits in a number when partitioning; understand the purpose of a placeholder zero (Y3 recap step). 3. **Number line to 1000** – Know the exact position of numbers to 1000 on a number line (Y3 recap step). 4. **Thousands** – Know how to count in 1,000s, forwards and backwards, from any given multiple of 1,000; understand the composition of multiples of 1000, exploring how many hundreds they are made of. 5. **Represent numbers to 10,000** – Understand the composition of numbers to 10,000; Understand the relationship between the different place value columns, e.g. 100 is 10 times the size of 10 and a tenth the size of 1,000. 6. **Partition numbers to 10,000** – Know how to partition numbers up to 10,000 into thousands, hundreds, tens and ones; know how to express their answers in numerals, words and expanded form. 7. **Flexible partitioning of numbers to 10,000** – Know that numbers up to 10,000 can be partitioned in a number of different ways. 8. **Find 1, 10, 100 or 1000 more or less.** 9. **Number line to 10,000** – label, identify and find missing values on blank or partially completed number lines (use real-life scales, e.g. measuring jugs). 10. **Estimate on a number line to 10,000** – Understand and discuss suitable estimates from the information given on the number line and the value of each interval, justifying their choices. 11. **Compare numbers to 10,000** – Know how to compare numbers to 10,000 using key vocabulary and the inequality symbols. 12. **Order numbers to 10,000** – Know how to order numbers to 10,000 using language such as 'smallest', 'greatest', 'ascending' and 'descending'. 13. **Roman numerals** – Know that L represents 50 and C represents 100; understand that the Roman system does not have a zero and does not use placeholders. 14. **Round to the nearest 10.** 15. **Round to the nearest 100.** 16. **Round to the nearest 1000.** 17. **Round to the nearest 10, 100 or 1000.**	1. **Add and subtract 1s, 10s, 100s and 1000s** – Know how to add and subtract multiples of 1000 (mental focus). 2. **Add up to two 4-digit numbers – no exchange** – Know how to use column addition to add 3- and 4-digit numbers with no exchanges. 3. **Add two 4-digit numbers – with one exchange** - Know how to use column addition to add 3- and 4-digit numbers with one exchange. 4. 3. **Add two 4-digit numbers – more than one exchange** - Know how to use column addition to add 3- and 4-digit numbers with more than one exchange. 5. **Subtract two 4-digit numbers – no exchange** - Know how to use column subtraction to subtract 4-digit numbers with no exchanges. 6. **Subtract two 4-digit numbers – one exchange** - Know how to use column subtraction to subtract 4-digit numbers with one exchange. 7. **Subtract two 4-digit numbers – more than one exchange** - Know how to use column subtraction to subtract 4-digit numbers with more than one exchange. 8. **Find the difference (4-digit numbers)** – Know how to use a number line to find the difference between two 4-digit numbers. 9. **Efficient subtraction** – Know which methods are the most appropriate for a given calculation; know how to solve the constant difference to solve challenging calculations mentally. 10. **Estimate answers** – Know how to use rounding to estimate answers; understand why estimation is important in real life. 11. **Checking Strategies** – Understand how to use inverse operations to check addition and subtraction calculations.	1. **Multiples of 3** – Y3 recap step. 2. **Multiply and divide by 6** – Know that the 6 times table is double the 3 times table. 3. **6 times table and division facts** – Understand how to use known facts to times and divide by 6. 4. **Multiply and divide by 9** – Recognise patterns to help them solve the 9 times table, e.g. triple the 3 times table or subtract from the 10 times table. 5. **9 times table and division facts** - Understand how to use known facts to times and divide by 9. 6. **The 3,6- and 9 times tables** – Recognise links between the 3, 6 and 9 times tables to deepen their understanding and embed fluency with these times tables. 7. **Multiply and divide by 7.** 8. **7 times table and division facts.** 9. **11 times table and division facts** – Know that they can partition 11 into 10- and 1-times tables to find x11. 10. **12 times table and division facts** – Know that they can partition into 12 into 10- and 2-times tables to find x12. 11. **Multiply by 0 and 1** – Know that when you multiply a number by 1, the result will always be the number itself; know that when you multiply a number by 0, the result will always be 0. 12. **Divide a number by 1 and itself** – Know that when you divide a number by 1, the answer will be itself, and when dividing a number by itself, the answer will be 1. 13. **Multiplying three numbers** – Know that, when multiplying three numbers, we follow the associative law, which means it does not matter how we group the numbers when we multiply them; understand how this links to commutativity and know how to change the order to make the calculation more efficient.	1. **What is the area?** – Know that area is the amount of space taken up by a 2-D shape or surface; understand that there is a range of ways to find the area of shapes or surfaces and evaluate which are the best (practical focus). 2. **Count squares** – Know the strategy of counting the number of squares inside a shape to find its area. 3. **Make shapes** – Know that a rectilinear shape is a shape that has only straight sides and right angles; know that rectilinear shapes need to touch at the sides and not just at the corners. 4. **Compare areas** - Compare the areas of rectilinear shapes where the same size square has been used.

Vocabulary	Tens, hundreds, thousands, rounding, order, more than (>), less than (<), partition, numeral, nearest, distance, ascending, descending, rounding, negative, step, multiple, greater than (>), less than (<).	Addition, total, more than (>), subtraction, less than (<), column method, estimate, how much, strategy, efficient, accurate, exact, fact.	Multiply (×), divide (÷), multiplication fact, division fact, lots of, groups of, times-table, array, partition array, bar model, part-whole model, remainder, factor pair, factor, commutative.	Length, width, area, distance, rectangle, square, rectilinear shape, centimetre (cm), metre (m), kilometre (km), equivalent to.
NC Links	• Count in multiples of 6, 7, 9. 25 and 1000. • Find 1000 more or less than a given number. • Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones). • Order and compare numbers beyond 1000. • Identify, represent and estimate numbers using different representations. • Round any number to the nearest 10, 100 or 1000. • Solve number and practical problems involving all of the above and increasingly large positive numbers. • Count backwards through zero to include negative numbers.	• Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. • Estimate and use inverse operations to check answers to a calculation. • Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	• Recall and use multiplication and division facts for multiplication tables up to 12 × 12. • Count in multiples of 6, 7, 9. 25 and 1000. • Use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1, dividing by 1, and multiplying together three numbers. • 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 multiplication and division problems using their knowledge of factors and multiples, squares and cubes. • Solve multiplication and division problems, including scaling by simple fractions and problems involving simple rates.	• Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. • Convert between different units of measure [for example, kilometre to metre].

Year 4 - Spring

	Week 1 – 3 Block 1	Week 4 – 5 Block 2	Week 6 – 9 Block 3	Week 10 – 12 Block 4
Blocks	Number: Multiplication and Division	Measurement: Length and Perimeter	Number: Fractions	Number: Decimals
Small Steps	1. **11- and 12-times table** – Know the multiplication and division facts related to the 11- and 12-times tables. 2. **Multiply 3 numbers** – Understand the 'Associative Law' about multiplying three numbers, knowing that we can multiply in any order. 3. **Factor pairs** – Know that a factor is a number that multiplies by another number to make a produce 4. **Efficient multiplication** – Know that there are different ways to multiply, including partitioning. 5. **Multiply 2 digits by 1 digit** - Remember how to use short multiplication to multiply a 2-digit number by a 1-digit number (carrying). 6. **Multiply 3 digits by 1 digit** –Know how to use short multiplication to multiply a 3-digit number by a 1-digit number (carrying). 7. **Divide 2 digits by 1 digit (1)** – Know how to divide 2-digit numbers by 1-digit using chunking on a number line. 8. **Divide 2 digits by 1 digit (2)** - Know how to divide 2-digit numbers by 1-digit using short division. 9. **Correspondence problems.**	1. **Kilometres.** 2. **Perimeter on a grid** – Know that a rectilinear shape is a shape where all sides meet at a right angle. 3. **Perimeter of a rectangle** – Understand that there are different ways to calculate the perimeter of rectangles, e.g. adding all the sides, adding the length and width, then multiplying by 2 or multiplying the height and width by 2, then adding together. 4. **Perimeter of rectilinear shapes** – Understand how to calculate the perimeter of rectilinear shapes, including finding missing sides.	1. **What is a fraction?** – Recognise fractions in different contexts, for example, fractions of shapes, quantities and fractions on a number line. 2. **Equivalent fractions (1)** – Recognise equivalent fractions using a fractions wall. 3. **Equivalent fractions (2)** – Understand how to find equivalent fractions using proportional reasoning; Know that this involves multiplying the numerator and denominator by the same number. 4. **Fractions greater than 1** – Know more significant fractions greater than 1 can be partitioned into parts and wholes. 5. **Count in fractions** – Understand how fractions greater than 1 can be represented on a number line; Understand the connection between improper fractions and mixed numbers. 6. **Add 2 or more two fractions** - Remember that when we add fractions, the denominator stays the same; Know that when we add two or more fractions and the answer is greater than one, then the total will be an improper fraction. 7. **Subtract 2 fractions** - Remember that when we subtract fractions, the denominator stays the same. 8. **Subtract from whole amounts** – Know how many equal parts are equivalent to a whole, e.g. 9/9 = 1, 18/9 =2. 9. **Fractions of a set of objects** – Know that we divide by the denominator and multiply by the numerator when finding fractions of amounts. 10. **Calculate fractions of a quantity.**	1. **Recognise tenths and hundredths** – Know that ten-hundredths are equivalent to one-tenth; ten-tenths are equivalent to 1 whole. 2. **Tenths as decimals** – Recognise the relationship between 1/10 and 0.1. 3. **Tenths on a place value grid** – Know that tenths are to the right of the decimal point. 4. **Tenths on a number line** – Know how to read and interpret tenths on a number line. 5. **Divide 1 digit by 10** – Understand that when dividing by 10, a number is split into 10 equal parts and is 10 times smaller; Know that the importance of 0 as a placeholder 6. **Divide 2 digits by 10** – Know how to divide a 2-digit number by 10 using a mental method. 7. **Hundredths** – Know that hundredths arise when dividing 1 whole into 100 equal parts; Recognise that 10 hundredths are a tenth. 8. **Hundredths as decimals** – Recognise the relationship between 1/100 and 0.01. 9. **Hundredths on a place value grid** – Know that hundredths are to the right of the decimal point and tenth column. 10. **Divide 1 or 2 digits by 100** – Understand that when dividing by 100, the number is split into 100 equal parts and is 100 times smaller.
Vocabulary	Equal, multiply, divide, times-table, sharing, grouping, array, bar model, remainder, repeated addition, multiplication sentence, division statement, division fact, partition.	Length, width, perimeter, distance, rectangle, square, rectilinear shape, centimetre (cm), metre (m), kilometre (km), equivalent to.	Tenths, hundredths, equivalent, simplify, numerator, denominator, fraction, mixed number, improper fraction, simplest fraction, a fraction of an amount, decimal point, equivalent decimal, 0·1 and 0·01, decimal place.	Equal, multiply, divide, times-table, sharing, grouping, array, bar model, remainder, repeated addition, multiplication sentence, division statement, division fact, partition.
NC Links	• Recall and use multiplication and division facts for multiplication tables up to 12 × 12.	• Find the area of rectilinear shapes by counting squares.	• Recognise and show, using diagrams, families of common equivalent fractions.	• Recall and use multiplication and division facts for multiplication tables up to 12 × 12. • Use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and

	• Use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1, dividing by 1, and multiplying together three numbers. • Recognise and use factor pairs and commutativity in mental calculations. • Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. • Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.		• Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • Solve problems involving increasingly harder fractions to calculate quantities and fractions to divide quantities, including non-unit fractions where an answer is a whole number. • Add and subtract fractions with the same denominator.	1, dividing by 1, and multiplying together three numbers. • Recognise and use factor pairs and commutativity in mental calculations. • Multiply two-digit and three-digit numbers by a one-digit number using the formal written layout. • Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Year 4 - Summer

	Week 1 – 2 Block 1	Week 3 – 4 Block 2	Week 5 – 6 Block 3		Week 7 – 8 Block 4	Week 9 Block 5	Week 10 – 11 Block 6
Blocks	Number: Decimals	Measurement: Money	Measurement: Time		Geometry: Shape	Statistics	Geometry: Position and Direction of Shapes
Small Steps	1. **Make a whole** - Know how to make a whole using their understanding of tenths and hundredths. 2. **Write decimals** – Understand the value of each digit with decimal numbers. 3. **Compare decimals** – Know how to compare two numbers with two decimal places. 4. **Order decimals** – Know how to order numbers with two decimal places. 5. **Round decimals** – Know how to round a number with one decimal place by looking at the digit in the tenths column. 6. **Halves and quarters** – Know that ½ is 0.5, ¼ is 0.25 and ¾ is 0.75.	1. **Pounds and pence** – Understand pounds and pence and use decimal notations to represent this. 2. **Ordering amounts of money** – Remember that 100p = £1, and use this knowledge to order different amounts of money. 3. **Using rounding to estimate money** – Know how to use rounding to round money which is written in decimal notation. 4. **Four operations** – Know how to solve problems involving money, using their understanding of the four operations.	1. **Hours, minutes and seconds** – Y3 recap step. 2. **Years, months, weeks and days** – Know how to use their knowledge of four operations to convert between units of time. 3. **Analogue to digital 12-hour** – Know how to convert between analogue and digital using a 12-hour format; Know how to use am and pm to distinguish between morning and afternoon; Understand that digital time needs to be written in a four-digit format. 4. **Analogue to digital 24-hour** – Know how to convert between analogue and digital clocks using the 24-hour clock.	1. **Identify angles** – Know that an acute angle is more than 0 degrees and less than 90 degrees, a right angle is exactly 90 degrees, and an obtuse angle is more than 90 degrees but less than 180 degrees. 2. **Compare and order angles,** 3. **Triangles** - Know that an equilateral triangle is where all the sides and angles are equal, an 'isosceles' triangle is where two sides and angles are equal, and a 'scalene' triangle is where all the sides and angles are different. 4. **Quadrilaterals** – Know 'Quad' originates from Latin and means four and 'Lateral' originates from Latin and means sides; Know that a square, rectangle, rhombus, parallelogram and trapezium are all quadrilaterals and describe and compare their properties. 5. **Lines of symmetry.** 6. **Complete a symmetric figure.**	1. **Interpret charts** – Remember how to interpret data from pictograms, bar charts and tables; Know how to collect data and present this on a bar chart, asking and answering questions about the data they have collected. 2. **Comparison, sum and difference** – Know how to solve comparison, sum and difference problems using discrete data with a range of scales. 3. **Introducing line graphs** – Know that line graphs are used to present continuous data (time, temperature, height) but that these values are always changing. 4. **Line graphs** – Know how to solve comparison, sum and difference problems using continuous data with a range of scales.	1. **Describe position** – Know how to describe positions in the first quadrant. 2. **Draw on a grid** – Know how to plot points in the first quadrant; Know how to read, write and use pairs of coordinates. 3. **Move on a grid** – Know that translating is when we move an object on the plane (only its position changes, not its size or orientation); Know how to move shapes and points on a coordinate grid following specific directions using language such as left/right and up/down. 4. **Describe a movement on a grid** – Know how to describe the movement of shapes and points on a coordinate grid using specific language such as left/right and up/down.
Vocabulary	Tenths, hundredths, equivalent, simplify, numerator, denominator, fraction, mixed number, improper fraction, simplest fraction, a fraction of an amount, decimal point, equivalent decimal, 0·1 and 0·01, decimal place.	Convert, total, difference, pound (£), pence (p), coin, note, change.	Convert, and compare a unit of time, second, minute, hour, day, week, month, year, 12-hour, 24-hour, analogue, digital, am/pm.		Rectangle, square, rectilinear shape, unit, triangle, quadrilateral, reflection, regular, irregular, interior angle, angle, acute, obtuse, right angle.	Data, line graph, pictogram, bar chart, table, altogether, more than (>), greatest, smallest, continuous data, compare.	Reflection, position, horizontal, vertical, up, down, left, right, coordinates, square, rectangle, plot, vertex, vertices, point grid.
NC Links	• Compare numbers with the same number of decimal places up to two decimal places.	• Estimate, compare and calculate different measures, including money in pounds and pence.	• Read, write and convert time between analogue and digital 12- and 24-hour clocks.		• Identify acute and obtuse angles and compare and order angles up to two right angles by size.	• Interpret and present discrete and continuous data using appropriate graphical methods,	• Describe positions on a 2-D grid as coordinates in the first quadrant.

• Round decimals with one decimal place to the nearest whole number. • Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$. • Find the effect of dividing a one- or two-digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths.	• Solve simple measure and money problems involving fractions and decimals to two decimal **places**.	• Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	• Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. • Identify lines of symmetry in 2-D shapes presented in different orientations. • Complete a simple symmetric figure with respect to a specific line of symmetry.	including bar charts and time graphs. • Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	• Plot specified points and draw sides to complete a given polygon. • Describe movements between positions as translations of a given unit to the left/ right and up/ down.

Year 5 - Autumn

	Week 1 – 3 Block 1	Week 4 – 5 Block 2	Week 6 – 8 Block 3	Week 9 – 12 Block 5
Blocks	**Number: Place Value**	**Number: Addition and Subtraction**	**Number: Multiplication and Division**	**Number: Fractions A**
Small Steps	1. **Roman numerals to 1000** – Know that D represents 500 and M represents 1000; recognise years written in Roman numerals (write this under the date on the board every day to reinforce). 2. **Numbers to 10,000** – Y4 recap step. 3. **Numbers to 100,000** – Recognise the ten-thousands column on a place value chart and understand the multiples of 10,000. 4. **Numbers to 1,000,000** – Recognise that the pattern for thousands in a place value chart follows the same pattern as that of the ones: ones, tens, hundreds, (one) thousands, ten thousand, hundred, thousands 5. **Read and write numbers up to 1,000,000.** 6. **Powers of 10** – Understand the relationship between different numbers in different place value columns. 7. **10/100/1,000/10,000/100,000 more or less** – Know how to use powers of 10 to count forwards and backwards. 8. **Partition numbers to 1,000,000** – Know how to partition any number to a million using the standard and flexible forms of partition. 9. **Number line to 1,000,000** - Label, identify and find missing values on blank or partially completed number lines for numbers up to 1 million. 10. **Compare and order numbers to 100,000.** 11. **Compare and order numbers to 1,000,000.** 12. **Round to the nearest 10, 100 or 1000.** 13. **Round within 100,000.** 14. **Round within 1,000,000.**	1. **Mental strategies** – Recap key mental strategies from previous years, e.g. partitioning and finding the difference. 2. **Add whole numbers with more than four digits (column addition).** 3. **Subtract whole numbers with more than four digits (column subtraction).** 4. **Round to check answers** – know how rounding can supporting with estimating answers to addition and subtraction calculations. 5. **Inverse operations (addition and subtraction)** – Know how to use inverse operations to find unknown numbers. 6. **Multi-step addition and subtraction problems** – Know how to use the strategies from this block to solve problems with more than one step. 7. **Compare calculations** – Explore the structure of calculations to make comparisons; understand the effect that adding to or subtracting from numbers in a calculation has on the answer to that calculation. 8. Find missing numbers - Understand that when two numbers are increased by the same amount the difference remains the same, and that the total of two numbers remains the same if one number has been increased by an amount and the other decreased by the same amount.	1. **Multiples** - Know that a multiple is a result of multiplying a number by a positive integer. 2. **Common multiples** – Know how to find the common multiples of any pair of numbers. 3. **Factors** – Recognise factors of numbers; know that 1 is a factor of all numbers; know that every number is a factor and multiple of itself. 4. **Common factors** – Know that common factors are factors shared by 2 or more numbers. 5. **Prime numbers** - Know that a prime number is a number with only two factors – 1 and itself; Know that numbers with more than two factors are called composite numbers. 6. **Square numbers** – Know that a square number is a result of multiplying a number by itself. 7. **Cube numbers** – Know that a cube is a result of multiplying a number by itself and then by itself again. 8. **Multiplying by 10, 100 and 1000** – Know that when we multiply by 1000, the digits move 3 places to the left. 9. **Dividing by 10, 100 and 1000** – know that when we divide by 1000, the digits move 3 places to the right. 10. **Multiples of 10, 100 and 1000** – Understand how to use factors to solve calculations involving multiples of 10, 100 and 1000.	1. **Find fractions equivalent to a unit fraction** – Know how unit fractions can be expressed in other forms. 2. **Find fractions equivalent to a non-unit fraction.** 3. **Recognise equivalent fractions** – Know that there is a range of ways to find equivalent fractions, such as using their knowledge of factors and multiples and looking at the multiplicative relationship between the numerator and denominator. 4. **Convert improper fractions to mixed numbers** – Remember that an improper fraction is one where the numerator is greater than or equal to the denominator. A mixed number consists of an integer and a proper fraction. 5. **Convert mixed numbers to improper fractions** – Know how to convert mixed numbers to improper fractions using their understanding of parts and the whole. 6. **Compare fractions less than 1** – Know how to compare fractions where the denominators are the same or where one denominator is a multiple of the other. 7. **Order fractions less than 1** – Know how to order a set of three or more fractions. 8. **Compare and order fractions greater than 1** – Understand that if the number of wholes is different, they do not need to compare the fractional parts. When the number of wholes is equal, they compare denominators or numerators of the fractional parts. 9. **Add and subtract fractions with the same denominator** – Remember that when the denominators are the same, they only need to add or subtract the numerators. 10. **Add fractions within 1.** 11. **Add fractions with a total greater than 1.** 12. **Add to a mixed number** – Know that they can partition a mixed number to add the fractional amounts first. 13. **Add two mixed numbers** – Understand that, when adding mixed numbers, we can partition the wholes and fractions to add them separately or convert them to improper fractions. 14. **Subtract fractions.** 15. **Subtract from a mixed number** – Know that they can either be a whole number part or a fractional part from a mixed number. 16. **Subtract from a mixed number – breaking the whole.** 17. **Subtract two mixed numbers.**
Vocabulary	ones (1s), tens (10s), hundreds (100s), thousands (1,000s), ten-thousands (10,000s), hundred-thousands (100,000s), million	Add, subtract, ones (1s), tens (10s), hundreds (100s), thousands (1,000s), ten-	Prime number, composite number, square number, cube number, square (2), cube (3), inverse operation,	Equivalent, numerator, denominator, whole, fraction, simplify, division, mixed number, convert, sequence, proper fraction,

(1,000,000), round, order, ascending, descending, less than (<), greater than (>), sequence.	thousands (10,000s), mentally, inverse, round, estimate, sum.	multiply, divide, multiple, factor, prime factor.	improper fraction, convert, common denominator, a fraction of an amount.

Year 5 - Spring

	Week 1 – 3 Block 1	Week 4 – 5 Block 2	Week 6 – 8 Block 3	Week 9 – 10 Block 4	Week 11 – 12 Block 5
Blocks	**Number: Multiplication and Division**	**Number: Fractions B**	**Number: Decimals and Percentages**	**Measurement: Area and Perimeter**	**Statistics**
Small Steps	1. **Multiply 4 digits by 1 digit** – Know how to multiply 4-digits by 1 digit using short multiplication. 2. **Multiply 2 digits by 2 digits (grid method)** - Know how to multiply two 2-digit numbers using the grid method. 3. **Multiply 2 digits by 2 digits** – Know how to use the formal written method of long multiplication to multiply two 2-digit numbers together. 4. **Multiply 3 digits by 2 digits** - Know how to use the formal written method of long multiplication to multiply 3-digit numbers by 2-digit numbers. 5. **Multiply 4 digits by 2 digits** - Know how to use the formal written method of long multiplication to multiply 4-digit numbers by 2-digit numbers. 6. **Divide 4 digits by 1 digit** – Know how to use short division to divide 4-digit numbers by a 1-digit number. 7. **Divide with remainders** – Understand how to interpret remainders when using short division; Know that they can express remainders as fractions or decimals or that they may need to round up or down, depending on the context.	1. **Multiply unit fractions by an integer** – Know that the numerator is multiplied by the integer, and the denominator stays the same (until simplified). 2. **Multiply non-unit fractions by an integer** - Know that the numerator is multiplied by the integer, and the denominator stays the same (until simplified). 3. **Multiply mixed numbers by integers** – Understand that there are different ways to multiply a mixed number by an integer and explore the most efficient method to do this, e.g. partitioning, converting to an improper fraction first. 4. **Fraction of an amount** – Remember that we divide by the denominator and multiply by the numerator when finding fractions of amounts. 5. **Using fractions as operators.** *Throughout this block, children must understand that the x symbol could be replaced with of, and it would mean the same thing; therefore, sometimes, it might be easier to switch them around.*	1. **Decimals up to 2 d.p** – Understand the value of numbers with two decimal places. 2. **Decimals as fractions (1)** – Understand the link between decimals and fractions. 3. **Decimals as fractions (2)** – Know how to convert between fractions and decimals with numbers greater than 1. 4. **Understand thousandths** – Know that thousandths are to the right of the decimal point, tenths column and hundredths column. 5. **Thousands as decimals** – Know how to represent thousandths as decimals. 6. **Rounding decimals** – Remember that to round a number to one decimal place, they need to look at the digit in the tenths column; Know that to round a number to the nearest tenth, they need to look at the digit in the hundredths column. 7. **Order and compare decimals.** 8. **Understand percentages** – Understand that 'per cent' relates to the 'number of parts per hundred'; Recognise the symbol % is used to represent this definition. 9. **Percentages as fractions and decimals** – Know how to represent percentages as fractions using the denominator 100. 10. **Equivalent F.D.P** – Remember that $\frac{1}{2}$ = 0.5, $\frac{1}{4}$ = 0.25, $\frac{3}{4}$ = 0.75; Know that 1/5 = 0.2, 2/5 = 0.4, 3/5 = 0.6 and 4/5 = 0.8; Know how to find equivalent FDP when the denominator is 10, 20 or 25.	1. **Measure perimeter** – Remember how to measure shapes using a ruler and use this knowledge to measure the perimeter of rectilinear shapes. 2. **Calculate perimeter** – Know how to calculate the perimeter of shapes with unknown side lengths; Know that it is useful to cross off sides when calculating the perimeter of rectilinear shapes. 3. **Area of a rectangle** – Know that the formula to calculate the area of a rectangle is length multiplied by width. 4. **Area of compound shapes** – Understand that they can use their knowledge of rectangles to calculate the area of compound shapes (please explore both splitting the shape, and also finding the whole rectangles area and taking the missing part off). 5. **Area of Irregular shapes** – Understand how to use their knowledge of counting squares (Y4) and fractions to estimate the area of irregular shapes.	1. **Read and interpret line graphs.** 2. **Draw line graphs.** 3. **Problems with line graphs** – Know how to solve comparison, sum and difference problems in relation to line graphs. 4. **Read and interpret tables.** 5. **Two-way tables** – Know how to interpret information from tables which contain two sets of data. 6. **Timetables** – Know how to extract information from timetables and solve problems relating to time.

Vocabulary	Equal, multiply, divide, times-table, sharing, grouping, array, bar model, remainder, repeated addition, multiplication sentence, division statement, division fact, partition, place holder.	Equivalent, numerator, denominator, whole, fraction, simplify, division, mixed number, convert, sequence, proper fraction, improper fraction, convert, common denominator, a fraction of an amount.	Decimal place, tenth, hundredth, thousandth, decimal point, place value, digit, fraction, per cent (%), percentage, one decimal place, two decimal places.	Perimeter, distance, area, space, length, width, centimetre, square centimetre (cm2), metre square metre (m2), scale, compare, estimate.	Graph, line graph, table, horizontal, vertical, two-way table, scale, axis/axes, data, plot/plotted, tallies/tally, digits.
NC Links	• Multiply and divide numbers mentally, drawing upon known facts. • Multiply numbers up to 4 digits by a one or two-digit number using a formal written method, including long multiplication for 2-digit numbers. • Divide numbers up to 4 digits by a one digit number using the formal written method of short division and interpret remainders appropriately for the context. • Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign.	• 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 $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]. • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	• Read, write, order and compare numbers with up to three decimal places. • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. • Round decimals with two decimal places to the nearest whole number and to one decimal place. • Solve problems involving number up to three decimal places. • Recognise the per cent symbol (%) and understand that per cent relates to the 'number of parts per hundred', and write percentages as a fraction with denominator 100 and as a decimal. • Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.	• Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. • Calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm^2) and square metres (m^2), and estimate the area of irregular shapes.	• Solve comparison, sum and difference problems using information presented in a line graph. • Complete, read and interpret information in tables, including timetables.

Year 5 -Summer

	Week 1 – 3 Block 1	Week 4 – 5 Block 2	Week 6 – 8 Block 3	Week 9 Block 4	Week 10 – 11 Block 5	Week 12 Block 6
Blocks	**Geometry: Shape**	**Geometry: Position and Direction**	**Number: Decimals**	**Number: Negative Numbers**	**Measurement: Converting Units**	**Measurement: Volume**
Small Steps	1. **Measuring angles in degrees** – Know that a full turn as 360 degrees, a half-turn as 180 degrees and a quarter-turn (or right angle) as 90 degrees; Know that reflex angles are angles greater than 180 degrees. 2. **Measuring with a protractor (1)** – Know how to use a protractor to measure acute angles. 3. **Measuring with a protractor (2)** – Know how to use a protractor to measure obtuse angles. 4. **Drawing lines and angles accurately.** 5. **Calculating angles on a straight line** – Know that angles on a straight line total 180 degrees. 6. **Calculating angles around a point** – Know that angles	1. **Position in the first quadrant** – Understand that the coordinates (0,0) is called the origin; Know that the first number represents the x-axis and the second number represents the y-axis; Know that coordinates are fixed and cannot be moved. 2. **Translation** – Know how to translate shapes on a grid; Remember that translation means to move an object, but its size and orientation stay the same. 3. **Translation with coordinates** – Know how to translate coordinates, describe their position and describe the translation. 4. **Reflection** – Know how to reflect 2D shapes across a	1. **Adding decimals within 1** - 2. **Subtracting decimals within 1.** 3. **Complements to 1** – Recognise the links between complements to 1 and number bonds to 10, 100 and 1000. 4. **Adding decimals crossing the whole** – Understand how to use flexible partitioning when a decimal number crosses the whole. 5. **Adding decimals with the same number of decimal places** – Know how to use column addition to add numbers with decimal places. 6. **Subtracting decimals with the same number of decimal places** – Know how to use column subtraction to subtract numbers with decimal places. 7. **Adding decimals with a different number of decimal places** – Know how to use column addition to add numbers with a different number of decimal places.	TBC	1. **Kilograms and kilometres** – Know how to convert between g and kg; Know that 'kilo' means a thousand. 2. **Milligrams and millilitres** – Know that milli means 1/1000; Know how to convert between ml and l and mm and m. 3. **Metric units** – Know how to convert between different units of metric measure. 4. **Imperial units** - Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds (lbs) and pints. **Converting units of time** – Know how to convert between different units of time including years, months,	1. **What is volume?** – Know that volume is the amount of solid space something takes up. 2. **Compare volume** – Know how to compare the volume of shapes by counting cubes. 3. **Estimate volume** – Know how to estimate volume and capacity of different solids and objects. 4. **Estimate capacity** - Understand that we often use the word capacity when referring to liquid.

	around a point total 360 degrees. 7. **Calculating lengths and angles in shapes** – Know how to use square grids to reason about lengths and angles. 8. **Regular and irregular polygons** – Know that 'regular' means all sides and angles are equal. 9. **Reasoning about 3D shapes** – Identify 3D shapes from 2D representations.	plane; Know that the original shape before the reflection is called an 'object' and the reflected shape is called an 'image.' 5. **Reflection with coordinates** – Know how to reflect shapes on a coordinates grids; Know what happens to coordinates when reflected.	8. **Subtracting decimals with a different number of decimal places** – Know how to use column subtract to subtract numbers with a different number of decimal places. 9. **Adding and subtracting whole and decimals** – Recognise the most efficient method to add and subtract decimal and whole numbers. 10. **Decimal sequences** – Recognise patterns in decimal sequences; Understand that the next part of the sequence is called a 'term'. 11. **Multiplying decimals by 10, 100 and 1000.** 12. **Dividing decimals by 10, 100 and 1,000.**		weeks, days, hours, minutes and seconds. 5. **Timetables** – Know how to use a number line to solve problems relating to time.	
Vocabulary	Angle, whole turn, right angle, acute angle, obtuse angle, reflex angle, degree (°), interior angle, clockwise, anticlockwise, orientation, parallel, perpendicular, right angle, interior angle, quadrilateral, regular, irregular, 3D shape, pyramid, sphere, cone, hexagon, pentagon, triangle.	Reflection, translation, vertex, vertices, coordinates, mirror line, horizontal axis, vertical axis, quadrant.	Decimal place, tenth, hundredth, thousandth, decimal point, place value, digit, fraction, per cent (%), percentage, one decimal place, two decimal places.		Convert, metric unit, imperial unit, kilo, kilogram, gram, millimetre, centimetre, metre, kilometre, litre, millilitre, pound (lb), ounce (oz), inch (in), foot (ft), yard (yd), pint, gallon, stone (st), approximately.	Volume, solid, capacity, calculate, estimate, cube.
NC Links	• Identify 3D shapes, including cubes and other cuboids, from 2D representations. • Use the properties of rectangles to deduce	• Identify, describe and represent the position of a shape following a reflection or translation, using	• Solve problems involving number up to three decimal places. • Multiply and divide whole numbers and those involving	• Interpret negative numbers in context, count forwards and backwards with	• Convert between different units of metric measure [for example, km and m; cm and m; cm and	• Estimate volume [for example, using 1cm3 blocks to build cuboids (including cubes)] and capacity [for

related facts and find missing lengths and angles. • Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. • Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. • Draw given angles, and measure them in degrees. • Identify: angles at a point and one whole turn (total 360 °°), angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180 °°) other multiples of 90	the appropriate language, and know that the shape has not changed.	decimals by 10, 100 and 1000. • Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling..	positive and negative whole numbers, including through zero. • Solve a number of problems and practical problems that involve all of the above.	mm; g and kg; l and ml]. • Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. • Solve problems involving converting between units of time. Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes. • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	example, using water]. • Use all four operations to solve problems involving measures.

Year 6 - Autumn

	Week 1 – 2 Block 1	Week 3 – 7 Block 2	Week 8 – 9 Block 3	Week 10 - 11 Block 4	Week 12
Blocks	Number: Place Value	Number: Four Operations (Addition, Subtraction, Multiplication and Division)	Number: Fractions A	Number: Fractions B	Measurement: Converting Units
Small Steps	1. **Numbers to 1,000,000** – Y5 recap step. 2. **Numbers to 10,000,000** – Understand the place value of all numbers to 10,000,000. 3. **Read and write numbers to 10,000,000** – Know the structure of how numbers to 10,000,000 are said and written. 4. **Powers of 10** - Identify integers that are 10, 100, or 1,000 times the size, or one-tenth, one-hundredth, or one-thousandth the size of other integers. 5. **Number line to 10,000,000** - Label, identify and find missing values on blank or partially completed number lines for numbers up to 10 million. 6. **Compare and order any integers** – Know how to compare and order integers to 10 million. 7. **Round any integer** – Know how to round to the nearest million. 8. **Negative numbers** – Understand how negative numbers are used in real-life contexts.	1. **Add and subtract integers.** 2. **Common factors** – Identify the highest common factor of any given number. 3. **Common multiples** – Identify the lowest common multiple of any given number. 4. **Rules of divisibility** – Know that a number is divisible by 2, 5 or 10 by looking at the ones digit; know that a number is divisible by 4 if halving the number leaves an even number and link this to the corresponding rule for 8; know that a number is divisible by 3 if the sum of the digits is divisible by 3 and divisible by 9 if the sum of the digits is divisible by 9; know that to be divisible by 6 the number has to be divisible by 2 and 3; know that a 2-digit number is divisible by 11 if the digits are the same. 5. **Primes to 100** – Identify all the prime numbers to 100 and recall the primes to 19; Know how to identify the prime factors of a given number. 6. **Square and cube numbers** – Remember the notations for squared and cubed numbers; know that a square of cube numbers is the result of the multiplication. 7. **Multiply up to a 4-digit number by a 2-digit number** – Know how to use the formal written method for long multiplication. 8. **Solve problems with multiplication** – Know how to use a range of multiplication strategies to solve problems. 9. **Short division** – Y5 recap step. 10. **Introduction to long division** – Know how to use the formal written method of long division to divide 3- and 4-digit numbers by 2-digit numbers (no remainders). 11. **Long division with remainders** – Know how to use the formal written method of long division to divide 3- and 4-digit numbers by 2-digit numbers (remainders). 12. **Solving problems with division** – Understand how to interpret remainders in context. 13. **Solve multi-step problems.** 14. **Order of operations** - Know the order of priority for operations in a calculation: that calculations in brackets should always be done first, and that multiplication and division have equal priority and should be performed before additions and subtractions. 15. **Mental calculations and estimation** – Know that estimations are a 'sense-check' before or after the calculation and should be done mentally.	1. **Equivalent fractions and simplifying** - Recognise when fractions are, and are not, in their simplest form using knowledge of equivalent fractions; know that when the numerator and denominator have no common factors greater than 1, the fraction is in its simplest form. 2. **Equivalent fractions on a number line** – Know how to use number lines to count forwards and backwards in fractions and to find equivalent fractions. 3. **Compare and order (denominator)** – Know that when the denominators are the same, the bigger the numerator, the bigger the fraction or the smaller the numerator, the smaller the fraction. 4. **Compare and order (numerator)** – Know that when the numerators are the same, the bigger the denominator, the smaller the fraction, or the smaller the denominator the bigger the fraction. 5. **Add and subtract simple fractions.**	1. **Multiply fractions by integers** – Know how to multiply mixed numbers by integers. 2. **Multiply fractions by fractions** – Know that they should multiply the numerators by each other and the denominators by each other. 3. **Divide a fraction by an integer** – Know how to divide fractions by integers when the numerator is a multiple of the integer they are dividing by. 4. **Divide any fraction by an integer** – Know that you multiply the integer by the denominator and keep the numerator the same. 5. **Mixed questions with fractions.** 6. **Fractions of amounts** - understand that the denominator is the number of parts the whole is divided into, and the numerator represents the number of those parts that are selected.	1. **Metric measures** - Recognise, read and write all metric measures for length, mass and capacity; Know that tonnes are a way of measuring mass and that 1000kg is equal to 1 tonne. 2. **Convert metric measures** – Remember how to convert between metric measures for length and mass; know how to convert between metric measures for capacity. 3. **Calculate with metric measures.** 4. **Miles and kilometres** – Know that 5 miles is roughly equivalent to 8km; know that 1 mile is greater than 1km. 5. **Imperial measures** – Know 1 inch is roughly equivalent to 2.5cm; 1 foot = 12 inches; 1 pound = 16 ounces; 1 stone = 14 pounds; 1 gallon = 8pints.

		16. **Reason from known facts** – Know how to work out other facts from a given fact using their knowledge of place value, inverse operations, commutativity and the mental strategies.	6. **Add and subtract any two fractions.** 7. **Add mixed numbers.** 8. **Subtract mixed numbers.** 9. **Multi-step problems.**		
Vocabulary	ones (1s), tens (10s), hundreds (100s), thousands (1,000s), ten thousands (10,000s), hundred thousands (100,000s), million (1,000,000), ten million (10,000,000), round, order, ascending, descending, less than (<), greater than (>), sequence, positive, negative.	Column addition, column subtraction, estimate, multiplication, short division, long division, remainder, factor, estimate, common factor, common multiple, prime, composite, squared (2), cubed (3), order of operations, brackets, inverse operation.	Equivalent, numerator, denominator, whole, fraction, simplify, division, mixed number, convert, sequence, proper fraction, improper fraction, convert, common denominator, fraction of an amount.	Convert, metric unit, imperial unit, kilo, kilogram, gram, millimetre, centimetre, metre, kilometre, litre, millilitre, pound (lb), ounce (oz), inch (in), foot (ft), yard (yd), pint, gallon, stone (st), approximately.	ones (1s), tens (10s), hundreds (100s), thousands (1,000s), ten thousands (10,000s), hundred thousands (100,000s), million (1,000,000), ten million (10,000,000), round, order, ascending, descending, less than (<), greater than (>), sequence, positive, negative.
NC Links	• Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit. • Round any whole number to a required degree of accuracy. • Use negative numbers in context, and calculate intervals across zero. • Solve number and practical problems that involve all of the above.	• Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why. • Multiply multi digit number up to 4 digits by a 2 digit number using the formal written method of long multiplication. • Divide numbers up to 4 digits by a 2 digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding as appropriate for the context. • Divide numbers up to 4 digits by a 2 digit number using the formal written method of short division, interpreting remainders according to the context. • Perform mental calculations, including with mixed operations and large numbers. • Identify common factors, common multiples and prime numbers. • Use their knowledge of the order of operations to carry out calculations involving the four operations. • Solve problems involving addition, subtraction, multiplication and division. • Use estimation to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy.	• Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. • Compare and order fractions, including fractions >1. • Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. • Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $1/4 \times 1/2 = 1/8$). • Divide proper fractions by whole numbers (e.g. $1/3 \div 2 = 1/6$).	• Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. • Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 d.p • Convert between miles and kilometres.	• Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit. • Round any whole number to a required degree of accuracy. • Use negative numbers in context, and calculate intervals across zero. • Solve number and practical problems that involve all of the above.

Year 6 – Spring

	Week 1 Block 1	Week 2 – 3 Block 2	Week 4 – 5 Block 3	Week 6 – 7 Block 4	Week 8 – 9 Block 5	Week 10 – 11 Block 6	Week 12 Block 7
Blocks	Number: Ratio	Number: Algebra	Number: Decimals	Number: Fractions, Decimals and Percentages	Measurement: Perimeter, Area and Volume	Geometry: Properties of Shapes	Geometry: Position and Direction
Small Steps	1. **Use ratio language** - Understand that a ratio shows the relationship between two values and can describe how one is related to another. 2. **Ratio and fractions** – Understand the relationship between fractions and ratio. 3. **Introducing the ratio symbol** – Recognise the colon notation as the ratio symbol, and continue to link this with the language 'for every…there are….' 4. **Calculating ratio.** 5. **Using scale factors** – Know that scale factor refers to the process of making objects bigger or smaller. 6. **Calculating scale factors** – Know that 'similar' in maths means that one shape is an exact enlargement of the other, not just they have some common properties. 7. **Ratio and proportion problems.**	1. **Find a rule one step and find a rule two step** – Know that one and two-step equations have one or two operations after the input. 2. **Use an algebraic rule** – Know how to use simple algebraic expressions as inputs; Know that an expression is expresses a mathematical operation, but there is no output. 3. **Substitution** – Know that substitution is where we replace numbers with letters or symbols; Know how to substitute into simple expressions to find a particular value. 4. **Formulae** – Know how to substitute into simple formulae. 5. **Solve simple one-step equations.** 6. **Solve two-step equations.** 7. **Find pairs of values** – Know how to use substitution to consider what possible values a pair of variables can take.	1. **Three decimal places** – Understand the value of all digits in numbers with three decimal places. 2. **Multiply by 10, 100 and 1,000.** 3. **Divide by 10, 100 and 1,000.** 4. **Multiply decimals by integers** – Know how to use short multiplication to multiply decimal numbers by integers. 5. **Divide decimals by Integers** – Know how to use short division to divide decimal numbers by integers. 6. **Division to solve problems.** 7. **Decimals as fractions** – Know how to convert decimals to fractions. 8. **Fractions to decimals (1)** – Remember the common fractions, such as thirds, quarters, fifths and eighths, as decimals; Know that finding equivalent fraction where the denominator is 10, 100 or 1,000 makes it easier to convert from a fraction to a decimal.	1. **Fractions to percentages** – Remember that 'per cent' means out of 100; Know how to convert fractions to equivalent fractions where the denominator is 100 in order to find the percentage equivalent. 2. **Equivalent FDP.** 3. **Percentage of an amount (1)** – Remember how to find 1%, 5%, 10% and 50%. 4. **Percentage of an amount (2)** – Know how to find any percentages of any amount.	1. **Shapes same area** – Know how to find and draw rectilinear shapes with the same area. 2. **Area and perimeter** – Know how to find the area and perimeter of rectilinear shapes; Understand how to use formula to help find the area and perimeter of rectilinear shapes. 3. **Area of a triangle (1)** – Know how to estimate the are of a triangle by counting squares. 4. **Area of a triangle (2)** – Know that the area of a right-angled triangle is half the area of rectangle. 5. **Area of a triangle (3)** – Know that we can use the formula base x perpendicular height, then divide by 2. 6. **Area of a parallelogram** – Know that the formula to find the area of a parallelogram is base x perpendicular height.	1. **Measure with protractor** – Know how to measure acute, obtuse and reflex angles with a protractor. 2. **Calculate angles** – Remember that angles on a straight line always equal 180 degrees, and angles round a point always equal 360 degrees. 3. **Vertically opposite angles** – Recognise that vertically opposite angles share a vertex and that they are equal. 4. **Angles in a triangle** – Know that interior angles in a triangle equal 180 degrees. 5. **Angles in a triangle special cases** – Know how to calculate missing angles in right-angled and isosceles triangles; Know that hatch marks represent equal sides/angles. 6. **Angles in a triangle missing angle** – Know how to use their knowledge of angles to find angles in a triangle. 7. **Angles in special quadrilaterals** – Know that angles in	1. **The first quadrant** – Remember how to plot and read coordinates in the first quadrant. 2. **Four quadrants** – Know how to read and plot coordinates in all four quadrants. 3. **Translation** – Know how to translate shapes in all four quadrants. 4. **Reflection** – Know how to reflect shapes in all four quadrants and in the x and y axis.

		9. **Fractions to decimals (2)** – Know that fractions are simply division statements, e.g. $\frac{3}{4}$ is $3 \div 4$ and use this knowledge to convert fractions to decimals.		7. **Volume counting cubes** – Know how to find the volume of shapes by counting cubic units. 8. **Volume of a cuboid** – Know that the formula to find the volume of cubes and cuboids is base x height x depth.	quadrilaterals always equal 360 degrees. 8. **Draw shapes accurately** – Know how to draw shapes with accurate lengths and angles. 9. **Nets of 3D shapes** – Know that a net is a 2-D figure that can be folded to create a 3-D shape; Identify 3-D shapes from their nets.	
Vocabulary	Ratio, proportion, scale, scale factor, proportionality.	Sequence, rule, term, algebra, expression, calculation, formula, substitute, generalise, operation, calculate, equation, inverse, solution.	Decimal place, tenth, hundredth, thousandth, decimal point, place value, digit, fraction, one decimal place, two decimal places.	Decimal place, tenth, hundredth, thousandth, decimal point, place value, digit, fraction, per cent (%), percentage, one decimal place, two decimal places.	Volume, solid, capacity, calculate, estimate, cube, perpendicular, right angle, perimeter, area, formula, base, height, cubic centimetres, cubic meters.	Nets, 2D shapes, 3D shapes, interior angles quadrilateral, isosceles, scalene, right-angled triangle, interior angles.	Quadrant, four quadrants, translate, translation, x-axis, y-axis, axis/axes, horizontal, vertical, vertex, reflect, reflection.
NC Links	• Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. • Solve problems involving similar shapes where the scale factor is known or can be found. • Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples •	• Use simple formulae. • Generate and describe linear number sequences. • Express missing number problems algebraically. • Find pairs of numbers that satisfy an equation with two unknowns. • Solve problems which require answers to be rounded to specified degrees of accuracy. • Enumerate possibilities of combinations of two variables. •	• .Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100 and 1,000, giving answers up to 3 decimal places. • Multiply one digit numbers with up to 2 decimal places by whole numbers. • Use written division methods in cases where the answer has up to 2 decimal places. •	• Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison. • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. .	• Recognise that shapes with the same areas can have different perimeters and vice versa. • Recognise when it is possible to use formulae for area and volume of shapes. • Calculate the area of • parallelograms and triangles. • Calculate, estimate and compare volume of cubes and cuboids using standard units, including cm3, m3 and extending to other units (mm3, km3).	• Draw 2-D shapes using given dimensions and angles. • Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons. • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	• Describe positions on the full coordinate grid (all four quadrants). • Draw and translate simple shapes on the coordinate plane, and reflect them in the axes

Year 6 – Summer

	Week 1 – 2 Block 1	Post SATs
Blocks	Statistics	Revision/Transition units
Small Steps	1. **Read and interpret line graphs.** 2. **Draw line graphs.** 3. **Use line graphs to solve problems.** 4. **Circles** – Know that the circumference is the distance around a circle, the diameter is the is the length from one side of a circle to the other and the radius is the distance from the centre of the circle to the circumference; Know that radius is always half the diameter. 5. **Read and interpret pie charts.** 6. **Pie charts with percentages.** 7. **Draw pie charts.** 8. **The mean** – Know that the formula to calculate the mean is total ÷ the number of items.	Time to revise KS2 content Problem Solving/Investigations to deepen previous learning Transition to secondary school maths units – focus on consolidating four operations, fractions and measurement.
Vocabulary	Mean, average, pie chart, segment, line graph, bar chart, percentage, fraction, data.	
NC Links	• Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. • Interpret and construct pie charts and line graphs and use these to solve problems. • Calculate the mean as an average.	

Place value - Place value: Count

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number • Count numbers to 100 in numerals; count in multiples of twos, fives and tens	• count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward	• count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	• count in multiples of 6, 7, 9, 25 and 1000 • count backwards through zero to include negative numbers	• count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 • count forwards and backwards with positive and negative whole numbers, including through zero	
Autumn 1 Spring 1 Spring 3 Summer 4	Autumn 1	Autumn 1 Autumn 3	Autumn 1 Autumn 4	Autumn 1 Summer 4	

Place value: Represent

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• identify and represent numbers using objects and pictorial representations • read and write numbers to 100 in numerals • read and write numbers from 1 to 20 in numerals and words	• read and write numbers to at least 100 in numerals and in words • identify, represent and estimate numbers using different representations, including the number line	• identify, represent and estimate numbers using different representations • read and write numbers up to 1000 in numerals and in words	• identify, represent and estimate numbers using different representations • read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value	• read, write, (order and compare) numbers to at least 1 000 000 and determine the value of each digit • read Roman numerals to 1000 (M) and recognise years written in Roman numerals	• read, write, (order and compare) numbers up to 10 000 000 and determine the value of each digit
Autumn 1 Spring 1 Spring 3 Summer 4	Autumn 1	Autumn 1	Autumn 1	Autumn 1	Autumn 1

Place value: Use and compare

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• given a number, identify one more and one less	• recognise the place value of each digit in a two-digit number (tens, ones) • compare and order numbers from 0 up to 100; use <, > and = signs	• recognise the place value of each digit in a three-digit number (hundreds, tens, ones) • compare and order numbers up to 1000	• find 1000 more or less than a given number • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000	• (read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit	• (read, write), order and compare numbers up to 10 000 000 and determine the value of each digit
Autumn 1 Spring 1 Spring 3 Summer 4	Autumn 1	Autumn 1	Autumn 1	Autumn 1	Autumn 1

Place value: Problems/Rounding

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	• use place value and number facts to solve problems	• solve number problems and practical problems involving these ideas	• round any number to the nearest 10, 100 or 1000 • solve number and practical problems that involve all of the above and with increasingly large positive numbers	• interpret negative numbers in context • round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 • solve number problems and practical problems that involve all of the above	• round any whole number to a required degree of accuracy • use negative numbers in context, and calculate intervals across zero • solve number and practical problems that involve all of the above
	Autumn 1	Autumn 1	Autumn 1	Autumn 1	Autumn 1

Year 1 RTP Place value

Ready to progress criteria	Block	Steps
1NPV-1 Count within 100, forwards and backwards, starting with any number.	Autumn 1	6 – Count on from any number 8 – Count backwards within 10
	Spring 1	*Spring steps to follow in November 2022*
	Spring 3	*Spring steps to follow in November 2022*
	Summer 4	*Summer steps to follow in March 2023*
1NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =	Autumn 1	11 – Fewer, more, same 12 – Less than, greater than, equal to 13 – Compare numbers 14 – Order objects and numbers 15 – The number line
	Spring 1	*Spring steps to follow in November 2022*
	Spring 3	*Spring steps to follow in November 2022*

Year 2 RTP Place value

Ready to progress criteria	Block	Steps
2NPV-1 Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning.	Autumn 1	3 – Recognise tens and ones 4 – Use a place value chart 5 – Partition numbers to 100 7 – Flexibly partition numbers to 100 8 – Write numbers in expanded form
2NPV-2 Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10	Autumn 1	9 – 10s on the number line to 100 10 – 10s and 1s on the number line to 100 11 – Estimate numbers on the number line

Year 3 RTP Place value

Ready to progress criteria	Block	Steps
3NPV-1 Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10	Autumn 1	4 – Hundreds
	Autumn 2	10 – Make connections
	Autumn 3	4 – Multiples of 5 and 10
	Spring 4	*Spring steps to follow in November 2022*
3NPV-2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning.	Autumn 1	5 – Represent numbers to 1,000 6 – Partition numbers to 1,000 7 – Flexible partitioning of numbers to 1,000 8 – Hundreds, tens and ones
3NPV-3 Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10	Autumn 1	9 – Find 1, 10 or 100 more or less 10 – Number line to 1,000 11 – Estimate on a number line to 1,000 12 – Compare numbers to 1,000 13 – Order numbers to 1,000
3NPV-4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.	Autumn 1	10 – Number line to 1,000 11 – Estimate on a number line to 1,000 14 – Count in 50s
	Spring 4	*Spring steps to follow in November 2022*

Year 4 RTP Place value

Ready to progress criteria	Block	Steps
4NPV-1 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100	Autumn 1	4 - Thousands
	Spring 1	*Spring steps to follow in November 2022*
4NPV-2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning.	Autumn 1	5 – Represent numbers to 10,000 6 – Partition numbers to 10,000 7 – Flexible partitioning of numbers to 10,000
4NPV-3 Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.	Autumn 1	8 – Find 1, 10, 100, 1,000 more or less 9 – Number line to 10,000 10 – Estimate on a number line to 10,000 11 – Compare numbers to 10,000 12 – Order numbers to 10,000 14 – Round to the nearest 10 15 – Round to the nearest 100 16 – Round to the nearest 1,000 17 – Round to the nearest 10,000
4NPV-4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.	Autumn 1	9 – Number line to 10,000 10 – Estimate on a number line to 10,000

Year 5 RTP Place value

Ready to progress criteria	Block	Steps
5NPV-1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01	Spring 3	*Spring steps to follow in November 2022*
5NPV-2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning.	Spring 3	*Spring steps to follow in November 2022*
5NPV-3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.	Spring 3	*Spring steps to follow in November 2022*
5NPV-4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.	Spring 3	*Spring steps to follow in November 2022*
5NPV-5 Convert between units of measure, including using common decimals and fractions.	Summer 5	*Summer steps to follow in March 2023*

Year 6 RTP Place value

Ready to progress criteria	Block	Steps
6NPV-1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).	Autumn 1	4 – Powers of 10
6NPV-2 Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and non-standard partitioning.	Autumn 1	1 – Numbers to 1,000,000 2 – Numbers to 10,000,000 3 – Read and write numbers to 10,000,000
6NPV-3 Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.	Autumn 1	6 – Compare and order any integers 7 – Round any integers
6NPV-4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.	Autumn 1	5 – Number line to 10,000,000
	Autumn 5	2 – Convert metric measures
	Spring 3	*Spring steps to follow in November 2022*

Addition & subtraction: Calculations

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• add and subtract one-digit and two-digit numbers to 20, including zero	• add and subtract numbers using concrete objects, pictorial representations, and mentally, including: ➢ a two-digit number and ones ➢ a two-digit number and tens ➢ two two-digit numbers ➢ adding three one-digit numbers	• add and subtract numbers mentally, including: ➢ a three-digit number and ones ➢ a three-digit number and tens ➢ a three-digit number and hundreds • add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	• add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	• add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • add and subtract numbers mentally with increasingly large numbers	• perform mental calculations, including with mixed operations and large numbers • use their knowledge of the order of operations to carry out calculations involving the four operations
Autumn 2 Spring 2	Autumn 2	Autumn 2	Autumn 2	Autumn 2	Autumn 2

Addition & subtraction: Problems

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ☐ – 9	• solve problems with addition and subtraction: ➢ using concrete objects and pictorial representations, including those involving numbers, quantities and measures ➢ applying their increasing knowledge of mental and written methods	• solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	• solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	• solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	• solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
Autumn 2 Spring 2	Autumn 2	Autumn 2	Autumn 2	Autumn 2	Autumn 2

Year 1 RTP Number facts

Ready to progress criteria	Block	Steps
1NF-1 Develop fluency in addition and subtraction facts within 10	Autumn 2	5 – Number bonds within 10 6 – Systematic number bonds within 10 7 – Number bonds to 10
	Spring 2	*Spring steps to follow in November 2022*
1NF-2 Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.		See under Multiplication & division

Year 2 RTP Number facts

Ready to progress criteria	Block	Steps
2NF-1 Secure fluency in addition and subtraction facts within 10, through continued practice.	Autumn Block 2	1 – Bonds to 10 6 – Add by making 10 8 – Add to the next 10 11 – Subtract from a 10

Year 3 RTP Number facts

Ready to progress criteria	Block	Steps
3NF-1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice.	Autumn Block 2	6 – Add 1s across a 10 7 – Add 10s across a 100 8 – Subtract 1s across a 10 9 – Subtract 1s across a 100 13 – Add two numbers (across a 10) 14 – Add two numbers (across a 100) 15 – Subtract two numbers (across a 10) 16 – Subtract two numbers (across a 100)
3NF-2 Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.		See under Multiplication & division
3NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).		See under Multiplication & division

Year 1 RTP Addition & subtraction

Ready to progress criteria	Block	Steps
1AS-1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.	Autumn Block 2	5 – Number bonds within 10 6 – Systematic number bonds within 10 7 – Number bonds to 10
1AS-2 Read, write and interpret equations containing addition (+), subtraction (–) and equals (=) symbols, and relate additive expressions and equations to real-life contexts.	Autumn Block 2	4 – Fact families – addition facts 8 – Addition – add together 9 – Addition – add more 10 – Addition problems 11 – Find a part 12 – Subtraction – find a part 13 – Fact families – the eight facts 14 – Subtraction – take away/cross out (How many left?) 15 – Subtraction – take away (How many left?) 16 – Subtraction on a number line
	Spring Block 2	*Spring steps to follow in November 2022*

Year 2 RTP Addition & subtraction

Ready to progress criteria	Block	Steps
2AS-1 Add and subtract across 10	Autumn 2	9 – Add across a 10 10 – Subtract across a 10 11 – Subtract from a 10 12 – Subtract 1-digit number from a 2-digit number (across a 10)
2AS-2 Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?".	Spring 1	*Spring steps to follow in November 2022*
2AS-3 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number.	Autumn 2	9 – Add across a 10 10 – Subtract across a 10 11 – Subtract from a 10 12 – Subtract 1-digit number from a 2-digit number (across a 10) 13 – 10 more, 10 less 14 – Add and subtract 10s
2AS-4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.	Autumn 2	15 – Add two 2-digit numbers (not across a 10) 16 – Add two 2-digit numbers (across a 10) 17 – Subtract two 2-digit numbers (not across a 10) 18 – Subtract two 2-digit numbers (across a 10) 19 – Mixed addition and subtraction
	Spring 1	*Spring steps to follow in November 2022*
	Spring 3	*Spring steps to follow in November 2022*

Year 3 RTP Addition & subtraction

Ready to progress criteria	Block	Steps
3AS-1 Calculate complements to 100	Autumn Block 2	19 – Complements to 100
	Summer 2	*Summer steps to follow in March 2023*
3AS-2 Add and subtract up to three-digit numbers using columnar methods.	Autumn Block 2	11 – Add two numbers (no exchange) 12 – Subtract two numbers (no exchange) 13 – Add two numbers (across a 10) 14 – Add two numbers (across a 100) 15 – Subtract two numbers (across a 10) 16 – Subtract two numbers (across a 100) 17 – Add 2-digit and 3-digit numbers 18 – Subtract a 2-digit number from a 3-digit number
3AS-3 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.	Autumn Block 2	21 – Inverse operations 22 – Make decisions
	Summer 2	*Summer steps to follow in March 2023*

Year 6 RTP Addition, subtraction, multiplication and division

Ready to progress criteria	Block	Steps
6AS/MD-1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).	Spring 1	*Spring steps to follow in November 2022*
6AS/MD-2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.	Autumn 2	8 – Solve problems with multiplication 10 – Division using factors 13 – Solve problems with division 14 – Solve multi-step problems 17 – Reason from known facts
6AS/MD-3 Solve problems involving ratio relationships.	See under Ratio and proportion	
6AS/MD-4 Solve problems with 2 unknowns.	See under Algebra	

Multiplication & division: Recall/Use

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	• recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	• recall multiplication and division facts for multiplication tables up to 12 × 12 • use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers • recognise and use factor pairs and commutativity in mental calculations	• identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers • establish whether a number up to 100 is prime and recall prime numbers up to 19 • recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})	• identify common factors, common multiples and prime numbers • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
	Spring 2	Autumn 3 Spring 1	Autumn 4 Spring 1	Autumn 3	Autumn 2

Multiplication & division: Calculations

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	• calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs	• 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	• multiply two-digit and three-digit numbers by a one-digit number using formal written layout	• multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers • multiply and divide numbers mentally drawing upon known facts • divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	• multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context • divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context • perform mental calculations, including with mixed operations and large numbers
	Spring 2	Autumn 3 Spring 1	Spring 1	Autumn 3 Spring 1	Autumn 2

Multiplication & division: Problems

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• 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	• solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	• 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	• 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 problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes • solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	• solve problems involving addition, subtraction, multiplication and division
Summer 1	Spring 2	Spring 1	Spring 1	Autumn 3 Spring 1	Autumn 2

Multiplication & division: Combined

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				• solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	• use their knowledge of the order of operations to carry out calculations involving the four operations
				Spring 1	Autumn 2

Year 1 RTP Number facts

Ready to progress criteria	Block	Steps
1NF-1 Develop fluency in addition and subtraction facts within 10	See under Addition & subtraction	
1NF-2 Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.	Summer 1	*Summer steps to follow in March 2023*
	Summer 4	*Summer steps to follow in March 2023*
	Summer 5	*Summer steps to follow in March 2023*

Year 3 RTP Number facts

Ready to progress criteria	Block	Steps
3NF-1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice.	See under Addition & subtraction	
3NF-2 Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.	Autumn Block 3	3 – Multiples of 2 4 – Multiples of 5 and 10 5 – Sharing and grouping 9 – Multiply by 4 10 – Divide by 4 11 – The 4 times-table
3NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).	Spring 1	*Spring steps to follow in November 2022*
	Spring 3	*Spring steps to follow in November 2022*

Year 4 RTP Number facts

Ready to progress criteria	Block	Steps
4NF-1 Recall multiplication and division facts up to 12 × 12 and recognise products in multiplication tables as multiples of the corresponding number.	Autumn 4	All 13 steps in this block relate to this criterion
	Spring 1	*Spring steps to follow in November 2022*
4NF-2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context.	Autumn 4	All 13 steps in this block relate to this criterion
	Spring 1	*Spring steps to follow in November 2022*
4NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100).	Spring 1	*Spring steps to follow in November 2022*
	Spring 4	*Spring steps to follow in November 2022*

Year 5 RTP Number facts

Ready to progress criteria	Block	Steps
5NF-1 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.	Autumn 3	1 – Multiples 2 – Common multiples 3 – Factors 4 – Common factors 6 – Square numbers
	Spring 1	*Spring steps to follow in November 2022*
	Spring 2	*Spring steps to follow in November 2022*
5NF-2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).	Autumn 3	10 – Divide by 10, 100 and 1,000
	Spring 3	*Spring steps to follow in November 2022*

Year 2 RTP Multiplication & division

Ready to progress criteria	Block	Steps
2MD-1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.	Spring 2	*Spring steps to follow in November 2022*
	Spring 4	*Spring steps to follow in November 2022*
	Summer 2	*Summer steps to follow in March 2023*
2MD-2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).	Spring 2	*Spring steps to follow in November 2022*

Year 3 RTP Multiplication & division

Ready to progress criteria	Block	Steps
3MD-1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.	Autumn 3	All 15 steps in this block relate to this criterion
	Spring 1	*Spring steps to follow in November 2022*

Year 4 RTP Multiplication & division

Ready to progress criteria	Block	Steps
4MD-1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.	Spring 1	*Spring steps to follow in November 2022*
4MD-2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.	Autumn 4	All 13 steps in this block relate to this criterion
4MD-3 Understand and apply the distributive property of multiplication.	Spring 1	*Spring steps to follow in November 2022*

Year 5 RTP Multiplication & division

Ready to progress criteria	Block	Steps
5MD-1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.	Autumn 3	8 – Multiply by 10, 100 and 1,000 9 – Divide by 10, 100 and 1,000 10 – Multiples of 10, 100 and 1,000
	Summer 3	*Summer steps to follow in March 2023*
5MD-2 Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors.	Autumn 3	1 – Multiples 2 – Common multiples 3 – Factors 4 – Common factors 6 – Square numbers
5MD-3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.	Spring 1	*Spring steps to follow in November 2022*
5MD-4 Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.	Spring 1	*Spring steps to follow in November 2022*

Year 6 RTP

Addition, subtraction, multiplication and division

Ready to progress criteria	Block	Steps
6AS/MD-1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).	Spring 1	*Spring steps to follow in November 2022*
6AS/MD-2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.	Autumn 2	8 – Solve problems with multiplication 10 – Division using factors 13 – Solve problems with division 14 – Solve multi-step problems 17 – Reason form known facts
6AS/MD-3 Solve problems involving ratio relationships.	See under Ratio and proportion	
6AS/MD-4 Solve problems with 2 unknowns.	See under Algebra	

Fractions: Recognise and write

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• recognise, find and name a half as one of two equal parts of an object, shape or quantity • recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	• recognise, find, name and write fractions $\frac{1}{3}, \frac{1}{4}, \frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity	• count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 • recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators • recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	• count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	• identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]	
Summer 2	Summer 1	Spring 3	Spring 4 Summer 1	Autumn 4	

Fractions: Compare

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	• Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	• recognise and show, using diagrams, equivalent fractions with small denominators • compare and order unit fractions, and fractions with the same denominators	• recognise and show, using diagrams, families of common equivalent fractions	• compare and order fractions whose denominators are all multiples of the same number	• use common factors to simplify fractions; use common multiples to express fractions in the same denomination • compare and order fractions, including fractions > 1
	Summer 1	Spring 3	Spring 3	Autumn 4	Autumn 3

Fractions: Calculations

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	• write simple fractions for example, $\frac{1}{2}$ of 6 = 3	• add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]	• add and subtract fractions with the same denominator	• add and subtract fractions with the same denominator and denominators that are multiples of the same number • multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	• add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions • multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$] • divide proper fractions by whole numbers [for example $\frac{1}{3} \div 2 = \frac{1}{6}$]
	Summer 1	Summer 1	Spring 3	Autumn 4 Spring 2	Autumn 3 Autumn 4

Fractions: Solve problems

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		• solve problems that involve all of the above	• solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number		
		Spring 3 Summer 1	Spring 3		

Decimals: Recognise, write, compare

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			• recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents to $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$ • round decimals with one decimal place to the nearest whole number • compare numbers with the same number of decimal places up to two decimal places	• read and write decimal numbers as fractions [for example, 0.71 = $\frac{71}{100}$] • recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • round decimals with two decimal places to the nearest whole number and to one decimal place • read, write, order and compare numbers with up to three decimal places	• identify the value of each digit in numbers given to three decimal places
			Spring 4 Summer 1	Spring 3 Summer 3	Spring 3

Fractions, decimals and percentages

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			• solve simple measure and money problems involving fractions and decimals to two decimal places	• recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal • solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25	• associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$] • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
			Spring 3 Spring 4 Summer1	Spring 3	Spring 3 Spring 4

Year 3 RTP Fractions

Ready to progress criteria	Block	Steps
3F-1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.	Spring 3	*Spring steps to follow in November 2022*
3F-2 Find unit fractions of quantities using known division facts (multiplication tables fluency).	Summer 1	*Summer steps to follow in March 2023*
3F-3 Reason about the location of any fraction within 1 in the linear number system.	Spring 3	*Spring steps to follow in November 2022*
3F-4 Add and subtract fractions with the same denominator, within 1	Summer 1	*Summer steps to follow in March 2023*

Year 4 RTP Fractions

Ready to progress criteria	Block	Steps
4F-1 Reason about the location of mixed numbers in the linear number system.	Spring 3	*Spring steps to follow in November 2022*
4F-2 Convert mixed numbers to improper fractions and vice versa.	Spring 3	*Spring steps to follow in November 2022*
4F-3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.	Spring 3	*Spring steps to follow in November 2022*

Year 5 RTP Fractions

Ready to progress criteria	Block	Steps
5F-1 Find non-unit fractions of quantities.	Spring 2	*Spring steps to follow in November 2022*
5F-2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system.	Autumn 4	1 – Find fractions equivalent to a unit fraction 2 – Find fractions equivalent to a non-unit fraction 3 – Recognise equivalent fractions
5F-3 Recall decimal fraction equivalents for $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{5}$ and $\frac{1}{10}$ and for multiples of these proper fractions.	Spring 3	*Spring steps to follow in November 2022*

Year 6 RTP Fractions

Ready to progress criteria	Block	Steps
6F-1 Recognise when fractions can be simplified, and use common factors to simplify fractions.	Autumn 3	1 – Equivalent fractions and simplifying 2 – Equivalent fractions on a number line
6F-2 Express fractions in a common denomination and use this to compare fractions that are similar in value.	Autumn 3	3 – Compare and order (denominator)
6F-3 Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.	Autumn 3	3 – Compare and order (denominator) 4 – Compare and order (numerator)

Ratio and proportion

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					• solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts • solve problems involving the calculation/use of percentages for comparison • solve problems involving similar shapes where the scale factor is known or can be found • solve problems involving unequal sharing and grouping using knowledge of fractions and multiples

Algebra

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• *solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ – 9*	• *recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems*	• *solve problems, including missing number problems*			• *use simple formulae* • *generate and describe linear number sequences* • *express missing number problems algebraically* • *find pairs of numbers that satisfy an equation with two unknowns* • *enumerate possibilities of combinations of two variables*

Year 6 RTP Addition, subtraction, multiplication and division

Ready to progress criteria	Block	Steps
6AS/MD-1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).	See under Addition and subtraction, multiplication and division	
6AS/MD-2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.	See under Addition and subtraction, multiplication and division	
6AS/MD-3 Solve problems involving ratio relationships.	Spring 1	*Spring steps to follow in November 2022*
6AS/MD-4 Solve problems with 2 unknowns.	Spring 2	*Spring steps to follow in November 2022*

Measurement - Using measures

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• compare, describe and solve practical problems for: ➢ lengths and heights ➢ mass/weight ➢ capacity and volume ➢ time • measure and begin to record the following: ➢ lengths and heights ➢ mass/weight ➢ capacity and volume ➢ time (hours, minutes, seconds)	• choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels • compare and order lengths, mass, volume/capacity and record the results using >, < and =	• measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	• Convert between different units of measure [for example, kilometre to metre; hour to minute] • estimate, compare and calculate different measures	• convert between different units of metric measure • understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints • use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling	• solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 d.p. where appropriate • use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 d.p. • convert between miles and kilometres
Spring 4 Spring 5 Summer 6	Spring 3 Spring 4	Spring 2 Spring 4	Spring 2 Summer 3	Spring 4 Summer 5 Summer 6	Autumn 5

Money

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] • recognise and use language relating to dates, including days of the week, weeks, months and years • tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	• compare and sequence intervals of time • tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times • know the number of minutes in an hour and the number of hours in a day	• tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks • estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight • know the number of seconds in a minute and the number of days in each month, year and leap year • compare durations of events [for example to calculate the time taken by particular events or tasks]	• read, write and convert time between analogue and digital 12- and 24-hour clocks • solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	• solve problems involving converting between units of time	• use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa Note – In the WRM schemes, time conversions are covered in Y5; the Y6 block concentrates on metric units.
Summer 6	Summer 2	Summer 3	Summer 3	Summer 5	Autumn 5

Perimeter, area, volume

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		• measure the perimeter of simple 2-D shapes	• measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • find the area of rectilinear shapes by counting squares	• measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • calculate and compare the area of rectangles (including squares) and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes • estimate volume [for example, using blocks to build cuboids] and capacity [for example, using water]	• recognise that shapes with the same areas can have different perimeters and vice versa • recognise when it is possible to use formulae for area and volume of shapes • calculate the area of parallelograms and triangles • calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units
		Spring 2	Autumn 3 Spring 2	Spring 4 Summer 6	Spring 5

Geometry - 2-D shapes

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• recognise and name common 2-D shapes [for example, rectangles (including squares), circles and triangles]	• identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line • identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] • compare and sort common 2-D shapes and everyday objects	• draw 2-D shapes	• compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • identify lines of symmetry in 2-D shapes presented in different orientations	• distinguish between regular and irregular polygons based on reasoning about equal sides and angles. • use the properties of rectangles to deduce related facts and find missing lengths and angles	• draw 2-D shapes using given dimensions and angles • compare and classify geometric shapes based on their properties and sizes • illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
Autumn 3	Autumn 3	Summer 4	Summer 4	Summer 1	Summer 1

3-D shapes

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]	• recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] • compare and sort common 3-D shapes and everyday objects	• make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them		• identify 3-D shapes, including cubes and other cuboids, from 2-D representations	• recognise, describe and build simple 3-D shapes, including making nets
Autumn 3	Autumn 3	Summer 4		Summer 1	Summer 1

Angles and lines

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		• recognise angles as a property of shape or a description of a turn • identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle • identify horizontal and vertical lines and pairs of perpendicular and parallel lines	• identify acute and obtuse angles and compare and order angles up to two right angles by size • identify lines of symmetry in 2-D shapes presented in different orientations • complete a simple symmetric figure with respect to a specific line of symmetry	• know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles • draw given angles, and measure them in degrees • identify: ➢ angles at a point and one whole turn (total 360°) ➢ angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) ➢ other multiples of 90°	• find unknown angles in any triangles, quadrilaterals, and regular polygons • recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
		Summer 4	Summer 4	Summer 2	Summer 1

Position and direction

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• describe position, direction and movement, including whole, half, quarter and three-quarter turns	• order and arrange combinations of mathematical objects in patterns and sequences • use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)		• describe positions on a 2-D grid as coordinates in the first quadrant • describe movements between positions as translations of a given unit to the left/right and up/down • plot specified points and draw sides to complete a given polygon	• 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	• describe positions on the full coordinate grid (all four quadrants) • draw and translate simple shapes on the coordinate plane, and reflect them in the axes
Summer 3	Summer 4		Summer 6	Summer 2	Summer 2

Year 1 RTP Geometry

Ready to progress criteria	Block	Steps
1G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.	Autumn 3	1 – Recognise and name 3-D shapes 2 – Sort 3-D shapes 3 – Recognise and name 2-D shapes 4 – Sort 2-D shapes 5 – Patterns with 2-D and 3-D shapes
1G-2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.	Autumn 3	1 – Recognise and name 3-D shapes 2 – Sort 3-D shapes 3 – Recognise and name 2-D shapes 4 – Sort 2-D shapes 5 – Patterns with 2-D and 3-D shapes

Year 2 RTP Geometry

Ready to progress criteria	Block	Steps
2G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.	Autumn 3	1 – Recognise 2-D and 3-D shapes 2 – Count sides on 2-D shapes 3 – Count vertices on 2-D shapes 7 – Sort 2-D shapes 8 – Count faces on 3-D shapes 9 – Count edges on 3-D shapes 10 – Count vertices on 3-D shapes 11 – Sort 3-D shapes

Year 3 RTP Geometry

Ready to progress criteria	Block	Steps
3G-1 Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations.	Summer 4	*Summer steps to follow in March 2023*
3G-2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.	Summer 4	*Summer steps to follow in March 2023*

Year 4 RTP Geometry

Ready to progress criteria	Block	Steps
4G-1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.	Summer 4	*Summer steps to follow in March 2023*
4G-2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons.	Spring 2	*Spring steps to follow in November 2022*
	Summer 4	*Summer steps to follow in March 2023*
4G-3 Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.	Summer 4	*Summer steps to follow in March 2023*

Year 5 RTP Geometry

Ready to progress criteria	Block	Steps
5G-1 Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.	Summer 1	*Summer steps to follow in March 2023*
5G-2 Compare areas and calculate the area of rectangles (including squares) using standard units.	Spring 4	*Spring steps to follow in November 2022*

Year 6 RTP Geometry

Ready to progress criteria	Block	Steps
6G-1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.	Spring 5	*Spring steps to follow in November 2022*
	Summer 1	*Summer steps to follow in March 2023*

Statistics

Present and interpret data

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	• interpret and construct simple pictograms, tally charts, block diagrams and simple tables	• interpret and present data using bar charts, pictograms and tables	• interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	• complete, read and interpret information in tables, including timetables	• interpret and construct pie charts and line graphs and use these to solve problems
	Summer 3	Summer 5	Summer 5	Spring 5	Spring 6

Solve statistic problems

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	• ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity • ask and answer questions about totalling and comparing categorical data	• 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	• solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	• solve comparison, sum and difference problems using information presented in a line graph	• calculate and interpret the mean as an average
	Summer 3	Summer 5	Summer 5	Spring 5	Spring 6