



Marlborough Primary Academy School – Maths Long Term Planning

Subject - MATHS LEARNING SEQUENCE

Teaching time to be weighted to the ready-to-progress criteria (DfE June 2020)

- EHCP & SEND Support refer to IEPs for the individual children.
- Minimum assessment for learning strategies to be used during every lesson: target questioning, peer talk, modelling, mini-plenaries, self-assessment, referral to success criteria.
- Long term memory development strategies to be used in every lesson through assessing prior knowledge at beginning of the unit and in the lesson.

<p>Mathematics Number ELG</p> <ul style="list-style-type: none"> • Have a deep understanding of number to 10, including the composition of each number. • Subitise up to 5 Automatically recall number bonds up to 5 and some number bonds to 10, including double facts <p>Numerical patterns ELG</p> <ul style="list-style-type: none"> • Verbally count beyond 20, recognising the pattern of the counting system. • 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. 					
<p>Communication and language</p> <p><u>Listening, attention and understanding ELG</u></p> <ul style="list-style-type: none"> • Listen attentively and respond to what they hear with relevant questions, comments and actions during class discussions and small group interactions. • Make comments about what they have heard and ask questions to clarify their understanding. • Hold conversation when engaged in back and forth exchanges with their teachers and peers. <p><u>Speaking ELG</u></p> <ul style="list-style-type: none"> • Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. • Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate. • Express their ideas and feelings about their experiences using full sentences, including use of past, present and future tenses and making use of conjunctions, with modelling and support from their teacher. 					
<p>Literacy Comprehension</p> <ul style="list-style-type: none"> • Use and understand recently introduced vocabulary during discussions about stories, nonfiction, rhymes and poems and during role-play, 					
<p>Personal, Social and Emotional</p> <p><u>Development Self regulation ELG</u></p> <ul style="list-style-type: none"> • Give focused attention to what the teacher says, responding appropriately even when engaged in activity, and show an ability to follow instructions involving several ideas or actions <p><u>Managing self</u></p> <ul style="list-style-type: none"> • Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. <p><u>Building relationships ELG</u></p> <ul style="list-style-type: none"> • Work and play cooperatively and take turns with others. 					
<p>Understanding the world Past and Present ELG</p> <ul style="list-style-type: none"> • Talk about the lives of the people around them and their roles in society. • Know some similarities and differences between things in the past and now, drawing on their experiences and what has been read in class. • Understand the past through settings, characters and events encountered in books read in class and storytelling. <p>The Natural World ELG</p> <ul style="list-style-type: none"> • Explore the natural world around them, making observations and drawing pictures of animals and plants. • Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. 					
Year Group	Rationale for Unit of Learning	Key Content from National Curriculum	Skills/Processes	Essential Knowledge	Vocabulary
<u>Willows Class (YR) Autumn 1</u>	As part of the transition into Reception, the provision should be planned to enable pupils to develop early	<ul style="list-style-type: none"> • Have a deep understanding of number to 10, including the composition of each number. • Subitise up to 5 Automatically recall number bonds up to 5 and some number bonds to 10, including double facts 	<p><u>Classifying:</u></p> <ul style="list-style-type: none"> • Classify objects based on one attribute • Identify the complement of a set 	<p><u>Classifying:</u></p> <ul style="list-style-type: none"> • Sorting a collection of objects based on one attribute. • Adding similar objects to a set. 	match objects equal unequal order

<p><u>Match, Sort and compare objects and sets (4 weeks)</u></p>	<p>mathematical concepts in classifying, matching, comparing and ordering. These experiences form the foundations for mathematics in Reception; helping pupils to identify and describe relationships.</p>	<p><u>Numerical patterns ELG</u></p> <ul style="list-style-type: none"> • Verbally count beyond 20, recognising the pattern of the counting system. • 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. 	<p><u>Matching:</u></p> <ul style="list-style-type: none"> • Match equal sets using one-to-one correspondence • Match unequal sets using one-to-one correspondence <p><u>Comparing:</u></p> <ul style="list-style-type: none"> • Compare objects according to size • Compare sets without counting <p><u>Ordering:</u></p> <ul style="list-style-type: none"> • Order objects according to length or height • Order sets without counting 	<ul style="list-style-type: none"> • Sorting objects into the complement of a set <p><u>Matching:</u></p> <ul style="list-style-type: none"> • Matching pairs of identical objects • Matching pairs of related objects • Matching objects in equal sets to identify whether there are the same amount or not • Matching objects in unequal sets to identify whether there are the same amount or not <p><u>Comparing:</u></p> <ul style="list-style-type: none"> • Comparing similar objects that differ in size • Comparing similar objects that are equal size • Comparing sets without counting <p><u>Ordering:</u></p> <ul style="list-style-type: none"> • Ordering three objects according to size • Ordering sets without counting 	<p>sets classify match compare size counting similar collection attribute beads identical related one two three</p>
<p><u>Willows Class (YR) Autumn 1</u></p> <p><u>Patterns & Early Number, Count, represent and subitise up to 3 objects (2 weeks)</u></p>	<p>Patterning supports the foundations for recall of the counting sequence and understanding number operations. Learning about patterns and connections will help children to make their own predictions and form logical connections. It's an important foundation for later mathematical thinking and reasoning.</p>	<p><u>ELG Number:</u></p> <ul style="list-style-type: none"> • Exploring numbers 1, 2 and 3, including exploration of the composition of each number. • Subitising up to three. Pupils are working towards the expected standard of the <p><u>ELG Numerical Patterns :</u></p> <ul style="list-style-type: none"> • Count to and within three, recognising the pattern of the counting system. • Compare quantities up to three in different contexts. • Begin to explore what a pattern is without reference to number <p><u>Development Matters:</u></p> <ul style="list-style-type: none"> • Count objects, actions and sounds. • Subitise • Link the number symbol to its cardinal number value • Compare numbers • Explore the composition of numbers to 10 • Select, rotate and manipulate shapes in order to develop spatial reasoning skills. • Continue, copy and create repeating patterns. 	<ul style="list-style-type: none"> • Represent, compare and explore numbers within 5 	<ul style="list-style-type: none"> • Recognise, describe and copy colour and size patterns • Recognise, describe, copy and extend colour and size patterns • Create and describe colour and size patterns • Count one and two objects reliably • Count one, two and three objects reliably • Count one, two and three objects reliably using abstract materials • Recognise the numerals one, two and three • Estimate a number of objects and check by counting • Create representations for numbers one, two and three 	<p>pattern, colour, size, big, small, long, short, next, before, extend, count, one, two, how many, same, different</p>
<p><u>Willows Class (YR) Autumn 2</u></p> <p><u>Number within 6 (2 weeks)</u></p>	<p>Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically.</p>	<p><u>ELG Number:</u></p> <ul style="list-style-type: none"> • Exploring numbers to six, including exploration of the composition of each number. • Subitising up to six. <p><u>ELG Numerical Patterns :</u></p>	<ul style="list-style-type: none"> • Represent, compare and explore numbers within 6 	<ul style="list-style-type: none"> • Count up to six objects reliably • To develop understanding about the number four, five and six • To explore conservation of numbers within six • To explore one more within six 	<p>One, two, three, four, five, six same different number names 1-6 counting</p>

	Children will be able to count confidently, develop a deep understanding of the numbers to 6, the relationships between them and the patterns within those numbers.	<ul style="list-style-type: none"> Count to and within six, recognising the pattern of the counting system. Compare quantities up to six in different contexts. <p><u>Development Matters:</u></p> <ul style="list-style-type: none"> Count objects, actions and sounds. Subitise Link the number symbol to its cardinal number value Compare numbers Understand the 'one more than/one less than' relationship between consecutive numbers. Explore the composition of numbers to 6 		<ul style="list-style-type: none"> To explore one fewer within six To place numbers 1-6 in order To explore conservation of numbers within six (2) 	numbers within first, next, before, after, more, fewer, greater, less
<p><u>Willows Class (YR)</u> <u>Autumn 2</u></p> <p><u>Explore addition and subtraction within 6 (2 weeks)</u></p>	Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children will be able to count confidently, develop a deep understanding of the numbers to 6, the relationships between them and the patterns within those numbers.	<p><u>ELG Number:</u></p> <ul style="list-style-type: none"> Exploring numbers to six, including exploration of the composition of each number. Exploring combining and partitioning of numbers within six which forms the foundations of understanding what number bonds are <p><u>ELG Numerical Patterns :</u></p> <ul style="list-style-type: none"> Count to and within six, recognising the pattern of the counting system. <p><u>Development Matters:</u></p> <ul style="list-style-type: none"> Count objects, actions and sounds. Subitise Link the number symbol to its cardinal number value Compare numbers Explore the composition of numbers to 6. Automatically recall number bonds for numbers 0-6 by exploring combining and partitioning. 	<ul style="list-style-type: none"> Represent, compare and explore numbers within 6 <p>Combination and partitioning</p> <ul style="list-style-type: none"> Represent and explain addition and subtraction Commutativity Addition and subtraction facts 	<ul style="list-style-type: none"> To explore the concept of zero To combine two groups To combine two groups including zero To explore subtraction by partitioning To practise addition and subtraction 	zero, nothing, none part, whole, plus, altogether is equal to, subtract minus
<p><u>Willows Class (YR)</u> <u>Autumn 2</u></p> <p><u>Explore 3D shapes (1 week)</u></p>	This unit helps children identify and organise information visually, recognise signs and symbols and develop an awareness of the relationship between people, objects and the space around them	<p><u>ELG Number:</u></p> <ul style="list-style-type: none"> Using knowledge of number to count and compare quantity of shapes or parts (e.g. counting the blocks or number of vertices) <p><u>ELG Numerical Patterns :</u></p> <ul style="list-style-type: none"> Comparing quantities in different contexts using shapes and their characteristics Exploring the patterns within 3-D shapes <p><u>Development Matters:</u></p> <ul style="list-style-type: none"> Talk about and explore 2-D and 3-D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners', 'straight', 'flat', 'round' (P89) Understand position through words alone – for example, "The bag is under the table," – with no pointing. Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind' (P90). 	<ul style="list-style-type: none"> Identify, describe, sort and classify 2-D and 3-D shapes Use and follow instructional and positional language 	<ul style="list-style-type: none"> To describe and sort 3-D shapes To explore the characteristics of 3-D shape To use mathematical language to describe position accurately (2). 	vertex, vertices, face, edge Over, under, above, below, top, bottom, side, on, in front, behind, front, back, beside, next to, between

		<ul style="list-style-type: none"> Select, rotate and manipulate shapes to develop spatial reasoning skills (P98). 			
<u>Willows Class (YR) Spring 1</u> <u>Count, represent and order numbers up to 10 (3 weeks)</u>	Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children will be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.	<u>ELG Number:</u> <ul style="list-style-type: none"> Exploring numbers 1 to 10, including exploration of the composition of each number. Subitising up to five <u>ELG Numerical Patterns :</u> <ul style="list-style-type: none"> Count to and within ten, recognising the pattern of the counting system. Comparing quantities up to ten in different contexts. Exploring patterns within numbers up to 10 <u>Development Matters:</u> <ul style="list-style-type: none"> Count objects, actions and sounds. Subitise Link the number symbol to its cardinal number value Compare numbers Understand the 'one more than/one less than' relationship between consecutive numbers. Explore the composition of numbers to 10 	<ul style="list-style-type: none"> Represent, compare and explore numbers within 10 	<ul style="list-style-type: none"> Count up to seven objects reliably Recognise numbers (within seven) in different representations Count up to eight objects reliably Recognise numbers (within eight) in different representations Count up to nine objects reliably Count up to ten objects reliably Explore one more and one greater within ten Explore one fewer and one less within ten Place numbers within ten in order Apply knowledge of numbers to ten to solve mathematical problems Use key vocabulary associated with ordinal numbers 1st to 10th 	One, two, three, four, five, six, seven, eight, nine, ten same, different, altogether, one more, one greater, one fewer, one less, increasing, decreasing, first, second, third, fourth, fifth, sixth, seventh, eighth, ninth, tenth, last, next, before, after, between
<u>Willows Class (YR) Spring 1</u> <u>Days of the Week (1 week)</u>	This unit will help them sequence events in the right order. Once they know about the days, they will easily understand words like yesterday, tomorrow, today, next week, last week, etc. It will also help them to understand story sequences and the order of events in a story.	<u>ELG Number:</u> <ul style="list-style-type: none"> Applying their understanding of numbers 1-10 e.g. seven days in a week, four seasons <u>ELG Numerical Patterns :</u> <ul style="list-style-type: none"> Compare quantities up to three in different contexts, including sequencing daily events and using ordinal language <u>Development Matters:</u> <ul style="list-style-type: none"> Count beyond ten. Compare numbers. Continue, copy and create repeating patterns. 	<ul style="list-style-type: none"> Explore and discuss time – the days of the week. 	<ul style="list-style-type: none"> Exploring and discussing time and the seasons Exploring and discussing the days of the week and daily events Using everyday language to talk about and sequence daily events Using ordinal language when sequencing events and measure short periods of time in simple ways. 	time, season, month, day, calendar, week, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday first, next, last, before, after, morning, afternoon, evening, night-time then, count, longer, shorter
<u>Willows Class (YR) Spring 1</u> <u>Explore addition and subtraction within 10 (1 week)</u>	Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children will be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers	<u>ELG Number:</u> <ul style="list-style-type: none"> Apply their understanding of numbers 1 – 10 and exploring the composition of numbers. Using subitising to identify numbers they are adding or subtracting. Developing an understanding of addition and subtraction will support them in recalling number bonds. <u>ELG Numerical Patterns :</u> <ul style="list-style-type: none"> Compare quantities up to 10. <u>Development Matters:</u> <ul style="list-style-type: none"> Count objects, actions and sounds. (Pupils will be applying their counting of objects to addition and subtraction). Subitise (For example when identifying their starting number without counting all objects). 	<ul style="list-style-type: none"> Represent, compare and explore numbers within 10 Combination and partitioning <ul style="list-style-type: none"> Represent and explain addition and subtraction Commutativity Addition and subtraction facts 	<ul style="list-style-type: none"> Adding two numbers together by counting on. Subtracting by taking away. Describing the direction on a number track when adding and subtracting. Explaining what happens when we add or take away from zero. 	first, then, now, plus, is equal to, take away,

		<ul style="list-style-type: none"> Explore the composition of numbers to 10. Automatically recall number bonds for numbers 0–5 and some to 10. 			
<u>Willows Class (YR) Spring 2</u> <u>Doubling and Halving (2 weeks)</u>	In this unit children will learn how to double and halve numbers to 10.	<u>ELG Number:</u> <ul style="list-style-type: none"> Exploring numbers 1 to 10, including exploration of the composition of each number. Subitising up to five Recalling double facts <u>ELG Numerical Patterns :</u> <ul style="list-style-type: none"> Count to and within ten, recognising the pattern of the counting system. Compare quantities up to 10 in different contexts, Explore and represent patterns within numbers up to 10, Explore and represent patterns within numbers up to 10 including double facts and how quantities can be distributed equally <u>Development Matters:</u> <ul style="list-style-type: none"> Count objects, actions and sounds. Subitise Link the number symbol to its cardinal number value Compare numbers Explore the composition of numbers to 10 	<ul style="list-style-type: none"> Represent, compare and explore numbers within 10 Combination and partitioning <ul style="list-style-type: none"> Represent and explain addition and subtraction Commutativity Addition and subtraction facts <ul style="list-style-type: none"> Doubling Halving 	<ul style="list-style-type: none"> To explore the concept of doubles To explore the concept of half To explore the relationship between double and half 	double, altogether, how many, count, Half, equal, same, part-whole model
<u>Willows Class (YR) Spring 2</u> <u>Number patterns within 15 (2 weeks)</u>	Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children will be able to count confidently, develop a deep understanding of the numbers to 15, the relationships between them and the patterns within those numbers.	<u>ELG Number:</u> <ul style="list-style-type: none"> Exploring numbers 1 to 10, including exploration of the composition of each number. Subitising up to five <u>ELG Numerical Patterns :</u> <ul style="list-style-type: none"> Count to and within ten, recognising the pattern of the counting system. Compare quantities up to 10 in different contexts, Explore and represent patterns within numbers up to 10, <u>Development Matters:</u> <ul style="list-style-type: none"> Count objects, actions and sounds. Subitise Link the number symbol to its cardinal number value Compare numbers Understand the 'one more than/one less than' relationship between consecutive numbers. Explore the composition of numbers to 10 	<ul style="list-style-type: none"> Represent, compare and explore numbers within 15 Combination and partitioning <ul style="list-style-type: none"> Represent and explain addition and subtraction Commutativity Addition and subtraction facts <ul style="list-style-type: none"> Doubling Halving 	<ul style="list-style-type: none"> To be able to count up to 15 objects and place them in order To know what is one more than a number within 15 To know what is one fewer than a number within 15 To apply knowledge of one more and one fewer To use the 'guess and check' strategy for problem solving To be able to order numbers within 15 To explore numbers within 15 	number, number names 0 to 15, order, more, fewer, greater, less, same, equal, one more than, one greater than, number line, between, before, after, bead string, guess, check, share, ordinal, 1 st , 2 nd , 3 rd , 4 th , 5 th , 6 th , 7 th , 8 th , 9 th , 10 th , first, last, order, sequence, groups of
<u>Willows Class (YR) Spring 2</u> <u>Shape and pattern (1 week)</u>	This unit helps children identify and organise information visually, recognise signs and symbols and develop an awareness of the relationship between	<u>ELG Number:</u> <ul style="list-style-type: none"> Using knowledge of number to count and compare quantity of shapes or parts (e.g. counting the bls or number of vertices) <u>ELG Numerical Patterns :</u>	<ul style="list-style-type: none"> Identify, describe, sort and classify 2-D and 3-D shapes Use and follow instructional and positional language 	<ul style="list-style-type: none"> To be able to sort 2-D shapes on the basis of one and two criteria To use 2-D shapes to recognise, continue and create patterns To be able to describe and sort 3-D shapes on the basis of one and two criteria 	side, edge, vertex, vertices, curved, straight, sort, criteria, corner, square, circle, triangle, rectangle pattern, next, same, different, flat face, face,

	people, objects and the space around them	<ul style="list-style-type: none"> Comparing quantities in different contexts using shapes and their characteristics Exploring the patterns within 3-D shapes . <p><u>Development Matters:</u></p> <ul style="list-style-type: none"> Talk about and explore 2-D and 3-D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round' (P89) Understand position through words alone – for example, "The bag is under the table," – with no pointing. Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind' (P90). Select, rotate and manipulate shapes to develop spatial reasoning skills (P98). 		<ul style="list-style-type: none"> To recognise, complete and create patterns using 3-D shapes To develop their reasoning skills using the known properties about shape 	
<u>Willows Class (YR) Summer 1</u> <u>Grouping and sharing (2 weeks)</u>	In this unit children will learn how to group and share quantities of items and numbers. They will learn that sharing means splitting into equal parts or groups.	<p><u>ELG Number:</u></p> <ul style="list-style-type: none"> Have a deep understanding of number to 10, including the composition of each number Pupils can recall some number bonds to 10, including double facts <p><u>ELG Numerical Patterns :</u></p> <ul style="list-style-type: none"> Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. <p><u>Development Matters:</u></p> <ul style="list-style-type: none"> Count objects, actions and sounds. (Pupils will be applying their counting of objects to grouping and sharing). Subitise (For example when identifying their starting number without counting all objects). Explore the composition of numbers to 10. 	<ul style="list-style-type: none"> Sharing happens where we know the number being divided and the number of groups but we don't know the size of each group. Grouping happens where we know the number being divided and the size of each group but we don't know how many groups. 	<ul style="list-style-type: none"> To practise counting in equal groups and adding them together To explore counting in groups to find a total To explore grouping objects in tens to find a total To explore counting in groups of five To explore sharing objects into twos equal groups To explore sharing objects into equal groups To explore sharing quantities into equal groups To recognise the connection between sharing and grouping and solve practical problems. 	groups of, each group, altogether, same, different, number, equal groups, pair, groups of two, bead string, is equal to, equal groups, same number, 0, 10, 20, 30, 40, 50, share, equal, unequal, same number, how many?
<u>Willows Class (YR) Summer 1</u> <u>Addition and Subtraction (4 weeks)</u>	Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children will be able to count confidently, develop a deep understanding of the numbers to 15, the relationships between them and the patterns within those numbers	<p><u>ELG Number:</u></p> <ul style="list-style-type: none"> Have a deep understanding of number to 10, including the composition of each number; 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. <p><u>ELG Numerical Patterns :</u></p> <ul style="list-style-type: none"> 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 double facts and how quantities can be distributed equally. <p><u>Development Matters:</u></p>	<ul style="list-style-type: none"> Represent, compare and explore numbers within 15 <p>Combination and partitioning</p> <ul style="list-style-type: none"> Represent and explain addition and subtraction Commutativity Addition and subtraction facts 	<ul style="list-style-type: none"> To add by combining two groups. To see addition as commutative. To explore subtraction as partitioning into two sets and as taking away. To comparative language when comparing two amounts. To solve problems involving doubling and halving. To see the relationship between doubling and halving. 	part, whole, plus, altogether, is equal to, first, then, now, plus, is equal to, subtract, minus, more, fewer, same, different, compare, greater than, less than, double, two equal parts, half, share between,

		<ul style="list-style-type: none"> Explore the composition of numbers to 10. Automatically recall number bonds for numbers 0– 5 and some to 10. 			
<u>Willows Class (YR) Summer 2</u> <u>Measuring, capacity, volume, weight and length (2 weeks)</u>	Measurement skills enable children to describe the world around them in accurate, standard ways that others can understand.	<u>ELG Number:</u> <ul style="list-style-type: none"> Exploring numbers up to 10. Subitising up to 5. <u>ELG Numerical Patterns :</u> <ul style="list-style-type: none"> Verbally count beyond 20, recognising the pattern of the counting system. Comparing quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. Exploring and representing patterns within numbers up to 10 <u>Development Matters:</u> <ul style="list-style-type: none"> Compare length, weight and capacity. Count objects, actions and sounds. Compare numbers. Count beyond ten. Subitise. Link the number symbol (numeral) with its cardinal number value 	<ul style="list-style-type: none"> Compare capacities, volumes and lengths 	<ul style="list-style-type: none"> To describe the capacities of objects and use language about capacity To compare the volume of liquid in different containers To compare the weights of objects and use language about weight To begin to estimate the lengths of objects and then compare and order lengths To measure objects using non standard units and use language related to measure accurately 	full, nearly full, half full, empty, nearly empty, half empty, the same, heavy, heavier, heaviest, light, lighter, lightest, the same, weight, more, less, about, length, same, different, how long, longer, longest, short, shorter, shortest, length, compare, order, long, longer, longest, short, shorter, shortest, tall, taller, tallest
<u>Willows Class (YR) Summer 2</u> <u>Number Patterns within 20 (2 weeks)</u>	Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children will be able to count confidently, develop a deep understanding of the numbers to 20, the relationships between them and the patterns within those numbers.	<u>ELG Number:</u> <ul style="list-style-type: none"> Exploring numbers up to 10, including the composition of each number; Subitising up to 5; Automatically recalling number bonds up to 5 (including subtraction facts) and some number bonds to 10 <u>ELG Numerical Patterns :</u> <ul style="list-style-type: none"> Comparing quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity; Exploring and representing patterns within numbers up to 10, including evens and odds and how quantities can be distributed equally <u>Development Matters:</u> <ul style="list-style-type: none"> Count objects, actions and sounds. Subitise Link the number symbol to its cardinal number value Compare numbers Understand the 'one more than/one less than' relationship between consecutive numbers. Explore the composition of numbers to 10 Automatically recall number bonds for numbers 0–5 and some to 10. 	<ul style="list-style-type: none"> Represent, compare and explore numbers within 15 Combination and partitioning <ul style="list-style-type: none"> Represent and explain addition and subtraction Commutativity Addition and subtraction facts <ul style="list-style-type: none"> Doubling Halving 	<ul style="list-style-type: none"> To be able to count up to 20 objects and place them in order (× 3) To be able to find one more and one greater than a number within 20 To be able to find one fewer and one less than a number within 20 To apply knowledge of one more, one fewer, one greater and one less (× 2) To investigate number combinations within 20 To explore ordinal numbers and consolidate patterns 	number names 0–20, more, fewer, order, one group of 10, numbers within 20, pattern, one more, one greater, one fewer, one less, before, after, between, 1 st , 2 nd , 3 rd , 4 th , 5 th , 6 th , 7 th , 8 th , 9 th , 10 th , first, last, order

<u>Willows Class (YR)</u> <u>Summer 2</u> <u>Number Patterns</u> <u>beyond 20 (2 weeks)</u>	Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children will be able to count confidently, develop a deep understanding of the numbers to 20 and beyond, the relationships between them and the patterns within those numbers.	<u>ELG Numerical Patterns :</u> <ul style="list-style-type: none"> Verbally count beyond 20, recognising the pattern of the counting system; <u>Development Matters:</u> <ul style="list-style-type: none"> Count verbally beyond 20, pausing at each multiple of 10 to draw out the structure, for instance when playing hide and seek, or to time children getting ready. Provide images such as number tracks, calendars and hundred squares indoors and out, including painted on the ground, so children become familiar with two-digit numbers and can start to spot patterns within them. Make predictions about what the outcome will be in stories, rhymes and songs if one is added, or if one is taken away. Provide 'staircase' patterns which show that the next counting number includes the previous number plus one. 	<ul style="list-style-type: none"> Represent, compare and explore numbers within 15 Combination and partitioning <ul style="list-style-type: none"> Represent and explain addition and subtraction Commutativity Addition and subtraction facts <ul style="list-style-type: none"> Doubling Halving 	<ul style="list-style-type: none"> Say which is one more or one less than a given number Estimate a number of objects and check by counting Solve practical problems that involve combining groups of 2, 5 or 10, or sharing into equal groups Count reliably to 50 Explore counting on and back from any number within 50 Place numbers 0—50 in order. 	twenty, thirty, forty, count on, one more than, one fewer/less than, estimate, check, greater than, share, equal, unequal
Year Group	Rationale for Unit of Learning	Key Content from National Curriculum	• Ready to Progress	• Essential Knowledge (small steps of learning)	Vocabulary
MAPLE CLASS			•	•	
<u>Maple Class (Y1/Y2)</u> <u>Autumn 1</u> <u>Place Value (5 weeks)</u>	Representing, comparing and ordering numbers to 10. Investigating the composition of numbers to 10.	<u>Year One:</u> <ul style="list-style-type: none"> 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 identify and represent numbers using objects and pictorial representations read and write numbers to 100 in numerals read and write numbers from 1 to 20 in numerals and words given a number, identify one more and one less 	<u>Year One:</u> <ul style="list-style-type: none"> 1NPV-1 Count within 100, forwards and backwards, starting with any number 1NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using $<$ $>$ and $=$ 	<u>Year One:</u> <ul style="list-style-type: none"> Sort objects Count objects Count objects from a larger group Represent objects Recognise numbers as words Count on from any number 1 more Count backwards within 10 1 less Compare groups by matching Fewer, more, same Less than, greater than, equal to Compare numbers Order objects and numbers The number line 	objects, sorted represent, count, group pairs, set amount represent numeral ten frame, one more, one less match, fewer less than, equal to, greater than zero, number track, number line.
	Place value of 2-digit numbers by exploring how to partition, compare and order numbers within 100.	<u>Year Two:</u> <ul style="list-style-type: none"> count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward read and write numbers to at least 100 in numerals and in words identify, represent and estimate numbers using different representations, including the number line recognise the place value of each digit in a two-digit number (tens, ones) compare and order numbers from 0 up to 100; use $=$ signs use place value and number facts to solve problems 	<u>Year Two:</u> <ul style="list-style-type: none"> 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. 2NPV-2 Reason about the location of any two-digit number in the linear number system, including identifying the 	<u>Year Two:</u> <ul style="list-style-type: none"> Numbers to 20 Count objects to 100 by making 10s Recognise tens and ones Use a place value chart Partition numbers to 100 Write numbers to 100 in words Flexibly partition numbers to 100 Write numbers to 100 in expanded form 10s on the number line to 100 10s and 1s on the number line to 100 Estimate numbers on a number line 	

			previous and next multiple of 10	<ul style="list-style-type: none"> • Compare objects • Compare numbers • Order objects and numbers • Count in 2s, 5s and 10s • Count in 3s 	
<p><u>Maple Class (Y1/Y2)</u></p> <p><u>Autumn 1 and Autumn 2 (goes over the half term break)</u></p> <p><u>Addition and subtraction (5 week)</u></p>	<p>Addition is taught as combination (aggregation) and subtraction as partitioning. Pupils are formally taught the symbols +, – and =, with which they write abstract equations, linking this to the part whole model.</p>	<p><u>Year One:</u></p> <ul style="list-style-type: none"> • add and subtract one-digit and twodigit 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 $7 = c - 9$ • 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) 	<p><u>Year One:</u></p> <ul style="list-style-type: none"> • 1NF-1 Develop fluency in addition and subtraction facts within 10 • 1AS-1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers. • 1AS-2 Read, write and interpret equations containing addition (+), subtraction (–) and equals (=) symbols, and relate additive expressions and equations to real-life contexts. 	<p><u>Year One:</u></p> <ul style="list-style-type: none"> • Introduce parts and wholes • Part-whole model • Write number sentences • Fact families – addition facts • Number bonds within 10 • Systematic number bonds within 10 • Number bonds to 10 • Addition – add together • Addition – add more • Addition problems • Find a part • Subtraction – find a part • Fact families – the eight facts • Subtraction – take away/cross out (How many left?) • Take away (How many left?) • Subtraction on a number line • Add or subtract 1 or 2 	<p>whole, parts, greater, zero, added, total, equals, =, addition sentence, plus, partition, altogether, bonds, same, different, subtraction sentence, taken away, jumps, land, adding, subtracting, missing number, plus, equals, number sentence, calculations, Rekenrek, add, subtract, partition, efficient, multiple, take away, multiple, hundred square, position, exchange, greater, smaller, increase, decrease, whole, parts, multiply, column, minus, hundreds, inverse, operations, written method, formal method, estimate, commutative, mental method, bar model</p>
	<p>Using known facts to derive new facts. Adding and subtracting tens and ones. Adding three 1-digit numbers</p>	<p><u>Year Two:</u></p> <ul style="list-style-type: none"> • add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones, a two-digit number and tens, two two-digit numbers, adding three one-digit numbers • solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures, applying their increasing knowledge of mental and written method • 	<p><u>Year Two:</u></p> <ul style="list-style-type: none"> • 2NF-1 Secure fluency in addition and subtraction facts within 10, through continued practice. 	<p><u>Year Two:</u></p> <ul style="list-style-type: none"> • Bonds to 10 • Fact families - addition and subtraction bonds within 20 • Related facts • Bonds to 100 (tens) • Add and subtract 1s • Add by making 10 • Add three 1-digit numbers • Add to the next 10 • Add across a 10 • Subtract across 10 • Subtract from a 10 • Subtract a 1-digit number from a 2-digit number (across a 10) • 10 more, 10 less • Add and subtract 10s • Add two 2-digit numbers (not across a 10) • Add two 2-digit numbers (across a 10) • Subtract two 2-digit numbers (not across a 10) • Subtract two 2-digit numbers (across a 10) • Mixed addition and subtraction • Compare number sentences 	

Maple Class (Y1/Y2) Autumn 2 Shape and Patterns (2 week)	Exploring shapes in different orientations and sizes and describing and classifying them. Describing position, direction and movement, including quarter turns.	Year One: <ul style="list-style-type: none"> 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 One: <ul style="list-style-type: none"> 1G–1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another. 1G–2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations. 	<ul style="list-style-type: none"> Missing number problems Year One: <ul style="list-style-type: none"> Recognise and name 3-D shapes Sort 3-D shapes Recognise and name 2-D shapes Sort 2-D shapes Patterns with 2-D and 3-D shapes 	3-D shape, cube, cones, cylinders, roll, 2-D shapes, square, circle, 2-D shape, 3D shape, odd one out, cuboid, pyramid, sphere, cube, cone, pentagons, circle, octagon, hexagon, triangle, square, side, straight, fewest, most, vertex, vertices, accurate, symmetrical, vertical line, mirror line, diagonal, rectangle, diagram, Venn diagram, face, curved surface, edge, miscount, repeating pattern, direction, clockwise, anti-clockwise, fraction of a turn, starting point, right angles, half turn, acute, obtuse, greater than, less than, equal to, cms, mms, horizontal, parallel, perpendicular, quadrilateral, polygon, square-based,
	Explore and describe the properties of 2-D and 3-D shapes including right angles and lines of symmetry within 2-D shapes. Developing understanding of rotations and turns in terms of quarter, half and three-quarter turns, both clockwise and anticlockwise.	Year Two: <ul style="list-style-type: none"> identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] compare and sort common 2-D shapes and everyday objects recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] compare and sort common 3-D shapes and everyday objects 	Year Two: <ul style="list-style-type: none"> 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. 	Year Two: <ul style="list-style-type: none"> Recognise 2-D and 3-D shapes Count sides on 2-D shapes Count vertices on 2-D shapes Draw 2-D shapes Lines of symmetry on shapes Use lines of symmetry to complete shapes Sort 2-D shapes Count faces on 3-D shapes Count edges on 3-D shapes Count vertices on 3-D shapes Sort 3-D shapes Make patterns with 2-D and 3-D shapes 	
Maple Class (Y1 / Y2) Spring 1 Place value within 20 (2 weeks) – Year 1 Maple Class (Y2/Y3) Spring 1 Money (2 weeks)	Representing, comparing and ordering numbers to 20. Investigating the composition of numbers to 20.	Year One: <ul style="list-style-type: none"> Count to and across 100, forwards and backwards, beginning with zero or 1, or from any given number Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s Read and write numbers from 1 to 20 in numerals and words 	Year One: 1NPV–1 Count within 100, forwards and backwards, starting with any number	Year One: <ul style="list-style-type: none"> Count within 20 Understand 10 Understand 11, 12 and 13 Understand 14, 15 and 16 Understand 17, 18 and 19 Understand 20 1 more and 1 less The number line to 20 Use a number line to 20 Estimate on a number line to 20 Compare numbers to 20 Order numbers to 20 	before, after, 'teen', greater than, less than, ten frame, same, different, numerals, digit, more than, less than, number line, start, end, label, mark, estimate, halfway, explain, greater, smaller, symbol, compare, groups, most, fewest, greatest, smallest tally chart, gate, table, represent, most popular, least popular, groups of, block diagram, row. column,
	Exploring coins and notes and their associated values. Applying understanding of numbers up to 100 and addition and	Year Two: <ul style="list-style-type: none"> 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 	Year Two:	Year Two: <ul style="list-style-type: none"> Count money – pence Count money – pounds (notes and coins) Count money – pounds and pence 	

	subtraction in the context of money problems	practical context involving addition and subtraction of money of the same unit, including giving change		<ul style="list-style-type: none"> Choose notes and coins Make the same amount Compare amounts of money Calculate with money Make a pound Find change Two-step problems 	axis, symbol, sorting, category, information, pictogram, bar chart, values, vertical, horizontal, questions, coin, note, total value, altogether, denomination, amount, change, compare, same, total, difference, spend, money, difference, costs, pounds, pence, convert, partition, exchange, part-whole model.
Maple Class (Y1/Y2) Spring 1 Multiplication and Division (5 weeks)	Pupils are introduced to multiplication and division through grouping and sharing. Representing multiplication abstractly using repeated addition	Year One: <ul style="list-style-type: none"> Count numbers to 100 in numerals; count in multiples of twos, fives and tens identify and represent numbers using objects and pictorial representations read and write numbers to 100 in numerals 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	Year One: <ul style="list-style-type: none"> 1NPV-1 Count within 100, forwards and backwards, starting with any number. 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. 	Year One: <ul style="list-style-type: none"> Count in 2s Count in 10s Count in 5s Recognise equal groups Add equal groups Make arrays Make doubles Make equal groups – grouping Make equal groups – sharing 	count, pairs, number line, number grid, equal groups of 2, digit, altogether, '5's', '10's', equal, unequal, number sentence, array, column, match, double, sharing, left over, equal, unequal, groups, same, altogether, addition sentence, repeated addition, multiplication, symbol, represent, array, division, calculation, number track, grouping, sharing, double, halve, odd/even numbers, digit, column, pattern, strategy,
	Representing multiplication and division concepts through part whole models, bar models, arrays and number lines. Writing multiplication and division equations, solving word problems and making connections between multiplication and division as inverse operations. Deepen understanding of multiplication and division and apply this to solve problems.	Year Two: <ul style="list-style-type: none"> recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts 		Year Two: <ul style="list-style-type: none"> Recognise equal groups Make equal groups Add equal groups Introduce the multiplication symbol Multiplication sentences Use arrays Make equal groups – grouping Make equal groups – sharing The 2 times-table Divide by 2 Doubling and halving Odd and even numbers The 10 times-table Divide by 10 The 5 times-table Divide by 5 The 5 and 10 times-tables	
Maple Class (Y1/Y2) Spring 2 Length and height (2 weeks)	Pupils describe, compare, and solve practical problems involving length and height.	Year One: <ul style="list-style-type: none"> compare, describe and solve practical problems for: lengths and heights measure and begin to record the following: lengths and height		Year One: <ul style="list-style-type: none"> Compare lengths and heights Measure length using objects Measure length in centimetres	longer, taller, shorter, objects, compare, length, height, measure, unit, start, end, 'cm',

	Comparing, estimating and measuring length using non-standard and standard measures. Solving measure problems.	Year Two: <ul style="list-style-type: none"> choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers. compare and order lengths and record the results using >, < and = 	Year Two: <ul style="list-style-type: none"> 	Year Two: <ul style="list-style-type: none"> Measure in centimetres Measure in metres Compare lengths and heights Order lengths and heights Four operations with lengths and heights 	ruler, numbers, long, tall, cm, zero, height, length, tape measure, metre stick, m, longer, shorter, taller, perimeter, millimetre, centimetres, accurately, interval, shorter, longer, equivalent, unit, subtract, perimeter, curved edge,
<u>Maple Class (Y1/Y2) Spring 2</u> <u>Mass and Volume (2 week)</u>	Measuring and comparing capacity and volume using standard and non-standard units of measure.	Year One: <ul style="list-style-type: none"> compare, describe and solve practical problems for: mass/weight and volume measure and begin to record the following: mass/weight and volume 		Year One: <ul style="list-style-type: none"> Heavier and lighter Measure mass Compare mass Full and empty Compare volume Measure capacity Compare capacity 	object, heavier, lighter, large, small, balance, scale, size, shape, scales balanced, mass, measure, container, full, empty, taller, wider, nearly empty, nearly full, volume, smallest to greatest, fill, capacity, volume
<u>Maple Class (Y1/Y2) Spring 2</u> <u>Mass, Capacity and Temperature (2 weeks)</u>	Introduces temperature and develops understanding of capacity and volume. Estimating and measuring mass using non-standard and standard units	Year Two: <ul style="list-style-type: none"> choose and use appropriate standard units to estimate and measure mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels compare and order mass, volume/capacity and record the results using >, < and = 	Year Two: <ul style="list-style-type: none"> 	Year Two: <ul style="list-style-type: none"> Compare mass Measure in grams Measure in kilograms Four operations with mass Compare volume and capacity Measure in millilitres Measure in litres Four operations with volume and capacity Temperature 	heavier, lighter, balance scale, mass, greater, smaller, mass, capacity, kilograms, subtract, volume, capacity, liquid, container, estimate, bar model, temperature, thermometer, number line, mass, grams, capacity, volume,
<u>Maple Class (Y1/Y2) Summer 1</u> <u>Fractions (2 weeks)</u>	Learning to recognise, find and name a half and a quarter as one of two/four equal parts of an object, shape and quantity. Applying their knowledge of halves and quarters to directional instructions	Year One: <ul style="list-style-type: none"> identify and represent numbers using objects and pictorial representations 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 		Year One: <ul style="list-style-type: none"> Recognise a half of an object or a shape Find a half of an object or a shape Recognise a half of a quantity Find a half of a quantity Recognise a quarter of an object or a shape Find a quarter of an object or a shape Recognise a quarter of a quantity Find a quarter of a quantity 	whole, parts, half, equal, split, total, equal groups, altogether, double, shaded, quarter, part, whole, larger, smaller, equal, unequal, equal parts, half, fraction bar, represent, fraction, denominator, quarter, third, numerator, greater than, less than, unit fractions, equivalent, three-quarters, pattern, diagram, divided equally, quarters, fifths, sixths, operation,
	The focus of this unit is on recognising, finding, naming and writing fractions of a line, shape, object and quantity. (halves, quarters and thirds)	Year Two: <ul style="list-style-type: none"> recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ write simple fractions for example, $\frac{1}{2}$ of 6 = 3 	Year Two: <ul style="list-style-type: none"> 	Year Two: <ul style="list-style-type: none"> Introduction to parts and whole Equal and unequal parts Recognise a half Find a half Recognise a quarter Find a quarter Recognise a third Find a third Find the whole 	

				<ul style="list-style-type: none"> • Unit fractions • Non-unit fractions • Recognise the equivalence of a half and two-quarters • Recognise three-quarters • Find three-quarters • Count in fractions up to a whole 	
Maple Class (Y1/Y2) Summer 1 Time (2 weeks)	Telling the time to the hour and half hour. Describing position, direction and movement, including whole, half and quarter, with reference to the clock face.	Year One: <ul style="list-style-type: none"> • compare, describe and solve practical problems for: time • measure and begin to record the following: time (hours, minutes, seconds) • 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 		Year One: <ul style="list-style-type: none"> • Before and after • Days of the week • Months of the year • Hours, minutes and seconds • Tell the time to the hour • Tell the time to the half hour 	morning, afternoon, evening, first, next, finally, yesterday, tomorrow, before, after, weekend, days, months, year, minutes, seconds, quicker, slower, clock, hand, pointing, face, half turn, hour, minute, clock, hand, half past, quarter past/to, three-quarters, quarter, seconds, noon, midnight, morning, afternoon, evening, Roman numerals, digital, analogue, am, pm, month, week, calendar, duration. slowest, fastest,
	Explore how many hours are in one day and how many minutes are in one hour. Comparing and sequencing events and intervals of time to the nearest five minutes. Telling the time to quarter to and past the hour.	Year Two: <ul style="list-style-type: none"> • compare and sequence intervals of time • tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times • know the number of minutes in an hour and the number of hours in a day 	Year Two: <ul style="list-style-type: none"> • 	Year Two: <ul style="list-style-type: none"> • O'clock and half past • Quarter past and quarter to • Tell the time past the hour • Tell the time to the hour • Tell the time to 5 minutes • Minutes in an hour • Hours in a day • 	
Maple Class (Y1/Y2) Summer 2 Position and Direction (2 weeks)	Children will be familiar with "half" and "quarter" from the previous block on fractions, but "three-quarter" will be a new concept to them. Children should be given lots of opportunities to practically turn objects as well as experience the motion of turns themselves. Giving them opportunities to play games and follow simple instructions will support this.	Year One: <ul style="list-style-type: none"> • Describe position, direction and movement, including whole, half, quarter and three-quarter turns • Use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside (non-statutory guidance) • Practise counting (1, 2, 3...), ordering (for example, 1st, 2nd, 3rd ...) (non-statutory guidance) 	Year One: <ul style="list-style-type: none"> • describe position, direction and movement, including whole, half, quarter and three-quarter turns 	Year One: <ul style="list-style-type: none"> • Describe turns • Describe position – left and right • Describe position – forwards and backwards • Describe position – above and below • Ordinal numbers 	Turn, quarter, half, position, quarter turn, direction, tangram, shape, left, right, backwards, forwards, above, below, top, bottom. Cylinder, circle, triangle, position, left, right, above, below, between, direction, backwards, forwards, half, quarter, clockwise, anti-clockwise, arrow, maze,
	Children will build upon previous learning reinforcing their knowledge of left and right. They will build their language of position and direction in a range of situations.	Year Two: <ul style="list-style-type: none"> • order and arrange combinations of mathematical objects in patterns and sequences • use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise) 	Year Two: <ul style="list-style-type: none"> • • 	Year Two: <ul style="list-style-type: none"> • Language of position • Describe movement • Describe turns • Describe movement and turns • Shape patterns with turns 	

Maple Class (Y1/Y2) Summer 2 Money (2 weeks)	Naming coins and notes and representing their values. Applying knowledge of addition and subtraction to money problems.	Year One: <ul style="list-style-type: none"> recognise and know the value of different denominations of coins and notes 	Year One:	Year One: <ul style="list-style-type: none"> Unitising Recognise coins Recognise notes Count in coins 	dots, value, counters, represent, match, difference, coins, sorted, order, total value, highest, lowest, notes, total amount
		Year Two: <ul style="list-style-type: none"> Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change 	Year Two:	Year Two: <ul style="list-style-type: none"> Count money – pence Count money – pounds (notes and coins) Count money – pounds and pence Choose notes and coins Make the same amount Compare amounts of money Calculate with money Make a pound Find change Two-step problems 	
Year Group	Rationale for Unit of Learning	Key Content from National Curriculum	Ready to Progress	Essential Knowledge (small steps of learning)	Vocabulary
Sycamore Class (Y3/Y4)					
Sycamore Class (Y3/Y4) Autumn 1 Place Value (3 weeks)	Place value of 2-digit numbers by exploring how to partition, compare and order numbers within 100.	Year Three: <ul style="list-style-type: none"> count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number identify, represent and estimate numbers using different representations read and write numbers up to 1000 in numerals and in words recognise the place value of each digit in a three-digit number (hundreds, tens, ones) compare and order numbers up to 1000 solve number problems and practical problems involving these ideas 	Year Three: <ul style="list-style-type: none"> 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 3NPV-2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and nonstandard partitioning. 3NPV-3 Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10 3NPV-4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts. 	Year Three: <ul style="list-style-type: none"> Represent numbers to 100 Partition numbers to 100 Number line to 100 Hundreds Represent numbers to 1,000 Partition numbers to 1,000 Flexible partitioning of numbers to 1,000 Hundreds, tens and ones Find 1, 10 or 100 more or less Number line to 1,000 Estimate on a number line to 1,000 Compare numbers to 1,000 Order numbers to 1,000 Count in 50s 	How many? numerals, tens, ones, group, individually, place value chart, represent, digit, column, whole, parts, bundle, partition, part-whole model, intervals, number line, halfway, estimate, position, arrange, compare, greater, smaller, jumps, hundreds, zero value, represent, placeholder, intervals, 4-digit, thousands, hundreds, tens, ones, partition, part-whole model, columns, midpoint, estimate, compare, inequality symbols, ascending, descending, multiple, zero

	Place value of numbers with up to 4 digits including finding 10, 100 or 100 more or less and rounding numbers.	<u>Year Four:</u> <ul style="list-style-type: none"> • count in multiples of 6, 7, 9, 25 and 1000 • count backwards through zero to include negative numbers • identify, represent and estimate numbers using different representations • read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value • find 1000 more or less than a given number • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000 • round any number to the nearest 10, 100 or 1000 • solve number and practical problems that involve all of the above and with increasingly large positive numbers 	<u>Year Four:</u> <ul style="list-style-type: none"> • 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 • 4NPV-2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning. • 4NPV-3 Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each. • 4NPV-4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts. 	<u>Year Four:</u> <ul style="list-style-type: none"> • Represent numbers to 1,000 • Partition numbers to 1,000 • Number line to 1,000 • Thousands • Represent numbers to 10,000 • Partition numbers to 10,000 • Flexible partitioning of numbers to 10,000 • Find 1, 10, 100, 1,000 more or less • Number line to 10,000 • Estimate on a number line to 10,000 • Compare numbers to 10,000 • Order numbers to 10,000 • Roman numerals • Round to the nearest 10 • Round to the nearest 100 • Round to the nearest 1,000 • Round to the nearest 10, 100 or 1,000 	
<u>Sycamore Class (Y3/Y4)</u> <u>Autumn 1</u> <u>Addition and Subtraction – 3 weeks</u>	Applying understanding of place value, number bonds, mental addition and subtraction strategies. Representing addition and subtraction word problems using bar models.	<u>Year Three:</u> <ul style="list-style-type: none"> • add and subtract numbers mentally, including: a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds • add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction • solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction 	<u>Year Three:</u> <ul style="list-style-type: none"> • 3NF-1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice. 	<u>Year Three:</u> <ul style="list-style-type: none"> • Apply number bonds within 10 • Add and subtract 1s • Add and subtract 10s • Add and subtract 100s • Spot the pattern • Add 1s across a 10 • Add 10s across a 100 • Subtract 1s across a 10 • Subtract 10s across a 100 • Make connections • Add two numbers (no exchange) • Subtract two numbers (no exchange) • Add two numbers (across a 10) • Add two numbers (across a 100) • Subtract two numbers (across a 10) • Subtract two numbers (across a 100) • Add 2-digit and 3-digit numbers 	

				<ul style="list-style-type: none"> • Subtract a 2-digit number from a 3-digit number • Complements to 100 • Estimate answers • Inverse operations • Make decisions • 	
	Explore both mental strategies and formal written methods of addition and subtraction. Solving addition and subtraction problems.	Year Four: <ul style="list-style-type: none"> • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why 		Year Four: <ul style="list-style-type: none"> • Add and subtract 1s, 10s, 100s and 1,000s • Add up to two 4-digit numbers – no exchange • Add two 4-digit numbers – one exchange • Add two 4-digit numbers – more than one exchange • Subtract two 4-digit numbers – no exchange • Subtract two 4-digit numbers – one exchange • Subtract two 4-digit numbers – more than one exchange • Efficient subtraction • Estimate answers • Checking strategies 	partition, ones, tens, hundreds, thousands, increase, decrease, changed, stayed the same, base 10, place value chart, concrete manipulatives, exchange, subtract, efficient, difference, multiple, inverse, commutative,
Sycamore Class (Y3/Y4) Autumn 2 Multiplication and Division – 7 weeks (over the Christmas break)	<p>Calculate mathematical statements including for 2-digit numbers by 1-digit numbers; progress from mental to formal written methods.</p> <p>Recall and use multiplication/ division facts for 6 & 8 times tables; count in multiples of 6 & 8; calculate mathematical statements.</p>	Year Three: <ul style="list-style-type: none"> • recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for twodigit numbers times one-digit numbers, using mental and progressing to formal written methods • solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects 	Year Three: <ul style="list-style-type: none"> • 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 • 3NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10). 	Year Three: <ul style="list-style-type: none"> • Multiplication – equal groups • Use arrays • Multiples of 2 • Multiples of 5 and 10 • Sharing and grouping • Multiply by 3 • Divide by 3 • The 3 times-table • Multiply by 4 • Divide by 4 • The 4 times-table • Multiply by 8 • Divide by 8 • The 8 times-table • The 2, 4 and 8 times-tables 	multiple, digit sum, odd, even, equal groups, commutative, division, array, groups of, known facts, factors, pairs,
	Developing pupils understanding of both mental and written multiplication and division strategies including the formal methods for short division and short multiplication	Year Four: <ul style="list-style-type: none"> • 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 	Year Four: <ul style="list-style-type: none"> • 4NF-1 Recall multiplication and division facts up to 12×12 and recognise products in multiplication tables as multiples of the corresponding number. 	Year Four: <ul style="list-style-type: none"> • Multiples of 3 • Multiply and divide by 6 • 6 times-table and division facts • Multiply and divide by 9 • 9 times-table and division facts • The 3, 6 and 9 times-tables • Multiply and divide by 7 • 7 times-table and division facts • 11 times-table and division facts 	

			<ul style="list-style-type: none"> • 4NF-2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context. 	<ul style="list-style-type: none"> • 12 times-table and division facts • Multiply by 1 and 0 • Divide a number by 1 and itself • Multiply three numbers 	
	Developing pupils understanding of both mental and written multiplication and division strategies including the formal methods for short division and short multiplication	Year Four: <ul style="list-style-type: none"> • recall multiplication and division facts for multiplication tables up to 12×12 • use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers • recognise and use factor pairs and commutativity in mental calculations • multiply two-digit and three-digit numbers by a one-digit number using formal written layout • solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects 	Year Four: <ul style="list-style-type: none"> • 4NF-1 Recall multiplication and division facts up to 12×12 and recognise products in multiplication tables as multiples of the corresponding number. • 4NF-2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context. • 4NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100). 	Year Four: <ul style="list-style-type: none"> • Factor pairs • Use factor pairs • Multiply by 10 • Multiply by 100 • Divide by 10 • Divide by 100 • Related facts – multiplication and division • Informal written methods for multiplication • Multiply a 2-digit number by a 1-digit number • Multiply a 3-digit number by a 1-digit number • Divide a 2-digit number by a 1-digit number (1) • Divide a 2-digit number by a 1-digit number (2) • Divide a 3-digit number by a 1-digit number • Correspondence problems • Efficient multiplication 	arrays, factors, whole number, calculation, multiplication, division, placeholder, place value chart, dividing, one-tenth, compare, original number, one-hundredth, size, efficient, part-whole model, exchange, efficient, shared equally, remainder, combinations,
Sycamore Class (Y3/Y4) Spring 1 Length and Perimeter (3 weeks)	Measure, compare, add/subtract lengths; solve problems using appropriate tools and units. Measure, compare, add/subtract and solve problems, using appropriate tools and units.	Year Three: <ul style="list-style-type: none"> • measure, compare, add and subtract: lengths (m/cm/mm) 	Year Three: <ul style="list-style-type: none"> • 	Year Three: <ul style="list-style-type: none"> • Measure in metres and centimetres • Measure in millimetres • Measure in centimetres and millimetres • Metres, centimetres and millimetres • Equivalent lengths (metres and centimetres) • Equivalent lengths (centimetres and millimetres) • Compare lengths • Add lengths • Subtract lengths • What is perimeter? • Measure perimeter • Calculate perimeter 	measurement, unit, length, Km, m, cm, mm, distance, convert, perimeter, twice, calculate, rectangle, horizontal, vertical, total, regular, polygon, decagon, irregular, symmetrical,
	Exploring perimeter including perimeter of composite rectilinear shapes in mixed units.	Year Four: <ul style="list-style-type: none"> • Convert between different units of measure [for example, kilometre to metre; hour to minute] • estimate, compare and calculate different measures 	Year Four: <ul style="list-style-type: none"> • 4G-2 Identify regular polygons, including equilateral triangles and squares, as those in 	Year Four: <ul style="list-style-type: none"> • Measure in kilometres and metres • Equivalent lengths (kilometres and metres) • Perimeter on a grid 	

		<ul style="list-style-type: none"> measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares 	<p>which the side lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons.</p>	<ul style="list-style-type: none"> Perimeter of a rectangle Perimeter of rectilinear shapes Find missing lengths in rectilinear shapes Calculate perimeter of rectilinear shapes Perimeter of regular polygons Perimeter of polygons 	
<p>Sycamore Class (Y3/Y4)</p> <p>Spring 2</p> <p>Fractions (4 weeks)</p>	<p>Recognise, use, compare, order simple fractions; understand fractions as parts of a whole; add/subtracts fractions of same denominator</p>	<p>Year Three:</p> <ul style="list-style-type: none"> count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators recognise and show, using diagrams, equivalent fractions with small denominators compare and order unit fractions, and fractions with the same denominators add and subtract fractions with the same denominator within one whole [for example, $5/7 + 1/7 = 6/7$] solve problems that involve all of the above 	<p>Year Three:</p> <ul style="list-style-type: none"> 3F-1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts. 3F-2 Find unit fractions of quantities using known division facts (multiplication tables fluency). 3F-3 Reason about the location of any fraction within 1 in the linear number system. 3F-4 Add and subtract fractions with the same denominator, within 1 	<p>Year Three:</p> <ul style="list-style-type: none"> Understand the denominators of unit fractions Compare and order unit fractions Understand the numerators of non-unit fractions Understand the whole Compare and order non-unit fractions Fractions and scales Fractions on a number line Count in fractions on a number line Equivalent fractions on a number line Equivalent fractions as bar models Add fractions Subtract fractions Partition the whole Unit fractions of a set of objects Non-unit fractions of a set of objects Reasoning with fractions of an amount 	
	<p>Find equivalent fractions, introduces mixed numbers and improper fractions, add and subtract fractions, calculate fractions of quantities and finally solve problems involving fractions</p>	<p>Year Four:</p> <ul style="list-style-type: none"> count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. recognise and show, using diagrams, families of common equivalent fractions add and subtract fractions with the same denominator solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number solve simple measure and money problems involving fractions and decimals to two decimal places 	<p>Year Four:</p> <ul style="list-style-type: none"> 4F-1 Reason about the location of mixed numbers in the linear number system. 4F-2 Convert mixed numbers to improper fractions and vice versa. 4F-3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers. 	<p>Year Four:</p> <ul style="list-style-type: none"> Understand the whole Count beyond 1 Partition a mixed number Number lines with mixed numbers Compare and order mixed numbers Understand improper fractions Convert mixed numbers to improper fractions Convert improper fractions to mixed numbers Equivalent fractions on a number line Equivalent fraction families Add two or more fractions Add fractions and mixed numbers Subtract two fractions Subtract from whole amounts Subtract from mixed numbers 	<p>divided, equal parts, 1/5, fifth, fraction, numerator, denominator, representation, mixed number, sequence, 1/6, sixth, 1/7, sevenths, partition, intervals, integers, previous, proper fractions, improper fractions, fractional part, equivalent, remainder, smaller part, fraction wall,</p>
<p>Sycamore Class (Y3/Y4)</p> <p>Spring 2</p>	<p>Measure, compare, add/ subtract and solve problems, using appropriate tools and units.</p>	<p>Year Three:</p> <ul style="list-style-type: none"> measure, compare, add and subtract: mass (kg/g); volume/capacity (l/ml) 	<p>Year Three:</p> <ul style="list-style-type: none"> 	<p>Year Three:</p> <ul style="list-style-type: none"> Use scales Measure mass in grams Measure mass in kilograms and grams 	

<u>Mass and Capacity – Y3 (2 weeks)</u>				<ul style="list-style-type: none"> • Equivalent masses (kilograms and grams) • Compare mass • Add and subtract mass • Measure capacity and volume in millilitres • Measure capacity and volume in litres and millilitres • Equivalent capacities and volumes (litres and millilitres) • Compare capacity and volume • Add and subtract capacity and volume 	
<u>Sycamore Class (Y3/Y4)</u> <u>Spring 2</u> <u>Decimals – Y4 (2 weeks)</u>	Children will explore different ways of making 1 whole by combining tenths as well as exploring different ways of making 1 whole from hundredths.	<u>Year Four:</u> <ul style="list-style-type: none"> • Recognise and write decimal equivalents of any number of tenths or hundredths • Solve simple measure and money problems involving fractions and decimals to 2 decimal places • Round decimals with 1 decimal place to the nearest whole number • Recognise and write decimal equivalents of any number of tenths or hundredths • Recognise and write decimal equivalents to 1/4, 1/2 and 3/4 	<u>Year Four:</u> •	<u>Year Four:</u> <ul style="list-style-type: none"> • Make a whole with tenths • Make a whole with hundredths • Partition decimals • Flexibly partition decimals • Compare decimals • Order decimals • Round to the nearest whole number • Halves and quarters as decimals 	tenths, whole, split, equal parts, number bond, hundredths, partition, decimal, zero, represent, compare, value, rounding, fraction, equivalent fraction
<u>Sycamore Class (Y3/Y4)</u> <u>Summer 1</u> <u>Money (2 weeks)</u>	Applying understanding to a variety of problems.	<u>Year Three:</u> add and subtract amounts of money to give change, using both £ and p in practical contexts <u>Year Four:</u> <ul style="list-style-type: none"> • estimate, compare and calculate different measures, including money in pounds and pence 	<u>Year Four:</u> •	<u>Year Three:</u> <ul style="list-style-type: none"> • Pounds and pence • Convert pounds and pence • Add money • Subtract money • Find change <u>Year Four:</u> <ul style="list-style-type: none"> • Write money using decimals • Convert between pounds and pence • Compare amounts of money • Estimate with money • Calculate with money • Solve problems with money 	pounds, pence, hundreds, tens, ones, hundredths, tenths, decimal, notation, partition, digit, column, estimate, approximately, cost, exchange, change,
<u>Sycamore Class (Y3/Y4)</u> <u>Summer 1</u> <u>Time (2 weeks)</u>	Tell, record, write and compare the time, including using Roman numerals, 12hr clocks, a.m. and p.m.; compare durations.	<u>Year Three:</u> <ul style="list-style-type: none"> • tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks • estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight • know the number of seconds in a minute and the number of days in each month, year and leap year • compare durations of events [for example to calculate the time taken by particular events or tasks] 	<u>Year Three:</u> •	<u>Year Three:</u> <ul style="list-style-type: none"> • Roman numerals to 12 • Tell the time to 5 minutes • Tell the time to the minute • Read time on a digital clock • Use am and pm • Years, months and days • Days and hours • Hours and minutes – use start and end times • Hours and minutes - use durations • Minutes and seconds • Units of time 	days, weeks, months, years, 12-hour, 24-hour, months, leap years, convert, second, minute, hour, interval, equal to, analogue, digital, duration, noon, midnight, am, pm

				<ul style="list-style-type: none"> Solve problems with time 	
	Tell, record, write and compare the time, including using Roman numerals, 12hr clocks, a.m. and p.m.; compare durations.	<u>Year Four:</u> <ul style="list-style-type: none"> Convert between different units of measure [for example; hour to minute] estimate, compare and calculate different measures read, write and convert time between analogue and digital 12- and 24-hour clocks solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days 	<u>Year Four:</u>	<u>Year Four:</u> <ul style="list-style-type: none"> Years, months, weeks and days Hours, minutes and seconds Convert between analogue and digital times Convert to the 24-hour clock Convert from the 24-hour clock 	
<u>Sycamore Class (Y3/Y4)</u> <u>Summer 2</u> <u>Statistics (2 weeks)</u>	Children learn how to interpret and draw pictograms and bar charts to represent discrete data. They also learnt how to collect and represent data in a table. During this unit they will interpret a range of charts, including line graphs. They will learn how to draw line graphs accurately.	<u>Year Three:</u> <ul style="list-style-type: none"> interpret and present data using bar charts, pictograms and tables solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables 	<u>Year Three:</u> <ul style="list-style-type: none"> 	<u>Year Three:</u> <ul style="list-style-type: none"> Interpret pictograms Draw pictograms Interpret bar charts Draw bar charts Collect and represent data Two-way tables 	represent, data, scale, symbol, total, more than, less than, difference, horizontal, vertical, axis, estimate, plot,
		<u>Year Four:</u> <ul style="list-style-type: none"> interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs 	<u>Year Four:</u>	<u>Year Four:</u> <ul style="list-style-type: none"> Interpret charts Comparison, sum and difference Interpret line graphs Draw line graphs 	
<u>Sycamore Class (Y3/Y4)</u> <u>Summer 2</u> <u>Position and Direction (2 weeks)</u>	Reading and writing coordinates; reading and plotting coordinates of polygons, translation of points	<u>Year Three:</u> <ul style="list-style-type: none"> describe position, direction and movement, including whole, half, quarter and three-quarter turns 		<u>Year Three:</u> <ul style="list-style-type: none"> Describe turns Describe position – left and right Describe position – forwards and backwards Describe position – above and below Ordinal numbers 	turn, full turn, half turn, quarter turn, three-quarter, direction, right, left, movement, forwards, backwards, squares, above, below, first, last, ordinal, position, horizontal, vertical, axis, x and y axis, coordinates, point, pair, value, straight, cross, lines, vertex, translation, left, right,
		<u>Year Four:</u> <ul style="list-style-type: none"> describe positions on a 2-D grid as coordinates in the first quadrant describe movements between positions as translations of a given unit to the left/right and up/down plot specified points and draw sides to complete a given polygon 	<u>Year Four:</u> <ul style="list-style-type: none"> 4G-1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant. 	<u>Year Four:</u> <ul style="list-style-type: none"> Describe position using coordinates Plot coordinates Draw 2-D shapes on a grid Translate on a grid Describe translation on a grid 	
Year Group	Rationale for Unit of Learning	Key Content from National Curriculum	Ready to Progress	Essential Knowledge (small steps of learning)	Vocabulary
Beech Class (Y5/Y6)					
<u>Beech Class (Y5/Y6)</u> <u>Autumn 1</u> <u>Place Value (2 weeks)</u>	Extending their understanding of the number system and place value to include 5- digit and 6-digit numbers	<u>Year Five:</u> <ul style="list-style-type: none"> count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 count forwards and backwards with positive and negative whole numbers, including through zero read, write, (order and compare) numbers to at least 1 000 000 and determine the value of each digit 	<u>Year Five:</u>	<u>Year Five:</u> <ul style="list-style-type: none"> Roman numerals to 1,000 Numbers to 10,000 Numbers to 100,000 Numbers to 1,000,000 Read and write numbers to 1,000,000 Powers of 10 	patterns, number system, value, digit, column, exchanged, rounding, numerals, commas, one million, placeholders, power of 10, Gattegno chart,

		<ul style="list-style-type: none"> • read Roman numerals to 1000 (M) and recognise years written in Roman numerals • (read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit • 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 		<ul style="list-style-type: none"> • 10/100/1,000/10,000/100,000 more or less • Partition numbers to 1,000,000 • Number line to 1,000,000 • Compare and order numbers to 100,000 • Compare and order numbers to 1,000,000 • Round to the nearest 10, 100 or 1,000 • Round within 100,000 • Round within 1,000,000 	interval, ascending, descending, comparing. Halfway, multiple,
		<p><u>Year Six:</u></p> <ul style="list-style-type: none"> • Read, write, (order and compare) numbers up to 10 000 000 and determine the value of each digit • (read, write), order and compare numbers up to 10 000 000 and determine the value of each digit • round any whole number to a required degree of accuracy • use negative numbers in context, and calculate intervals across zero • solve number and practical problems that involve all of the above 	<p><u>Year Six:</u></p> <ul style="list-style-type: none"> • 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) • 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. • 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. • 6NPV-4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts. 	<p><u>Year Six:</u></p> <ul style="list-style-type: none"> • Numbers to 1,000,000 • Numbers to 10,000,000 • Read and write numbers to 10,000,000 • Powers of 10 • Number line to 10,000,000 • Compare and order any integers • Round any integer • Negative numbers 	
<u>Beech Class (Y5/Y6)</u> <u>Autumn 1</u>	Explore both mental calculation strategies and	<u>Year Five:</u>	<u>Year Five:</u> <ul style="list-style-type: none"> • 5NF-1 Secure fluency in multiplication table facts, 	<u>Year Five:</u> <ul style="list-style-type: none"> • Mental strategies 	partitioned, sum, multiples, strategies, compensation,

<p><u>Addition, Subtraction, Multiplication and Division – 5 weeks</u></p>	<p>the formal written layout for addition and subtraction.</p> <p>Exploring factors, multiples, square numbers, prime numbers and composite numbers. Exploring a range of calculation strategies to multiply and divide with increasingly large numbers, including the formal written layout.</p>	<ul style="list-style-type: none"> • add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • add and subtract numbers mentally with increasingly large numbers • solve addition and subtraction multistep 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 • identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers • establish whether a number up to 100 is prime and recall prime numbers up to 19 • recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) • multiply numbers up to 4 digits by a one- or twodigit number using a formal written method, including long multiplication for two-digit numbers • multiply and divide numbers mentally drawing upon known facts • divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 • solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes • solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates • solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign 	<p>and corresponding division facts, through continued practice.</p> <ul style="list-style-type: none"> • 5NF-2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth). • 5MD-1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size. • 5MD-2 Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors. 	<ul style="list-style-type: none"> • Add whole numbers with more than four digits • Subtract whole numbers with more than four digits • Round to check answers • Inverse operations (addition and subtraction) • Multi-step addition and subtraction problems • Compare calculations • Find missing numbers • Multiples • Common multiples • Factors • Common factors • Prime numbers • Square numbers • Cube numbers • Multiply by 10, 100 and 1,000 • Divide by 10, 100 and 1,000 • Multiples of 10, 100 and 1,000 	<p>adjustment, 'line up', column method, division, estimate, rounding, approximate, operation, inverse, common multiples, factors, common factors, prime, square numbers, cube numbers, divisible, systematic, composite number, cubed,</p>
		<p><u>Year Six:</u></p> <ul style="list-style-type: none"> • perform mental calculations, including with mixed operations and large numbers • use their knowledge of the order of operations to carry out calculations involving the four operations • solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why 	<p><u>Year Six:</u></p> <ul style="list-style-type: none"> • 6AS/MD-2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, 	<p><u>Year Six:</u></p> <ul style="list-style-type: none"> • Add and subtract integers • Common factors • Common multiples • Rules of divisibility • Primes to 100 • Square and cube numbers • Multiply up to a 4-digit number by a 2-digit number 	

		<ul style="list-style-type: none"> • identify common factors, common multiples and prime numbers • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy • multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context • divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context • perform mental calculations, including with mixed operations and large numbers • solve problems involving addition, subtraction, multiplication and division • use their knowledge of the order of operations to carry out calculations involving the four operations 	<p>and place-value understanding.</p> <ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Solve problems with multiplication • Short division • Division using factors • Introduction to long division • Long division with remainders • Solve problems with division • Solve multi-step problems • Order of operations • Mental calculations and estimation • Reason from known facts 	
<p><u>Beech Class (Y5/Y6)</u></p> <p><u>Autumn 2</u></p> <p><u>Fractions (4 weeks)</u></p>	<p>Connections are made between fractions and decimals. Numbers with up to three decimal places are introduced.</p>	<p><u>Year Five:</u></p> <ul style="list-style-type: none"> • 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, $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$] • compare and order fractions whose denominators are all multiples of the same number • add and subtract fractions with the same denominator and denominators that are multiples of the same number • multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams 	<p><u>Year Five:</u></p> <ul style="list-style-type: none"> • 5F-1 Find non-unit fractions of quantities • 5F-2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system. • 5F-3 Recall decimal fraction equivalents for $1/4$, $1/2$, $1/5$ and $1/10$ and for multiples of these proper fractions. 	<p><u>Year Five:</u></p> <ul style="list-style-type: none"> • Recognise a half of an object or a shape • Find a half of an object or a shape • Recognise a half of a quantity • Find a half of a quantity • Recognise a quarter of an object or a shape • Find a quarter of an object or a shape • Recognise a quarter of a quantity • Find a quarter of a quantity • Multiply a unit fraction by an integer • Multiply a non-unit fraction by an integer • Multiply a mixed number by an integer • Calculate a fraction of a quantity • Fraction of an amount • Find the whole • Use fractions as operators 	<p>whole, parts, half, vertically, horizontally, diagonally, equal parts, total, shared, quarter, numerator, denominator, unit fraction, integer, multiplication, repeated addition, improper fraction, mixed number, partition, simplest form,</p>
		<p><u>Year Six:</u></p> <ul style="list-style-type: none"> • use common factors to simplify fractions; use common multiples to express fractions in the same denomination • compare and order fractions, including fractions > 1 • add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions 	<p><u>Year Six:</u></p> <ul style="list-style-type: none"> • 6F-1 Recognise when fractions can be simplified, and use common factors to simplify fractions. • 6F-2 Express fractions in a common denomination and use 	<p><u>Year Six:</u></p> <ul style="list-style-type: none"> • Equivalent fractions and simplifying • Equivalent fractions on a number line • Compare and order (denominator) • Compare and order (numerator) • Add and subtract simple fractions • Add and subtract any two fractions • Add mixed numbers • Subtract mixed numbers 	

		<ul style="list-style-type: none"> multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $1/4 \times 1/2 = 1/8$] divide proper fractions by whole numbers [for example $1/3 \div 2 = 1/6$] 	<p>this to compare fractions that are similar in value.</p> <ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Multi-step problems Multiply fractions by integers Multiply fractions by fractions Divide a fraction by an integer Divide any fraction by an integer Mixed questions with fractions Fraction of an amount Fraction of an amount – find the whole 	
Beech Class (Y5/Y6) Autumn 2 Measurement Converting Units (1 week)	Converting between units of time, length and mass. Solving conversion problems	Year Five: <ul style="list-style-type: none"> convert between different units of metric measure understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling solve problems involving converting between units of time 	Year Five: <ul style="list-style-type: none"> 	Year Five: <ul style="list-style-type: none"> Millimetres and millilitres Convert units of length Convert between metric and imperial units Convert units of time Calculate with timetables 	kilograms, kilometres, kilo, grams, metres, litres, milli, centi, imperial, metric, approximately equal to, inches, pounds, stones, pints, seconds, minutes, hours, days, months, years, timetable, length, mass, capacity, volume,
		Year Six: <ul style="list-style-type: none"> 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 	Year Six: <ul style="list-style-type: none"> 	Year Six: <ul style="list-style-type: none"> Metric measures Convert metric measures Calculate with metric measures Miles and kilometres Imperial measures 	
Beech Class (Y5/Y6) Spring 1 Ratio (2 weeks)	To recognise proportionality in contexts when the relations between quantities are in the same ratio.	Year Five & Six: <ul style="list-style-type: none"> Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples Solve problems involving similar shapes where the scale factor is known or can be found 	Year Five & Six: <ul style="list-style-type: none"> 6AS/MD-3 Solve problems involving ratio relationships. 	Year Five & Six: <ul style="list-style-type: none"> Add or multiply? Use ratio language Introduction to the ratio symbol Ratio and fractions Scale drawing Use scale factors Similar shapes Ratio problems Proportion problems Recipes 	relationship, sequence, upper number line, lower number line, additive, multiplicative, common factor, ratio, quantities, fraction, scale factor, enlarge, similar,
Beech Class (Y5/Y6) Spring 1 Algebra (2 weeks)	Children begin to formally look at algebra for the first time by exploring function machines. This builds on their work in earlier years using operations and their inverses to find missing	Year Five and Six: <ul style="list-style-type: none"> Use simple formulae Generate and describe linear number sequences Enumerate possibilities of combinations of two variables 	Year Five and Six: <ul style="list-style-type: none"> 6AS/MD-4 Solve problems with 2 unknowns. 	Year Five and Six: <ul style="list-style-type: none"> 1-step function machines 2-step function machines Form expressions Substitution Formulae Form equations 	function machine, input, output, inverse, x represent, expression, bar model, 4x mean?, total value, formula, a = number, equation, x and y,

	numbers. Children need to learn the meanings of the terms “input”, “output”, “function” and “rule”.			<ul style="list-style-type: none"> • Solve 1-step equations • Solve 2-step equations • Find pairs of values • Solve problems with two unknowns 	
Beech Class (Y5/Y6) Spring 1 Decimals (2 weeks)	<p>Connections are made between fractions and decimals. Numbers with up to three decimal places are introduced.</p> <p>The calculation strategies explored throughout the year are reviewed and extended into calculating with decimal numbers</p> <p>Read, write, order and compare numbers to ten million. Apply a range of strategies for addition and subtraction to solve multi-step problems.</p>	<u>Year Five:</u> <ul style="list-style-type: none"> • (read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 • read and write decimal numbers as fractions [for example, $0.71 = 71/100$] • recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • round decimals with two decimal places to the nearest whole number and to one decimal place • read, write, order and compare numbers with up to three decimal places 	<u>Year Five:</u> <ul style="list-style-type: none"> • 5NPV-1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01 • 5NPV-2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning. • 5NPV-3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. 	<u>Year Five:</u> <ul style="list-style-type: none"> • Use known facts to add and subtract decimals within 1 • Complements to 1 • Add and subtract decimals across 1 • Add decimals with the same number of decimal places • Subtract decimals with the same number of decimal places • Add decimals with different numbers of decimal places • Subtract decimals with different numbers of decimal places • Efficient strategies for adding and subtracting decimals • Decimal sequences • Multiply by 10, 100 and 1,000 • Divide by 10, 100 and 1,000 • Multiply and divide decimals – missing values 	<p>hundred square, tenths, hundredths, number bonds, complements, thousandths, partitioning, decimal point, place value chart, exchange, position, zero, digit, efficient method, increasing, decreasing, multiply, divide, smaller, greater, round to,</p>
		<u>Year Six:</u> <ul style="list-style-type: none"> • identify the value of each digit in numbers given to three decimal places 	<u>Year Six:</u> <ul style="list-style-type: none"> • 	<u>Year Six:</u> <ul style="list-style-type: none"> • Place value within 1 • Place value – integers and decimals • Round decimals • Add and subtract decimals • Multiply by 10, 100 and 1,000 • Divide by 10, 100 and 1,000 • Multiply decimals by integers • Divide decimals by integers • Multiply and divide decimals in context 	
Beech Class (Y5/Y6)	Connections are made between fractions and	<u>Year Five:</u>	<u>Year Five:</u>	<u>Year Five:</u> <ul style="list-style-type: none"> • Decimals up to 2 decimal places 	represent, place value, tenth, hundredth,

<p>Spring 2</p> <p><u>Fractions, Decimals and Percentages (2 weeks)</u></p>	<p>decimals. Numbers with up to three decimal places are introduced.</p>	<ul style="list-style-type: none"> • Read, write, order and compare numbers with up to 3 decimal places • Read and write decimal numbers as fractions • Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • 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 • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • Solve problems involving numbers up to 3 decimal places • Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place • Recognise the per cent symbol (%) and understand that per cent relates to "number of parts per 100", and write percentages as a fraction with denominator 100, and as a decimal fraction 	<ul style="list-style-type: none"> • 5NPV-1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01 • 5NPV-2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning. • 5NPV-3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. • 5NPV-4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts. • 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. 	<ul style="list-style-type: none"> • Equivalent fractions and decimals (tenths) • Equivalent fractions and decimals (hundredths) • Equivalent fractions and decimals • Thousandths as fractions • Thousandths as decimals • Thousandths on a place value chart • Order and compare decimals (same number of decimal places) • Order and compare any decimals with up to 3 decimal places • Round to the nearest whole number • Round to 1 decimal place • Understand percentages • Percentages as fractions • Percentages as decimals • Equivalent fractions, decimals and percentages 	<p>difference, decimal number, fractions, decimals, equivalent, equal parts, partitioned, one whole, interval, number line, thousandth, ascending, descending, compare, column, systematically, greater, smaller, integers, halfway, 100%, denominator, factors, exchange, recurring, expressed, per cent, relationship, simplified, strategies, amount,</p>
		<p><u>Year Six:</u></p> <ul style="list-style-type: none"> • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination • Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts 	<p><u>Year Six:</u></p> <ul style="list-style-type: none"> • 6NPV-4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts. 	<p><u>Year Six:</u></p> <ul style="list-style-type: none"> • Decimal and fraction equivalents • Fractions as division • Understand percentages • Fractions to percentages • Equivalent fractions, decimals and percentages • Order fractions, decimals and percentages 	

		<ul style="list-style-type: none"> Compare and order fractions, including fractions >1 Solve problems involving the calculation of percentages and the use of percentages for comparison 		<ul style="list-style-type: none"> Percentage of an amount – one step Percentage of an amount – multi-step Percentages – missing values 	
Beech Class (Y5/Y6) Spring 2 Area, Perimeter and Volume (2 weeks)	<p>Children will build on previous learning through finding the areas of shapes. They will be explicitly taught the difference between area and shape. They will find the areas of shapes by counting squares and then identify shapes that have the same area. It should become clear to children that shapes can look different but still have the same area. Rectilinear shapes are included here. Children then explore instances when multiplication can be used to find the areas of shapes. They will identify rectangles that will have the same area by using factor pairs rather than relying on counting squares.</p>	<p>Year Five:</p> <ul style="list-style-type: none"> 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 (cm²) and square metres (m²), and estimate the area of irregular shapes <p>Year Six:</p> <ul style="list-style-type: none"> Recognise that shapes with the same areas can have different perimeters and vice versa Recognise when it is possible to use formulae for area and volume of shapes Calculate the area of parallelograms and triangles Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units 	<p>Year Five:</p> <ul style="list-style-type: none"> 5G-2 Compare areas and calculate the area of rectangles (including squares) using standard units. <p>Year Six:</p> <ul style="list-style-type: none"> 6G-1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems. 	<p>Year Five:</p> <ul style="list-style-type: none"> Perimeter of rectangles Perimeter of rectilinear shapes Perimeter of polygons Area of rectangles Area of compound shapes Estimate area <p>Year Six:</p> <ul style="list-style-type: none"> Shapes – same area Area and perimeter Area of a triangle – counting squares Area of a right-angled triangle Area of any triangle Area of a parallelogram Volume – counting cubes Volume of a cuboid 	<p>perimeter, rectangle, square, length, measured, method, efficient, properties, rectilinear, sides, longer, shorter, regular, calculation, equal, area, width, multiply, split, approximate, estimate, part-covered, full square, factor pairs, formula, triangle, parallelograms, right-angled, perpendicular, base, height, cubes, layers, depth, cubic, cuboid,</p>
Beech Class (Y5/Y6) Spring 2 Statistics (2 weeks)	<p>Previously, children interpreted and drew line graphs for the first time, focusing on examples where the horizontal axis was a measure of time. Children will look at a range of data drawing and interpreting a variety of graphs, including timetables.</p>	<p>Year Five:</p> <ul style="list-style-type: none"> Solve comparison, sum and difference problems using information presented in a line graph Complete, read and interpret information in tables, including timetables <p>Year Six:</p> <ul style="list-style-type: none"> Interpret and construct pie charts and line graphs and use these to solve problems Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs (Year 4) Calculate and interpret the mean as an average 	<p>Year Five:</p> <ul style="list-style-type: none"> <p>Year Six:</p> <ul style="list-style-type: none"> 	<p>Year Five:</p> <ul style="list-style-type: none"> Draw line graphs Read and interpret line graphs Read and interpret tables Two-way tables Read and interpret timetables <p>Year Six:</p> <ul style="list-style-type: none"> Line graphs Dual bar charts Read and interpret pie charts Pie charts with percentages Draw pie charts The mean 	<p>line graph, vertical, horizontal, axis, represent, information, points, solid, dashed line, intervals, multiples, read, summarise, direction, exact, estimate, column, row, headings, similar, different, units of measure, table, conclusion, timetable, journey, times, dual bar chart, bars, total, pie chart, choices, popular, altogether, angle, sector, operation, mean,</p>
Beech Class (Y5/Y6) Summer 1 Shape (3 weeks)	<p>The children will be familiar with the idea that an angle is a measure of turn and be able to describe angles as acute or obtuse by</p>	<p>Year Five:</p> <ul style="list-style-type: none"> Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles Draw given angles, and measure them in degrees (°) Identify angles at a point and 1 whole turn (total 360°) 	<p>Year Five:</p> <ul style="list-style-type: none"> 5G-1 Compare angles, estimate and measure angles in degrees (°) 	<p>Year Five:</p> <ul style="list-style-type: none"> Understand and use degrees Classify angles Estimate angles Measure angles up to 180° 	<p>full, half, quarter, three-quarter turn, clockwise, anti-clockwise, right angles, 360, acute, obtuse, reflex, straight</p>

	<p>comparing them to a right angle. They will learn degrees as a unit of measure for turn, including the degree symbol. Children explore the fact that there are 360° in a full turn, and therefore 180° in half a turn, 90° in a quarter turn (or right angle) and 270° in a three-quarter turn. They use this knowledge and the language of clockwise and anticlockwise to describe turns, including in the context of compass directions and clocks</p>	<ul style="list-style-type: none"> Identify: angles at a point and 1 whole turn (total 360°); angles at a point on a straight line and half a turn (total 180°) Use the properties of rectangles to deduce related facts and find missing lengths and angles Distinguish between regular and irregular polygons based on reasoning about equal sides and angles Identify 3-D shapes, including cubes and other cuboids, from 2-D representations 	<p>and draw angles of a given size.</p>	<ul style="list-style-type: none"> Draw lines and angles accurately Calculate angles around a point Calculate angles on a straight line Lengths and angles in shapes Regular and irregular polygons 3-D shapes 	<p>line, less than, greater than, degrees, scale, protractor, measure, estimate, millimetres, centimetres, inches, perimeter, compound shape, polygon, curved, regular, irregular, faces, edges, vertices, 2D and 3D shapes, reflex, vertically opposite angles, interior, equilateral, isosceles, quadrilateral, parallelogram, radius, diameter, circumference, net, triangular prism,</p>
		<p>Year Six:</p> <ul style="list-style-type: none"> Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles Draw given angles, and measure them in degrees ($^\circ$) (Y5) Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles (Y5) Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius Draw 2-D shapes using given dimensions and angles 	<p>Year Six:</p> <ul style="list-style-type: none"> 6G-1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems. 	<p>Year Six:</p> <ul style="list-style-type: none"> Measure and classify angles Calculate angles Vertically opposite angles Angles in a triangle Angles in a triangle – special cases Angles in a triangle – missing angles Angles in a quadrilateral Angles in polygons Circles Draw shapes accurately Nets of 3-D shapes 	
<p>Beech Class (Y5/Y6)</p> <p>Summer 1</p> <p>Position and Direction (3 weeks)</p>	<p>Children have previously experienced reading and plotted points on a grid in Sycamore class. They also translated points and described translations. In this unit, they recap reading and plotting coordinates on a coordinate grid. They still work only within the first quadrant (positive numbers for both coordinates), going on to four-quadrant grid.</p>	<p>Year Five:</p> <ul style="list-style-type: none"> Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed 	<p>Year Five:</p>	<p>Year Five:</p> <ul style="list-style-type: none"> Read and plot coordinates Problem solving with coordinates Translation Translation with coordinates Lines of symmetry Reflection in horizontal and vertical lines 	<p>co-ordinate, grid, axis, x-co=ordinate, y-co-ordinate, point, translation, quadrant, horizontal, vertical, left, right, up, down, symmetrical, mirror, reflection, vertex A, pair of co-ordinates, second, third, fourth quadrant,</p>
		<p>Year Six:</p> <ul style="list-style-type: none"> 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 	<p>Year Six:</p>	<p>Year Six:</p> <ul style="list-style-type: none"> The first quadrant Read and plot points in four quadrants Solve problems with coordinates Translations Reflections 	
<p>Beech Class (Y5/Y6)</p> <p>Summer 2</p> <p>Decimals</p>	<p>Connections are made between fractions and decimals. Numbers with up to three decimal places are introduced.</p> <p>The calculation strategies explored throughout the year are reviewed and extended into calculating with decimal numbers</p>	<p>Year Five:</p> <ul style="list-style-type: none"> (read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 read and write decimal numbers as fractions [for example, $0.71 = 71/100$] recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents round decimals with two decimal places to the nearest whole number and to one decimal place read, write, order and compare numbers with up to three decimal places 	<p>Year Five:</p> <ul style="list-style-type: none"> 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, 	<p>Year Five:</p> <ul style="list-style-type: none"> Use known facts to add and subtract decimals within 1 Complements to 1 Add and subtract decimals across 1 Add decimals with the same number of decimal places Subtract decimals with the same number of decimal places Add decimals with different numbers of decimal places Subtract decimals with different numbers of decimal places 	<p>hundred square, tenths, hundredths, number bonds, complements, thousandths, partitioning, decimal point, place value chart, exchange, position, zero, digit, efficient method, increasing, decreasing, multiply, divide, smaller, greater, round to,</p>

	Read, write, order and compare numbers to ten million. Apply a range of strategies for addition and subtraction to solve multi-step problems.		<p>and that 0.1 is 10 times the size of 0.01</p> <ul style="list-style-type: none"> • 5NPV-2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning. • 5NPV-3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. 	<ul style="list-style-type: none"> • Efficient strategies for adding and subtracting decimals • Decimal sequences • Multiply by 10, 100 and 1,000 • Divide by 10, 100 and 1,000 • Multiply and divide decimals – missing values 	
		<p><u>Year Six:</u></p> <ul style="list-style-type: none"> • identify the value of each digit in numbers given to three decimal places 	<p><u>Year Six:</u></p> <ul style="list-style-type: none"> • 	<p><u>Year Six:</u></p> <ul style="list-style-type: none"> • Place value within 1 • Place value – integers and decimals • Round decimals • Add and subtract decimals • Multiply by 10, 100 and 1,000 • Divide by 10, 100 and 1,000 • Multiply decimals by integers • Divide decimals by integers • Multiply and divide decimals in context 	
<p><u>Beech Class (Y5/Y6)</u></p> <p><u>Summer 2</u></p> <p><u>Negative Numbers (2 weeks)</u></p>	The focus of this is to explore negative numbers in real-life contexts, including temperatures, distances above and below sea level and floors in a building that go underground. They will be taught that negative numbers can be seen as a reflection of the positive numbers.	<p><u>Year Five and Six:</u></p> <ul style="list-style-type: none"> • Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero 	<p><u>Year Five and Six:</u></p>	<p><u>Year Five and Six:</u></p> <ul style="list-style-type: none"> • Understand negative numbers • Count through zero in 1s • Count through zero in multiples • Compare and order negative numbers • Find the difference 	negative numbers, warmer, colder, smaller, greater, forwards, backwards, ascending, descending, order,
<p><u>Beech Class (Y5/Y6)</u></p> <p><u>Summer 2</u></p> <p><u>Converting Units (2 weeks)</u></p>	Children encountered kilogrammes whilst in Sycamore class. Bar models and double number lines are useful representations for	<p><u>Year Five and Six:</u></p> <ul style="list-style-type: none"> • Convert between different units of metric measure [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre] 	<p><u>Year Five and Six:</u></p> <ul style="list-style-type: none"> • 	<p><u>Year Five and Six:</u></p> <ul style="list-style-type: none"> • Kilograms and kilometres • Millimetres and millilitres • Convert units of length • Convert between metric and imperial units 	kilo, kilogramme, kilometre, milli, millimetres, millilitres, equivalent, greatest, measuring, imperial, metric, appropriately

	showing the conversions. Make links to multiplying and dividing integers and decimals by 1,000, covered earlier in the year.	<ul style="list-style-type: none"> 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 		<ul style="list-style-type: none"> Convert units of time Calculate with timetables 	equal to, division, time, timetable, minutes, hours,
<u>Beech Class (Y5/Y6)</u> <u>Summer 2</u> <u>Volume (2 weeks)</u>	In Sycamore class, children compared volumes of liquids using words such as "empty", "full", "more" and "less". Children make simple shapes with interlocking cubes and describe the volume of each shape in terms of the number of cubes. They then look at pictorial representations and work out how many cubes there are in each shape, including counting the cubes that cannot be seen in the picture. They then find the volume of a variety of shapes, using both concrete and pictorial representations, using the fact that each cube has a volume of one cubic centimetre (written 1 cm ³). Finally, they make and measure the volumes of cuboids. Children recognise that some of the cubes in a pictorial representation cannot be seen, but that the total volume can be found by counting the number of cubes in each layer.	<u>Year Five and Six:</u> <ul style="list-style-type: none"> Estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity Estimate volume and capacity [for example, using water] 	<u>Year Five and Six:</u>	<u>Year Five and Six:</u> <ul style="list-style-type: none"> Cubic centimetres Compare volume Estimate volume Estimate capacity 	volume, cubic, centimetre, cubes, capacity, estimate,