Spring Hill Mathematics Curriculum Map

EYFS Key	Plain text – Development Matters	Italics – Spring Hill Essentials	Underlined – ELG

EYFS

Autumn (14 weeks)

Place Value to 3 (4 weeks)	Shape – 2d (3 weeks)	Place Value to 5/ Addition and Subtraction within 5 (5 weeks)	Shape 2D (2 weeks)
• Count objects actions and sounds • Subitise • Link the number symbol (numeral) with its cardinal number value.	• Use everyday language to talk about shapes in the environment. • To identify and name common 2d shapes (square, rectangle, circle, triangle, oblong) • Select rotate and manipulate shapes to develop spatial reasoning • Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.	• Count objects actions and sounds • Subitise • Link the number symbol (numeral) with its cardinal number value. • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts)	• Use everyday language to talk about shapes in the environment. • Continue copy and recreate repeating patterns and pictures with 2D shapes. • Name common 2d shapes (circle, triangle, square, rectangle, oblong) • Talk about using mathematical language (straight, curved, sides, flat, solid). • Sort shapes according to their own criteria. • Know that shapes can appear in different ways and be different sizes

Measurement – time
- *Talk about significant times of the day, (e.g. home time, lunch time snack time, bed time, etc).*
- *Use the language of comparison when talking about time, (e.g. longer/shorter; faster/slower).*
- *Understand and use language (e.g. before, after, yesterday, today, tomorrow).*
- *Sequence two or three familiar events and describe the sequence.*
- *Know the names of the days of the week.*
- *Say names of days of the week in order.*

Spring (11 weeks + 3days)

Place Value to 10 (2 weeks + 3 days)	Addition and Subtraction (3 weeks)	Fractions (2 weeks)	Measurement – Money (2 weeks)	Shape 2D/3D (2 weeks)
• Count objects actions and sounds • Subitise up to 5 • Link the number symbol (numeral) with its cardinal number value. • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity • *Rote count from 1.* • *Rote count on from a given number between 1 and 10.* • *Rote count back from 5 to 1 then from 10 to 1.* • *Rote count back from a given number between 10 and 1.* • *Know what number comes before, or after a given number.* • *Say a number between two given numbers*	• Understand the concept of addition by practically combining sets of objects to find how many and use the terminology part – part – whole. • Understand the concept of subtraction by practically removing one amount from within another to find how many are left and use the terminology part – part – whole. • Add two single-digit numbers totaling up to 10, using practical equipment. • Subtract a single-digit number from a number up to 10, using practical equipment. • Subtract a single-digit number from a number greater than 10, using practical equipment. • 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. •	• *Understand that doubling is adding the same number to itself.* • *Understand that sharing is splitting an amount into equal parts.* • *Understand that halving is sharing into two equal parts.*	• *Understand that we need to pay for goods.* • *Talk about things they want to spend their money on.* • *Talk about different ways we can pay for things.* • *Recognise that there are different coins.* • *Recognise 1p coin.* • *Use 1p coins to pay for items.*	• *Use everyday language to talk about shapes in the environment.* • *Build and make models with 3D shapes.* • *Create patterns and pictures with 2D shapes.* • *Name common 2d shapes (circle, triangle, square, rectangle, oblong)* • *Name common 3D shapes (sphere, cube, cuboid, cone).* • *Talk about using mathematical language (straight, curved, sides, flat, solid).* • *Sort shapes according to their own criteria.* • *Know that shapes can appear in different ways and be different sizes.* • Select, rotate and manipulate shapes to develop spatial reasoning skills. • Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.

- *Understand that measures of distance can have different names including length, width, height.*
- Compare two objects of different length.
- Compare two objects of different width.
- Compare two objects of different height.
- *Understand and use language of comparison, (e.g. wider/narrower; longer/shorter; taller/shorter).*
- *Order three objects of different length/width/ height.*
- *Understand and use language of comparison between three objects, (e.g. widest/narrowest; longest/shortest; tallest/shortest).*
- *Find an object of similar length, width, height. Understand the concept of the conservation of length, width, height.*
- *Use uniform non-standard units to measure length, width, height.*

	Place Value to 10 (2 weeks + 3 days)	Addition and Subtraction (3 weeks)	Fractions (Sharing) / Doubling (2 weeks + 4 days)	Counting beyond 10 (3 weeks)	Shape (1 week)
Summer (12 weeks + 2 days)	• Count objects actions and sounds • Link the number symbol (numeral) with its cardinal number value. • *Rote count from 1.* • *Rote count on from a given number between 1 and 10.* • *Rote count back from 5 to 1 then from 10 to 1.* • *Rote count back from a given number between 10 and 1.* • *Know what number comes before, or after a given number.* • *Say a number between two given numbers.* • Have a deep understanding of number to 10, including the composition of each number; - • Subitise (recognise quantities without counting) up to 5; • Explore and represent patterns within numbers up to 10, including odds and evens. • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity	• *Understand the concept of addition by practically combining sets of objects to find how many and use the terminology part – part – whole.* • *Understand the concept of subtraction by practically removing one amount from within another to find how many are left and use the terminology part – part – whole.* • *Add two single-digit numbers totalling up to 10, using practical equipment.* • *Subtract a single-digit number from a number up to 10, using practical equipment.* • *Subtract a single-digit number from a number greater than 10, using practical equipment.* • Automatically recall (without reference to rhymes, counting or other aides) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.	• *Understand that sharing is splitting an amount into equal parts.* • *Understand that halving is sharing into two equal parts.* • *Understand that doubling is adding the same number to itself.* • *Automatically recall double facts to 10.* • Explore and represent patterns within numbers up to 10, including double facts and how quantities can be distributed equally.	• *Rote count from 1.* • *Rote count on from a given number between 1 and 20.* • *Rote count back from 5 to 1 then from 10 to 1.* • *Rote count back from a given number between 1 and 20.* • *Know what number comes before, or after a given number.* • *Say a number between two given numbers.* • Verbally count beyond 20, recognising the pattern of the counting system	• *Use everyday language to talk about shapes in the environment.* • *Build and make models with 3D shapes.* • *Create patterns and pictures with 2D shapes.* • *Name common 2d shapes (circle, triangle, square, rectangle, oblong)* • *Name common 3D shapes (sphere, cube, cuboid, cone).* • *Talk about using mathematical language (straight, curved, sides, flat, solid).* • *Sort shapes according to their own criteria.* • *Know that shapes can appear in different ways and be different sizes.* • Select, rotate and manipulate shapes to develop spatial reasoning skills. • Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.

Measurement – capacity

- *Compare capacity*
- Understand the measurement of volume/capacity (empty/nearly full).
- Compare two of the same container holding different amounts.
- Understand and use language of comparison, (e.g. empty/full, more/ less, most/least)
- Order three of the same container holding different amounts.
- Understand and use the language of comparison of three of the same container holding different amounts (e.g. most/least).
- Understand the concept of conservation of volume/capacity.
- Use uniform non-standard units to measure volume/capacity

Key	Standard Text – Spring Hill Essentials	**Bold – Ready to progress statements** (link to document)

Year 1

Autumn (14 weeks)

Place Value to 10 (5 weeks)	Shape (2 weeks)	Addition and Subtraction within 10 (5 weeks)	Measurement – Weight (2 weeks)
• count to and across 10, forwards and backwards, beginning with 0 or 1, or from any given number • count, read and write numbers to 10 in numerals • read and write numbers from 1 to 10 in numerals and words • given a number, identify one more and one less • identify and represent numbers using objects and pictorial representations including the number line, • use the language of: equal to, more than, less than (fewer), most, least	• 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] • **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.** • **Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.**	• read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs • represent and use number bonds and related subtraction facts within 20 • add and subtract one-digit and two-digit numbers to 20, including zero • solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ – 9. • **Develop fluency in addition and subtraction facts within 10.** • **Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers** • **Read, write and interpret equations containing addition ( ), subtraction ( ) and equals ( ) symbols, and relate additive expressions and equations to real-life contexts.**	• Measure and begin to record using non standard measures: - mass/weight • Compare, describe and solve practical problems for: • - mass/weight (for example, heavy / light, heavier than, lighter than).

Arithmetic

• Count forwards and backwards within 10, starting and stopping at a given number.	• One more/ one less within 10. • Number bonds to 10. • Re ordering numbers in a calculation	• Odd and even numbers within 10.	• One more/ one less within 10. • Number bonds to 10. • Re ordering numbers in a calculation

Spring (11 weeks + 3 days)

Place Value to 20 (2 weeks + 3 days)	Addition and Subtraction (2 weeks)	Fractions (2 weeks)	Position and Direction (1 week)	Measurement - Time (1 weeks)	Multiplication and Division within 20 (2 weeks)	Shape (1 week)
• count to and across 20, forwards and backwards, beginning with 0 or 1, or from any given number • read and write numbers from 1 to 20 in numerals and words • given a number, identify one more and one less • identify and represent numbers using objects and pictorial representations including the number line, use the language of: equal to, more than, less than (fewer), most, least • **Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =** • **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**	• read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs • represent and use number bonds and related subtraction facts within 20 • add and subtract one-digit and two-digit numbers to 20, including zero solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ – 9. • **Read, write and interpret equations containing addition ( ), subtraction ( ) and equals ( ) symbols, and relate additive expressions and equations to real-life contexts.**	• 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. • describe position, direction and movement, including whole, half, quarter and three quarter turns.	• describe position, direction and movement, including whole, half, quarter and three quarter turns. -	• record using non standard measures: • manageable standard units • time • Recognise and use language relating to dates, including days of the week, weeks, months and years. • Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. • Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	• one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	• 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] • **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.** • **Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.**

Arithmetic

• Even/ odd numbers • Count on to find the total • Count the amount to subtract	• Number bonds to 10. • Re ordering numbers in a calculation	• Doubles of all numbers to 10 • Recognise multiplication as real arrays showing repeated addition.	• Halving within 10 • Recognise division as sharing amounts into equal parts. Introduce simple remainders as the items are shared into equal parts, but some may be left over.		• Counting on or back in ones within 20. (8+4=? – beginning at 8 and counting on)

		Place Value to 100 (2 weeks + 3 days)	Addition and Subtraction (3 weeks)	Measurement – Money (2 weeks)	Multiplication and Division (2 weeks + 4 days)	Fractions (1 week)	Measurement – Capacity (1 week)

Summer (12 weeks + 2 days)		• count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number
		• count, read and write numbers to 100 in numerals
		• read and write numbers from 1 to 20 in numerals and words
		• count in multiples of twos, fives and tens
		• given a number, identify one more and one less
		• identify and represent numbers using objects and pictorial representations including the number line,
		• use the language of: equal to, more than, less than (fewer), most, least
		• **Count within 100, forwards and backwards, starting with any number**
		• **Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =**
		• **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**
			• read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs
			• represent and use number bonds and related subtraction facts within 20
			• add and subtract one-digit and two-digit numbers to 20, including zero
			• solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = – 9.
			• **Develop fluency in addition and subtraction facts within 10.**
			• **Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers**
			• **Read, write and interpret equations containing addition ( ), subtraction ( ) and equals ( ) symbols, and relate additive expressions and equations to real-life contexts.**
				• Recognise and know the value of different denominations of coins and notes.	• one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	• 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.
							• Measure and begin to record using non standard measures:
							  - capacity and volume
							• Compare, describe and solve practical problems for:
							  - capacity and volume (for example, full/empty, more than,
							  less than, half, half full, quarter).

	Arithmetic Link to document	• Partition small numbers (up to 10) • Count in 2's, 5's and 10's	• Reorder numbers in a calculation • Count on or back in 1's, starting and stopping at a given number within 100.	• Number bonds to 10.	• Share and amount into equal parts • Separate an amount into equal groups	• Apply counting in 2's 5's and 10's to solve multiplication problems with repeated addition.	• Odd and even numbers
Key		Standard Text – Spring Hill Essentials		**Bold – Ready to progress statements** **(link to document)**		Red – TAF Statements	

		Addition and Subtraction within and across 10 (2 weeks)	Place Value to 100 (3 weeks)	Shape (2 weeks)	Measurement – weight / capacity (2 weeks)	Place Value to 100 (2 weeks)	Addition and Subtraction (3 weeks)
Year 2	Autumn (14 weeks)	• **Secure fluency in addition and subtraction facts within 10, through continued practice.** • **Add and subtract across 10,** • **Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?".**	• Read and write numbers to at least 100 in numerals and in words. • Recognise the place value of each digit in a two-digit number (tens, ones). • Identify, represent and estimate numbers using different representations, including the number line. • Compare and order numbers from 0 up to 100; use <, > and = signs. • Use place value and number facts to solve problems.	• identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line • identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces • identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] • compare and sort common 2-D and 3-D shapes and everyday objects. • **Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.**	• choose and use appropriate standard units to estimate and mass (kg/g); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels • compare and order lengths, mass, volume/capacity and record the results using >, < and =	• Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and nonstandard partitioning. • **Reason about the location of any twodigit number in the linear number system, including identifying the previous and next multiple of 10.** • Read and write numbers to at least 100 in numerals and in words. • Recognise the place value of each digit in a two-digit number (tens, ones). • Identify, represent and estimate numbers using different representations, including the number line. • Compare and order numbers from 0 up to 100; use <, > and = signs. • Use place value and number facts to solve problems.	• **Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?".** • **Add and subtract within 100 by applying related one digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number.** • **Add and subtract within 100 by applying related one digit addition and subtraction facts: add and subtract any 2 two digit numbers.** • Count in steps of 2, 3, and 5 from 0 and in tens from any number, forwards and backward. • solve problems with addition and subtraction • using concrete objects and pictorial representations, including those involving numbers, quantities and measures • applying their increasing knowledge of mental and written methods • recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • add and subtract numbers using concrete objects, pictorial representations, and mentally, including • a two-digit number and ones, a two-digit number and tens • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.
		• **recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, 5ecognizing other associated additive relationships (e.g. If 7 + 3 = 10 then 17 + 3 = 20; if 7 – 3 = 4 then 17 – 3 = 14; leading to if 14 + 3 = 17, then 3 + 14 = 17, 17 – 14 = 3 and 17 – 3 = 14)**	• **partition any two-digit number into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus**	• **name and describe properties of 2D and 3D shapes, including number of sides, vertices, edges, faces and lines of symmetry.**	• **read scales* in divisions of ones, twos, fives and tens (scale in be in form of a number line – or practical measuring)**	• **partition any two-digit number into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus**	

Arithmetic [Link to document]	• Reorder numbers in a calculation • Count in multiples of 2's, 5's and 10's from 0.	• Partition and combine multiples of tens and ones		• Odd/ Even numbers	• Count in multiples of 2's, 5's and 10's from 0.	• Recall number bonds and replated subtraction facts for all numbers to 20. • Begin to bridge through 10 when adding a single digit number (partitioning, e.g. 58 + 5 = 58 + 2 + 3)
Spring (11 weeks + 3days)	**Multiplication and Division (2 weeks 3 days)**	**Addition and Subtraction (2 weeks)**	**Fractions (2 weeks)**	**Money (2 weeks)**	**Time (1 week)**	**Multiplication and Division (2 weeks)**
	• recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers • calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot • solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	• solve problems with addition and subtraction • using concrete objects and pictorial representations, including those involving numbers, quantities and measures • applying their increasing knowledge of mental and written methods • recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • add and subtract numbers using concrete objects, pictorial representations, and mentally, including • a two-digit number and ones, a two-digit number and tens, *two two-digit numbers, adding three one-digit numbers* • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. • **Add and subtract within 100 by applying related one digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number.** • **Add and subtract within 100 by applying related one digit addition and subtraction facts: add and subtract any 2 two digit numbers.**	• recognise, find, name and write fractions 1/3 , 1/4 , 2/4 and 3/4 of a length, shape, set of objects or quantity • write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2 .	• recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value • find different combinations of coins that equal the same amounts of money • solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	• 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	• recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers • calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot • solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. • **Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.** • **Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).**
	• **recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary**	• **add and subtract any 2 two-digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus (e.g. 48 + 35; 72 − 17)**	• **identify —1/4 , —1/3 , —1/2 , —2/4 , —3/4 , of a number or shape, and know that all parts must be equal parts of the whole**	• **use different coins to make the same amount**	• **read the time on a clock to the nearest 15 minutes**	• **recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary**

	Arithmetic [Link to document]	• Recall and use multiplication and division facts for 2, 5 and 10 multiplication tables, including recognising odd and even numbers.	• Derive and use related facts to 100 (60+…=100 etc) • Reorder numbers in a calculation • Begin to bridge through 10 when adding a single digit number (partitioning, e.g. 58 + 5 = 58 + 2 + 3)	• Count forwards/ backwards in steps pf 1/ or 10 from any 2 digit number. • Count on/ back in steps of ½ and 1/4	• Find a small difference by counting up from the lesser to the greater number	• Recall and use number bonds to 5 totalling 60 (to support time).	• Apply counting in twos, threes, fives and tens to solve multiplication problems with a repeated addition context. • Share an amount into equal parts.
		Measurement – length / temp (2 weeks + 3 days)	**Multiplication and Division (3 weeks)**	**Position and Direction (2 weeks)**		**Fractions (2 weeks + 4 days)**	**Statistics (2 weeks)**
Summer (12 weeks + 2 days)		• choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels • compare and order lengths, mass, volume/capacity and record the results using >, < and =	• **Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.** • **Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).**	• 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).		• recognise, find, name and write fractions 1/3 , 1/4 , 2/4 and 3/4 of a length, shape, set of objects or quantity • write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2 .	• interpret and construct simple pictograms, tally charts, block diagrams and simple tables • ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
		• **read scales* in divisions of ones, twos, fives and tens (scale in be in form of a number line – or practical measuring)**	**recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary**			**identify —1/4 , —1/3 , —1/2 , —2/4 , —3/4 , of a number or shape, and know that all parts must be equal parts of the whole**	
	Arithmetic [Link to document]	• Add or subtract 9 or 11 and 19 or 21 by rounding and compensating.	• Share and amount into equal parts • Separate an amount into equal groups using repeated subtraction. • Derive and use doubles of simple two-digit numbers. • Derive and use halves of simple two-digit number even numbers.	• Apply counting in twos, fives and tens to solve multiplication problems with a repeated addition context.		• Count forwards/ backwards in steps pf 1/ or 10 from any 2 digit number. • Count on/ back in steps of ½ and 1/4Count on/ back in steps of ½ and ¼	

Key	Standard Text – Spring Hill Essentials		Bold – Ready to progress statements (link to document)		

<table>
<tr><td rowspan="6">Year 3</td><td rowspan="2">Autumn (14 weeks)</td><td colspan="1">Place Value
(4 weeks)</td><td>Shape
(2 weeks)</td><td>Place Value
(2 weeks)</td><td>Addition and Subtraction
(3 weeks)</td><td>Measurement – length/height/ mass/ volume
(3 weeks)</td></tr>
<tr><td>

- recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
- compare and order numbers up to 1000
- identify, represent and estimate numbers using different representations
- read and write numbers up to 1000 in numerals and in words
- solve number problems and practical problems involving these ideas
</td><td>

- draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
</td><td>

- count from 0 in multiples of 4, 8, 50 and 100;
- find 10 or 100 more or less than a given number
</td><td>

- add and subtract numbers mentally, including:
  a three-digit number and ones
  a three-digit number and tens
  a three-digit number and hundreds

- add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
- estimate the answer to a calculation and use inverse operations to check answers
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.
- **Calculate complements to 100, for example:**
- **46+?=100**
- **Add and subtract up to three-digit numbers using columnar methods.**
</td><td>

- measure, compare, add and subtract: lengths (m/cm/mm);
- measure the perimeter of simple 2-D shapes
</td></tr>
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| Arithmetic (link to document) | Partition and combine multiples of hundreds, tens and ones. / Recall and use multiplication division facts for the 3, 4 and 8 multiplication tables. | Bridge through 10 when adding or subtracting a single digit number (partitioning, e.g. 58 + 5 = 58 + 2 + 3 or 76 – 8 = 76 – 6 – 2) / Partition and combine multiples of hundreds, tens and ones. | | Recall addition and subtraction facts for 100 (multiples of 5 and 10). | Count from 0 in multiples of 4, 8, 50 and 100 |

Arithmetic row detail:
- Partition and combine multiples of hundreds, tens and ones.
- Recall and use multiplication division facts for the 3, 4 and 8 multiplication tables.

- Bridge through 10 when adding or subtracting a single digit number (partitioning, e.g. 58 + 5 = 58 + 2 + 3 or 76 – 8 = 76 – 6 – 2)
- Partition and combine multiples of hundreds, tens and ones.

- Recall addition and subtraction facts for 100 (multiples of 5 and 10).

- Count from 0 in multiples of 4, 8, 50 and 100

<table>
<tr><td rowspan="2">Spring (11 weeks + 3days)</td><td>Place Value
(2 weeks + 3 days)</td><td colspan="2">Addition and Subtraction
(3 weeks)</td><td colspan="2">Multiplication and Division
(3 weeks)</td><td>Fractions
(3 weeks)</td></tr>
<tr><td>

- count from 0 in multiples of 4, 8, 50 and 100;
- find 10 or 100 more or less than a given number
- recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
- compare and order numbers up to 1000
- identify, represent and estimate numbers using different representations
- read and write numbers up to 1000 in numerals and in words
- solve number problems and practical problems involving these ideas
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- **Calculate complements to 100, for example:**
- **46+?=100**
- **Add and subtract up to three-digit numbers using columnar methods.**
- **Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.**
</td><td colspan="2">

- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables   write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.
- **Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.**
</td><td>

- 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 nonunit fractions with small denominators
- recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
- recognise and show, using diagrams, equivalent fractions with small denominators
- compare and order unit fractions, and fractions with the same denominators
- solve problems that involve all of the above.
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Arithmetic (Link to document)					
• Find 1, 10 or 100 more or less than a given number. • Recall and use multiplication division facts for the 3, 4 and 8 multiplication tables.	• Recall addition and subtraction facts for 100 (multiples of 5 and 10). • Identify and use knowledge of number bonds within a calculation. • Reorder numbers in a calculation.		• Recall and use multiplication division facts for the 3, 4 and 8 multiplication tables. • Multiply a one- or two-digit number by 10 and a one-digit number by 100	• Count up and down in tenths. • Find differences by counting up through the next multiple of 10 or 100 • Derive and use addition and subtraction facts for multiples of 100 that total 1000	

	Place Value (4 days)	Time (1 weeks + 4 days)	Multiplication and Division (3 weeks)	Fractions (3 weeks + 4 days)	Shape (1 week)	Statistics (2 weeks)
Summer (12 weeks + 2 days)	• Read Roman Numerals from I to XII	• 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]	• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods • solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects. **Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.**	• 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 nonunit 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 • add and subtract fractions with the same denominator within one whole [for example, 7 5 + 7 1 = 7 6] • compare and order unit fractions, and fractions with the same denominators • solve problems that involve all of the above. • **Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.** • **Find unit fractions of quantities using known division facts (multiplication tables fluency).** • **Reason about the location of any fraction within 1 in the linear number system.** • **Add and subtract fractions with the same denominator, within 1.**	• recognise angles as a property of shape or a description of a turn • identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle • identify horizontal and vertical lines and pairs of perpendicular and parallel lines. • **Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations.** • **Draw polygons by** joining marked points, **and identify parallel and** • **perpendicular sides**	• 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.

Arithmetic (Link to document)					
• Within known tables, use related facts to multiply T0 by a one-digit number • Within known tables, use partitioning to multiply T1 by a one-digit number		• Add or subtract 9, 19, 29 etc by rounding and compensating • Use compensation to multiply 19 by a one-digit number	• Derive and use doubles of all numbers to 100 and corresponding halves. • Use partitioning to double any two-digit number	• Use related facts or partitioning to double any multiple of 50 to 500 • Use related facts to divide T0 by a one-digit number Use partitioning to halve even numbers up to 200	

Key		Standard Text – Spring Hill Essentials			**Bold – Ready to progress statements** (link to document)	

		Place Value (3 weeks)	**Shape** (3 weeks)	**Place Value** (3 weeks)	**Addition and Subtraction** (3 weeks)	**Measurement – Money (2 weeks)**
Autumn (14 weeks)		- count in multiples of 6, 7, 9, 25 and 1000 - find 1000 more or less than a given number - recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) - order and compare numbers beyond 1000 - identify, represent and estimate numbers using different representations - round any number to the nearest 10, 100 or 1000 - solve number and practical problems that involve all of the above and with increasingly large positive numbers	- compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes - identify lines of symmetry in 2-D shapes presented in different orientations - complete a simple symmetric figure with respect to a specific line of symmetry. - Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.	**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.** **Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning. 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.**	- add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate - estimate and use inverse operations to check answers to a calculation - solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	estimate, compare and calculate different measures, including money in pounds and pence

| | **Arithmetic** Link to document | Count in multiples of 6, 7, 9, 25 and 100 Recall and use addition and subtraction facts for 100 Reorder numbers in a calculation. | Identify and use knowledge of number bonds within a calculation and identify related facts, e.g. 150 + 270 from 15 + 27 | | Find differences by counting up through the next multiple of 10 or 100 Bridge through 10 when adding or subtracting a single digit number (partitioning, e.g. 58 + 5 = 58 + 2 + 3 or 76 − 8 = 76 − 6 − 2) | Recall and use addition and subtraction facts for multiples of 100 totalling 1000 |

		Multiplication and Division (3 weeks + 3 days)	**Fractions** (3 weeks)	**Shape** (2 weeks)	**Measurement** (1 week)	**Position and Direction (2 weeks)**
Year 4 **Spring (11 weeks + 3days)**		- 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.	**Reason about the location of mixed numbers in the linear number system.** **Convert mixed numbers to improper fractions and vice versa.** **Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers, for example:** $$\frac{7}{5} + \frac{4}{5} = \frac{11}{5}$$ $$3\frac{7}{8} - \frac{2}{8} = 3\frac{5}{8}$$ $$7\frac{2}{5} + \frac{4}{5} = 8\frac{1}{5}$$ $$8\frac{1}{5} - \frac{4}{5} = 7\frac{2}{5}$$ - recognise and show, using diagrams, families of common equivalent fractions - count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	- identify acute and obtuse angles and compare and order angles up to two right angles by size - Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons.	- measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres - find the area of rectilinear shapes by counting squares - measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	- 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. **Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.**

		• 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 • add and subtract fractions with the same denominator			
Arithmetic Link to document	• Count in multiples of 6, 7, 9, 25 and 100 • Partition and combine multiples of hundreds, tens and ones. • Identify and use knowledge of number bonds within a calculation and identify related facts, e.g. 150 + 270 from 15 + 27 • Bridge through 10 when adding or subtracting a single digit number (partitioning, e.g. 58 + 5 = 58 + 2 + 3 or 76 − 8 = 76 − 6 − 2)	• Count up and down in hundredths. • Find differences by counting up through the next multiple of 10 or 100	• Identify and use knowledge of number bonds within a calculation and identify related facts, e.g. 150 + 270 from 15 + 27 • Add or subtract a multiple of 10 and adjust (for those numbers close to multiples of 10)	• Multiply a one- or two-digit number by 10 and 100 • Dividing by 1 • Recognise and use factor pairs and commutativity in mental calculations
Sum mer	Place Value (2 weeks + 3 days)	Fractions (3 weeks)	Measurement – Time (2 weeks)	Multiplication and Division (2 weeks + 4 days)	Statistics (2 weeks)

• 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. • 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. • Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning. • 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.	• . recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents to 4/1 , 2/1 , 4/3 • find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths • round decimals with one decimal place to the nearest whole number • compare numbers with the same number of decimal places up to two decimal places • solve simple measure and money problems involving fractions and decimals to two decimal places	• Convert between different units of measure [for example, kilometre to metre; hour to minute] • estimate, compare and calculate different measures, • read, write and convert time between analogue and digital 12- and 24-hour clocks • solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	• 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. • **Recall multiplication and division facts up to 12X12 , and recognise products in multiplication tables as multiples of the corresponding number.** • **Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, for example:** • **74 divided by 9 = 8r 2 and interpret remainders appropriately according to the context.** • **Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100), for example:** • **Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.** • **Understand and apply the distributive property of multiplication.** $8 + 6 = 14$ and $14 - 6 = 8$ so $800 + 600 = 1,400$ $1,400 - 600 = 800$ $3 \times 4 = 12$ and $12 \div 4 = 3$ so $300 \times 4 = 1,200$ $1,200 \div 4 = 300$	• 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.
Arithmetic	• Count backwards through zero to include negative numbers. • Recall and use addition and subtraction facts for multiples of 100 totalling 1000 • Use place value, known and derived facts to divide mentally. • Use related facts to divide HT0 by a one-digit number. • Use partitioning to divide TU by a one-digit number. Use partitioning to double or halve any number, including decimals to one decimal place.	• Count up and down in hundredths. • Find 0.1, 1, 10, 100 or 1000 more or less than a given number. • Derive and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place)		• Recall multiplication and division facts for multiplication tables up to 12 x 12 • Use related facts to multiply H00 by a one-digit number • Use factor pairs to multiply H00 by a one-digit number. • Use compensation to multiply T9 by a one-digit number. • Use related facts to multiply TU x 5 (by multiplying by 10 and halving). • Use related facts to multiply TU x 20 (by multiplying by 10 and doubling). • Use partitioning to multiply TU by a one-digit number. Multiply together three numbers.	

Key	Standard Text – Spring Hill Essentials	**Bold – Ready to progress statements** (link to document)

		Place Value (3 weeks)	Addition and Subtraction (4 weeks)	Shape (3 weeks)	Position and Direction (2 weeks)	Place Value (2 weeks)

Year 5 — Autumn (14 weeks)

Place Value (3 weeks)
- read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
- 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
- read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

Addition and Subtraction (4 weeks)
- 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
- use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Shape (3 weeks)
- identify 3-D shapes, including cubes and other cuboids, from 2-D representations
- know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
- draw given angles, and measure them in degrees (o) identify: angles at a point and one whole turn (total 360o) angles at a point on a straight line and 2 1 a turn (total 180o) other multiples of 90o
- 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.
- **Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.**

Position and Direction (2 weeks)
- 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.

Place Value (2 weeks)
- read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
- count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
- interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero
- 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
- read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

Arithmetic Link to document
- Count forwards or backwards in steps of powers of 10 for any given number up to
- 1 000 000.
- Partition and combine multiples of thousands hundreds, tens and ones.

- Identify and use knowledge of number bonds within a calculation and identify related facts, e.g. 1.5 + 2.7 from 15 + 27
- Bridge through 10 when adding or subtracting a single digit number (partitioning, e.g. 58 + 5 = 58 + 2 + 3 or 76 − 8 = 76 − 6 − 2)

- Find differences by counting up through the next multiple of 1, 10, 100 or 1000
- Add or subtract a multiple of 10 and adjust (for those numbers close to multiples of 10)
- Use factor pairs to multiply T0 x T0

Year 5 — Spring (11 weeks + 3days)

Multiplication and Division (2 weeks + 3 days)	Fractions (2 weeks)	Measurement - time (2 weeks)	Multiplication and Division (3 weeks)	Fractions - decimals (2 weeks)

Multiplication and Division (2 weeks + 3 days)
- 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
- **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.**

Fractions (2 weeks)
- Compare and order fractions whose denominators are all multiples of the same number
- identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
- recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number

[for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]

- 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
- **Find non-unit fractions of quantities.**

Measurement - time (2 weeks)
- 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

Multiplication and Division (3 weeks)
- multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers
- multiply and divide numbers mentally drawing upon known facts
- divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
- multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
- **Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.**
- **Multiply and divide numbers by 10 and 100; understand this as equivalent to making a**

Fractions - decimals (2 weeks)
- read and write decimal numbers as fractions

[for example, $0.71 = \frac{71}{100}$]

- recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- round decimals with two decimal places to the nearest whole number and to one decimal place
- read, write, order and compare numbers with up to three decimal places
- solve problems involving number up to three decimal places

				number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.	recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal

Top section bullet points:

- Find equivalent fractions and understand that they have the same value and the same position in the linear number system.

- number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.
- **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.**
- **Secure fluency in multiplication table facts, and corresponding division facts, through continued practice**
- **Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth), for example:**

  8 + 6 = 14
  0.8 + 0.6 = 1.4
  0.08 + 0.06 = 0.14

  3 × 4 = 12
  0.3 × 4 = 1.2
  0.03 × 4 = 0.12

- **Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.**

Right column:
- recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal
- solve problems which require knowing percentage and decimal equivalents of

$$\frac{1}{2}, \frac{1}{4}, \frac{1}{5} \qquad \frac{2}{5}, \frac{4}{5}$$

- those fractions with a denominator of a multiple of 10 or 25.
- **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.**

Arithmetic
Link to document

- Recall related tables facts for multiples of 10
- Recall prime numbers up to 19
- Use related facts to multiply Th000 by a one-digit number and divide a ThH00 by a one-digit number

- Use compensation to multiply H99 by a one-digit number
- Use partitioning to multiply U.t by a one-digit number
- Use partitioning to double or halve numbers including those with two decimal places

Summer (12 weeks + 2 days)

Measurement (2 weeks + 3 days)	Addition and Subtraction (1 week)	Fractions (3 weeks)	Measurement – conversion (2 weeks)	Multiplication and Division (3 weeks + 4 days)
• measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes • estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] • use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	• **Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth), for example:**	• Compare and order fractions whose denominators are all multiples of the same number • identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$] • 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	• convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) • 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. • **Convert between units of measure, including using common decimals and fractions.**	• 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 • multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers • multiply and divide numbers mentally drawing upon known facts • divide numbers up to 4 digits by a one-digit number using the formal written

		Place Value	Addition/ Subtraction/ Multiplication/ Division		Fractions	Measurements – converting units

| | | • Convert between units of measure, including using common decimals and fractions.
• Compare areas and calculate the area of rectangles (including squares) using standard units.
• | •

$8 + 6 = 14$
$0.8 + 0.6 = 1.4$
$0.08 + 0.06 = 0.14$

$3 \times 4 = 12$
$0.3 \times 4 = 1.2$
$0.03 \times 4 = 0.12$ | • read and write decimal numbers as fractions
$$[\text{for example, } 0.71 = \frac{71}{100}]$$
• recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
• round decimals with two decimal places to the nearest whole number and to one decimal place
• read, write, order and compare numbers with up to three decimal places
• solve problems involving number up to three decimal places
• recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal
• solve problems which require knowing percentage and decimal equivalents of
$$\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \quad \frac{2}{5}, \frac{4}{5}$$
• and those fractions with a denominator of a multiple of 10 or 25.
• **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 nonstandard partitioning.**
• **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.**
• **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.**
• **Recall decimal fraction equivalents for , , and , and for multiples of these proper fractions.** | | method of short division and interpret remainders appropriately for the context
• multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
• **Multiply 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.**
• **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.**
• **Secure fluency in multiplication table facts, and corresponding division facts, through continued practice**
• **Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth), for example:**
•

$8 + 6 = 14$
$0.8 + 0.6 = 1.4$
$0.08 + 0.06 = 0.14$

$3 \times 4 = 12$
$0.3 \times 4 = 1.2$
$0.03 \times 4 = 0.12$ |
| | **Arithmetic**
Link to document | Count forwards or backwards in decimal steps.
Find 0.01, 0.1, 1, 10, 100, 1000 and other powers of 10 more or less than a given number.
Partition and combine multiples of ones and tenths. | | • Recall addition and subtraction facts for 1 and 10 (with numbers to one decimal place).
• Multiply/divide whole numbers and decimals by 10, 100 and 1000
• Use related facts to multiply 0.t by a one-digit number | • Use related facts to divide U.t by a one-digit number
• Use related facts to divide U.t by a 0.t
• Use partitioning to divide HTU by a one-digit number | • Recall square (²) numbers up to 12 x 12
• Use related facts to multiply Th000 by a one-digit number and divide a ThH00 by a one-digit number |

Key		Standard Text – Spring Hill Essentials		**Bold – Ready to progress statements** (link to document)	

| Y e | A u | Place Value | Addition/ Subtraction/ Multiplication/ Division | Fractions | Measurements – converting units |

(3 weeks)	(4 weeks)	(3 weeks)	(2 weeks)
- 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 **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).**	- 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 - identify common factors, common multiples and prime numbers - use their knowledge of the order of operations to carry out calculations involving the four operations - solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why - use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy **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 nonstandard partitioning** **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.** **Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).** **Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.** **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.** - S**olve problems involving ratio relationships.** **Solve problems with 2 unknowns.**	- use common factors to simplify fractions; use common multiples to express fractions in the same denomination - compare and order fractions, including fractions > 1 - add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions - multiply simple pairs of proper fractions, writing the answer in its simplest form example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$] - divide proper fractions by whole numbers ; [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$] **Recognise when fractions can be simplified, and use common factors to simplify fractions.**	- Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate - use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places - convert between miles and kilometres
Arithmetic Link to document - Count forwards and backwards in steps of integers, decimals and powers of 10. - Partition and combine multiples of thousands hundreds, tens and ones	- Multiply and divide numbers by 10, 100, 1000 giving answers up to three decimal places - Bridge through 10 when adding or subtracting a single digit number (partitioning, e.g. 58 + 5 = 58 + 2 + 3 or 76 − 8 = 76 − 6 − 2) Add or subtract a multiple of 1 or 10 and adjust (for those numbers close to multiples of 1 or 10) - Identify and use all related facts that link to tables Use related facts to divide by 50 - Use related facts to divide by 25	- Partition and combine multiples of thousands hundreds, tens and ones - Partition and combine multiples of ones and tenths - Use partitioning to double or halve any number - Use partitioning to divide ThHTU by a one-digit number	

Spring (11	Fractions – decimals and percentages (3 weeks + 3 days)	Ratio and Proportion (1 week)	Algebra (2 weeks)	Measurement – Area/ Perimeter/ Volume (2 weeks)	Shapes (2 weeks)	Statistics (1 week)

• associate a fraction with division and calculate decimal fraction equivalents example, 0.375 • for a simple fraction for example, $\frac{3}{8}$ • multiply simple pairs of proper fractions, writing the answer in its simplest form [for, example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$] • divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$] • identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places • multiply one-digit numbers with up to two decimal places by whole numbers • use written division methods in cases where the answer has up to two decimal places • solve problems which require answers to be rounded to specified degrees of accuracy • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	• Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts • solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison • solve problems involving similar shapes where the scale factor is known or can be found • solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	• Use simple formulae • generate and describe linear number sequences • express missing number problems algebraically • find pairs of numbers that satisfy an equation with two unknowns enume rate possibilities of combinations of two variables. • 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	• recognise, describe and build simple 3-D shapes, including making nets • 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 • recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. • interpret and construct pie charts and line graphs and use these to solve problems • calculate and interpret the mean as an average

| Arithmetic Link to document | • Find 0.001, 0.01, 0.1, 1 10 and powers of 10 more/less than a given number.
• Recall and use addition and subtraction facts for 1 (with decimals to two decimal places)
• Identify and use knowledge of number bonds within a calculation and identify related facts, e.g. 680 + 430, 6.8 + 4.3, 0.68 + 0.43 can all be worked out using the related calculation 68 + 43 | • Find differences by counting up through the next multiple of 0.1, 1, 10, 100 or 1000
• Multiply whole numbers and decimals to three decimal places by 10, 100 and 1000 | • Use related facts to multiply 0.0t by a one-digit number
• Use related facts to divide TU by 0.t
• Use related facts to divide 0.th by 0.t
• Use compensation to multiply U.9 and U.99 by a one-digit number
Use partitioning to multiply 0.th by a one-digit number |

Summer (12 weeks + 2 days)	Shape (2 weeks)	Position and Direction (1 week + 4 days)	Addition/ Subtraction/ Multiplication/ Division (3 weeks)		Transition / Enterprise (6 weeks + 4 days)
	• identify 3-D shapes, including cubes and other cuboids, from 2-D representations § know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles § draw given angles, and measure them in degrees (o) § identify: § angles at a point and one whole turn (total 360o) § angles at a point on a straight line and 2 1 a turn (total 180o) § other multiples of 90o § use the properties of rectangles to deduce related	• 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.	• **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 nonstandard partitioning** • **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.** • **Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).** • **Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.**		

		facts and find missing lengths and angles § distinguish between regular and irregular polygons based on reasoning about equal sides and angles.		• **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.**	
		• **Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size** • **Compare areas and calculate the area of rectangles (including squares) using standard units.**		• Sоlve problems involving ratio relationships. • **Solve problems with 2 unknowns.**	
	Arithmetic Link to document	• Use partitioning to double numbers including those with three decimal places • Divide whole numbers and decimals to three decimal places by 10, 100 and 1000	• Identify and use all related facts that link to tables Use related facts to divide by 50 • Use related facts to divide by 25		