

Sixpenny Handley First School and Nursery
Curriculum Subject Overview

Subject: Maths
Aims

The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Subject content and progression of learning

EYFS

Birth to three - babies, toddlers and young children will be learning to:	Examples of how to support this:
Combine objects like stacking blocks and cups. Put objects inside others and take them out again.	Encourage babies and young toddlers to play freely with a wide range of objects - toddlers engage spontaneously in mathematics during nearly half of every minute of free play. Suggestions: when appropriate, sensitively join in and comment on: <ul style="list-style-type: none">• - interestingly shaped objects like vegetables, wooden pegs, spoons, pans, corks, cones, balls• - pots and pans, boxes and objects to put in them, shape sorters• - stacking cups: hiding one, building them into a tower, nesting them and lining them up

Take part in finger rhymes with numbers.	Use available opportunities, including feeding and changing times for finger-play, outdoors and inside, such as 'Round and round the garden'.
React to changes of amount in a group of up to three items.	Sing finger rhymes which involve hiding and returning, like 'Two little dicky birds'.
Compare amounts, saying 'lots', 'more' or 'same'.	Draw attention to changes in amounts, for example, by adding more bricks to a tower, or eating things up
Develop counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence.	Offer repeated experiences with the counting sequence in meaningful and varied contexts, outside and indoors. Suggestions: count fingers and toes, stairs, toys, food items, sounds and actions.

Birth to three - babies, toddlers and young children will be learning to:	Examples of how to support this:
Count in everyday contexts, sometimes skipping numbers - '1-2-3-5.'	Help children to match their counting words with objects. Suggestions: move a piece of apple to one side once they have counted it. If children are saying one number word for each object, it isn't always necessary to correct them if they skip a number. Learning to count accurately takes a long time and repeated experience. Confidence is important.
Climb and squeeze themselves into different types of spaces.	Describe children's climbing, tunnelling and hiding using spatial words like 'on top of', 'up', 'down' and 'through'.
Build with a range of resources.	Provide blocks and boxes to play freely with and build with, indoors and outside.
Complete inset puzzles.	Provide inset puzzles and jigsaws at different levels of difficulty.
Compare sizes, weights etc. using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy'.	Use the language of size and weight in everyday contexts. Provide objects with marked differences in size to play freely with. Suggestions: dolls' and adult chairs, tiny and big bears, shoes, cups and bowls, blocks and containers.

Notice patterns and arrange things in patterns.	Provide patterned material – gingham, polka dots, stripes etc. – and small objects to arrange in patterns. Use words like ‘repeated’ and ‘the same’ over and over.
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3 & 4-year-olds will be learning to:	Examples of how to support this:
Develop fast recognition of up to 3 objects, without having to count them individually (‘subitising’). Recite numbers past 5. Say one number for each item in order: 1,2,3,4,5.	Point to small groups of two or three objects: “Look, there are two!” Occasionally ask children how many there are in a small set of two or three. Regularly say the counting sequence, in a variety of playful contexts, inside and outdoors, forwards and backwards, sometimes going to high numbers. For example: hide and seek, rocket-launch countdowns. Count things and then repeat the last number. For example: “1, 2, 3 – 3 cars ”. Point out the number of things whenever possible; so, rather than just

3 & 4-year-olds will be learning to:	Examples of how to support this:
Know that the last number reached when counting a small set of objects tells you how many there are in total (‘cardinal principle’). Show ‘finger numbers’ up to 5. Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.	‘chairs’, ‘apples’ or ‘children’, say ‘two chairs’, ‘three apples’, ‘four children’. Ask children to get you a number of things, and emphasise the total number in your conversation with the child. Use small numbers to manage the learning environment. Suggestions: have a pot labelled ‘5 pencils’ or a crate for ‘3 trucks’. Draw children’s attention to these throughout the session and especially at tidy-up time: “How many pencils should be in this pot?” or “How many have we got?” etc.
Experiment with their own symbols and marks as well as numerals.	Encourage children in their own ways of recording (for example) how many balls they managed to throw through the hoop. Provide numerals nearby for

<p>Solve real world mathematical problems with numbers up to 5.</p> <p>Compare quantities using language: 'more than', 'fewer than'.</p>	<p>reference. Suggestions: wooden numerals in a basket or a number track on the fence.</p> <p>Discuss mathematical ideas throughout the day, inside and outdoors. Suggestions:</p> <ul style="list-style-type: none"> - "I think Adam has got more crackers..." - support children to solve problems using fingers, objects and marks: "There are four of you, but there aren't enough chairs...." - draw children's attention to differences and changes in amounts, such as those in stories like 'The Enormous Turnip'.
<p>Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'.</p>	<p>Encourage children to play freely with blocks, shapes, shape puzzles and shape-sorters. Sensitive support and discuss questions like: "What is the same and what is different?"</p> <p>Encourage children to talk informally about shape properties using words like 'sharp corner', 'pointy' or 'curvy'. Talk about shapes as you play with them: "We need a piece with a straight edge."</p>
<p>Understand position through words alone – for example,</p>	<p>Discuss position in real contexts. Suggestions: how to shift the leaves off a path, or sweep water away down the drain.</p>

3 & 4-year-olds will be learning to:	Examples of how to support this:
<p>"The bag is under the table," – with no pointing.</p> <p>Describe a familiar route.</p>	<p>Use spatial words in play, including 'in', 'on', 'under', 'up', 'down', 'besides' and 'between'. Suggestion: "Let's put the troll under the bridge and the billy goat beside the stream."</p> <p>Take children out to shops or the park: recall the route and the order of things seen on the way.</p>

<p>Discuss routes and locations, using words like 'in front of' and 'behind'.</p>	<p>Set up obstacle courses, interesting pathways and hiding places for children to play with freely. When appropriate, ask children to describe their route and give directions to each other.</p> <p>Provide complex train tracks, with loops and bridges, or water-flowing challenges with guttering that direct the flow to a water tray, for children to play freely with.</p> <p>Read stories about journeys, such as 'Rosie's Walk'.</p>
<p>Make comparisons between objects relating to size, length, weight and capacity.</p>	<p>Provide experiences of size changes. Suggestions: "Can you make a puddle larger?", "When you squeeze a sponge, does it stay small?", "What happens when you stretch dough, or elastic?"</p> <p>Talk with children about their everyday ways of comparing size, length, weight and capacity. Model more specific techniques, such as lining up ends of lengths and straightening ribbons, discussing accuracy: "Is it exactly...?"</p>
<p>Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc.</p> <p>Combine shapes to make new ones - an arch, a bigger triangle etc.</p>	<p>Provide a variety of construction materials like blocks and interlocking bricks. Provide den-making materials. Allow children to play freely with these materials, outdoors and inside. When appropriate, talk about the shapes and how their properties suit the purpose.</p> <p>Provide shapes that combine to make other shapes, such as pattern blocks and interlocking shapes, for children to play freely with. When appropriate, discuss the different designs that children make.</p>

3 & 4-year-olds will be learning to:	Examples of how to support this:
	<p>Occasionally suggest challenges, so that children build increasingly more complex constructions.</p>

	<p>Use tidy-up time to match blocks to silhouettes or fit things in containers, describing and naming shapes. Suggestion: “Where does this triangular one /cylinder /cuboid go?”</p>
<p>Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like ‘pointy’, ‘spotty’, ‘blobs’ etc.</p> <p>Extend and create ABAB patterns – stick, leaf, stick, leaf.</p> <p>Notice and correct an error in a repeating pattern.</p> <p>Begin to describe a sequence of events, real or fictional, using words such as ‘first’, ‘then...’</p>	<p>Provide patterns from different cultures, such as fabrics.</p> <p>Provide a range of natural and everyday objects and materials, as well as blocks and shapes, for children to play with freely and to make patterns with. When appropriate, encourage children to continue patterns and spot mistakes.</p> <p>Engage children in following and inventing movement and music patterns, such as clap, clap, stamp.</p> <p>Talk about patterns of events, in cooking or getting dressed. Suggestions:</p> <ul style="list-style-type: none"> • - ‘First’, ‘then’, ‘after’, ‘before’ • - “Every day we...” • - “Every evening we...” <p>Talk about the sequence of events in stories.</p> <p>Use vocabulary like ‘morning’, ‘afternoon’, ‘evening’ and ‘night-time’, ‘earlier’, ‘later’, ‘too late’, ‘too soon’, ‘in a minute’.</p> <p>Count down to forthcoming events on the calendar in terms of number of days or sleeps. Refer to the days of the week, and the day before or day after, ‘yesterday’ and ‘tomorrow’.</p>

Children in reception will be learning to:	Examples of how to support this:
Count objects, actions and sounds.	<p>Develop the key skills of counting objects including saying the numbers in order and matching one number name to each item.</p> <p>Say how many there are after counting - for example, "...6, 7, 8. There are 8 balls" - to help children appreciate that the last number of the count indicates the total number of the group. This is the cardinal counting principle.</p> <p>Say how many there might be before you count to give a purpose to counting: "I think there are about 8. Shall we count to see?"</p> <p>Count out a smaller number from a larger group: "Give me seven..." Knowing when to stop shows that children understand the cardinal principle.</p> <p>Build counting into everyday routines such as register time, tidying up, lining up or counting out pieces of fruit at snack time.</p> <p>Sing counting songs and number rhymes, and read stories that involve counting.</p> <p>Play games which involve counting.</p> <p>Identify children who have had less prior experience of counting, and provide additional opportunities for counting practice.</p>
Subitise.	<p>Show small quantities in familiar patterns (for example, dice) and random arrangements.</p> <p>Play games which involve quickly revealing and hiding numbers of objects.</p>

	<p>Put objects into five frames and then ten frames to begin to familiarise children with the tens structure of the number system.</p> <p>Prompt children to subitise first when enumerating groups of up to 4 or 5 objects: "I don't think we need to count those. They are in a square shape so there must be 4." Count to check.</p>
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Children in reception will be learning to:	Examples of how to support this:
	Encourage children to show a number of fingers 'all at once', without counting.
Link the number symbol (numeral) with its cardinal number value.	<p>Display numerals in order alongside dot quantities or tens frame arrangements.</p> <p>Play card games such as snap or matching pairs with cards where some have numerals and some have dot arrangements.</p> <p>Discuss the different ways children might record quantities (for example, scores in games), such as tallies, dots and using numeral cards.</p>
Count beyond ten.	<p>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.</p> <p>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.</p>
Compare numbers.	Provide collections to compare, starting with a very different number of things. Include more small things and fewer large things, spread them out and bunch them up, to draw attention to the number not the size of things or the space they take up. Include groups where the number of items is the same.

	<p>Use vocabulary: 'more than', 'less than', 'fewer', 'the same as', 'equal to'. Encourage children to use these words as well.</p> <p>Distribute items evenly, for example: "Put 3 in each bag," or give the same number of pieces of fruit to each child. Make deliberate mistakes to provoke discussion.</p> <p>Tell a story about a character distributing snacks unfairly and invite children to make sure everyone has the same.</p>
Understand the 'one more than/one less than' relationship between consecutive numbers.	Make predictions about what the outcome will be in stories, rhymes and songs if one is added, or if one is taken away.

Children in reception will be learning to:	Examples of how to support this:
	Provide 'staircase' patterns which show that the next counting number includes the previous number plus one.
Explore the composition of numbers to 10.	<p>Focus on composition of 2, 3, 4 and 5 before moving onto larger numbers</p> <p>Provide a range of visual models of numbers: for example, six as double three on dice, or the fingers on one hand and one more, or as four and two with ten frame images.</p> <p>Model conceptual subitising: "Well, there are three here and three here, so there must be six."</p> <p>Emphasise the parts within the whole: "There were 8 eggs in the incubator. Two have hatched and 6 haven't yet hatched."</p> <p>Plan games which involve partitioning and recombining sets. For example, throw 5 beanbags, aiming for a hoop. How many go in and how many don't?</p>

<p>Automatically recall number bonds for numbers 0–10.</p>	<p>Have a sustained focus on each number to 10. Make visual and practical displays in the classroom showing the different ways of making numbers to 10 so that children can refer to these.</p> <p>Play hiding games with a number of objects in a box, under a cloth, in a tent, in a cave, etc.: “Seven went in the tent and 2 came out. I wonder how many are still in there?”</p> <p>Intentionally give children the wrong number of things. For example: ask each child to plant 4 seeds then give them 1, 2 or 3. “I’ve only got 1 seed, I need 3 more.”</p> <p>Spot and use opportunities for children to apply number bonds: “There are 6 of us but only 2 clipboards. How many more do we need?”</p> <p>Place objects into a five frame and talk about how many spaces are filled and unfilled.</p>
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<p>Children in reception will be learning to:</p>	<p>Examples of how to support this:</p>
<p>Select, rotate and manipulate shapes in order to develop spatial reasoning skills.</p>	<p>Provide high-quality pattern and building sets, including pattern blocks, tangrams, building blocks and magnetic construction tiles, as well as found materials.</p> <p>Challenge children to copy increasingly complex 2D pictures and patterns with these 3D resources, guided by knowledge of learning trajectories: “I bet you can’t add an arch to that,” or “Maybe tomorrow someone will build a staircase.”</p> <p>Teach children to solve a range of jigsaws of increasing challenge.</p>
<p>Compose and decompose shapes so that children recognise a shape can have other shapes <i>within</i> it, just as numbers can.</p>	<p>Investigate how shapes can be combined to make new shapes: for example, two triangles can be put together to make a square. Encourage children to predict what</p>

	<p>shapes they will make when paper is folded. Wonder aloud how many different ways there are to make a hexagon with pattern blocks.</p> <p>Find 2D shapes within 3D shapes, including through printing or shadow play.</p>
Continue, copy and create repeating patterns.	<p>Make patterns with varying rules (including AB, ABB and ABBC) and objects and invite children to continue the pattern.</p> <p>Make a deliberate mistake and discuss how to fix it.</p>
Compare length, weight and capacity.	<p>Model comparative language using 'than' and encourage children to use this vocabulary. For example: "This is heavier than that."</p> <p>Ask children to make and test predictions. "What if we pour the jugful into the teapot? Which holds more?"</p>

At Sixpenny Handley First and Nursery school, in Key Stage 1 and 2 we follow the Inspire Maths scheme which is aligned to the national curriculum as follows:

Key Stage 1: Year 1
Progression of skills

Number – number and place value		
Pupils should be taught to:		
<ul style="list-style-type: none"> count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number 	PB1A Unit 1: Numbers to 10, 6–21 PB1A Unit 3: Addition within 10, 28–31 PB1A Unit 4: Subtraction within 10, 39–43 PB1A Unit 6: Ordinal Numbers, 67–79 PB1A Unit 7: Numbers to 20, 79–97 PB1B Unit 12: Numbers to 40, 26–62 PB1B Unit 17: Numbers to 100, 91–120	Counting across 100 is included in <i>Inspire Maths 2</i> .

	PB2A Unit 1: Numbers to 1000, 6	
<ul style="list-style-type: none"> count, read and write numbers to 100 in numerals 	PB1A Unit 1: Numbers to 10, 6–12, 15–21 PB1A Unit 2: Number Bonds, 22–27 PB1A Unit 3: Addition within 10, 28–38 PB1A Unit 4: Subtraction within 10, 39–53 PB1A Unit 7: Numbers to 20, 79–97 PB1B Unit 12: Numbers to 40, 26–62 PB1B Unit 17: Numbers to 100, 91–120	
<ul style="list-style-type: none"> count in multiples of twos, fives and tens 	PB1A Unit 7: Numbers to 20, 95, 97 PB1B Unit 12: Numbers to 40, 36 PB1B Unit 17: Numbers to 100, 91–93	<i>Inspire Maths 1</i> introduces number patterns. ‘Skip-counting’ for twos, fives and tens is introduced in <i>Inspire Maths 2</i> .
<ul style="list-style-type: none"> given a number, identify one more and one less 	PB1A Unit 1: Numbers to 10, 17–20 PB1A Unit 7: Numbers to 20, 94–96 PB1B Unit 12: Numbers to 40, 36	
<ul style="list-style-type: none"> identify and represent numbers using objects and pictorial representations including the number line 	PB1A Unit 1: Numbers to 10, 6–21 PB1A Unit 2: Number Bonds, 22–27 PB1A Unit 3: Addition within 10, 28–30, 32–37 PB1A Unit 4: Subtraction within 10, 39–51 PB1A Unit 7: Numbers to 20, 79–97 PB1B Unit 12: Numbers to 40, 26–61 PB1B Unit 17: Numbers to 100, 91–100, 102–117	<i>Inspire Maths</i> uses number tracks frequently. Use number line as an alternative image alongside number tracks, for example in PB1A Unit 1: Numbers to 10, page 12 and PB1A Unit 7: Numbers to 20, page 82.

<ul style="list-style-type: none"> • use the language of: equal to, more than, less than (fewer), most, least 	PB1A Unit 1: Numbers to 10, 13–16 PB1A Unit 3: Addition within 10, 30, 38 PB1A Unit 4: Subtraction within 10, 40 PB1A Unit 7: Numbers to 20, 88–97 PB1B Unit 12: Numbers to 40, 31–36 PB1B Unit 17: Numbers to 100, 95–101	Include 'equal to' when comparing. For example, in PB1A, page 13, question 1: 'The number of children is equal to the number of apples.' Include the vocabulary of 'most' and 'fewest' when comparing. For example, in PB1A, page 15, question 5: 'Which train has the most? Which train has the least?'
<ul style="list-style-type: none"> • read and write numbers from 1 to 20 in numerals and words. 	PB1A Unit 1: Numbers to 10, 6–12 PB1A Unit 7: Numbers to 20, 84	
Number – addition and subtraction		
Pupils should be taught to:		
<ul style="list-style-type: none"> • read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs 	PB1A Unit 3 Addition within 10, 28–30, 32–38 PB1A Unit 4: Subtraction within 10, 39–41, 43–53 PB1A Unit 7: Numbers to 20, 83, 85 PB1A Unit 8: Addition and Subtraction within 20, 98–104, 106–109 PB1B Unit 12: Numbers to 40, 28–29, 36–62 PB1B Unit 13: Mental Calculations, 63, 65–67, 69 PB1B Unit 14: Multiplication, 70–78 PB1B Unit 17: Numbers to 100, 93, 102–117, 120 PB1B Unit 19: Money (2), 132–133, 136–143	To introduce 'not equal to', expand the teaching sequence in TG1A, page 48, question 1, to include more guidance on what the equals symbol means, and why it couldn't be used between, e.g. $6 + 2$ and 6 : because these are <i>not</i> equal.
<ul style="list-style-type: none"> • represent and use number bonds and related subtraction facts within 20 	PB1A Unit 2: Number Bonds, 22–27 PB1A Unit 3: Addition within 10, 32–38 PB1A Unit 4: Subtraction within 10, 44–51 PB1A Unit 7: Numbers to 20, 83 PB1A Unit 8: Addition and Subtraction within 20, 98–105 PB1B Unit 12: Numbers to 40, 37–62 PB1B Unit 13: Mental Calculations, 63–69 PB1B Unit 17: Numbers to 100, 102–120 PB1B Unit 19: Money (2), 132–143	

<ul style="list-style-type: none"> add and subtract one-digit and two-digit numbers to 20, including zero 	PB1A Unit 3: Addition within 10, 28–38 PB1A Unit 4: Subtraction within 10, 39–53 PB1A Unit 7: Numbers to 20, 83, 85, 94–96 PB1A Unit 8: Addition and Subtraction within 20, 98–109 PB1B Unit 12: Numbers to 40, 37–62 PB1B Unit 13: Mental Calculations, 63–69 PB1B Unit 14: Multiplication, 70–75 PB1B Unit 17: Numbers to 100, 102–120 PB1B Unit 19: Money (2), 132–143	
<ul style="list-style-type: none"> solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$. 	PB1A Unit 3: Addition within 10, 34–38 PB1A Unit 4: Subtraction within 10, 46–49, 52–53 PB1A Unit 7: Numbers to 20, 93–97 PB1A Unit 8: Addition and Subtraction within 20, 106–109 PB1B Unit 12: Numbers to 40, 39–62 PB1B Unit 19: Money (2), 132–143	
Number – multiplication and division		
Pupils should be taught to:		
<ul style="list-style-type: none"> solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. 	PB1B Unit 14: Multiplication, 70–78 PB1B Unit 15: Division, 79–83	
Number – fractions		
Pupils should be taught to:		
<ul style="list-style-type: none"> recognise, find and name a half as one of two equal parts of an object, shape or quantity 	PB2B Unit 12: Fractions, 32–42	<i>Inspire Maths 2</i> introduces half of an object or shape as part of coverage of small-denominator fractions.
<ul style="list-style-type: none"> recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. 	PB2B Unit 12: Fractions, 32–42	<i>Inspire Maths 2</i> introduces a quarter of an object or shape as part of coverage of small-denominator fractions.

Measurement		
Pupils should be taught to:		
<ul style="list-style-type: none"> compare, describe and solve practical problems for: <ul style="list-style-type: none"> lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] mass/weight [for example, heavy/light, heavier than, lighter than] capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] time [for example, quicker, slower, earlier, later] 	PB1A Unit 9: Length, 110–126 PB1B Unit 10: Mass, 6–17 PB2B Unit 14: Volume, 79–84 PB2B Unit 13: Time, 69–73, 78	Discuss times of day, including 'earlier', 'later' in TG1B, Unit 1 page 158. Find opportunities throughout the school day to discuss lengths of time, including 'quicker', 'slower'.
<ul style="list-style-type: none"> measure and begin to record the following: <ul style="list-style-type: none"> lengths and heights mass/weight capacity and volume time (hours, minutes, seconds) 	PB1A Unit 9: Length, 119–126 PB1B Unit 10: Mass, 11–17 PB2B Unit 14: Volume, 83–84 PB1B Unit 16: Time, 84–90 PB2B Unit 13: Time, 74–77	Telling the time is covered in <i>Inspire Maths 1</i> . Time in the sense of time taken, or elapsed time, is introduced in <i>Inspire Maths 2</i> .
<ul style="list-style-type: none"> recognise and know the value of different denominations of coins and notes 	PB1B Unit 18: Money (1), 121–131	
<ul style="list-style-type: none"> sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] 	PB1B Unit 16: Time, 85–89 PB2B Unit 13: Time, 69–73	Extend teaching sequences for TG1B, page 159, question 3; page 161, questions 2–4; page 162, question 5 to introduce the language of sequencing.
<ul style="list-style-type: none"> recognise and use language relating to dates, including days of the week, weeks, months and years 		Find opportunities throughout the school day to introduce this vocabulary.
<ul style="list-style-type: none"> tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. 	PB1B Unit 16: Time, 84–90	As an additional activity to PrB1B, page 26, question 3 and page 28, question 2 ask pupils to 'draw on the hands' to clocks.

Geometry – properties of shapes		
Pupils should be taught to:		
<ul style="list-style-type: none"> recognise and name common 2-D and 3-D shapes, including: <ul style="list-style-type: none"> 2-D shapes [for example, rectangles (including squares), circles and triangles] 	PB1A Unit 5: Shapes and Patterns, 54–61 PB2B Unit 17: Shapes and Patterns, 120–125	
<ul style="list-style-type: none"> 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]. 	PB2B Unit 17: Shapes and Patterns, 129–131	3-D shapes are introduced in <i>Inspire Maths 2</i> . Extend PB2B, Unit 17 to include spheres and pyramids.
Geometry – position and direction		
Pupils should be taught to:		
<ul style="list-style-type: none"> describe position, direction and movement, including whole, half, quarter and three-quarter turns. 	PB1A Unit 6 Ordinal Numbers, 67–78 <i>Inspire Maths 2</i> National Curriculum Correlation Chart	Left and right covered on PB1A, Unit 6 pages 67–78. <i>Inspire Maths 2</i> National Curriculum Chart further details coverage.

Key Stage 1: Year 2 Progression of skills

NC objective	<i>Inspire Maths</i> page reference	Additional activity
Number – number and place value		
Pupils should be taught to:		
<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 	PB2A Unit 1: Numbers to 1000 pp 8–9, 21–23 PB2A Unit 5: Multiplying by 2 and 3 pp 86–87, 95–96 PB2A Unit 6: Multiplying by 4, 5, and 10 pp 115–116, 122–123	NC Activity 2.1
<ul style="list-style-type: none"> recognise the place value of each digit in a two-digit number (tens, ones) 	PB1A Unit 7: Numbers to 20 pp 86–87, 90–91 PB1B Unit 12: Numbers to 40 pp 26–62 PB1B Unit 17: Numbers to 100 pp 94–117	

<ul style="list-style-type: none"> identify, represent and estimate numbers using different representations, including the number line 	PB2A Unit 1: Numbers to 1000 pp 6–17, 21 PB2A Unit 2: Addition and Subtraction within 1000 pp 27–57 PB2A Unit 3: Using Models: Addition and Subtraction pp 60–78 PB2A Unit 5: Multiplying by 2 and 3 pp 86–104 PB2A Unit 6: Multiplying by 4, 5, and 10 pp 106–131 PB2A Unit 7: Using Models: Multiplication and Division pp 132–136	NC Activity 2.2
<ul style="list-style-type: none"> compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs 	PB1A Unit 1: Numbers to 10 pp 13–21 PB1A Unit 6: Ordinal Numbers pp 67–78 PB1A Unit 7: Numbers to 20 pp 88–97 PB1B Unit 12: Numbers to 40 pp 31–36 PB1B Unit 17: Numbers to 100 pp 95–101 PB2A Unit 1: Numbers to 1000 pp 14–19	NC Activity 2.3
<ul style="list-style-type: none"> read and write numbers to at least 100 in numerals and in words 	PB1A Unit 1: Numbers to 10 pp 6–11 PB1A Unit 7: Numbers to 20 p 84 PB1B Unit 12: Numbers to 40 pp 26–27 PB1B Unit 17: Numbers to 100 pp 91–93	
<ul style="list-style-type: none"> use place value and number facts to solve problems. 	PB1B Unit 12: Numbers to 40 pp 59–62 PB2A Unit 1: Numbers to 1000 pp 21–26 PB2A Unit 2: Addition and Subtraction within 1000 pp 30, 34, 36, 39, 42, 43, 46, 50–51, 55, 58, 59	
Number – addition and subtraction		
Pupils should be taught to:		

<ul style="list-style-type: none"> ● solve problems with addition and subtraction: <ul style="list-style-type: none"> ● using concrete objects and pictorial representations, including those involving numbers, quantities and measures ● applying their increasing knowledge of mental and written methods 	<p>PB1B Unit 19: Money (2) pp 132–143 PB2A Unit 2: Addition and Subtraction within 1000 pp 30, 34, 36, 39, 42, 43, 46, 50–51, 55, 58, 59 PB2A Unit 3: Using Models: Addition and Subtraction pp 61–78 PB2A Unit 8: Length pp 140–141, 146–151, 154 PB2A Unit 9: Mass pp 159–160, 167–172, 175 PB2B Unit 14: Volume pp 89–92, 94</p>	
<ul style="list-style-type: none"> ● recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 	<p>PB1A Unit 2: Number Bonds pp 22–27 PB1A Unit 7: Numbers to 20 pp 83 PB1A Unit 8: Addition and Subtraction within 20 pp 98–105 PB1B Unit 12: Numbers to 40 pp 37–62 PB1B Unit 13: Mental Calculations pp 63–69 PB1B Unit 17: Numbers to 100 pp 102–120 PB1B Unit 19: Money (2) pp 132–143 PB2A Unit 2: Addition and Subtraction within 1000 pp 27–59 PB2B Unit 10: Mental Calculations pp 6–18</p>	
<ul style="list-style-type: none"> ● add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <ul style="list-style-type: none"> ● a two-digit number and ones ● a two-digit number and tens ● two two-digit numbers ● adding three one-digit numbers 	<p>PB1B Unit 12: Numbers to 40 pp 37–62 PB1B Unit 17: Numbers to 100 pp 102–117, 120 PB1B Unit 19: Money (2) pp 132–143 PB2A Unit 3: Using Models: Addition and Subtraction pp 65–66 PB2B Unit 10: Mental Calculations pp 6–8, 13</p>	
<ul style="list-style-type: none"> ● show that addition of two numbers can be done in any order (commutative) and 	<p>PB1A Unit 4: Subtraction within 10 pp 50–51</p>	<p>NC Activity 2.4</p>

subtraction of one number from another cannot		
<ul style="list-style-type: none"> recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. 	PB1A Unit 4: Subtraction within 10 pp 44–53 PB1B Unit 13: Mental Calculations pp 65–68	NC Activity 2.5
Number – multiplication and division		
Pupils should be taught to:		
<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 	PB2A Unit 5: Multiplying by 2 and 3 pp 86–94, 102–105 PB2A Unit 6: Multiplying by 4, 5 and 10 pp 115–130 PB2A Unit 7: Using Models: Multiplication and Division pp 132–136	NC Activity 2.6
<ul style="list-style-type: none"> calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs 	PB2A Unit 4: Multiplication and Division pp 79–85 PB2A Unit 5: Multiplying by 2 and 3 pp 86–105 PB2A Unit 6: Multiplying by 4, 5, and 10 pp 106–131 PB2A Unit 7: Using Models: Multiplication and Division pp 132–136	
<ul style="list-style-type: none"> show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot 	PB2A Unit 4: Multiplication and Division pp 79–82 PB2A Unit 5: Multiplying by 2 and 3 pp 94, 101 PB2A Unit 6: Multiplying by 4, 5 and 10 pp 114, 121, 125	NC Activity 2.7
<ul style="list-style-type: none"> solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and 	PB2A Unit 4: Multiplication and Division pp 79–85 PB2A Unit 5: Multiplying by 2 and 3 pp 86–91, 95–99, 102–105	

multiplication and division facts, including problems in contexts.	PB2A Unit 6: Multiplying by 4, 5, and 10 pp 106–107, 109–111, 115–119, 122–123, 126–131 PB2A Unit 7: Using Models: Multiplication and Division pp 132–136 PB2A Unit 8: Length pp, 152–153 PB2A Unit 9: Mass pp 173–175 PB2B Unit 14: Volume pp 92–93	
Number – fractions		
Pupils should be taught to:		
<ul style="list-style-type: none"> recognise, find, name and write fractions $\frac{1}{3}$ $\frac{1}{3}$, $\frac{11}{44}$, $\frac{22}{44}$ and $\frac{33}{44}$ of a length, shape, set of objects or quantity 	PB2B Unit 12: Fractions pp 32–42	NC Activity 2.8
<ul style="list-style-type: none"> write simple fractions for example, $\frac{11}{22}$ of 6 = 3 and recognise the equivalence of $\frac{22}{44}$ and $\frac{11}{22}$. 		NC Activity 2.9
Measurement		
Pupils should be taught to:		
<ul style="list-style-type: none"> choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, 	PB2A Unit 8: Length pp 137–147 PB2A Unit 9: Mass pp 155–168 PB2B Unit 14: Volume pp 85–88	NC Activity 2.10

scales, thermometers and measuring vessels		
<ul style="list-style-type: none"> compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$ 	PB2A Unit 8: Length pp 140–141, 144–147 PB2A Unit 9: Mass pp 160–161, 165–167 PB2B Unit 14: Volume pp 85–88	NC Activity 2.11
<ul style="list-style-type: none"> recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value 	PB1B Unit 18: Money (1) pp 121–131 PB1B Unit 19: Money (2) pp 132–143 PB2B Unit 11: Money pp 19–25	
<ul style="list-style-type: none"> find different combinations of coins that equal the same amounts of money 	PB1B Unit 19: Money (2) p 142 PB2B Unit 11: Money p 23	NC Activity 2.12
<ul style="list-style-type: none"> solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change 	PB1B Unit 19: Money (2) pp 132–143 PB2B Unit 11: Money pp 25, 28–31	
<ul style="list-style-type: none"> compare and sequence intervals of time 		NC Activity 2.13
<ul style="list-style-type: none"> 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 	PB2B Unit 13: Time pp 60–72	NC Activity 2.14
<ul style="list-style-type: none"> know the number of minutes in an hour and the number of hours in a day. 	PB2B Unit 13: Time p 60	NC Activity 2.15
Geometry – properties of shapes		
Pupils should be taught to:		

<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 	PB1A Unit 5: Shapes and Patterns pp 54–61 PB2B Unit 16: Lines and Surfaces pp 110–114, 119 PB2B Unit 17: Shapes and Patterns pp 120–125, 136	NC Activity 2.16
<ul style="list-style-type: none"> ● identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces 	PB2B Unit 16: Lines and Surfaces pp 115–118 PB2B Unit 17: Shapes and Patterns pp 129–131	NC Activity 2.17
<ul style="list-style-type: none"> ● identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] 	PB2B Unit 16: Lines and Surfaces pp 118 PB2B Unit 17: Shapes and Patterns pp 129	NC Activity 2.18
<ul style="list-style-type: none"> ● compare and sort common 2-D and 3-D shapes and everyday objects. 	PB1A Unit 5: Shapes and Patterns pp 55–56, 66 PB2B Unit 16: Lines and Surfaces pp 110–118 PB2B Unit 17: Shapes and Patterns pp 120–125, 129–136	NC Activity 2.19
Geometry – position and direction		
Pupils should be taught to:		
<ul style="list-style-type: none"> ● order and arrange combinations of mathematical objects in patterns and sequences 	PB1A Unit 5: Shapes and Patterns pp 62–66 PB2B Unit 17: Shapes and Patterns pp 132–135	
<ul style="list-style-type: none"> ● use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise). 		NC Activity 2.20
Statistics		

Pupils should be taught to:		
<ul style="list-style-type: none"> interpret and construct simple pictograms, tally charts, block diagrams and simple tables 	PB1A Unit 6: Ordinal Numbers p 76 PB1A Unit 9: Length p 125 PB1B Unit 10: Mass pp 9, 14, 15 PB1B Unit 11: Picture Graphs pp 18–25 PB2A Unit 8: Length p 139 PB2A Unit 9: Mass pp 157, 166 PB2B Unit 13: Time p 77 PB2B Unit 15: Graphs pp 95–109	NC Activity 2.21
<ul style="list-style-type: none"> ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity 	PB1B Unit 11: Picture Graphs pp 20, 22, 23–25 PB2B Unit 15: Graphs pp 96–98	
<ul style="list-style-type: none"> ask and answer questions about totalling and comparing categorical data. 	PB1B Unit 11: Picture Graphs pp 20, 23–25 PB2B Unit 15: Graphs pp 96–103, 106–109	NC Activity 2.22

Key Stage 2: Year 3
Progression of skills

NC objective	<i>Inspire Maths</i> page reference	Additional activity
Number – number and place value		
Pupils should be taught to:		
<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 	PB2A Unit 1: Numbers to 1000 pp 6–7, 9–13 PB2A Unit 6: Multiplying by 4, 5 and 10 pp 106–107 PB3A Unit 1: Numbers to 10 000 pp 6, 9 PB3A Unit 5: Multiplying by 6, 7, 8 and 9 pp 67–68 PB2A Unit 1: Numbers to 1000 pp 8–9, 21–23 PB3A Unit 1: Numbers to 10 000 pp 9–10, 21–22	

<ul style="list-style-type: none"> recognise the place value of each digit in a three-digit number (hundreds, tens, ones) 	PB2A Unit 1: Numbers to 1000 pp 6–25 PB2A Unit 2: Addition and Subtraction within 1000 pp 27–59	
<ul style="list-style-type: none"> compare and order numbers up to 1000 	PB2A Unit 1: Numbers to 1000 pp 14–23, 25	NC Activity 3.1
<ul style="list-style-type: none"> identify, represent and estimate numbers using different representations 	PB2A Unit 1: Numbers to 1000 pp 6–17, 21 PB2A Unit 3: Using Models: Addition and Subtraction pp 60–78 PB2A Unit 4: Multiplication and Division pp 79–85 PB2A Unit 6: Multiplying by 4, 5 and 10 pp 106–107, 109–116, 118–119, 121–123, 125–129, 131 PB2A Unit 7: Using Models: Multiplication and Division pp 132–136	NC Activity 3.2
<ul style="list-style-type: none"> read and write numbers up to 1000 in numerals and in words 	PB2A Unit 1: Numbers to 1000 pp 6–25	
<ul style="list-style-type: none"> solve number problems and practical problems involving these ideas. 	PB2A Unit 1: Numbers to 1000 pp 13, 18, 20–26 PB2A Unit 3: Using Models: Addition and Subtraction pp 61–78 PB2A Unit 4: Multiplication and Division pp 79–85 PB2A Unit 6: Multiplying by 4, 5 and 10 pp 106–107, 109–116, 118–119, 121–123, 125–129, 131 PB2A Unit 7: Using Models: Multiplication and Division pp 132–136	
Number – addition and subtraction		
Pupils should be taught to:		

<ul style="list-style-type: none"> ● add and subtract numbers mentally, including: <ul style="list-style-type: none"> ● a three-digit number and ones ● a three-digit number and tens ● a three-digit number and hundreds 	PB2B Unit 10: Mental Calculations pp 6–18 PB3A Unit 9: Mental Calculations pp 124–131	NC Activity 3.3
<ul style="list-style-type: none"> ● add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction 	PB2A Unit 2: Addition and Subtraction within 1000 pp 27–59	
<ul style="list-style-type: none"> ● estimate the answer to a calculation and use inverse operations to check answers 	PB4A Unit 2: Whole Numbers (2) pp 32, 35	NC Activity 3.4
<ul style="list-style-type: none"> ● solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. 	PB2A Unit 2: Addition and Subtraction within 1000 pp 30, 34, 36–37, 39, 41–43, 46, 50–51, 55, 58–59 PB2A Unit 3: Using Models: Addition and Subtraction pp 61–78 PB2A Unit 8: Length pp 148–151 PB2A Unit 9: Mass pp 159–160, 164, 167–172, 175 PB2B Unit 14: Volume pp 89–91 PB3B Unit 10: Money pp 6–10, 13–18, 22–26 PB3B Unit 11: Length, Mass and Volume p 44 PB3B Unit 12: Solving Word Problems: Length, Mass and Volume pp 45–46, 48-50	
Number – multiplication and division		
Pupils should be taught to:		

<ul style="list-style-type: none"> recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables 	<p>PB2A Unit 5: Multiplying by 2 and 3 pp 95–105 PB2A Unit 6: Multiplying by 4, 5 and 10 pp 106–114, 126–131 PB2A Unit 7: Using Models: Multiplication and Division pp 132–136 PB2A Unit 8: Length pp 152–153 PB2B Unit 15: Graphs pp 98–99, 106–107 PB3A Unit 5: Multiplying by 6, 7, 8 and 9 pp 67–68, 70, 72–78 PB3A Unit 9: Mental Calculations pp 132–136</p>	
<ul style="list-style-type: none"> write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods 	<p>PB2A Unit 7: Using Models: Multiplication and Division pp 132–136 PB2A Unit 8: Length pp 152–153 PB2A Unit 9: Mass pp 173–175 PB2B Unit 14: Volume pp 92–93 PB3A Unit 6: Multiplication pp 79–92 PB3A Unit 7: Division pp 93–96, 98–110 PB3A Unit 8: Solving Word Problems 2: Multiplication and Division pp 111–123 PB3A Unit 9: Mental Calculations pp 132–136</p>	
<ul style="list-style-type: none"> solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects. 	<p>PB2A Unit 4: Multiplication and Division pp 79–85 PB2A Unit 5: Multiplying by 2 and 3 pp 86–105 PB2A Unit 6: Multiplying by 4, 5 and 10 pp 106–131 PB2A Unit 7: Using Models: Multiplication and Division pp 132–136 PB2A Unit 8: Length pp 152–153 PB2A Unit 9: Mass pp 173–175 PB2B Unit 14: Volume pp 92–93 PB2B Unit 15: Graphs pp 95–109</p>	<p>NC Activity 3.5</p>

	<p>PB3A Unit 6: Multiplication pp 91–92</p> <p>PB3A Unit 7: Division pp 93–95, 99–110</p> <p>PB3A Unit 8: Solving Word Problems 2: Multiplication and Division pp 111–123</p> <p>PB3B Unit 12: Solving Word Problems: Length, Mass and Volume pp 47–55</p> <p>PB3B Unit 15: Time pp 111–112</p>	
Number – fractions		
Pupils should be taught to:		
<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 	<p>PB2B Unit 12: Fractions pp 32–37, 43, 48</p> <p>PB4B Unit 9: Decimals (1) pp 8–13</p>	NC Activity 3.6
<ul style="list-style-type: none"> recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators 	PB4A Unit 5: Fractions pp 104–107, 110–115	
<ul style="list-style-type: none"> recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators 	PB2B Unit 12: Fractions pp 46, 48, 51–53	
<ul style="list-style-type: none"> recognise and show, using diagrams, equivalent fractions with small denominators 	PB3B Unit 14: Fractions pp 69–74, 78–83	

<ul style="list-style-type: none"> add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$] 	PB2B Unit 12: Fractions pp 50–59	
<ul style="list-style-type: none"> compare and order unit fractions, and fractions with the same denominators 	PB2B Unit 12: Fractions pp 44–49	
<ul style="list-style-type: none"> solve problems that involve all of the above. 	PB2B Unit 12: Fractions pp 38–47, 56–59 PB3B Unit 14: Fractions pp 70–71	
Measurement		
Pupils should be taught to:		
<ul style="list-style-type: none"> measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) 	PB2A Unit 8: Length pp 137–151 PB2A Unit 9: Mass pp 155–172 PB2B Unit 14: Volume pp 85–91, 94 PB3B Unit 11: Length, Mass and Volume pp 27–29, 33–44 PB3B Unit 12: Solving Word Problems: Length, Mass and Volume pp 45–46, 48	NC Activity 3.7
<ul style="list-style-type: none"> measure the perimeter of simple 2-D shapes 	PB3B Unit 18: Area and Perimeter pp 163–165, 167, 172	
<ul style="list-style-type: none"> add and subtract amounts of money to give change, using both £ and p in practical contexts 	PB1B Unit 19: Money (2) pp 132–143 PB2A Unit 3: Using Models: Addition and Subtraction pp 64, 70, 72, 74 PB2B Unit 11: Money pp 28–30	
<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 	PB2B Unit 13: Time pp 60–78 PB3B Unit 15: Time pp 91–94 PB4B Unit 11: Time pp 86–97	NC Activity 3.8

<ul style="list-style-type: none"> estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight 	PB2B Unit 13: Time pp 60–73 PB3B Unit 15: Time pp 91–94 PB4B Unit 11: Time pp 82–83, 85	NC Activity 3.9
<ul style="list-style-type: none"> know the number of seconds in a minute and the number of days in each month, year and leap year 	PB4B Unit 11: Time pp 81–85	NC Activity 3.10
<ul style="list-style-type: none"> compare durations of events [for example to calculate the time taken by particular events or tasks]. 	PB2B Unit 13: Time pp 74–77 PB3B Unit 15: Time pp 105–110, 112–114 PB4B Unit 11: Time pp 81–85, 87–96	
Geometry – properties of shapes		
Pupils should be taught to:		
<ul style="list-style-type: none"> draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them 	PB2A Unit 4: Multiplication and Division p 84 PB2B Unit 16: Lines and Surfaces pp 114–119 PB2B Unit 17: Shapes and Patterns pp 122–131, 135–136 PB3B Unit 16: Angles pp 121–122, 125–126	NC Activity 3.11
<ul style="list-style-type: none"> recognise angles as a property of shape or a description of a turn 	PB3B Unit 16: Angles pp 115–122 PB4A Unit 6: Angles pp 125–132	NC Activity 3.12
<ul style="list-style-type: none"> 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 	PB3B Unit 16: Angles pp 123–126 PB4A Unit 6: Angles pp 125–126	

angles are greater than or less than a right angle		
<ul style="list-style-type: none"> identify horizontal and vertical lines and pairs of perpendicular and parallel lines. 	PB3B Unit 17: Perpendicular and Parallel Lines pp 127–131, 138–142, 148 PB4A Unit 7: Perpendicular and Parallel Lines pp 133–141 PB4A Unit 8: Squares and Rectangles pp 142–145	NC Activity 3.13
Statistics		
Pupils should be taught to:		
<ul style="list-style-type: none"> interpret and present data using bar charts, pictograms and tables 	PB2A Unit 9: Mass pp 157, 166, 171 PB2B Unit 13: Time pp 77 PB2B Unit 14: Volume pp 87 PB2B Unit 15: Graphs pp 95–109 PB3A Unit 5: Multiplying by 6, 7, 8 and 9 p 73 PB3B Unit 11: Length, Mass and Volume pp 36, 42 PB3B Unit 13: Bar Graphs pp 56–67 PB3B Unit 16: Angles p 121 PB3B Unit 17: Perpendicular and Parallel Lines pp 131, 142	
<ul style="list-style-type: none"> 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. 	PB2A Unit 1: Numbers to 1000 pp 24–25 PB2B Unit 15: Graphs, 95–103 pp 106–109 PB3B Unit 13: Bar Graphs pp 62–67 PB3B Unit 15: Time pp 112	

Key Stage 2: Year 4
Progression of skills

NC objective	<i>Inspire Maths</i> page reference	Additional activity
Number – number and place value		
Pupils should be taught to:		
<ul style="list-style-type: none"> count in multiples of 6, 7, 9, 25 and 1000 	PB3A Unit 1: Numbers to 10 000 pp 10 PB3A Unit 5: Multiplying by 6, 7, 8 and 9 pp 62–66, 69, 71 PB4A Unit 1: Whole Numbers (1) pp 8, 21	Use a reason for counting in these multiples. Counting in 6s is quite easy but 7s requires a little more thought. Multiples of 7 may include: days of the week, buying items in packs of 7 such as packs of socks, glue sticks etc. Link counting in 25s, 50s and 100s directly to measures, e.g. counting in millilitres or grams.
<ul style="list-style-type: none"> find 1000 more or less than a given number 	PB3A Unit 1: Numbers to 10 000 p 10	
<ul style="list-style-type: none"> count backwards through zero to include negative numbers 		
<ul style="list-style-type: none"> recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) 	PB3A Unit 1: Numbers to 10 000 pp 6–24 PB3A Unit 2: Addition of Numbers within 10 000 pp 26–33, 35–36 PB3A Unit 3: Subtraction of Numbers within 10 000 pp 40–48, 50–52	
<ul style="list-style-type: none"> order and compare numbers beyond 1000 	PB3A Unit 1: Numbers to 10 000 pp 16–23	
<ul style="list-style-type: none"> identify, represent and estimate numbers using different representations 	PB3A Unit 1: Numbers to 10 000 pp 6–14, 16–17, 19–21 PB3A Unit 2: Addition of Numbers within 10 000 pp 25–28, 32–33 PB3A Unit 3: Subtraction of Numbers within 10 000 pp 37, 39–48, 50–52, 54	See Year 3 National Curriculum Correlation Chart, and NC Activity 3.2

	<p>PB3B Unit 11: Length, Mass and Volume pp 29, 36, 42</p> <p>PB4A Unit 1: Whole Numbers (1) pp 8–21</p> <p>PB4A Unit 2: Whole Numbers (2) pp 22–30, 33–35</p> <p>PB4A Unit 3: Whole Numbers (3) pp 48, 54–55, 63–67</p>	
<ul style="list-style-type: none"> round any number to the nearest 10, 100 or 1000 	<p>PB4A Unit 2: Whole Numbers (2) pp 22–35</p> <p>PB5A Unit 1: Whole Numbers (1) pp 20–28</p>	
<ul style="list-style-type: none"> solve number and practical problems that involve all of the above and with increasingly large positive numbers 	<p>PB3A Unit 1: Numbers to 10 000 pp 16–24</p> <p>PB3A Unit 2: Addition of Numbers to 10 000 pp 25, 29, 30, 34–36</p> <p>PB3A Unit 3: Subtraction of Numbers to 10 000 pp 38, 39, 41, 49, 54, 55</p> <p>PB3A Unit 4: Solving Word Problems 1: Addition and Subtraction pp 60–61</p> <p>PB3A Unit 5: Multiplying by 6, 7, 8 and 9 pp 62–66, 68–70</p> <p>PB4A Unit 2: Whole Numbers (2) pp 25–26, 29–31</p> <p>PB5A Unit 1: Whole Numbers (1) pp 11, 15, 25–28</p>	
<ul style="list-style-type: none"> 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. 		See NC Activity 3.8 (Year 3)
Number – addition and subtraction		
Pupils should be taught to:		
<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 	<p>PB3A Unit 2: Addition of Numbers within 10 000 pp 25–36</p> <p>PB3A Unit 3: Subtraction of Numbers within 10 000 pp 37–55</p>	

	<p>PB3A Unit 4: Solving Word Problems 1: Addition and Subtraction pp 56–59</p> <p>PB3B Unit 10: Money pp 11–12, 19–21</p> <p>PB3B Unit 11: Length, Mass and Volume pp 40–41</p> <p>PB3B Unit 12: Solving Word Problems: Length, Mass and Volume pp 45–46</p> <p>PB4B Unit 10: Decimals (2) pp 48–60</p>	
<ul style="list-style-type: none"> estimate and use inverse operations to check answers to a calculation 	PB4A Unit 2: Whole Numbers (2) pp 32, 35	NC Activity 4.1
<ul style="list-style-type: none"> solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. 	<p>PB3A Unit 4: Solving Word Problems 1: Addition and Subtraction pp 56–59</p> <p>PB3B Unit 10: Money pp 22–23, 26</p> <p>PB4B Unit 10: Decimals (2) pp 58–60</p>	
Number – multiplication and division		
Pupils should be taught to:		
<ul style="list-style-type: none"> recall multiplication and division facts for multiplication tables up to 12×12 	<p>PB2A Unit 5: Multiplying by 2 and 3 pp 86–105</p> <p>PB2A Unit 6: Multiplying by 4, 5 and 10 pp 106–131</p> <p>PB3A Unit 5: Multiplying by 6, 7, 8 and 9 pp 62–78</p> <p>PB3A Unit 9: Mental Calculations pp 132, 134–136</p> <p>PB4A Unit 2: Whole Numbers (2) pp 36–44</p>	NC Activity 4.2
<ul style="list-style-type: none"> use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers 	<p>PB3A Unit 9: Mental Calculations pp 132–136</p> <p>PB4A Unit 2: Whole Numbers (2) pp 33–35</p> <p>PB4A Unit 3: Whole Numbers (3) pp 48–51, 54–55, 60–62, 70</p>	NC Activity 4.3

<ul style="list-style-type: none"> recognise and use factor pairs and commutativity in mental calculations 	PB3A Unit 9: Mental Calculations pp 132–136	NC Activity 4.4
<ul style="list-style-type: none"> multiply two-digit and three-digit numbers by a one-digit number using formal written layout 	PB3A Unit 6: Multiplication pp 79–92	
<ul style="list-style-type: none"> 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. 	PB3A Unit 6: Multiplication pp 91–92 PB3A Unit 8: Solving Word Problems 2: Multiplication and Division pp 113–116 PB3B Unit 12: Solving Word Problems: Length, Mass and Volume pp 49–55 PB3B Unit 15: Time pp 111–112	NC Activity 4.5
Number – fractions (including decimals)		
Pupils should be taught to:		
<ul style="list-style-type: none"> recognise and show, using diagrams, families of common equivalent fractions 	PB3B Unit 14: Fractions pp 69–72	
<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 	PB4B Unit 9: Decimals (1) pp 14–15	NC Activity 4.6
<ul style="list-style-type: none"> solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, 	PB4A Unit 5: Fractions pp 104–107, 111–116	

including non-unit fractions where the answer is a whole number		
<ul style="list-style-type: none"> add and subtract fractions with the same denominator 	PB2B Unit 12: Fractions pp 50–59	
<ul style="list-style-type: none"> recognise and write decimal equivalents of any number of tenths or hundredths 	PB4B Unit 9: Decimals (1) pp 8–20	
<ul style="list-style-type: none"> recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ 	PB4B Unit 9: Decimals (1) pp 40–44	
<ul style="list-style-type: none"> 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 	PB5B Unit 7: Decimals pp 15–23	
<ul style="list-style-type: none"> round decimals with one decimal place to the nearest whole number 	PB4B Unit 9: Decimals (1) pp 34–35, 38	
<ul style="list-style-type: none"> compare numbers with the same number of decimal places up to two decimal places 	PB4B Unit 9: Decimals (1) pp 28–33, 45	
<ul style="list-style-type: none"> solve simple measure and money problems involving fractions and decimals to two decimal places. 	PB3B Unit 10: Money pp 6–10, 13–18, 22–26 PB4A Unit 5: Fractions pp 108–110, 112, 114–115 PB4B Unit 9: Decimals (1) pp 46–47 PB4B Unit 10: Decimals (2) pp 48, 50, 52, 58–60, 63–64, 66, 68–69, 77–79	
Measurement		
Pupils should be taught to:		

<ul style="list-style-type: none"> convert between different units of measure [for example, kilometre to metre; hour to minute] 	PB3B Unit 11: Length, Mass and Volume pp 27–33, 36–39, 42–43 PB3B Unit 15: Time pp 95–98, 111–114 PB4B Unit 11: Time pp 84–85	NC Activity 4.7
<ul style="list-style-type: none"> measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres 	PB3B Unit 18: Area and Perimeter pp 163–168, 172	NC Activity 4.8
<ul style="list-style-type: none"> find the area of rectilinear shapes by counting squares 	PB3B Unit 18: Area and Perimeter pp 149–165, 169–172	NC Activity 4.9
<ul style="list-style-type: none"> estimate, compare and calculate different measures, including money in pounds and pence 	PB3B Unit 10: Money pp, 6–26 PB3B Unit 11: Length, Mass and Volume pp 29, 33–36, 40–42, 44 PB3B Unit 12: Solving Word Problems: Length, Mass and Volume pp 45–55 PB4A Unit 4: Tables and Line Graphs pp 77–78 PB4B Unit 9: Decimals (1) pp 46–47 PB4B Unit 11: Time pp 81–85	NC Activity 4.10
<ul style="list-style-type: none"> read, write and convert time between analogue and digital 12- and 24-hour clocks 	PB4B Unit 11: Time pp 84–97	
<ul style="list-style-type: none"> solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. 	PB3B Unit 15: Time pp 95–104, 111–114 PB4B Unit 11: Time pp 84–85, 90–97	NC Activity 4.11
Geometry – properties of shapes		
Pupils should be taught to:		

<ul style="list-style-type: none"> compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes 	PB3B Unit 16: Angles pp 120–122, 125–126 PB3B Unit 18: Area and Perimeter pp 169–171 PB4A Unit 7: Perpendicular and Parallel Lines pp 137, 141 PB4A Unit 8: Squares and Rectangles pp 142–147 PB4B Unit 14: Tessellations pp 135–144	
<ul style="list-style-type: none"> identify acute and obtuse angles and compare and order angles up to two right angles by size 	PB3B Unit 16: Angles pp 116–118, 123–126	NC Activity 4.12
<ul style="list-style-type: none"> identify lines of symmetry in 2-D shapes presented in different orientations 	PB4B Unit 13: Symmetry pp 117–129, 133–134	NC Activity 4.13
<ul style="list-style-type: none"> complete a simple symmetric figure with respect to a specific line of symmetry. 	PB4B Unit 13: Symmetry pp 127–128, 130–134	
Geometry – position and direction		
Pupils should be taught to:		
<ul style="list-style-type: none"> describe positions on a 2-D grid as coordinates in the first quadrant 		NC Activity 4.14
<ul style="list-style-type: none"> describe movements between positions as translations of a given unit to the left/right and up/down 		NC Activity 4.15
<ul style="list-style-type: none"> plot specified points and draw sides to complete a given polygon. 		NC Activity 4.16

Statistics		
Pupils should be taught to:		
<ul style="list-style-type: none"> interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs 	PB2B Unit 15: Graphs pp 95–109 PB3B Unit 13: Bar Graphs pp 56–67 PB4A Unit 4: Tables and Line Graphs pp 71–86	
<ul style="list-style-type: none"> solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. 	PB2B Unit 15: Graphs pp 95–103, 106–109 PB3B Unit 13: Bar Graphs pp 60–67 PB4A Unit 4: Tables and Line Graphs pp 71–86	NC Activity 4.17