Mathematics Planning

National Curriculum

2014

Year 4

Lancashire County Council

How to Use the Medium Term Planning

This planning document is intended to provide support for schools in adapting their curriculum to meet the statutory requirements of the new National Curriculum 2014 and to aid teachers in planning a progressive learning journey for children within Year 4.

National Curriculum Overview

The new National Curriculum is more similar in structure to the Framework for Mathematics than the National Curriculum 2000. To support schools and teachers in identifying elements of the curriculum that have remained the same and elements that have changed, objectives have been highlighted in the following way:

Objectives highlighted in blue are ones that are found in the Framework for Mathematics but not in National Curriculum 2000.

Objectives highlighted in yellow are ones that have moved down from a higher year group in the Framework for Mathematics.

Objectives highlighted in green are ones that are not in the Framework for Mathematics or in National Curriculum 2000.

Objectives that are not highlighted are in the same year group in the new National Curriculum as they are in the Framework for Mathematics.

Objectives that are in *italics* have been added by the Lancashire Mathematics Team, to support progression and enable children to develop a secure understanding of the mathematical concepts they are learning. Some of these objectives are consolidation of ones from the previous year.

Overview Document

The planning starts with an overview document. This identifies six half termly blocks of six weeks with focus areas of mathematics for each week. The units are designed to be cohesive and allow for application of learning and skills across the mathematics curriculum. The assess and review weeks can be used to gain information for teacher assessments or can be used to pick up elements that need further support. It is not designed to be used as an entire week of testing with no teaching. This is a suggested layout and teachers should adapt to meet the needs of their class as required.

Half Termly Planning Documents

The half termly planning documents have been compiled to the following principles:

- Each half term is predominantly learning about number.
- Almost all weeks are focused on one area of mathematics, giving children time to focus on a single area for a longer amount of time.
- The 'rationale' justifies why the objectives have been put together and how to enhance the teaching and learning during that week, e.g. number work is often given a context of data, measures, money or problem solving.
- The objectives are the end of year expectations and it is the decision of teachers whether to visit the whole objective more than once throughout the year or to organise progression within each objective.
- Every objective is covered at least twice within the year.
- The learning within each week are NOT in a prescribed order and teachers should use their discretion when organising progression within the unit.

The 'Starter' suggestions begin with consolidation of the previous year's work and develop over time to consolidate learning within the given year group. It is important that children have the opportunity to regularly revisit learning from all aspects of the mathematics curriculum, and the 'Starter' is an effective time in which this can occur.

Differentiation

The objectives are based on age related expectations. For purposes of differentiation, the National Curriculum 2014 suggests:

'Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.'

National Curriculum Documentation

At the end of this document is the National Curriculum 2014 programme of study for Year 4. This contains the objectives for Year 4 along with the non-statutory guidance to help with interpretation.

Year 4 Mathematics Yearly Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Week 1	Place value	Mental multiplication incl. 6x and 9x tables	Place value Roman numerals Counting incl. negative numbers	Mental multiplication and written division incl. 7x and 11x tables	Counting and sequences (statistics)	Place value
Week 2	Place value - decimals	Mental division	Fractions and decimals	Place value	Fractions and decimals (measures)	Statistics
Week 3	Written addition and subtraction	Written multiplication	Fractions, decimals and division	Written multiplication	Fractions and written division	Addition and subtraction (statistics)
Week 4	Written addition and subtraction (problems and inverse)	Length incl. perimeter	Position and direction	2D shape and position	Measures Volume/capacity and mass	Multiplication and division
Week 5	2D shape	Statistics	Area	Addition and subtraction (statistics)	Position and area	Shape
Week 6	Time	Assess and review week	Multiplication (statistics, measures, money)	Assess and review week	Multiplication facts incl. 12x table and time	Assess and review week

Year 4 Autumn 1

Starter suggestions for Number

- Read and write numbers to 10,000.
- Count on and back in 1s, 10s or 100s from any number up to 10,000.
- Count forwards and backwards in equal steps and describe any patterns in the sequence.
- Order a set of random numbers to at least 10,000 including amounts of money and measures.
- Order a set of decimal numbers to one decimal place.
- Recall addition and subtraction facts for each number up to 20.
- Recall addition and subtraction facts for 100.
- Recall multiplication facts for 2, 3, 4, 5 and 8x tables.
- Multiply and divide whole numbers by 10 or 100 (whole number answers).

Starter suggestions for Measurement, Geometry and Statistics

- Recognise 2D and 3Dshapes in different orientations and describe them.
- Use a variety of sorting diagrams to compare and classify numbers and geometric shapes based on their properties.
- Identify right angles and angles less than and more than a right angle.
- Estimate and compare lengths, volumes/capacities and masses.
- Read measuring scales to an appropriate degree of accuracy.
- Know the number of mm in 1cm, cm in 1m, m in 1km, g in 1kg, ml in 1l, seconds in 1 minute, minutes in 1 hour, hours in 1 day, days in each month, days in a year and leap year.
- Tell and write the time from an analogue clock and 12 and 24-hour clocks.
- Interpret data in bar charts, pictograms and tables.

	Main learning	Rationale
Week 1 *Place value* Links to Framework for Mathematics Y3 – A2, A3 Y4 – A1, A3	• *Read and write numbers to at least 10 000.* • Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones). • Find 0.1, 1, 10, 100 or 1000 more or less than a given number. • Order and compare numbers beyond 1000. • Identify, represent and estimate numbers using different representations, including the number line. • 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.	Understanding of the number system is necessary pre-requisite knowledge for any number work. Children should understand the Base 10 notion in which there are 10 numerals (0-9) and these can be organised in different ways to form any number. This is based on grouping in tens i.e. ten 1s are the same as one 10; ten 10s are the same as one 100; ten 100s are the same as one 1000 and so on. And vice versa.
Week 2 *Place value, decimals and fractions* Links to Framework for Mathematics Y3 – E2 Y4 – A1, A2, A3, D3 Y5 – A1, D1, A2, D2, A3	• *Read and write numbers with up to two decimal places.* • *Identify the value of each digit to two decimal places.* • Count up and down in hundredths. • Recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten. • *Recognise that one hundred 1p coins are equivalent to £1 and that each coin is* $\frac{1}{100}$ of £1. • *Write amounts of money using decimal notation.* • Round decimals with one decimal place to the nearest whole number. • Order and compare numbers with the same number of decimal places up to two decimal places. • 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.	Children's understanding of the Base 10 number system is extended to include decimals. Children learn that decimals are a way of expressing fractions within the structure of our Base 10 number system. It is important that children see practical and visual models to understand the meaning and size of units, tenths and hundredths. In preparation for calculating with money, children should learn that one hundred 1p coins are equal to £1, so 1p is $\frac{1}{100}$ of £1. This builds on their knowledge that 10p is $\frac{1}{10}$ of £1. When multiplying and dividing by 10 and 100, it is important that children see this as scaling up and down (making amounts 10 times larger or smaller) rather than repeated addition and repeated subtraction.
Week 3 *Addition and subtraction* Links to Framework for Mathematics Y4 – A2, D2, A3, D3	• *Partition numbers in different ways (for example, 2.3 = 2 + 0.3 and 2.3 = 1 + 1.3).* • Add and subtract numbers with up to 4 digits and decimals with one decimal place using the formal written methods of columnar addition and subtraction where appropriate. • *Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).* • *Select a mental strategy appropriate for the numbers involved in the calculation.* • Estimate and use inverse operations to check answers to a calculation.	Children learn when it is appropriate to use mental and written methods of calculation. Children make links with their knowledge of rounding numbers to the nearest 10, 100 and 1000 to estimate the answers to calculations. Calculations should be in contexts including, money, measures, real life problems and number enquiries. When calculating, children should learn which methods suit the numbers involved and why. Written methods should be agreed by the school and shared in the progression in written calculations policy. Efficient written methods are required to be taught by the end of Key Stage 2.
Week 4 *Addition and subtraction, using inverse and problem solving* Links to Framework for Mathematics Y4 – A2, D2, A3, B3, D3	• *Partition numbers in different ways (for example, 2.3 = 2 + 0.3 and 2.3 = 1 + 1.3).* • *Add and subtract mentally combinations of two and three digit numbers and decimals to one decimal place.* • Add and subtract numbers with up to 4 digits and decimals with one decimal place using the formal written methods of columnar addition and subtraction where appropriate. • *Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).* • *Select a mental strategy appropriate for the numbers involved in the calculation.* • 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.	Children continue to work with addition and subtraction and understand the inverse relationship, using this to check calculations. Calculations should be in contexts including money, measures, real life problems and number enquiries. When calculating, children should learn which methods suit the numbers involved and why. Written methods should be agreed by the school and shared in the progression in written calculations policy. Efficient written methods are required to be taught by the end of Key Stage 2.

	Main learning	Rationale
Week 5 *Properties of shape* Links to Framework for Mathematics Y4 – B1, B2, B3 Y5 – B1, B2, B3	• *Continue to identify horizontal and vertical lines and pairs of perpendicular and parallel lines.* • Identify acute and obtuse angles and compare and order angles up to two right angles by size. • Identify lines of symmetry in 2-D shapes presented in different orientations. • Use a variety of sorting diagrams to compare and classify numbers and geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	Children's knowledge and understanding of angles and symmetry develops and is applied when classifying shapes, including triangles and quadrilaterals. The terms regular and irregular are introduced to describe shapes that have all equal sides and angles and those that do not.
Week 6 *Time* Links to Framework for Mathematics Y4 – D1 Y5 – D1	• 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 and problems involving money and measures.	Children's understanding of reading time to the nearest minute is developed to include converting between different time systems (analogue and digital) and different units of time.

Year 4 Autumn 2

Starter suggestions for Number

- Read and write numbers to 10,000.
- Count on and back in 1s, 10s or 100s from any number up to 10,000.
- Count forwards and backwards in equal steps and describe any patterns in the sequence.
- Order a set of random numbers to at least 10,000 including amounts of money and measures involving decimals.
- Recall addition and subtraction facts for 100.
- Recall multiplication facts for 2, 3, 4, 5, 6, 8 and 9x tables.
- Multiply and divide whole numbers by 10 or 100 (whole number answers).
- Double any number up to 100.
- Halve any number up to 200.
- Count in fraction steps, e.g. $^{1}/_{5}$, $^{2}/_{5}$, $^{3}/_{5}$ …

Starter suggestions for Measurement, Geometry and Statistics

- Recognise 2D and 3D shapes in different orientations and describe them.
- Use a variety of sorting diagrams to compare and classify numbers and geometric shapes based on their properties.
- Identify right angles and angles less than and more than a right angle.
- Measure the perimeter of simple 2-D shapes.
- Estimate and compare lengths, volumes/capacities and masses.
- Read measuring scales to an appropriate degree of accuracy.
- Know the number of mm in 1cm, cm in 1m, m in 1km, g in 1kg, ml in 1l, seconds in 1 minute, minutes in 1 hour, hours in 1 day, days in each month, days in a year and leap year.
- Tell and write the time from an analogue clock and 12 and 24-hour clocks.
- Interpret data in bar charts, pictograms and tables.

	Main learning	Rationale
Week 1 *Mental multiplication* Links to Framework for Mathematics Y4 – A1, B1 Y5 – A1, E1, A2	• Recall multiplication and division facts for the 6 times table and 9 times table. • Use place value, known and derived facts to multiply mentally, including: multiplying by 0 and 1; multiplying together three numbers. • Recognise and use factor pairs and commutativity in mental calculations. • *Use partitioning to double or halve any number, including decimals to one decimal place.* • *Select a mental strategy appropriate for the numbers involved in the calculation.*	Children use their knowledge of the 3 times table to derive the 6 times table. When learning multiplication tables, children should experience a blend of practical, visual activities, pattern spotting, generalising as well as rote learning. Children learn that the commutative law applies to multiplication (but not division) i.e. 5 x 3 = 3 x 5, and that factor pairs can support mental calculation e.g. to multiply by 6 it is possible to multiply by 2 and then by 3 as these are factor pairs for 6. Mental calculation is supported by practical equipment, pictures and jottings. When calculating, children should learn which methods suit the numbers involved and why.
Week 2 *Mental division* Links to Framework for Mathematics Y4 – A1, B1 Y5 – A1, E1, A2	• *Partition numbers in different ways (for example, 2.3 = 2 + 0.3 and 2.3 = 1 + 1.3).* • Recall multiplication and division facts for the 6 times table and 9 times table. • Use place value, known and derived facts to divide mentally, including dividing by 1. • *Select a mental strategy appropriate for the numbers involved in the calculation.*	In preparation for mental division, children partition numbers in different ways to recognise multiples of the divisor when the dividend is partitioned e.g. when considering 96 ÷ 4 it is useful to think of 96 as 80 + 16 (both multiples of 4) rather than 90 + 6 (neither are multiples of 4). Children continue to develop their knowledge and confidence of the 6 and 9 times tables, including identifying rules of divisibility for multiples of 9 (digit sum is 9 when taken to a single digit). Mental calculation is supported by practical equipment, pictures and jottings. When calculating, children should learn which methods suit the numbers involved and why.
Week 3 *Written multiplication* Links to Framework for Mathematics Y4 – A2, D2, A3, E3 Y5 – E1, D2	• Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. • *Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).* • *Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.* • Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, division (including remainders), integer scaling problems and harder correspondence problems such as which n objects are connected to m objects.	Children build on their understanding of place value and multiplication facts to develop a written method for multiplication. Correspondence problems in which n objects are connected to m objects include a team sports kit with a shirt, shorts and socks and three possible colours for each. How many different combinations could there be? When calculating, children should learn which methods suit the numbers involved and why. Written methods should be agreed by the school and shared in the progression in written calculations policy. Efficient written methods are required to be taught by the end of Key Stage 2.
Week 4 *Measures, length including perimeter* Links to Framework for Mathematics Y4 – C2, D2, C3 Y5 – D1, C3 Y6 – C1, D1, C2, D2, C3, D3	• Estimate, compare and calculate different lengths. • Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. • Convert between different units of measure (e.g. kilometre to metre; hour to minute).	Children develop their estimating and measuring skills in the context of length. They relate length to distance including perimeter. The measures made could be used in the next unit as the context for handling data. Children relate their knowledge of multiplying and dividing by 10 and 100 to converting between different units of length.
Week 5 *Statistics* Links to Framework for Mathematics Y5 – C1, C2, C3 Y6 – C1, C2, C3	• 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.	Children use the measures from the previous week to present and interpret in different forms. Children learn the difference between discrete and continuous data. Children apply their knowledge of mental and written calculations when answering questions about the data.
Week 6	Assess and review week	It is useful at regular intervals for teachers to consider the learning that has taken place over a term (or half term), assess and review children's understanding of the learning and use this to inform where the children need to go next.

Year 4 Spring 1

Starter suggestions for Number

- Read and write numbers with one decimal place.
- Count on and back in 0.1s, 1s, 10s or 100s from any number up to 10,000.
- Count forwards and backwards in equal steps and describe any patterns in the sequence.
- Order a set of random numbers to at least 10,000 including amounts of money and measures involving decimals.
- Recall addition and subtraction facts for 100.
- Recall multiplication facts for 2, 3, 4, 5, 6, 8 and 9x tables and derive associated division facts.
- Identify patterns of similar calculations, *e.g. if I know 7 x 8, I also know 0.7 x 0.8, 70 x 8, 70 x 80 etc.*
- Multiply and divide numbers by 10, including those which have answers to one decimal place.
- Double any multiple of 10 or 100.
- Count in fraction steps, *e.g.* $^1/_5$, $^2/_5$, $^3/_5$ …

Starter suggestions for Measurement, Geometry and Statistics

- Recognise 2D and 3D shapes in different orientations and describe them.
- Use a variety of sorting diagrams to compare and classify numbers and geometric shapes based on their properties.
- Identify right angles and acute and obtuse angles.
- Estimate and compare lengths, volumes/capacities and masses.
- Read measuring scales to an appropriate degree of accuracy.
- Convert between different units of measure.
- Describe positions on a square grid labelled with letters and numbers.
- Tell and write the time from an analogue clock and 12 and 24-hour clocks.
- Calculate time durations in minutes, hours and days.
- Interpret data in bar charts, pictograms and tables.

	Main learning	Rationale
Week 1 *Place value, counting, including negative numbers* Links to Framework for Mathematics Y4 – A1, A3 Y5 – A1	• 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. • Count in multiples of 6, 8, 25 and 1000. • Count backwards through zero to include negative numbers. • *Order temperatures including those below 0°C.* • *Describe and extend number sequences involving counting on or back in different steps, including sequences with multiplication and division steps.*	Children learn about an alternative number system (Roman numerals) and relate this to our Base 10 system, appreciating the efficiency of place value and the concept of zero, including its use as a place holder. Children's understanding of the number system is extended to include negative numbers. It is useful to introduce these in ways children can easily identify, such as floors below ground level in a building or steps into a swimming pool some above and some below the surface of the water. This understanding can then be applied to more abstract concepts such as temperature.
Week 2 *Fractions* Links to Framework for Mathematics Y4 – E1, E2, E3 Y5 – E1, E2, E3	• *Understand that a fraction is one whole number divided by another (for example, $\frac{3}{4}$ can be interpreted as 3 ÷ 4).* • Add and subtract fractions with the same denominator. • Recognise and show, using diagrams, families of common equivalent fractions. • Recognise and write decimal equivalents of any number of tenths or hundredths. • Recognise and write decimal equivalents to ¼ ; ½ ; ¾ . • *Count on and back in steps of unit fractions.* • *Compare and order unit fractions and fractions with the same denominator (including on a number line). (Year 3 objective)*	The learning of fractions is an extension in understanding of the number system. Equivalent fractions should be learned through practical experiences and using pictorial representations. Children should use factors and multiples to recognise equivalent fractions and simplify where appropriate. Children learn that to convert a fraction into a decimal, an equivalent fraction with a denominator of 10 or 100 is required. Children relate the fractions tenths and hundredths to our Base 10 number system.
Week 3 *Fractions and written and mental division* Links to Framework for Mathematics Y4 – E3 Y5 – E1, E2, E3	• *Recognise, find and write fractions of a discrete set of objects including those with a range of numerators and denominators.* • *Select a mental strategy appropriate for the numbers involved in the calculation.* • *Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.* • Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number. • Solve simple measure and money problems involving fractions and decimals to two decimal places.	Children build on their understanding of fractions of shapes, using these shapes when sharing items into equal groups. The link between finding fractions of amounts and division is made. When children are calculating fractions of amounts, this should be in a context e.g. length, money, time to consolidate previous learning. Children should learn that finding fractions is division by sharing and the activities should reflect this. Later, children should learn that grouping is a more efficient method of performing written division, even in contexts of sharing. When calculating, children should learn which methods suit the numbers involved and why. Written methods should be agreed by the school and shared in the progression in written calculations policy. Efficient written methods are required to be taught by the end of Key Stage 2.
Week 4 *Position and direction* Links to Framework for Mathematics Y5 – D1, B2, D3	• 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. • Complete a simple symmetric figure with respect to a specific line of symmetry.	Children are introduced to coordinate grids and apply their knowledge of 2-D shapes when completing partly drawn polygons. Translations are introduced and children's learning of symmetry is extended from identifying lines of symmetry in shapes to completing symmetric figures using a specific line of symmetry. This could be vertical, horizontal or oblique, depending on children's ability.
Week 5 *Area, counting in equal steps* Links to Framework for Mathematics Y4 – D3	• *Understand that area is a measure of surface within a given boundary.* • Find the area of rectilinear shapes by counting squares.	Children are introduced to area as a measure of surface within a given boundary. They count the number of squares within rectilinear shapes, utilising their skills of counting in equal steps. NB –rectilinear shapes are ones made up of sides meeting at right angles. Children should relate area to arrays and multiplication.

	Main learning	Rationale
Week 6 *Written addition and subtraction in contexts of money and measures.* Links to Framework for Mathematics Y4 – A2, D2, A3, B3, D3	• Add and subtract numbers with up to 4 digits and decimals with one decimal place using the formal written methods of columnar addition and subtraction where appropriate. • *Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).* • 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.	Children develop and rehearse the processes involved in written addition and subtraction. Practical and visual resources may be used to support understanding of these processes. Calculations are presented in different contexts of money and measures to consolidate these areas and support children in understanding when to use their calculation skills. When calculating, children should learn which methods suit the numbers involved and why. Written methods should be agreed by the school and shared in the progression in written calculations policy. Efficient written methods are required to be taught by the end of Key Stage 2.

Year 4 Spring 2

Starter suggestions for Number

- Read and write numbers with one decimal place.
- Count on and back in 0.1s, 1s, 10s or 100s from any number up to 10,000.
- Count forwards and backwards in equal steps and describe any patterns in the sequence.
- Order a set of random numbers to at least 10,000 including amounts of money and measures involving decimals.
- Recall addition and subtraction facts for 100.
- Recall and use addition and subtraction facts for multiples of 100 totalling 1000.
- Derive and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place).
- Use partitioning to double or halve any number, including decimals to one decimal place.
- Recall multiplication facts for all times tables other than 12x and derive associated division facts.
- Identify patterns of similar calculations, *e.g. if I know 7 x 8, I also know 0.7 x 0.8, 70 x 8, 70 x 80 etc.*
- Multiply and divide numbers by 10, including those which have answers to one decimal place.
- Count in fraction steps, *e.g.* $^{1}/_{5}$, $^{2}/_{5}$, $^{3}/_{5}$ …

Starter suggestions for Measurement, Geometry and Statistics

- Recognise 2D and 3D shapes in different orientations and describe them.
- Use a variety of sorting diagrams to compare and classify numbers and geometric shapes based on their properties.
- Identify right angles and acute and obtuse angles.
- Estimate and compare lengths, volumes/capacities and masses.
- Read measuring scales to an appropriate degree of accuracy.
- Convert between different units of measure.
- Describe positions on a 2-D grid as coordinates in the first quadrant.
- Tell and write the time from an analogue clock and 12 and 24-hour clocks.
- Calculate time durations in minutes, hours and days.
- Interpret continuous data presented in time graphs.

	Main learning	Rationale
Week 1 *Multiplication facts, mental multiplication and written division* Links to Framework for Mathematics Y4 – A1, B1, E2 Y5 – A1, E1, A2	• Recall multiplication and division facts for the 7 times table and 11 times table. • 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. • *Use partitioning to double or halve any number, including decimals to one decimal place.* • *Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).* • *Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.* • *Select a mental strategy appropriate for the numbers involved in the calculation.* • *Continue to understand division as sharing and grouping and use each appropriately.* • *Divide numbers up to 3 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.*	When learning multiplication tables, children should experience a blend of practical, visual activities, pattern spotting, generalising as well as rote learning. Children should apply their learning of the 7 and 11 times tables when calculating mentally. When calculating, children should learn which methods suit the numbers involved and why. Written methods should be agreed by the school and shared in the progression in written calculations policy. Efficient written methods are required to be taught by the end of Key Stage 2.
Week 2 *Place value* Links to Framework for Mathematics Y3 – A2, A3 Y4 – A1, A3	• 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, including the number line. • *Identify the value of each digit to two decimal places.* • Find 0.1, 1, 10, 100 or 1000 more or less than a given number. • 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.	Children develop their understanding of the size of numbers, and use a variety of models and images (such as Base 10 equipment, bundles of straws, arrow cards, number lines) to compare, order, round and estimate numbers. Many of these place value objectives can be applied through the context of data, realising that the one axis on a bar chart is a number line.
Week 3 *Written multiplication* Links to Framework for Mathematics Y4 – A2, D2, E2, A3, E3 Y5 – E1, D2	• Count in multiples of 7. • Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. • *Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).* • *Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.* • Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, division (including remainders), integer scaling problems and harder correspondence problems such as which n objects are connected to m objects.	Children develop and rehearse the processes involved in written multiplication. Practical and visual resources may be used to support understanding of these processes. Calculations are presented in different contexts to support children in understanding when to use their calculation skills. Converting between weeks and days allows children to rehearse their 7 times table knowledge. When calculating, children should learn which methods suit the numbers involved and why. Written methods should be agreed by the school and shared in the progression in written calculations policy. Efficient written methods are required to be taught by the end of Key Stage 2.

	Main learning	Rationale
Week 4 *Shape and position* Links to Framework for Mathematics Y4 – B1, B2, B3, D2, D3 Y5 – B1, B2, B3, D1, D2, D3	• Use a variety of sorting diagrams to compare and classify numbers and geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. • *Continue to identify horizontal and vertical lines and pairs of perpendicular and parallel lines.* • Identify acute and obtuse angles and compare and order angles up to two right angles by size. • Identify lines of symmetry in 2-D shapes presented in different orientations. • Describe positions on a 2-D grid as coordinates in the first quadrant. • Plot specified points and draw sides to complete a given polygon.	Children apply their developing understanding of the properties of shapes to classify and name them. The terms regular and irregular should be used to describe shapes that have equal sides and angles and those that do not. They draw 2-D shapes on coordinate grids, combining their knowledge of properties of shapes and coordinate principles.
Week 5 *Calculations in the context of statistics* Links to Framework for Mathematics Y4 – A2, D2, A3, B3, D3 Y5 – C1, C2, C3 Y6 – C1, C2, C3	• Add and subtract numbers with up to 4 digits and decimals with one decimal place using the formal written methods of columnar addition and subtraction where appropriate. • Interpret 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.	Children develop and rehearse the processes involved in written addition and subtraction. Practical and visual resources may be used to support understanding of these processes. Calculations are presented in different contexts of data. Written methods should be agreed by the school and shared in the progression in written calculations policy. Efficient written methods are required to be taught by the end of Key Stage 2.
Week 6	Assess and review week.	It is useful at regular intervals for teachers to consider the learning that has taken place over a term (or half term), assess and review children's understanding of the learning and use this to inform where the children need to go next.

Year 4 Summer 1

Starter suggestions for Number

- Read and write numbers with one decimal place.
- Count on and back in 0.1s, 1s, 10s or 100s from any number up to 10,000.
- Count forwards and backwards in equal steps and describe any patterns in the sequence.
- Order a set of random numbers to at least 10,000 including amounts of money and measures involving decimals.
- Recall addition and subtraction facts for 100.
- Recall and use addition and subtraction facts for multiples of 100 totalling 1000.
- Derive and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place).
- Use partitioning to double or halve any number, including decimals to one decimal place.
- Recall multiplication facts for all times up to 12 x 12 and derive associated division facts.
- Identify patterns of similar calculations, *e.g. if I know 7 x 8, I also know 0.7 x 0.8, 70 x 8, 70 x 80 etc*
- Multiply and divide numbers by 10, including those which have answers to one decimal place.
- Count in fraction steps, *e.g.* $^{1}/_{5}$, $^{2}/_{5}$, $^{3}/_{5}$ …

Starter suggestions for Measurement, Geometry and Statistics

- Recognise 2D and 3D shapes in different orientations and describe them.
- Use a variety of sorting diagrams to compare and classify numbers and geometric shapes based on their properties.
- Order and compare angles up to two right angles.
- Estimate and compare lengths, volumes/capacities and masses.
- Read measuring scales to an appropriate degree of accuracy.
- Convert between different units of measure.
- Describe positions on a 2-D grid as coordinates in the first quadrant.
- Tell and write the time from an analogue clock and 12 and 24-hour clocks.
- Calculate time durations in minutes, hours and days.
- Interpret continuous data presented in time graphs.

	Main learning	Rationale
Week 1 *Counting, sequencing in the context of bar charts, pictograms and measures* Links to Framework for Mathematics Y4 – A1, A2, A3 Y5 – A1, A2, A3	• Count in multiples of 6, 7, 8, 25 and 1000. • Count backwards through zero to include negative numbers. • Count up and down in hundredths. • *Describe and extend number sequences involving counting on or back in different steps, including sequences with multiplication and division steps.*	Children use their counting, sequencing and multiplication facts knowledge in the contexts of handling data and measures. When counting and creating sequences, children should be encouraged to spot patterns that emerge and use this to generate hypotheses, test these and then generalise.
Week 2 *Decimals and fractions in the context of measures* Links to Framework for Mathematics Y4 – A1, A2, E1, E2, E3 Y5 – A1, A2, A3	• *Identify the value of each digit to two decimal places.* • Recognise and write decimal equivalents of any number of tenths or hundredths. • Recognise and write decimal equivalents to ¼ ; ½ ; ¾ . • 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. • Convert between different units of measure. • Round decimals with one decimal place to the nearest whole number. • Order and compare numbers with the same number of decimal places up to two decimal places. • Solve simple measure problems involving fractions and decimals to two decimal places.	Children develop their knowledge and understanding of decimals and relate multiplying and dividing by 10 and 100 to decimal notation in our Base 10 number system, and to converting units of measure. Children's knowledge of place value is consolidated through working in the context of measurement.
Week 3 *Fractions and division* Links to Framework for Mathematics Y4 – E1, E2, E3 Y5 – E1, E2, E3	• *Continue to understand division as sharing and grouping and use each appropriately.* • *Understand that a fraction is one whole number divided by another (for example, $\frac{3}{4}$ can be interpreted as 3 ÷ 4).* • *Divide numbers up to 3 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.* • 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.	Written methods should be agreed by the school and shared in the progression in written calculations policy. Efficient written methods are required to be taught by the end of Key Stage 2. Children build on their understanding of fractions of shapes, using these shapes when sharing items into equal groups. The link between finding fractions of amounts and division (by sharing) is made. When children are calculating fractions of amounts, this should be in a context e.g. length, money, time to consolidate previous learning.
Week 4 *Measures – perimeter, volume/capacity and mass* Links to Framework for Mathematics Y4 – C1, D1, C2, D2, C3, D3	• Estimate, compare and calculate different measures. • Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.	Children apply their knowledge of the number system when measuring lengths (mm, cm, m), capacities / volumes (ml, l) and masses (g, kg). They apply their calculation skills when measuring perimeter, and solving problems in the context of measures.

	Main learning	Rationale
Week 5 *Shape and area* Links to Framework for Mathematics Y4 – D3 Y5 – D1, B2, D3 Y6 – D2	• Complete a simple symmetric figure with respect to a specific line of symmetry. • Describe movements between positions as translations of a given unit to the left/right and up/down. • Describe positions on a 2-D grid as coordinates in the first quadrant. • Plot specified points and draw sides to complete a given polygon. • Find the area of rectilinear shapes by counting squares.	Children develop their understanding of symmetry and translations, applying their knowledge of shapes and coordinates. The learning of area is away from children's learning of perimeter as the two concepts are not related to each other. Children should relate area to arrays and multiplication.
Week 6 *Multiplication facts and time* Links to Framework for Mathematics Y4 – D1, D3 Y5 – D1, D3	• Recall multiplication and division facts for the 12 times table. • *Describe and extend number sequences involving counting on or back in different steps, including sequences with multiplication and division steps.* • 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 and problems involving money and measures.	The learning of the 12 times table can be applied in the context of converting years to months. When learning multiplication tables, children should experience a blend of practical, visual activities, pattern spotting, generalising as well as rote learning. Children further their knowledge and understanding of units of time and their relationships, giving opportunity to rehearse calculation skills in context.

Year 4 Summer 2

Starter suggestions for Number

- Read and write numbers with one decimal place.
- Count on and back in 0.1s, 1s, 10s or 100s from any number up to 10,000.
- Count forwards and backwards in equal steps and describe any patterns in the sequence.
- Order a set of random numbers to at least 10,000 including amounts of money and measures involving decimals.
- Recall addition and subtraction facts for 100.
- Recall and use addition and subtraction facts for multiples of 100 totalling 1000.
- Derive and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place).
- Use partitioning to double or halve any number, including decimals to one decimal place.
- Recall multiplication facts for all times up to 12 x 12 and derive associated division facts.
- Identify patterns of similar calculations, *e.g. if I know 7 x 8, I also know 0.7 x 0.8, 70 x 8, 70 x 80 etc.*
- Multiply and divide numbers by 10, including those which have answers to one decimal place.
- Count in fraction steps, *e.g.* $^{1}/_{5}$, $^{2}/_{5}$, $^{3}/_{5}$ …

Starter suggestions for Measurement, Geometry and Statistics

- Recognise 2D and 3D shapes in different orientations and describe them.
- Use a variety of sorting diagrams to compare and classify numbers and geometric shapes based on their properties.
- Order and compare angles up to two right angles.
- Estimate and compare lengths, volumes/capacities and masses.
- Read measuring scales to an appropriate degree of accuracy.
- Convert between different units of measure.
- Describe positions on a 2-D grid as coordinates in the first quadrant.
- Tell and write the time from an analogue clock and 12 and 24-hour clocks.
- Calculate time durations in minutes, hours and days.
- Interpret continuous data presented in time graphs.

	Main learning	Rationale
Week 1 *Place value* Links to Framework for Mathematics Y4 – A1, A3	• 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, including the number line. • 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.	Understanding of the number system is necessary pre-requisite knowledge for any number work. Children should understand the Base 10 notion in which there are 10 numerals (0-9) and these can be organised in different ways to form any number. This is based on grouping in tens i.e. ten 1s are the same as one 10; ten 10s are the same as one 100; ten 100s are the same as one 1000 and so on. And vice versa.
Week 2 *Statistics* Links to Framework for Mathematics Y5 – C1, C2, C3 Y6 – C1, C2, C3	• 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.	Children understand the difference between discrete and continuous data. Children apply their knowledge of mental and written calculations when answering questions about the data. They should discuss the value of presenting information in tables, pictograms, bar charts and line graphs and evaluate the effectiveness of each type of presentation.
Week 3 *Addition and subtraction in context of statistics* Links to Framework for Mathematics Links to Framework for Mathematics Y4 – A2, D2, A3, B3, D3 Y5 – C1, C2, C3 Y6 – C1, C2, C3	• Add and subtract numbers with up to 4 digits and decimals with one decimal place using the efficient written methods of columnar addition and subtraction where appropriate. • *Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).* • *Select a mental strategy appropriate for the numbers involved in the calculation.* • 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. • Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	Children should secure their knowledge and understanding of mental and written calculation skills in a variety of contexts. The learning should include decision making around which method is most efficient (mental or written) given the numbers involved. The context of data allows children to experience interpreting all the forms of data mentioned across the previous week and this week. When calculating, children should learn which methods suit the numbers involved and why. Written methods should be agreed by the school and shared in the progression in written calculations policy. Efficient written methods are required to be taught by the end of Key Stage 2.

	Main learning	Rationale
Week 4 *Mental and written multiplication and mental division.* Links to Framework for Mathematics Y4 – A2, D2, E2, A3, E3 Y5 – E1, D2	• *Partition numbers in different ways (for example, 2.3 = 2 + 0.3 and 2.3 = 1 + 1.3).* • 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. • *Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).* • *Select a mental strategy appropriate for the numbers involved in the calculation.* • *Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.* • 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, division (including remainders), integer scaling problems and harder correspondence problems such as which n objects are connected to m objects.	In preparation for mental division, children partition numbers in different ways to recognise multiples of the divisor when the dividend is partitioned e.g. when considering 96 ÷ 4 it is useful to think of 96 as 80 + 16 (both multiples of 4) rather than 90 + 6 (neither are multiples of 4). Children experience mental and written calculations in a variety of contexts, including money and measures. When calculating, children should learn which methods suit the numbers involved and why. Written methods should be agreed by the school and shared in the progression in written calculations policy. Efficient written methods are required to be taught by the end of Key Stage 2.
Week 5 *Shape* Links to Framework for Mathematics Y4 – B1, B2, B3 Y5 – B1, B2, B3	• Use a variety of sorting diagrams to compare and classify numbers and geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. • *Continue to identify horizontal and vertical lines and pairs of perpendicular and parallel lines.* • Identify acute and obtuse angles and compare and order angles up to two right angles by size. • Identify lines of symmetry in 2-D shapes presented in different orientations. • Complete a simple symmetric figure with respect to a specific line of symmetry.	Children apply their developing understanding of the properties of shapes to classify and name them. The terms regular and irregular should be used to describe shapes that have equal sides and angles and those that do not. The learning of symmetry develops further to include symmetry in vertical, horizontal and oblique lines.
Week 6	Assess and review week	It is useful at regular intervals for teachers to consider the learning that has taken place over a term (or half term), assess and review children's understanding of the learning and use this to inform where the children need to go next.

Year 4 programme of study

Number – number and place value

Statutory requirements

Pupils should be taught to:

- count in multiples of 6, 7, 9, 25 and 1000;
- find 1000 more or less than a given number;
- count backwards through zero to include negative numbers; *(from Year 5)*
- 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;
- 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.

Notes and guidance (non-statutory)

Using a variety of representations, including measures, pupils become fluent in the order and place value of numbers beyond 1000, including counting in tens and hundreds, and maintaining fluency in other multiples through varied and frequent practice.

They begin to extend their knowledge of the number system to include the decimal numbers and fractions that they have met so far.

They connect estimation and rounding numbers to the use of measuring instruments.

Roman numerals should be put in their historical context so pupils understand that there have been different ways to write whole numbers and that the important concepts of zero and place value were introduced over a period of time.

Number – addition and subtraction

Statutory requirements

Pupils should be taught to:

- 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.

Notes and guidance (non-statutory)

Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency (see Mathematics Appendix 1).

Number – multiplication and division

Statutory requirements

Pupils should be taught to:

- 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; *(from Year 5)*
- 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.

Notes and guidance (non-statutory)

Pupils continue to practise recalling and using multiplication tables and related division facts to aid fluency.

Pupils practise mental methods and extend this to three-digit numbers to derive facts, (for example 600 ÷ 3 = 200 can be derived from 2 x 3 = 6).

Pupils practise to become fluent in the formal written method of short multiplication and short division with exact answers (see Mathematics Appendix 1).

Pupils write statements about the equality of expressions (for example, use the distributive law 39 × 7 = 30 × 7 + 9 × 7 and associative law (2 × 3) × 4 = 2 × (3 × 4)). They combine their knowledge of number facts and rules of arithmetic to solve mental and written calculations for example, 2 x 6 x 5 = 10 x 6 = 60.

Pupils solve two-step problems in contexts, choosing the appropriate operation, working with increasingly harder numbers. This should include correspondence questions such as the numbers of choices of a meal on a menu, or three cakes shared equally between 10 children.

Number – fractions (including decimals)

Statutory requirements

Pupils should be taught to:

- 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;
- 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;
- recognise and write decimal equivalents of any number of tenths or hundredths;
- recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$;
- 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; *(from Year 5)*
- 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.

Notes and guidance (non-statutory)

Pupils should connect hundredths to tenths and place value and decimal measure.

They extend the use of the number line to connect fractions, numbers and measures.

Pupils understand the relation between non-unit fractions and multiplication and division of quantities, with particular emphasis on tenths and hundredths.

Pupils make connections between fractions of a length, of a shape and as a representation of one whole or set of quantities. Pupils use factors and multiples to recognise equivalent fractions and simplify where appropriate (for example, $\frac{6}{9} = \frac{2}{3}$ or $\frac{1}{4} = \frac{2}{8}$).

Pupils continue to practise adding and subtracting fractions with the same denominator, to become fluent through a variety of increasingly complex problems beyond one whole.

Pupils are taught throughout that decimals and fractions are different ways of expressing numbers and proportions.

Pupils' understanding of the number system and decimal place value is extended at this stage to tenths and then hundredths. This includes relating the decimal notation to division of whole number by 10 and later 100.

They practise counting using simple fractions and decimals, both forwards and backwards.

Pupils learn decimal notation and the language associated with it, including in the context of measurements. They make comparisons and order decimal amounts and quantities that are expressed to the same number of decimal places. They should be able to represent numbers with one or two decimal places in several ways, such as on number lines.

Measurement

Statutory requirements

Pupils should be taught to:

- convert between different units of measure [for example, kilometre to metre; hour to minute]; *(from Year 5)*
- measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres;
- find the area of rectilinear shapes by counting squares;
- estimate, compare and calculate different measures, including money in pounds and pence;
- read, write and convert time between analogue and digital 12- and 24-hour clocks; *(from Year 5)*
- solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.

Notes and guidance (non-statutory)

Pupils build on their understanding of place value and decimal notation to record metric measures, including money.

They use multiplication to convert from larger to smaller units.

Perimeter can be expressed algebraically as 2(a + b) where a and b are the dimensions in the same unit.

They relate area to arrays and multiplication.

Geometry – properties of shapes

Statutory requirements

Pupils should be taught to:

- compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes;
- identify acute and obtuse angles and compare and order angles up to two right angles by size;
- identify lines of symmetry in 2-D shapes presented in different orientations;
- complete a simple symmetric figure with respect to a specific line of symmetry.

Notes and guidance (non-statutory)

Pupils continue to classify shapes using geometrical properties, extending to classifying different triangles (for example, isosceles, equilateral, scalene) and quadrilaterals (for example, parallelogram, rhombus, trapezium).

Pupils compare and order angles in preparation for using a protractor and compare lengths and angles to decide if a polygon is regular or irregular.

Pupils draw symmetric patterns using a variety of media to become familiar with different orientations of lines of symmetry; and recognise line symmetry in a variety of diagrams, including where the line of symmetry does not dissect the original shape.

Geometry – position and direction

Statutory requirements

Pupils should be taught to:

- describe positions on a 2-D grid as coordinates in the first quadrant; *(from Year 5)*
- describe movements between positions as translations of a given unit to the left/right and up/down; *(from Year 5)*
- plot specified points and draw sides to complete a given polygon. *(from Year 6)*

Notes and guidance (non-statutory)

Pupils draw a pair of axes in one quadrant, with equal scales and integer labels. They read, write and use pairs of coordinates, for example (2, 5), including using coordinate-plotting ICT tools.

Statistics

Statutory requirements

Pupils should be taught to:

- interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs; *(line graphs from Year 5)*
- solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. *(line graphs from Year 5)*

Notes and guidance (non-statutory)

Pupils understand and use a greater range of scales in their representations.

Pupils begin to relate the graphical representation of data to recording change over time.