Mathematics Planning

National Curriculum

2014

Year 1

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 1.

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 1. This contains the objectives for Year 1 along with the non-statutory guidance to help with interpretation.

Year 1 Mathematics Yearly Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Week 1	Number and Place value	Sequencing and Sorting	Number and Place value	Length and Mass/weight	Number and Place value	Time
Week 2	Number and Place value	Fractions	Mass/weight	Addition and Subtraction	Addition and Subtraction	Multiplication and Division
Week 3	Length and Mass/weight	Fractions Capacity and Volume	2-D and 3-D Shape	Fractions	Capacity and Volume	Subtraction - difference
Week 4	Addition and Subtraction	Money	Counting and Money	Position and Direction	Fractions	Measurement
Week 5	Addition and Subtraction	Time	Multiplication	Time	Position and Direction Time	Sorting
Week 6	2-D and 3-D shape	Assess and review week	Division	Assess and review week	2-D and 3-D shape	Assess and review week

Year 1 Autumn 1

Starter suggestions for Number

- Read and write numbers to 50 in figures
- Count on and back in 1s from any one or two-digit number
- Count on and back in multiples of 2
- Order a set of random numbers to 50.
- Recall addition and subtraction facts for each number up to 10
- Recall doubles of numbers to 10 + 10
- Recall halves of even numbers to 20
- Add a single digit number to any number up to 20 by counting on
- Take away a single digit number from any number up to 20 by counting back
- Identify number patterns on number lines and hundred squares

Starter suggestions for Measurement, Geometry and Statistics

- Identify 2-D shapes in different orientations and begin to describe them
- Identify 3-D shapes in different orientations and begin to describe them
- Compare and sort common 2-D and 3-D shapes and everyday objects
- Order and arrange combinations of mathematical objects in patterns and sequences
- Describe position, direction and movement
- Estimate the length and height of familiar items using uniform non-standard and standard units

	Main learning	Rationale
Week 1 *Number and Place value* Links to Framework for Mathematics Y1 – A1, A2, A3, B1 Y2 – A1, A2, A3	• Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. • Read and write numbers from 1 to 20 in numerals and words. • Count, read and write numbers to 100 in numerals. • Begin to recognise the place value of numbers beyond 20 (tens and ones). • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. • Solve problems and practical problems involving all of the above.	Children build on their experiences in the EYFS where they learn about, and use numbers up to 20. When counting, children should be encouraged to recognise patterns in the spoken numbers and the numbers used to represent them. It is not essential at this stage for children to understand the size of all the numbers they are saying when counting – this will develop through the year. Children should use practical equipment, familiar items and pictures to represent the numbers they are working with – children should begin to understand the notion of grouping in tens i.e. 10 ones is the same as 1 ten and that in two-digit number the first digit refers to the number of groups of ten.
Week 2 *Number and Place value* Links to Framework for Mathematics Y1 – A1, A2, A3, B1, B2 Y2 – A1, A2, A3, B1, E1	• Given a number, identify one more and one less. • Begin to recognise the place value of numbers beyond 20 (tens and ones). • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. • Count in multiples of, twos, fives and tens. • Solve problems and practical problems involving all of the above.	Children build on their understanding of numbers from the previous week to identify one more/less than a given number, using different representations, including the number line. It is useful to introduce the number line alongside practical or pictorial representations of the numbers. Children should understand the purpose of counting in twos, fives and tens and relate this to efficiently counting large quantities in practical contexts and also when counting money. When counting in twos, the concept of odd and even numbers can be explored.
Week 3 *Measurement - length and mass/weight* Links to Framework for Mathematics Y1 – C1, C2, C3, D1, D2, D3 Y2 – C1, C2, C3, D1, D2	• Compare and describe lengths and heights (for example, long/short, longer/shorter, tall/short, double/half). • Measure and begin to record lengths and heights, using non-standard and then manageable standard units (m and cm) within children's range of counting competence. • Compare and describe mass/weight (for example, heavy/light, heavier than, lighter than). • Measure and begin to record mass/weight, using non-standard and then standard units (kg and g) within children's range of counting competence. • Solve practical problems for lengths, heights and masses/weights.	The pairs of terms mass and weight, volume and capacity are used interchangeably at this stage. Children should work practically to measure length and height, recognising that both are measurements of distance. Children make direct comparisons of lengths, heights, masses/weights before measuring using uniform non-standard units progressing to manageable standard units and equipment.
Week 4 *Addition and subtraction* Links to Framework for Mathematics Y1 – A1, A2, A3, B3, D2, E1, E2 Y2 – A1, A2, A3, B1, B2, B3, D1, D2, D3	• Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. • Represent and use number bonds and related subtraction facts within 20. • Add and subtract one-digit and two-digit numbers to 20, including zero (using concrete objects and pictorial representations). • Solve simple one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems, such as 7 = □ – 9.	Children should use familiar items to create number stories e.g. 8 ducks on a pond and 5 more land in the pond, how many ducks are there now? This gives rise to the number sentence 8 + 5 = ? Continuing the theme of number stories can give rise to other number sentences such as 8 + ? = 13 This could be explained as, there are 8 ducks on a pond. How many more join them if in the end there are 13 ducks on the pond? The use of physical objects to tell a number story and the creation of numbers sentences helps children to understand the relationship between addition and subtraction.
Week 5 *Addition and subtraction and statistics* Links to Framework for Mathematics Y1 – A1, A2, A3, B3, D2, E1, E2 Y2 – A1, A2, A3, B1, B2, B3, D1, D2, D3	• Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. • Represent and use number bonds and related subtraction facts within 20. • Add and subtract one-digit and two-digit numbers to 20, including zero (using concrete objects and pictorial representations). • Solve simple one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems, such as 7 = □ – 9. • Present and interpret data in block diagrams using practical equipment. • Ask and answer simple questions by counting the number of objects in each category. • Ask and answer questions by comparing categorical data.	This week is a continuation of last week. Children should also explore each number up to 20 can be partitioned in different ways to create the number bonds. For example, if there are 17 sheep split between two fields, how many sheep could be in each field? The number sentences created should be 17 = ? + ? Children would then find different ways in which 17 can be made using two numbers. Children should be introduced to a range of vocabulary associated with each operation e.g. put together, add, altogether, total, take away. Physical block diagrams give children a context to explore calculations and number sentences.

	Main learning	Rationale
Week 6 *Shape* Links to Framework for Mathematics Y1 – B1, B2, B3 Y2 – B1, B3	• Recognise and name common 2-D shapes, including rectangles (including squares), circles and triangles. • Recognise and name common 3-D shapes, including cuboids (including cubes), pyramids and spheres.	When learning about shapes, children should handle them, name them and begin to describe them. Children should recognise these shapes in different orientations and also in different sizes, and know that rectangles, triangles, cuboids and pyramids are not always similar to each other. Children could make pictures and structures using these shapes, explaining why certain shapes have been used (and not used) for particular parts of the picture or structure.

Year 1 Autumn 2

Starter suggestions for Number

- Read and write numbers to 50 in figures.
- Count on and back in 1s from any one or two-digit number.
- Count on and back in multiples of 2.
- Order a set of random numbers to 50.
- Recall addition and subtraction facts for each number up to 10.
- Recall doubles of numbers to 10 + 10
- Recall halves of even numbers to 20.
- Add a single digit number to any number up to 20 by counting on.
- Take away a single digit number from any number up to 20 by counting back.
- Identify number patterns on number lines and hundred squares.

Starter suggestions for Measurement, Geometry and Statistics

- Identify 2-D shapes in different orientations and begin to describe them.
- Identify 3-D shapes in different orientations and begin to describe them.
- Compare and sort common 2-D and 3-D shapes and everyday objects.
- Order and arrange combinations of mathematical objects in patterns and sequences.
- Describe position, direction and movement.
- Estimate the length and height of familiar items using uniform non-standard and standard units.

	Main learning	Rationale
Week 1 *Sequencing and sorting* Links to Framework for Mathematics Y1 – B3, C1, C2, C3 Y2 – B1, C1, C2, C3	• *Recognise and create repeating patterns with numbers, objects and shapes.* • *Identify odd and even numbers linked to counting in twos from 0 and 1.* • *Sort objects, numbers and shapes to a given criterion and their own.*	Children's experiences of sequences and patterns supports them in identifying relationships between shapes, objects and numbers and can be used as a precursor to sorting, in which children can consolidate their understanding of the properties of numbers, including comparing numbers, odd and even, sequences; properties of shapes; equipment and units of measure, more than and less than a given measure e.g. one metre. It is also an opportunity to introduce children to ways in which information can be sorted in tables according to one criterion.
Week 2 *Fractions* Links to Framework for Mathematics Y1 – E1, E2, E3 Y2 – E1, E2, E3	• *Understand that a fraction can describe part of a whole.* • *Understand that a unit fraction represents one equal part of a whole.* • Recognise, find and name a half as one of two equal parts of an object, shape or quantity *(including measure).* • Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	Children should understand what a fraction is – a way of describing part of a whole unit or shape. At this stage, when describing part of a whole unit or shape, an important feature to understand is the need for the whole to be split into equal sized parts. Children should experience shapes that have not been divided into equal parts and identify that the fractions of these shapes are not easy to identify. Children's work on halves and quarters should be practically based and linked to their work on shape and also measures.
Week 3 *Measurement – capacity and volume* Links to Framework for Mathematics Y1 – C1, D2,E3 Y2 – E1, E2, E3, C1 C3, D1	• *Understand that a fraction can describe part of a whole.* • *Understand that a unit fraction represents one equal part of a whole.* • Recognise, find and name a half as one of two equal parts of an object, shape or quantity *(including measure).* • Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. • Compare and describe capacity/volume (for example, full/empty, more than, less than, half, half full, quarter). • Measure and begin to record capacity and volume *using non-standard and then standard units (litres and ml) within children's range of counting competence.* • Solve practical problems for capacity/volume.	The fractions work from the previous week is further consolidated in the context of capacity and volume. Children should relate pouring a jug of juice equally into four cups would mean each cup contains one quarter of the juice from the jug. If the cups of juice were poured back into the jug, the original volume of the jug would be restored i.e. one quarter plus one quarter plus one quarter plus one quarter equals four quarters, which results in one whole jug of juice. Children can make their own scales on large containers using masking tape and carefully pouring cups into the large container and marking the level after each cup poured in. After two or four cups, children should recognise what fraction one cup is of the whole amount in the container.
Week 4 *Money* Links to Framework for Mathematics Y1 – D3, A1, A2, A3, D2, B3, E2 Y2 – B1, A1, A2, A3, D1, D2, D3	• Recognise and know the value of different denominations of coins and notes. • Solve simple one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems, such as 7 = □ - 9.	Children's introduction to money should involve numbers that they are confident with. Larger value coins can be introduced later. Children need to understand how many pennies each coin is worth and exchange between pennies and 2p, 5p, 10p and 20p coins. This could be done in a Bank role play area. Shop role play could be used when teaching about paying for amounts exactly. This is a good opportunity for children to experience finding all possibilities problems. Combining coins to make given amounts should be linked to addition and number sentences e.g. 9p = 5p + 2p + 2p
Week 5 *Time* Links to Framework for Mathematics Y1 – D1, D3 Y2 – D1	• Sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. • Recognise and use language relating to dates, including days of the week, weeks, months and years. • Measure and begin to record time (hours, minutes, seconds). • compare, describe and solve practical problems for time (quicker, slower, earlier, later).	Children should be introduced to the language of time using familiar events in their life and in school. Sequencing of events can also be explored in children's stories such as The Very Hungry Caterpillar, Jasper's Beanstalk, The Princess and the Wizard, What the Ladybird Heard amongst others. Children should explore how long certain activities take and also how many times certain things can be done in a given time period e.g. one minute.
Week 6 Assess and review	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 1 Spring 1

Starter suggestions for Number

- Read and write numbers to 100 in figures.
- Count on and back in 1s from any one or two-digit number including across 100.
- Count on and back in multiples of 2, 5 and 10.
- Order a set of random numbers to 100.
- Recall addition and subtraction facts for each number up to 20.
- Recall doubles of numbers to 10 + 10
- Recall halves of even numbers to 20.
- Add a single digit number to any number up to 20.
- Take away a single digit number from any number up to 20.
- Identify number patterns on number lines and hundred squares.

Starter suggestions for Measurement, Geometry and Statistics

- Identify 2-D shapes in different orientations and begin to describe them.
- Identify 3-D shapes in different orientations and begin to describe them.
- Compare and sort common 2-D and 3-D shapes and everyday objects.
- Order and arrange combinations of mathematical objects in patterns and sequences.
- Describe position, direction and movement.
- Estimate the length and height of familiar items using uniform non-standard and standard units.
- Estimate mass and capacity of familiar items using non-standard and standard units.
- Identify time on an analogue clock to the hour and half past the hour.
- Use the language of time to sequence events.
- Recognise and know the value of different denominations of coins and notes.

	Main learning	Rationale
Week 1 *Number, place value and measures* Links to Framework for Mathematics Y1 – A1, A2, A3, B1 Y2 – A1, A2, A3	• Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. • Read and write numbers from 1 to 20 in numerals and words. • Count, read and write numbers to 100 in numerals. • *Begin to recognise the place value of numbers beyond 20 (tens and ones).* • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. • Given a number, identify one more and one less. • *Given a number, identify ten more and ten less.* • *Order numbers to 50.* • *Solve problems and practical problems involving all of the above.*	When counting, children should be encouraged to recognise patterns in the spoken numbers and the numbers used to represent them. Children should use practical equipment, familiar items and pictures to represent the numbers they are working with – children should understand the notion of grouping in tens i.e. 10 ones is the same as 1 ten and that in two-digit number the first digit refers to the number of groups of ten. Children use their understanding of numbers to identify one more/less and ten more/less than a given number, using different representations, including the number line. Children recognise the number line when measuring length using a ruler and volume using a measuring jug. Children should understand the purpose of counting in twos, fives and tens and relate this to efficiently counting large quantities in practical contexts and also when counting money. When counting in twos, the concept of odd and even numbers can be explored.
Week 2 *Measurement - mass* Links to Framework for Mathematics Y1 – C1, C2, C3, D1, D2, D3 Y2 – C1, C2, C3, D1, D2	• Compare and describe mass/weight (for example, heavy/light, heavier than, lighter than). • Measure and begin to record mass/weight, using non-standard and then standard units (kg and g) within children's range of counting competence. • Solve practical problems for masses/weights. • Solve simple one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems, such as 7 = □ – 9.	The terms mass and weight are used interchangeably at this stage. Children should work practically to measure mass/weight, applying their knowledge of the number system and number lines. Children make direct comparisons of masses/weights before measuring using uniform non-standard units progressing to manageable standard units and equipment. When solving problems, children apply their knowledge and understanding of calculations in the context of mass/weight.
Week 3 *Shape* Links to Framework for Mathematics Y1 – B1, B2, B3 Y2 – B1, B3	• Recognise and name common 2-D shapes, including rectangles (including squares), circles and triangles. • Recognise and name common 3-D shapes, including cuboids (including cubes), pyramids and spheres.	When learning about shapes, children should handle them, name them and begin to describe them. Children should recognise these shapes in different orientations and also in different sizes, and know that rectangles, triangles, cuboids and pyramids are not always similar to each other. Children could make pictures and structures using these shapes, explaining why certain shapes have been used (and not used) for particular parts of the picture or structure.
Week 4 *Counting and money* Links to Framework for Mathematics Y1 – D3, A1, A2, A3, D2, B3, E2 Y2 – B1, A1, A2, A3, D1, D2, D3	• Count in multiples of, twos, fives and tens. • Recognise and know the value of different denominations of coins and notes.	When counting, children should explore patterns that emerge and relationships that can be seen e.g. when counting in tens, the unit digit does not change; when counting in fives the units digit alternates; when counting in twos the units digits will repeat 2, 4, 6, 8, 0 or 1, 3, 5, 7, 9. This can lead to discussion around odd and even numbers and what other numbers will occur in the sequence if it continued. Counting should also be related to real life, such as counting money. Larger value coins may be introduced at this stage as the children's understanding of numbers and the number system is growing. Children need to understand how many pennies each coin is worth and exchange between pennies and 2p, 5p, 10p, 20p and 50p coins. This could be done in a bank role play area.

	Main learning	Rationale
Week 5 *Multiplication – problem solving* Links to Framework for Mathematics Y1 – E1, E2, E3 Y2 – B1, B2, B3, D1, D2, D3, E1, E2, E3	• Add one-digit and two-digit numbers to 20, including zero. • *Recall and use doubles of all numbers to 10 and corresponding halves.* • Solve one-step problems involving multiplication by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	Children should be introduced to multiplication as repeated addition, using real life contexts and practical / pictorial representations of these. Children should make connections between arrays, number patterns and counting in twos, fives and tens. Children should realise that doubling is adding a number to itself, which is also multiplying by 2.
Week 6 *Division – problem solving* Links to Framework for Mathematics Y1 – E1, E2, E3 Y2 – B1, B2, B3, D1, D2, D3, E1, E2, E3	• Subtract one-digit and two-digit numbers to 20, including zero. • *Recall and use doubles of all numbers to 10 and corresponding halves.* • Solve one-step problems involving division by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	Children should be introduced to division as sharing and grouping (or repeated subtraction), using real life contexts and practical / pictorial representations of these. Again, children should make connections between arrays, number patterns and counting back in twos, fives and tens. Children should realise that halving is dividing a number or quantity by 2. The link should be made between division by sharing and finding a fraction of an amount. Children should find simple fractions of objects, numbers and quantities.

Year 1 Spring 2

Starter suggestions for Number

- Read and write numbers to 100 in figures.
- Count on and back in 1s from any one or two-digit number including across 100.
- Count on and back in multiples of 2, 5 and 10.
- Order a set of random numbers to 100.
- Recall addition and subtraction facts for each number up to 20.
- Recall doubles of numbers to 10 + 10
- Recall halves of even numbers to 20.
- Add a single digit number to any number up to 20.
- Take away a single digit number from any number up to 20.
- Identify number patterns on number lines and hundred squares.
- Recognise and create repeating patterns with numbers.
- Identify odd and even numbers linked to counting in twos from 0 and 1.

Starter suggestions for Measurement, Geometry and Statistics

- Identify 2-D shapes in different orientations and begin to describe them.
- Identify 3-D shapes in different orientations and begin to describe them.
- Compare and sort common 2-D and 3-D shapes and everyday objects.
- Order and arrange combinations of mathematical objects in patterns and sequences.
- Describe position, direction and movement.
- Estimate the length and height of familiar items using uniform non-standard and standard units.
- Estimate mass and capacity of familiar items using non-standard and standard units.
- Identify time on an analogue clock to the hour and half past the hour.
- Use the language of time to sequence events.
- Recognise and know the value of different denominations of coins and notes.
- Recognise and create repeating patterns with objects and shapes.

	Main learning	Rationale
Week 1 *Measurement – length and height, mass/weight* Links to Framework for Mathematics Y1 – C1, C2, C3, D1, D2, D3 Y2 – C1, C2, C3, D1, D2	• Compare and describe lengths and heights (for example, long/short, longer/shorter, tall/short, double/half). • Measure and begin to record lengths and heights, using non-standard and then manageable standard units (m and cm) within children's range of counting competence. • Compare and describe mass/weight (for example, heavy/light, heavier than, lighter than). • Measure and begin to record mass/weight, using non-standard and then standard units (kg and g) within children's range of counting competence. • Solve practical problems for lengths, heights and masses/weights.	The pairs of terms mass and weight, volume and capacity are used interchangeably at this stage. Children should work practically to measure length and height, recognising that both are measurements of distance. Children make direct comparisons of lengths, heights, masses/weights before measuring using uniform non-standard units progressing to manageable standard units and equipment. Measurement work should be in line with a child's number work e.g. using numbers up to 100.
Week 2 *Mental addition and subtraction facts in context of measurement* Links to Framework for Mathematics Y1 – A1, A2, A3, B3, D2, E1, E2 Y2 – A1, A2, A3, B1, B2, B3, D1, D2, D3	• Represent and use number bonds and related subtraction facts within 20. • Add and subtract one-digit and two-digit numbers to 20, including zero *(using concrete objects and pictorial representations).* • Solve practical problems for length and height and mass/weight.	Children should use measurements of items they have measured in the previous week or interesting measures (from the Guinness Book of Records) to create number sentences. The use of physical objects or pictures to give meaning to number sentences helps children to understand the relationship between addition and subtraction.
Week 3 *Fractions* Links to Framework for Mathematics Y1 – E1, E2, E3 Y2 – E1, E2, E3	• *Understand that a fraction can describe part of a whole.* • *Understand that a unit fraction represents one equal part of a whole.* • Recognise, find and name a half as one of two equal parts of an object, shape or quantity *(including measure).* • Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	Children should understand what a fraction is – a way of describing part of a whole unit or shape. At this stage, when describing part of a whole unit or shape, an important feature to understand is the need for the whole to be split into equal sized parts. Children should experience shapes that have not been divided into equal parts and identify that the fractions of these shapes are not easy to identify. Children's work on halves and quarters should be practically based and linked to their work on shape and also measures from the previous two weeks. As a lead into the following week, children could be introduced to the fraction three-quarters when experiencing one quarter.
Week 4 *Position and direction and time* Links to Framework for Mathematics Y1 – D2, D3 Y2 – D1, D2, D3	• Describe position, directions and movements, including half, quarter and three-quarter turns. • Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	Children's work on fractions in the previous week should be continued, in particular linking the images of quarter, half and three-quarters of a circle to fractions of a turn. Their understanding of fractions of a turn should be related to the movement of the minute hand on an analogue clock, introducing language of clockwise, o'clock and half past. Children should also understand that as the minute hand moves on an analogue clock, the hour hand also moves. When the minute hand is showing half past, children should be encouraged to identify other clues, using the position of the hands on the clock, that suggest 'half'.

	Main learning	Rationale
Week 5 *Measurement - time* Links to Framework for Mathematics Y1 – D1, D2, D3 Y2 – D1, D2, D3	• Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. • Compare, describe and solve practical problems for time (quicker, slower, earlier, later). • Measure and begin to record the following time (hours, minutes, seconds).	Children should be introduced to the language of time using familiar events in their life and in school. Sequencing of events can also be explored in children's stories such as The Very Hungry Caterpillar, Jasper's Beanstalk, The Princess and the Wizard, What the Ladybird Heard amongst others. Children should explore how long certain activities take and also how many times certain things can be done in a given time period e.g. one minute.
Week 6 Assess and review	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 1 Summer 1

Starter suggestions for Number

- Read and write numbers to 100 in figures.
- Count on and back in 1s from any one or two-digit number including across 100.
- Count on and back in multiples of 2, 5 and 10.
- Begin to recall multiplication facts for the 2, 5 and 10 times tables.
- Order a set of random numbers to 100.
- Recall addition and subtraction facts for each number up to 20.
- Recall doubles of numbers to 10 + 10
- Recall halves of even numbers to 20.
- Add a single digit number to any number up to 20.
- Take away a single digit number from any number up to 20.
- Identify simple fractions of shapes.
- Identify number patterns on number lines and hundred squares.
- Recognise and create repeating patterns with numbers.
- Identify odd and even numbers linked to counting in twos from 0 and 1.

Starter suggestions for Measurement, Geometry and Statistics

- Identify 2-D shapes in different orientations and begin to describe them.
- Identify 3-D shapes in different orientations and begin to describe them.
- Compare and sort common 2-D and 3-D shapes and everyday objects.
- Order and arrange combinations of mathematical objects in patterns and sequences.
- Describe position, direction and movement.
- Estimate the length and height of familiar items using uniform non-standard and standard units.
- Estimate mass and capacity of familiar items using non-standard and standard units.
- Identify time on an analogue clock to the hour and half past the hour.
- Use the language of time to sequence events.
- Recognise and know the value of different denominations of coins and notes.
- Recognise and create repeating patterns with objects and shapes.

	Main learning	Rationale
Week 1 *Number and place value* Links to Framework for Mathematics Y1 – A1, A2, A3, B1 Y2 – A1, A2, A3	• Read and write numbers from 1 to 20 in numerals and words. • Count, read and write numbers to 100 in numerals. • *Begin to recognise the place value of numbers beyond 20 (tens and ones).* • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. • Given a number, identify one more and one less. • *Given a number, identify ten more and ten less.* • *Order numbers to 50.* • *Solve problems and practical problems involving all of the above.*	When counting, children should be encouraged to recognise patterns in the spoken numbers and the numbers used to represent them. Children should use practical equipment, familiar items and pictures to represent the numbers they are working with – children should understand the notion of grouping in tens i.e. 10 ones is the same as 1 ten and that in two-digit number the first digit refers to the number of groups of ten. Children use their understanding of numbers to identify one more/less and ten more/less than a given number, using different representations, including the number line. Children recognise the number line when measuring length using a ruler and volume using a measuring jug. The context of the number and place value objectives in this week should be either measurement or statistics e.g. block graphs, bar charts, pictograms, tally charts.
Week 2 *Addition and subtraction and statistics* Links to Framework for Mathematics Y1 – A1, A2, A3, B3, D2, E1, E2 Y2 – A1, A2, A3, B1, B2, B3, D1, D2, D3	• Represent and use number bonds and related subtraction facts within 20. • Add and subtract one-digit and two-digit numbers to 20, including zero *(using concrete objects and pictorial representations).* • Solve simple one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems, such as 7 = □ – 9. • *Present and interpret data in block diagrams using practical equipment.* • *Ask and answer simple questions by counting the number of objects in each category.* • *Ask and answer questions by comparing categorical data.*	Children should use familiar items to create number stories e.g. 8 ducks on a pond and 5 more land in the pond, how many ducks are there now? This gives rise to the number sentence 8 + 5 = ? Continuing the theme of number stories can give rise to other number sentences such as 8 + ? = 13 This could be explained as, there are 8 ducks on a pond. How many more join them if in the end there are 13 ducks on the pond? The use of physical objects to tell a number story and the creation of numbers sentences helps children to understand the relationship between addition and subtraction. Physical block diagrams support children in understanding calculations and the mathematical representation of number sentences.
Week 3 *Measurement – capacity/volume* Links to Framework for Mathematics Y1 – C1, D2,E3 Y2 – E1, E2, E3, C1 C3, D1	• Compare, describe and solve practical problems capacity/volume (full/empty, more than, less than, quarter). • Measure and begin to record capacity and volume *using non-standard and then standard units (litres and ml) within children's range of counting competence.* • Solve simple one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems, such as 7 = □ – 9.	Children should be using measuring containers and beginning to read simple scales involving numbers up to 100. Children can make their own scales on large containers using masking tape and carefully pouring cups into the large container and marking the level after each cup poured in. After two or four cups, children should recognise what fraction one cup is of the whole amount in the container.
Week 4 *Fractions* Links to Framework for Mathematics Y1 – E1, E2, E3 Y2 – E1, E2, E3	• *Understand that a fraction can describe part of a whole.* • *Understand that a unit fraction represents one equal part of a whole.* • Recognise, find and name a half as one of two equal parts of an object, shape or quantity (including measure). • Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	Children should understand what a fraction is – a way of describing part of a whole unit or shape. At this stage, when describing part of a whole unit or shape, an important feature to understand is the need for the whole to be split into equal sized parts. Children should experience shapes that have not been divided into equal parts and identify that the fractions of these shapes are not easy to identify. Children's work on halves and quarters should be practically based and linked to their work on shape and also measures from the previous week. As a lead into the following week, children could be introduced to the fraction three-quarters when experiencing one quarter.

	Main learning	Rationale
Week 5 *Position, direction and time* Links to Framework for Mathematics Y1 – D1, D2, D3 Y2 – D1, D2, D3	• Describe position, directions and movements, including half, quarter and three-quarter turns. • Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	Children's work on fractions in the previous week should be continued, in particular linking the images of quarter, half and three-quarters of a circle to fractions of a turn. Their understanding of fractions of a turn should be related to the movement of the minute hand on an analogue clock, introducing language of clockwise, o'clock and half past. Children should also understand that as the minute hand moves on an analogue clock, the hour hand also moves. When the minute hand is showing half past, children should be encouraged to identify other clues, using the position of the hands on the clock, that suggest 'half'.
Week 6 *Shape* Links to Framework for Mathematics Y1 – B1, B2, B3 Y2 – B1, B3	• Recognise and name common 2-D shapes, including rectangles (including squares), circles and triangles. • Recognise and name common 3-D shapes, including cuboids (including cubes), pyramids and spheres.	When learning about shapes, children should handle them, name them and begin to describe them. Children should recognise these shapes in different orientations and also in different sizes, and know that rectangles, triangles, cuboids and pyramids are not always similar to each other. Children could make pictures and structures using these shapes, explaining why certain shapes have been used (and not used) for particular parts of the picture or structure.

Year 1 Summer 2

Starter suggestions for Number

- Read and write numbers to 100 in figures.
- Count on and back in 1s from any one or two-digit number including across 100.
- Count on and back in multiples of 2, 5 and 10.
- Begin to recall multiplication facts for the 2, 5 and 10 times tables.
- Order a set of random numbers to 100.
- Recall addition and subtraction facts for each number up to 20.
- Recall doubles of numbers to 10 + 10
- Recall halves of even numbers to 20.
- Add a single digit number to any number up to 20.
- Take away a single digit number from any number up to 20.
- Identify simple fractions of shapes.
- Identify number patterns on number lines and hundred squares.
- Recognise and create repeating patterns with numbers.
- Identify odd and even numbers linked to counting in twos from 0 and 1.

Starter suggestions for Measurement, Geometry and Statistics

- Identify 2-D shapes in different orientations and begin to describe them.
- Identify 3-D shapes in different orientations and begin to describe them.
- Compare and sort common 2-D and 3-D shapes and everyday objects.
- Order and arrange combinations of mathematical objects in patterns and sequences.
- Describe position, direction and movement.
- Estimate the length and height of familiar items using uniform non-standard and standard units.
- Estimate mass and capacity of familiar items using non-standard and standard units.
- Identify time on an analogue clock to the hour and half past the hour.
- Use the language of time to sequence events.
- Recognise and know the value of different denominations of coins and notes.
- Recognise and create repeating patterns with objects and shapes.

	Main learning	Rationale
Week 1 *Time* Links to Framework for Mathematics Y1 – D1, D3 Y2 – D1	• Sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. • Recognise and use language relating to dates, including days of the week, weeks, months and years. • Measure and begin to record time (hours, minutes, seconds). • Compare, describe and solve practical problems for time (quicker, slower, earlier, later).	Children should be introduced to the language of time using familiar events in their life and in school. Sequencing of events can also be explored in children's stories such as The Very Hungry Caterpillar, Jasper's Beanstalk, The Princess and the Wizard, What the Ladybird Heard amongst others. Children should explore how long certain activities take and also how many times certain things can be done in a given time period e.g. one minute.
Week 2 *Multiplication and division* Links to Framework for Mathematics Y1 – E1, E2, E3 Y2 – B1, B2, B3, D1, D2, D3, E1, E2, E3	• 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.	Children should continue to understand multiplication and division using real life contexts and practical / pictorial representations of these. Children should make connections between arrays, number patterns and counting back in twos, fives and tens. Children should realise that halving is dividing a number or quantity by 2 and doubling is multiplying by 2. The link should be made between division by sharing and finding a fraction of an amount. Children should find simple fractions of objects, numbers and quantities.
Week 3 *Subtraction – difference in context of measurement or statistics* Links to Framework for Mathematics Y1 – A2, B3, D3 Y2 – A1, A3	• Subtract one-digit and two-digit numbers to 20 using 'difference' as finding how many more to make *(using concrete objects and pictorial representations).* • Solve problems involving how many more to make. • *Present and interpret data in block diagrams using practical equipment.* • *Ask and answer simple questions by counting the number of objects in each category.* • *Ask and answer questions by comparing categorical data.*	Children should be introduced to the concept of 'difference' through measurement or statistics. This should be represented practically, using towers of cubes (a physical block diagram) and discussing how we can make one tower the same size as the other. Children's previous work on the relationship between addition and subtraction is crucial in understanding that the difference between 13 and 21 can be written as 21 – 13, but calculated by finding 21 - ? = 13 or that 13 + ? = 21.
Week 4 *Measurement* Links to Framework for Mathematics Y1 – C1, C2, C3, D1, D2, D3 Y2 – C1, C2, C3, D1, D2	• Compare and describe lengths and heights (for example, long/short, longer/shorter, tall/short, double/half). • Measure and begin to record lengths and heights, using non-standard and then manageable standard units (m and cm) within children's range of counting competence. • Compare and describe mass/weight (for example, heavy/light, heavier than, lighter than). • Measure and begin to record mass/weight, using non-standard and then standard units (kg and g) within children's range of counting competence. • Solve practical problems for lengths, heights and masses/weights.	The pairs of terms mass and weight, volume and capacity are used interchangeably at this stage. Children should work practically to measure length and height, recognising that both are measurements of distance. Children make direct comparisons of lengths, heights, masses/weights before measuring using uniform non-standard units progressing to manageable standard units and equipment. Measurement work should be in line with a child's number work e.g. using numbers up to 100.
Week 5 *Sorting* Links to Framework for Mathematics Y1 – B3, C1, C2, C3 Y2 – B1, C1, C2, C3	• *Recognise and create repeating patterns with numbers, objects and shapes.* • *Identify odd and even numbers linked to counting in twos from 0 and 1.* • *Sort objects, numbers and shapes to a given criterion and their own.*	Children's work on sequencing and sorting can be used to consolidate understanding of the properties of numbers, including comparing numbers, odd and even, predicting and generalising sequences; properties of shapes; equipment and units of measure, more than and less than a given measure e.g. one metre. It is also an opportunity to introduce children to ways in which information can be sorted in tables according to one criterion.
Week 6 Assess and review	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 1 programme of study

Number – number and place value

Statutory requirements

Pupils should be taught to:

- count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number; *(from Year 2)*
- count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens; *(from Year 2)*
- given a number, identify one more and one less;
- identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least;
- read and write numbers from 1 to 20 in numerals and words.

Notes and guidance (non-statutory)

Pupils practise counting (1, 2, 3…), ordering (for example, first, second, third…), and to indicate a quantity (for example, 3 apples, 2 centimetres), including solving simple concrete problems, until they are fluent.

Pupils begin to recognise place value in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100, supported by objects and pictorial representations.

They practise counting as reciting numbers and counting as enumerating objects, and counting in twos, fives and tens from different multiples to develop their recognition of patterns in the number system (for example, odd and even numbers), including varied and frequent practice through increasingly complex questions.

They recognise and create repeating patterns with objects and with shapes.

Number – addition and subtraction

Statutory requirements

Pupils should be taught to:

- read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs;
- represent and use number bonds and related subtraction facts within 20; *(from Year 2)*
- add and subtract one-digit and two-digit numbers to 20, including zero;
- solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ☐ - 9.

Notes and guidance (non-statutory)

Pupils memorise and reason with number bonds to 10 and 20 in several forms (for example, 9 + 7 = 16; 16 – 7 = 9; 7 = 16 – 9). They should realise the effect of adding or subtracting zero. This establishes addition and subtraction as related operations.

Pupils combine and increase numbers, counting forwards and backwards.

They discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms: put together, add, altogether, total, take away, distance between, difference between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.

Number – multiplication and division

Statutory requirements

Pupils should be taught to:

- 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. *(from Year 2)*

Notes and guidance (non-statutory)

Through grouping and sharing small quantities, pupils begin to understand: multiplication and division; doubling numbers and quantities; and finding simple fractions of objects, numbers and quantities. They make connections between arrays, number patterns, and counting in twos, fives and tens.

Number – fractions

Statutory requirements

Pupils should be taught to:

- recognise, find and name a half as one of two equal parts of an object, shape or quantity;
- recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.

Notes and guidance (non-statutory)

Pupils are taught half and quarter as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities. For example, they could recognise and find half a length, quantity, set of objects or shape. Pupils connect halves and quarters to the equal sharing and grouping of sets of objects and to measures, as well as recognising and combining halves and quarters as parts of a whole.

Measurement

Statutory requirements

Pupils should be taught to:

- compare, describe and solve practical problems for:
  - 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];
- measure and begin to record the following:
  - lengths and heights;
  - mass/weight;
  - capacity and volume;
  - time (hours, minutes, seconds);
- recognise and know the value of different denominations of coins and notes;
- sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening];
- recognise and use language relating to dates, including days of the week, weeks, months and years.
- tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.

Notes and guidance (non-statutory)

The pairs of terms: mass and weight, volume and capacity, are used interchangeably at this stage.

Pupils move from using and comparing different types of quantities and measures using non-standard units, including discrete (for example, counting) and continuous (for example, liquid) measurement, to using manageable common standard units.

In order to become familiar with standard measures, pupils begin to use measuring tools such as a ruler, weighing scales and containers.

Pupils use the language of time, including telling the time throughout the day, first using o'clock and then half past.

Geometry – properties of shapes

Statutory requirements

Pupils should be taught to:

- recognise and name common 2-D and 3-D shapes, including:
  - 2-D shapes [for example, rectangles (including squares), circles and triangles];
  - 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].

Notes and guidance (non-statutory)

Pupils handle common 2-D and 3-D shapes, naming these and related everyday objects fluently. They recognise these shapes in different orientations and sizes, and know that rectangles, triangles, cuboids and pyramids are not always similar to each other.

Geometry – position and direction

Statutory requirements

Pupils should be taught to:

- Describe position, direction and movement, including whole, half, quarter and three-quarter turns. *(from Year 2)*

Notes and guidance (non-statutory)

Pupils use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside.

Pupils make whole, half, quarter and three-quarter turns in both directions and connect turning clockwise with movement on a clock face.