Maths
Key Stage 1

Curriculum map

OAK
NATIONAL
ACADEMY

1. Philosophy

Six underlying attributes at the heart of Oak's curriculum and lessons.

Lessons and units are **knowledge and vocabulary rich** so that pupils build on what they already know to develop powerful knowledge.

Knowledge is **sequenced** and mapped in a **coherent** format so that pupils make meaningful connections.

Our **flexible** curriculum enables schools to tailor Oak's content to their curriculum and context.

Our curriculum is **evidence informed** through rigorous application of best practice and the science of learning.

We prioritise creating a **diverse** curriculum by committing to diversity in teaching and teachers, and the language, texts and media we use, so all pupils feel positively represented.

Creating an **accessible** curriculum that addresses the needs of all pupils is achieved to accessibility guidelines and requirements.

Knowledge and vocabulary rich

Sequenced and coherent

Evidence informed

Oak Curriculum

Flexible

Diverse

Accessible

2. Units

KS1 Maths is formed of 36 units and this is the recommended sequence:

Unit Title	Recommended year group	Number of lessons
1 Numbers to 10	Year 1	10
2 Addition and subtraction within 10	Year 1	10
3 Shape and patterns	Year 1	10
4 Numbers to 20	Year 1	10
5 Addition and subtraction within 20	Year 1	10
6 Time	Year 1	10
7 Exploring calculation strategies within 20	Year 1	5
8 Numbers to 50	Year 1	10
9 Addition and subtraction within 20 (comparison)	Year 1	10

3. Lessons

Unit 1 Numbers to 10

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Counting sets within 10**	• In this lesson, we will practise counting sets of things from the Big Picture, and representing these sets in a tens frame.
2.	**Representing numbers within 10**	• In this lesson, we will represent numbers to 10 in different ways, making different arrangements with our manipulatives.
3.	**Recognising number bonds to five and six**	• In this lesson, we will work with our number bonds to five and six.
4.	**Recognising number bonds to seven and eight**	• In this lesson, we will work with our number bonds to seven and eight.

5. **Recognising number bonds to nine and ten**

- In this lesson, we will work with our number bonds to nine and ten, and looking at how to break these numbers up into more than just two parts.

6. **Finding double of a number up to five**

- In this lesson, we will learn how to double numbers up to five.

7. **Finding half of a number within 10**

- In this lesson, we will find half of quantities within 10.

8. **Finding one more and one less of a number within 10**

- In this lesson, we will use manipulatives and a number line to support our understanding of one more, and one less than a given number within 10.

9. **Comparing numbers within 10**

- In this lesson, we will count and represent sets. We will then compare two sets, deciding which has more and which has fewer.

10. **Ordering two or more numbers within 10**

- In this lesson, we will apply our knowledge of more and fewer to order two numbers within 10, using a numberline for support. We will then apply this skill to ordering three numbers within ten.

Unit 2 Addition and subtraction within 10

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Combining sets (count all)**	• In this lesson, we will be combining sets, by counting all of the items in that set. We will practice writing addition equations.
2.	**Combining sets (count on)**	• In this lesson, we will continue to explore combining sets, by counting on from an amount. We will practice writing equations to express this.
3.	**Linking addition equations to problem solving contexts**	• This lesson will explore how addition can be linked to problem solving contexts. We will be applying the previously learnt strategies to solve problems.
4.	**Understanding commutativity**	• In this lesson, we will explore commutativity - the concept that parts in addition equations can be added together in any order.
5.	**Subtracting by partitioning**	• In this lesson, we will learn to subtract by partitioning a whole into parts.

6. **Counting back in ones to subtract**

- In this lesson, we will practice subtracting by counting back in ones. We will do this with the support of a number line.

7. **Linking subtraction equations to problem solving contexts**

- In this lesson, we will explore how subtraction can be linked to problem solving contexts. We will be applying the previously learnt strategies to solve problems.

8. **Recognising the relationship between addition and subtraction**

- In this lesson, we will explore how addition and subtraction are linked, and how a part whole relationship can produce related facts.

9. **Exploring problems involving addition and subtraction**

- In this lesson, we will problem solve to complete missing number triangles! We will practice adding and subtracting to find the answers.

10. **Exploring further problems involving addition and subtraction**

- In this lesson, we will problem solve to uncover secret jumps! We will practice adding and subtracting to find the answers.

Unit 3 Shape and patterns

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**To recognise, name and describe 3D shapes**	• In this lesson, we will learn the vocabulary of the properties of shapes and use that language to describe 3D shapes.
2.	**To describe and classify 3D shapes**	• In this lesson, we will continue to learn how to describe the properties of shapes and how to sort them (classify them) into groups based on their properties.
3.	**To identify 2D shapes**	• In this lesson, we will identify and name 2-D shapes, recognise shapes in different orientations and identify key properties of 2D shapes.
4.	**To describe and classify 2D shapes**	• In this lesson, we will describe 2-D shapes using mathematical vocabulary and then classify them into two groups.
5.	**To recognise and create repeating patterns**	• In this lesson, we will explore and create shape and colour patterns. You will then be able to describe and continue patterns using 2-D shapes.

6. **To recognise and describe repeating patterns**

- In this lesson, we will recognise and create shape patterns using 2-D shapes. You will continue patterns, identify missing shapes in patterns and describe them

7. **To use the language of position**

- In this lesson, we will learn the language of position and then use this language to solve position problems.

8. **To use the language of position, direction and movement (Part 1)**

- In this lesson, we will practise giving and following directions using the language of direction.

9. **To use the language of position, direction and movement (Part 2)**

- In this lesson, we will practise following directional instructions on a grid and create algorithms for direction.

10. **To consolidate learning**

- In this lesson, we will practise using and applying the important mathematical vocabulary that you have used throughout this unit.

Unit 4 Numbers to 20

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	To count from 1 to 19 and match pictorial and abstract representations of these numbers	• In this lesson, we will link the words in the counting sequence to pictorial and then abstract representations.
2.	To identify numbers to 20 by counting ten and then counting on	• In this lesson, we will see how a tens frame is used to count a group of ten and then count how many more there are to make a teen number.
3.	To position numbers to 20 on a number line	• In this lesson, we will position numbers on a number line in order and justify your decision.
4.	To identify one more and one less than a number within 20	• In this lesson, we will see one more and one less represented in different ways and make links between them.
5.	To compare numbers to 20	• In this lesson, we will compare numbers to 20 using a tens frame and then use the language of comparison.

6. **To compare and order three numbers within 20**

- In this lesson, we will use the language of tens and ones to compare three numbers and order them on a number line.

7. **To identify, complete and continue number patterns, adding and subtracting 1 or 2**

- In this lesson, we will identify number patterns on a number line and use the vocabulary 'increasing' and 'decreasing'.

8. **To find double and half within 20**

- In this lesson, we will double numbers by adding the same number to itself and halve even numbers by sharing equally between two groups.

9. **To understand even and odd as 'fair' and 'unfair' numbers**

- In this lesson, we will investigate 'fair' numbers, understanding these as even numbers and investigate 'unfair' numbers, understanding these as odd numbers.

10. **To consolidate learning**

- In this lesson, we will practise using and applying the important mathematical vocabulary and thinking that you have used throughout this unit.

Unit 5 Addition and subtraction within 20

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**To add by counting on using a number line**	• In this lesson, we will learn how to use 'first, then, now' stories to add by counting on, using a number line.
2.	**To subtract by counting back using a number line**	• In this lesson, we will learn how to use 'first, then, now' stories to subtract by counting back, using a number line.
3.	**To add a 1-digit number to a teens number using a known fact**	• In this lesson, we will learn how we can add a teens number using known number bonds.
4.	**To subtract a 1-digit number from a teens number using a known fact**	• In this lesson, we will learn how we can subtract from a teens number using known number bonds.
5.	**To use the 'Make ten' strategy to add two 1-digit numbers (Part 1)**	• In this lesson, we will identify expressions that are less than, equal to and greater than 10 and then apply the 'Make ten' strategy to add numbers.

6. **To use the 'Make ten' strategy to add two 1-digit numbers (Part 2)**

- In this lesson, we will practise using the 'Make ten' strategy to solve addition equations.

7. **To use the 'Make ten' strategy to subtract a 1-digit number from a teen number (Part 1)**

- In this lesson, we will connect the 'Make ten' strategy to subtraction and apply it to subtraction equations.

8. **To use the 'Make ten' strategy to subtract a 1-digit number from a teen number (Part 2)**

- In this lesson, we will practise using the 'Make ten' strategy to solve subtraction equations.

9. **To use mathematical models and strategies for addition**

- In this lesson, we will explore mathematical problems in context and consider different solutions.

10. **To use mathematical models and strategies for subtraction**

- In this lesson, we will explore mathematical problems in context and consider different solutions.

Unit 6 Time

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Naming and ordering the months of the year**	• In this lesson, we will name the months of the year and then putting them in order.
2.	**Sequencing events in chronological order**	• In this lesson, we will order activities within a routine in chronological order.
3.	**Measuring time in minutes and seconds**	• In this lesson, we will learn how many seconds there are in a minute.
4.	**Reading and writing the time to o'clock (Part 1)**	• In this lesson, we will read and tell the time to o'clock.
5.	**Reading and writing the time to o'clock (Part 2)**	• In this lesson, we will read, write and tell the time to o'clock.
6.	**Reading and writing the time to o'clock and half past (Part 1)**	• In this lesson, we will read, write and tell the time to o'clock and half past

Unit 7 Exploring calculation strategies within 20

5 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Using number bonds when subtracting**	• In this lesson, we will be subtracting numbers within 20.
2.	**Using doubles to calculate near doubles**	• In this lesson, we will use our doubling knowledge to support with calculations within 20
3.	**Using the 'make ten' strategy**	• In this lesson, we will use the 'make ten' strategy to solve calculations
4.	**Understanding that the = symbol represents equivalence**	• In this lesson, we will gain an understanding of the = symbol
5.	**Choosing calculation strategies to solve calculations**	• In this lesson, we will use various strategies to solve calculations within 20

Unit 8 Numbers to 50

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Sequencing numbers to 50**	• In this lesson, we will use numbers to 50 in sequences by putting them in order from small to big
2.	**Grouping and counting in tens**	• In this lesson, we will count and group numbers in tens to 50
3.	**Exploring tens and ones**	• In this lesson, we will count tens and ones and explore their place value
4.	**Introducing place value**	• In this lesson, we will begin to use a place value chart to understand the value of numbers
5.	**Using place value with numbers to 50**	• In this lesson, we will use a place value chart with numbers within 50
6.	**Comparing and ordering numbers within 50 (Part 1)**	• In this lesson, we will compare and order numbers within 50

7. **Comparing and ordering numbers within 50 (Part 2)**

- In this lesson, we will compare and order numbers within 50

8. **Counting in twos and fives**

- In this lesson, we will count in twos and fives from a given number within 50

9. **Counting in twos fives and tens**

- In this lesson, we will count in two's, fives and tens from a given number within 50

10. **Describing and completing number patterns**

- In this lesson, we will describe and complete patterns

Unit 9 Addition and subtraction within 20 (comparison)

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Comparing sets using 'more' or 'fewer'**	• In this lesson, we will use the vocabulary 'more' and 'fewer' to describe sets of objects or numbers
2.	**Comparing two sets by finding the difference**	• In this lesson, we will compare two sets of objects and find out the difference between them.
3.	**Exploring numbers with a difference of one or two on a number line**	• In this lesson, we will compare two sets of objects and find out the difference between them using a number line.
4.	**Comparing numbers**	• In this lesson, we will compare number use mathematical language
5.	**Applying 'make ten' to differences (Part 1)**	• In this lesson, we will use the 'make ten' strategy to find the differences between numbers

Unit 10 Fractions

5 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**To identify one half of a shape**	• In this lesson, we will explore what equal and unequal mean and finding half of a shape by dividing it into two parts.
2.	**To find half of a quantity**	• In this lesson, we will find one half of a quantity by splitting the whole into two equal parts.
3.	**To find one quarter of a shape**	• In this lesson, we will find one quarter by dividing the whole into four equal parts.
4.	**To find one quarter of a quantity**	• In this lesson, we will find a quarter of a given quantity and apply this to a part-whole model.
5.	**To identify half, quarter and three quarter turns**	• In this lesson, we will explore half, quarter and three quarter turns.

Unit 11 Measures (1): Length and mass

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	To compare lengths and heights of objects	• In this lesson, we will explore labelling objects using the measurement vocabulary (star words).
2.	To measure lengths using non-standard units (Part 1)	• In this lesson, we will explore measuring a range of objects using non-standard units such as our hands.
3.	To measure lengths using non-standard units (Part 2)	• In this lesson, we will explore measuring a range of objects using non-standard units such as pencils, paper clips or lego bricks.
4.	To begin to understand standard units of length	• In this lesson, we will begin to use and understand standard units of measure, such as 1 metre. We will look at objects that are taller than 1 metre and objects that are shorter than 1 metre.
5.	To solve problems involving doubling and halving	• In this lesson, we will find double or half of a length

6. **To compare the mass of two objects**

- In this lesson, we will compare the masses of two objects.

7. **To compare the mass of more than two objects**

- In this lesson, we will use balance scales to show when objects have the heaviest mass, the lightest mass or an equal amount of mass.

8. **To compare masses using non-standard units**

- In this lesson, we will use non-standard units to measure the mass of toys in the balance scales.

9. **To find the mass of objects in units**

- In this lesson, we will use balance scales and units to find out how much objects weigh.

10. **To experience standard units of mass**

- In this lesson, we will use 1 kg to compare the mass of household objects.

Unit 12 Numbers 50 to 100 and beyond

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**To recognise, read and write numbers to 100**	• In this lesson, we will count in tens and then carry on in ones to find a total amount.
2.	**To explore the components of numbers within 100**	• In this lesson, we will count in tens and ones using a place value chart.
3.	**To explore the components of numbers within 100 (Part 2)**	• In this lesson, we will count in tens and ones using a place value chart.
4.	**To apply knowledge of number bonds**	• In this lesson, we will count in tens and ones using a place value chart, Dienes and number lines.
5.	**To find one more or one less and ten more or ten less**	• In this lesson, we will find one more, one less and ten more and ten less from a given number by using manipulatives to support our counting.

6. **To compare numbers within 100 on a number line**
- In this lesson, we will count and compare numbers within 100 using a number line. we will use the vocabulary, greater and less to decide which number has the greatest or lesser value.

7. **To compare numbers within 100 on a place value chart**
- In this lesson, we will count and compare numbers within 100 using a place value chart.

8. **To order numbers within 100 (Part 1)**
- In this lesson, we will count, compare and order numbers within 100.

9. **To order numbers within 100 (Part 2)**
- In this lesson, we will count, compare and order numbers within 100.

10. **To identify patterns within a sequence of numbers**
- In this lesson, we will be identify and complete number patterns.

Unit 13 Addition and subtraction (applying strategies)

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**To apply knowledge of number bonds**	• In this lesson, we will use our previous knowledge and understanding of number bonds.
2.	**To add two-digit numbers and ones**	• In this lesson, we will recap what a two digit number is and then use this information to create number sentences by adding on ones.
3.	**To subtract two-digit numbers and ones**	• In this lesson, we will subtract ones from two-digit numbers.
4.	**To add two-digit numbers and ones with regrouping**	• In this lesson, we will add two-digit numbers and ones together with regrouping.
5.	**To subtract two -digit numbers and ones with regrouping**	• In this lesson, we will subtract ones from two-digit numbers with regrouping.

6.	**To solve word problems**	• In this lesson, we will use addition and subtraction knowledge to solve word problems.
7.	**To explore addition and subtraction (Part 1)**	• In this lesson, we will use addition and subtraction strategies to solve equations.
8.	**To explore addition and subtraction (Part 2)**	• In this lesson, we will use addition and subtraction strategies to solve equations
9.	**To solve problems in context using addition and subtraction (Part 1)**	• In this lesson, we will solve equations using addition and subtraction strategies.
10.	**To solve problems in context using addition and subtraction (Part 2)**	• In this lesson, we will solve equations using addition and subtraction strategies.

Unit 14 Money

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**To identify the physical properties of coins**	• In this lesson, we will identify the properties of coins and begin to name them.
2.	**To recognise the value of different coins (Part 1)**	• In this lesson, we will name the coins and begin to know the values they hold.
3.	**To recognise the value of different coins (Part 2)**	• In this lesson, we will name the coins and begin to know the values they hold.
4.	**To recognise the value of different coins and notes**	• In this lesson, we will name the coins and notes and begin to know the values they hold.
5.	**To compare different amounts of money**	• In this lesson, we will compare amounts of money using coins and notes.
6.	**To use addition and subtraction in the context of money**	• In this lesson, we will use our knowledge and understanding of addition and subtraction using money

7. **To exchange money for items**

- In this lesson, we will use money in exchange for items within a shop.

8. **To find the total cost of two items**

- In this lesson, we will add two amounts together to find the total amount in the context of money.

9. **To calculate the amount of change needed (Part 1)**

- In this lesson, we will useaddition and subtraction skills to find out how much change we will get from a certain amount of money.

10. **To calculate the amount of change needed (Part 2)**

- In this lesson, we will useaddition and subtraction skills to find out how much change we will get from a certain amount of money.

Unit 15 Multiplication and division

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**To find double and half of an amount of money**	• In this lesson, we will explore our understanding of doubling and halving in the context of money.
2.	**To recognise and add equal groups**	• In this lesson, we will look at equal groups and adding them to make a total amount.
3.	**To add equal groups**	• In this lesson, we will add equal amounts together.
4.	**To solve problems using repeated patterns**	• In this lesson, we will explore 'equal groups' in the context of shapes with equal numbers of sides.
5.	**To share a total equally between a set number of groups**	• In this lesson, we will share a total equally between a set number of groups.
6.	**To share a total equally and find the number of groups (Part 1)**	• In this lesson, we will investigate which numbers can be shared equally between two, three and four groups.

7. **To share a total equally and find the number of groups (Part 2)**

- In this lesson, we will investigate which numbers can be shared equally between two, three and four groups.

8. **To explore arrays (Part 1)**

- In this lesson, we will begin to explore arrays.

9. **To explore arrays (Part 2)**

- In this lesson, we will continue to explore arrays.

10. **To develop understanding of halves and quarters of quantities**

- In this lesson, we will identify halves and quarters of quantities

Unit 16 Measures (2): Capacity and volume

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Comparing Capacity**	• In this lesson, we will learn how to compare the capacities of two containers
2.	**Comparing Capacity: Measures**	• In this lesson, we will compare capacities by measuring in non standard units.
3.	**Comparing Volume**	• In this lesson, we will learn how to compare different volumes
4.	**Halves and Quarters**	• In this lesson, we will apply our understanding of halves and quarters to capacity
5.	**Standard units of measure**	• In this lesson, we will learn that a litre is a standard unit of measure
6.	**Measuring Distance**	• In this lesson, we will learn how to use a ruler to measure distance.

7.   **Measuring Volume**

- In this lesson, we will learn how to measure units of volume.

8.   **Difference and distance between**

- In this lesson, we will explore difference by comparing measures of length and volume.

9.   **Using length weight and volume**

- In this lesson, we will apply our understanding of measurement.

10.   **Using length weight and measurement**

- In this lesson, we will apply our understanding of measurement.

Unit 17 Addition and Subtraction

15 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**The commutative Law of Addition using aggregation**	• In this lesson, we will learn about the commutative law of addition using aggregation.
2.	**The commutative Law of Addition using augmentation**	• In this lesson, we will learn about the commutative law of addition using augmentation.
3.	**Measures Contexts to Show the Commutative Law of Addition**	• In this lesson, we will look at the commutative law of addition in measuring contexts.
4.	**Embedding Understanding of Equivalent Expressions**	• In this lesson, we will embed our understanding of equivalent expressions.
5.	**Ten can be partitioned into pairs of numbers that sum to ten**	• In this lesson, we will learn about how ten can be partitioned into pairs of numbers that sum to ten.
6.	**Reasoning with number bonds**	• In this lesson, we will reason about expressions using number bonds to 10.

7. **Numbers that Sum to 10**

- In this lesson, we will use knowledge of pairs of numbers that sum to 10.

8. **Adding one**

- In this lesson, we will learn that adding one gives one more.

9. **Subtracting one**

- In this lesson, we will learn that subtracting one gives one less.

10. **Consecutive numbers**

- In this lesson, we will learn that consecutive numbers have a difference of one.

11. **Adding two**

- In this lesson, we will add two to odd numbers and to even numbers.

12. **Subtracting two**

- In this lesson, we will subtract two from odd numbers and from even numbers.

13. **Adding and subtracting with 5 and 3 and with 6 and 3**

- In this lesson, we will learn that addition and subtraction facts for the pairs 5 and 3, and 6 and 3, can be related to known facts and strategies.

14.   **Adding or subtracting Zero**

- In this lesson, we will learn that, when adding or subtracting zero to a number, the number remains unchanged.

15.   **Subtracting a number from itself**

- In this lesson, we will learn that subtracting a number from itself gives a difference of zero.

Unit 18 Multiplication and money

17 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Build the Concept of Units of 2 and Count the Number of Groups of 2**	• In this lesson, we will practise counting in twos.
2.	**Count in twos and count on from a multiple of 2**	• In this lesson, we will carry on practising and learning some new things about counting in twos.
3.	**Build the concept of units of 10 and count in tens**	• In this lesson, we will practise counting in tens.
4.	**Count on from a multiple of 10 and identify the number of tens in a multiple of 10**	• In this lesson, we will carry on practising and learning some new things about counting in multiples of tens.
5.	**Build the concept of units of 5. Count in fives and count on from a multiple of 5**	• In this lesson, we will practise counting in fives.
6.	**Introduction of money and the 1p Coin**	• In this lesson, we will practise counting in multiples of two, five and ten. We will apply this knowledge to money.

7. **Introduction and comparison of 2p, 5p and 10p coins**

- In this lesson, we will recap thinking about money from the last lesson. We are also going to be counting and comparing 1p, 2p, 5p and 10p coins.

8. **Consider the value of 2p, 5p and 10p coins**

- In this lesson, we will learn about the value of 2p, 5p and 10p coins.

9. **Consider the value of a Set of 2p coins**

- In this lesson, we will recap counting in twos using shapes, coins and our fingers. We will look at the value of a set of 2p coins.

10. **Consider the value of a set of 5p coins and a set of 10p coins**

- In this lesson, we will look at the value of a set of different coins.

11. **Compare the values of different sets of coins (different denominations)**

- In this lesson, we will compare the value of different sets of coins with different denominations.

12. **Use coins within the context of a shop**

- In this lesson, we will recap the value of each denomination of coin and find out what we can buy with different coins in the context of a shop.

Unit 19 Numbers within 100

15 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Exploring 2-digit numbers by grouping in tens**	• In this lesson, we will group 2-digit numbers in tens and ones and using strategies to solve problems.
2.	**Identifying tens and ones in a 2-digit number**	• In this lesson, we will use resources to show how many tens and ones there are in a 2-digit number.
3.	**Partitioning 2-digit numbers (Part 1)**	• In this lesson, we will use resources to partition 2-digit numbers into tens and ones and representing this in a part-whole model.
4.	**Partitioning 2-digit numbers (Part 2)**	• In this lesson, we will use resources to partition a 2-digit number into tens and ones in a variety of ways.
5.	**Exploring the components of numbers within 100**	• In this lesson, we will represent the number 100 so that we can understand that the number 100 is equal to ten groups of ten.

6. **Representing 2-digit numbers (Part 1)**

- In this lesson, we will represent how many tens and ones there are in numbers within 100 in different ways and then representing these numbers on a number line.

7. **Representing 2-digit numbers (Part 2)**

- In this lesson, we will explore different written representations of numbers up to 100 and making connections between the written numerals and written word representations.

8. **Comparing numbers within 100 on a number line**

- In this lesson, we will find missing numbers in a sequence and estimating where we think a number would go on an unmarked blank number line.

9. **Comparing 2-digit numbers**

- In this lesson, we will represent 2-digit numbers, comparing the tens and ones in 2-digit numbers and identifying which number is greater or less.

10. **Ordering numbers within 100**

- In this lesson, we will compare 2-digit numbers, identifying which is greater or less and putting numbers in increasing and decreasing order.

11. **Practising finding one more and one fewer and ten more and ten fewer**

- In this lesson, we will use representations to help us find one more and one fewer and ten more and ten fewer for numbers within 100 and spot patterns in what changes when we add or subtract 1 or 10.

12. **Identifying number patterns**

- In this lesson, we will count in threes, forwards and backwards and identify patterns when skip counting in threes.

13. **Exploring odd and even numbers (Part 1)**

- In this lesson, we will apply our knowledge of place value when solving a problem involving odd and even numbers.

14. **Exploring odd and even numbers (Part 2)**

- In this lesson, we will use digit cards to make odd and even numbers and solve problems.

15. **Revisiting numbers within 100**

- In this lesson, we will revisit parts of the unit: Numbers within 100 to explore partitioning 2-digit numbers and comparing and ordering numbers to 100.

Unit 20 Addition and subtraction of 2-digit numbers

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Using number bonds within 20 for addition**	• In this lesson, we will use our knowledge of number bonds within ten to begin deriving number bonds within 20.
2.	**Using number bonds within 20 for subtraction**	• In this lesson, we will use our knowledge of number bonds within ten to begin deriving number bonds within 20.
3.	**Adding and subtracting ones from a 2-digit number**	• In this lesson, we will use our knowledge of number bonds within ten to begin deriving facts when adding or subtracting ones from numbers within 100.
4.	**Adding and subtracting multiples of ten**	• In this lesson, we will use our knowledge of number bonds within ten to begin deriving facts when adding and subtracting multiples of ten within 100.
5.	**Adding and subtracting tens from a 2-digit number**	• In this lesson, we will add and subtract multiples of ten by using number bonds to ten.

6. **Adding two 2-digit numbers**

- In this lesson, we will identify which known number bonds will help us to add two 2-digit numbers and use known facts to derive new addition facts.

7. **Subtracting two 2-digit numbers**

- In this lesson, we will be identify which known number bonds will help us subtract a 2-digit number from a 2-digit number.

8. **Adding and subtracting two 2-digit numbers**

- In this lesson, we will apply our knowledge of number bonds within ten to derive 2-digit addition and subtraction number facts within 100.

9. **Exploring strategies to add three 1-digit numbers**

- In this lesson, we will be apply our knowledge of strategies such as number bonds to 10 and 20, doubles and near doubles to add three 1-digit numbers.

10. **Consolidating addition and subtraction of 2-digit numbers**

- In this lesson, we will revisit adding and subtracting two 2-digit numbers and exploring mental strategies to help us solve problems.

Unit 21 Addition and subtraction word problems

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Representing information as a bar model (Part 1)**	• In this lesson, we will read word problems and represent them as bar models.
2.	**Representing information as a bar model (Part 2)**	• In this lesson, we will read word problems and represent them as bar models.
3.	**Creating and labelling bar models**	• In this lesson, we will reading word problems and draw them as bar models.
4.	**Creating a bar model**	• In this lesson, we will draw bar models to represent word problems.
5.	**Representing two step word problems using bar models (Part 1)**	• In this lesson, we will answer 2 step word problems using bar models to help us.
6.	**Representing two step word problems using bar models (Part 2)**	• In this lesson, we will answer 2 step word problems using bar models to help us.

Unit 22 Measures: Length

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Using standard and non-standard units when measuring**	• In this lesson, we will measure items with non standard units and estimate length.
2.	**Estimating and comparing length**	• In this lesson, we will estimate the length of objects and compare their length.
3.	**Estimating length in centimetres**	• In this lesson, we will estimate the length of objects in centimetres.
4.	**Measuring length in centimetres**	• In this lesson, we will be measuring objects with a ruler.
5.	**Estimating, measuring and comparing length in centimetres**	• In this lesson, we will estimate and measure the length of an object. We will then compare the objects using the greater than and less than symbols.
6.	**Investigating the length of certain body parts**	• In this lesson, we will carry out an investigation to see what we notice about the lengths of certain body parts.

7. **Measuring curved and straight lines**

- In this lesson, we will measure curved lines and the longest line in a shape

8. **Drawing lines with specified lengths**

- In this lesson, we will work out the length of a mystery line and then draw it.

9. **Applying knowledge of length when solving a word problem**

- In this lesson, we will solve length word problems using a bar model.

10. **Consolidating and reviewing length**

- In this lesson, we will consolidate what has been taught in this unit.

Unit 23 Graphs

5 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Representing and interpreting data using a pictogram**	• In this lesson, we will create a pictogram and interpret data from this pictogram.
2.	**Representing and interpreting data on a block diagram and a table**	• In this lesson, we will interpret data from a block diagram.
3.	**Representing data in a tally chart and pictogram**	• In this lesson, we will create a tally chart and interpret data from a scaled pictogram.
4.	**Representing data in a tally chart and block diagram**	• In this lesson, we will create a block diagram from a tally chart and interpret data from this.
5.	**Interpreting data from scaled pictograms and block diagrams**	• In this lesson, we will compare block diagrams and pictograms and interpret data from them.

Unit 24 Multiplication and division: 2, 5 and 10

15 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Using the multiplication symbol**	• In this lesson, we will recap multiplication as repeated addition. We will also describe arrays using the multiplication symbol.
2.	**Identifying that multiplication is commutative**	• In this lesson, we will explore the commutative law of multiplication. We will also be describe arrays using the multiplication symbol.
3.	**Using the division symbol when sharing**	• In this lesson, we will introduce division as sharing a number of items equally between a number of groups. We will also practise writing division equations.
4.	**Using the division symbol when grouping**	• In this lesson, we will introduce division as dividing a set of items into groups with a given number in each group.
5.	**Solving division problems when sharing**	• In this lesson, we will solve sharing division problems using bar models.

6. **Solving division problems when grouping**

- In this lesson, we will solve grouping division problems using bar models.

7. **Finding related multiplication and division facts**

- In this lesson, we will explore the relationship between multiplication and division to identify related facts.

8. **Calculating multiplications of two by skip counting**

- In this lesson, we will solve multiplication problems by skip counting in 2s.

9. **Solving multiplication word problems: Table of two**

- In this lesson, we will solve multiplication problems involving the multiplication table of two using bar models.

10. **Solving multiplication word problems: Table of five**

- In this lesson, we will solve multiplication problems, using bar models, involving the multiplication table of five.

11. **Relating multiplying by two to doubling**

- In this lesson, we will relate arrays for the multiplication table of 2 to doubling.

12. **Calculating multiplication of fives by skip counting**

- In this lesson, we will solve multiplication problems by skip counting in 5s.

13. **Calculating multiplications of ten by skip counting**

- In this lesson, we will solve multiplication problems by skip counting in 10s.

14. **Spotting patterns in the 2, 5 and 10 multiplication tables**

- In this lesson, we will explore the patterns within and across the multiplication tables of 2, 5 and 10.

15. **Solving multiplication and division problems**

- In this lesson, we will solve multiplication and division word problems involving the multiplication table of 2, 5 and 10.

Unit 25 Time

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Knowing the number of hours in one day**	• In this lesson, we will learn that there are 24 hours in a day.
2.	**Knowing there are 60 minutes in one hour**	• In this lesson, we will learn that there are 60 minutes in one hour.
3.	**Identifying quarter past on an analogue clock**	• In this lesson, we will tell and show the time 'quarter past' the hour.
4.	**Identifying quarter to on an analogue clock**	• In this lesson, we will tell and show the time 'quarter to' the hour.
5.	**Identifying quarter past and quarter to on an analogue clock**	• In this lesson, we will tell and show the time 'quarter past' and 'quarter to' the hour.
6.	**Reading the time on the clock to the nearest five minutes (Part 1)**	• In this lesson, we will tell and show the time to the nearest five minutes (past the hour).

Unit 26 Fractions

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Relating halves and quarters to division**	• In this lesson, we will relate halves and quarters to dividing into equal parts.
2.	**Identifying the parts of a fraction**	• In this lesson, we will recognise the vinculum, numerators and denominators in fractions.
3.	**Identifying half of a shape**	• In this lesson, we will divide shapes into equal parts and we will also recognise when a shape is divided equally into halves.
4.	**Identifying halves, thirds and quarters of shape**	• In this lesson, we will divide squares into equal parts and identify one half, quarter or third of the square.
5.	**Identifying fractions of shape with different numerators**	• In this lesson, we will identify unit and non-unit fractions within shapes. We will also label fractions of shapes and compare similarities and differences on a Venn diagram.

Unit 27 Addition and subtraction of 2-digit numbers (regrouping and adjusting)   15 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Make 10**	• In this lesson, we will learn how to use the "Make ten strategy" to add ones.
2.	**Adding two digit numbers and ones with regrouping**	• In this lesson, we will learn how the make ten strategy can help us add two digit numbers with one digit numbers.
3.	**Adding two digit numbers with regrouping**	• In this lesson, we will learn how to add two, two digit numbers by partitioning one number and partitioning both numbers.
4.	**Adding two digit numbers involving regrouping**	• In this lesson, we will learn how to add 2 digit numbers by partitioning one or both numbers.
5.	**Using the Make 10 strategy to subtract ones**	• In this lesson, we will learn how to use the "Make 10" Strategy to help us subtract ones from 2 digit numbers.

12. **Round and Adjust with Subtraction**

- In this lesson, we will learn how to use the "Round and Adjust" strategy to help us solve subtraction equations.

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13. **Near doubles**

- In this lesson, we will learn how to add near doubles.

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14. **Mixed Strategies for Addition and Subtraction**

- In this lesson, we will solve addition and subtraction equations using a variety of strategies.

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15. **Addition and Subtraction Word Problems**

- In this lesson, we will solve addition and subtraction word problems.

Unit 28 Money   10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Revisiting the value of coins: Comparing value**	• In this lesson, we will learn how to ecognise and compare the value of coins.
2.	**Coins and notes**	• In this lesson, we will learn to recognize the value of coins and notes and learn how to use the symbol for pound accurately.
3.	**Counting money in a set of coins**	• In this lesson, we will learn how to find the total value of money in a set of coins.
4.	**Revisiting the value of coins**	• In this lesson, we will learn how to use different coins to make the same amount.
5.	**Change from a pound**	• In this lesson, we will learn how to calculate change from £1.

Unit 29 Faces, shapes and patterns; lines and turns

15 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Identifying shapes by the number of vertices and sides**	• In this lesson, we will identify shapes and explore quadrilaterals.
2.	**Identifying right angles in shapes**	• In this lesson, we will look for right angles around our home and in shapes.
3.	**Recognising lines of symmetry within 2-D shapes**	• In this lesson, we will look at shapes and decide whether it has a line of symmetry.
4.	**Describing and sorting 2D shapes**	• In this lesson, we will look at the similarities and differences between shapes and sort them.
5.	**Naming and describing 3D shapes**	• In this lesson, we will name shapes and objects in our home. We will also describe their properties.
6.	**Identifying 2-D shapes on the surfaces of 3D shapes**	• In this lesson, we will identify 2-D shapes on the surfaces of 3D shapes.

15. **Consolidating and reviewing faces, shapes and patterns; lines and turns**

- In this lesson, we will consolidate what has been taught in this unit.

Unit 30 Numbers within 1000

5 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Recognising the place value of each digit in a 3-digit number**	• In this lesson, we will learn the value of the hundreds digit, using a place value chart.
2.	**Exploring the value of a 3-digit number in more than one way (Part 1)**	• In this lesson, we will explore different ways to make the same number using the part-part whole model.
3.	**Exploring the value of a 3-digit number in more than one way (Part 2)**	• In this lesson, we will recap alternative ways to make the same number by representing the hundreds, tens and ones in different ways.
4.	**Comparing numbers within 1000 using the <, > and = signs**	• In this lesson, we will look at the place value of 3-digit numbers in order to compare them using the <,> and = signs.
5.	**Applying knowledge of numbers within 1000**	• In this lesson, we will apply knowledge of reading 3-digit number in order to read scales.

Unit 31 Measures: Capacity and volume

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Reading the temperature in Degrees Celsius**	• In this lesson, we will learn how to read the temperature on a thermometer.
2.	**Estimating and measuring in litres**	• In this lesson, we will compare the capacity of containers to 1 litre and read the volume of containers by looking at their scales.
3.	**Solving word problems that involve litres**	• In this lesson, we will look at amounts that are greater than, less than and equal to one litre. Then we will solve word problems that involve litre measurements, using a bar model.
4.	**Comparing millilitres and litres using fractions**	• In this lesson, we will compare millilitres and litres and use this knowledge to solve word problems involving fractions of amounts.

5. **Measuring using millilitres**

- In this lesson, we will explore which containers are suitable for measuring in millilitres. Then we will apply this knowledge to read scales in millilitres and solve word problems.

6. **Comparing and ordering millilitres and litres**

- In this lesson, we will compare the amounts of millilitres in litre amounts and use this knowledge to order amounts of millilitres and litres.

7. **Using number bonds and facts related to 1000**

- In this lesson, we will use knowledge of number bonds and number facts with numbers up to 100 in the context of word problems related to measure.

8. **Solving word problems about capacity and volume (Part 1)**

- In this lesson, we will use knowledge of number bonds and related facts to 1000 to solve word problems about capacity and volume, using a bar model.

9. **Solving word problems about capacity and volume (Part 2)**

- In this lesson, we will use knowledge of number bonds and related facts to 1000 to solve word problems about capacity and volume, using a bar model.

10. **Consolidating and reviewing learning on capacity and volume**

- In this lesson, we will review our learning on reading temperature, comparing volumes and solving word problems related to capacity and volume.

Unit 32 Measures: Mass   5 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Kilograms**	• In this lesson, we will learn how to weigh objects and compare their mass in kilograms.
2.	**Grams and Interpreting Scales**	• In this lesson, we will learn how to read mass in grams and compare the mass of objects in grams.
3.	**Applying addition and subtraction of measurements**	• In this lesson, we will learn how to add and subtract in the context of mass
4.	**Multiplication and Division of measures**	• In this lesson, we will learn how to multiply and divide in the context of mass
5.	**Word Problems with Mass**	• In this lesson, we will solve problems involving mass

Unit 33 Exploring calculation strategies

10 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Solving addition equations**	• In this lesson, we will solve addition equations using different strategies
2.	**Solving subtraction equations**	• In this lesson, we will solve subtraction equations using different strategies.
3.	**Solving word problems**	• In this lesson, we will using our knowledge of calculation strategies to solve word problems.
4.	**Solving comparison word problems**	• In this lesson, we will use our knowledge of calculation strategies to solve comparison word problems.
5.	**Adding two 2-digit numbers using the column method**	• In this lesson, we will learn how to use the column method to add numbers.

6. **Adding 2-digit numbers (regrouping)**

- In this lesson, we will find out how to add using the column method when our equation requires regrouping.

7. **Subtracting 2-digit numbers**

- In this lesson, we will find out how to subtract using the column method.

8. **Subtracting 2-digit numbers (regrouping)**

- In this lesson, we will find out how to subtract using the column method when our equation requires regrouping.

9. **Consolidation and application (Part 1)**

- In this lesson, we will consolidate how to use the column method for addition and subtraction equations that require regrouping.

10. **Consolidation and application (Part 2)**

- In this lesson, we will consolidate and apply our knowledge of calculation strategies.

Unit 34 Multiplication and division: 3 and 4

15 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**To recall the 3x table using skip counting**	• In this lesson, we will learn how to recall the 3 times table by using skip counting.
2.	**To recall the 4x table using skip counting**	• In this lesson, we will learn how to recall the 4 times table by using skip counting.
3.	**To use arrays for the 3x and 4x tables**	• In this lesson, we will learn how to use arrays for the 3 and 4 times tables.
4.	**To know division facts for the 3x table**	• In this lesson, we will learn the division facts for the 3 times table.
5.	**To know division facts for the 4x table**	• In this lesson, we will learn the division facts for the 4 times table.
6.	**To apply knowledge of our multiplication tables**	• In this lesson, we will learn how to identify multiplication and division fact families.

7. **To recognise the inverse relationship between multiplication and division**

- In this lesson, we will learn about how we can recognise the relationship with the inverse between multiplication and division.

8. **To identify multiples of 2, 3, 4, 5 and 10**

- In this lesson, we will learn how to identify multiples of 2, 3, 4, 5 and 10.

9. **To apply knowledge of the 2 times table**

- In this lesson, we will learn how the 2 times table links with the 4 times table.

10. **Consolidating and applying: Multiples of 2 and the relationship between the 2 and 4 times table**

- In this lesson, we will consolidate our understanding of multiples of 2 and how we can use the 2 times table to help us understand the 4 times table.

11. **To create bar models for multiplication & division**

- In this lesson, we will learn how to create our own bar models to help us represent multiplication and division problems.

12. **Finding the whole and the parts when using a bar model**

- In this lesson, we will find out how to identify the whole and the parts when looking at a bar model that represents a multiplication or division equation.

Unit 35 Multiplication: equal and unequal groups

13 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Unequal and equal groups**	• In this lesson, we will learn about equal and unequal groups.
2.	**Practise working with equal and unequal groups**	• In this lesson, we will test if we can tell the difference between equal and unequal groups.
3.	**Redistributing from unequal to equal groups**	• In this lesson, we will group twelve identical items in both equal and unequal groups.
4.	**Consider the nature of 'equal groups' in more detail**	• In this lesson, we will carry on looking at the nature of equal groups in greater detail.
5.	**Practice using the sentence: 'There are _____ groups of ____'**	• In this lesson, we will practice looking at arranging things in different groups.

6. **The use of a repeated addition expression to represent equal groups**

- In this lesson, we will practise using the language we have learnt about describing equal groups of things. We will also use numbers and symbols to represent equal groups.

7. **See a Repeated Expression First and then Make Groups to Match**

- In this lesson, we will carry on working on repeated addition expressions.

8. **Think More Deeply- does the Representation Match the Expression?**

- In this lesson, we will continue learning all about equal groups and how to represent equal groups using a repeated addition expression.

9. **Introduction to the multiplication symbol**

- In this lesson, we will use the multiplication symbol to show equal groups.

10. **Matching Repeated Addition Expressions to Multiplication Expressions**

- In this lesson, we will learn how to use the addition and multiplication symbols correctly.

11. **Matching Multiplication Expressions to Images and Contexts**

- In this lesson, we will match multiplication expressions to pictures.

12. **Further reasoning about multiplication expressions**

- In this lesson, we will match multiplication expressions to pictures and think about why those multiplication expressions and pictures match.

13. **Multiplication contexts involving zero and one**

- In this lesson, we will continue learning how to write multiplication expressions.

Unit 36 The two times table

13 Lessons

Lesson number	Lesson question	Pupils will learn
1.	**Practise counting in twos**	• In this lesson, we will learn all about the two times table.
2.	**Introduction to the terms factor and product**	• In this lesson, we will continue learning about the two times table.
3.	**Embedding the language of factor & product, making connections between different representations**	• In this lesson, we will explore bar models using the language of products and factors.
4.	**Explore 0 x 2**	• In this lesson, we will learn to write problems as equations.
5.	**Record the two times table in a ratio table**	• In this lesson, we will focus on multiplication through recording the two times table in a ratio table.
6.	**Practise counting in twos**	• In this lesson, we will practise our two times tables with the 'rolling twos' song.

7. **Finding missing factors and products, using knowledge of the two times table**

- In this lesson, we will draw a picture for each multiplication fact to illustrate the ratio chart. We will find missing factors and products, using our knowledge of the two times table and a number line.

8. **The two times table: Looking for patterns and relationships**

- In this lesson, we will look for patterns and relationships in our two times tables.

9. **How to find an unknown using a known fact**

- In this lesson, we will use a ratio chart with missing numbers and work out what numbers are missing. We will use the relationships and what we know about adjacent numbers and the facts in our two times table to work out the missing numbers.

10. **Varied Practice Applying Knowledge of the Two Times Table**

- In this lesson, we will use a ratio chart with missing numbers and work out what numbers are missing. We will look at and identify patterns to help us work out our times tables much better.

11. **Writing the two times table in two ways**

- In this lesson, we will recite the two times table, noticing that putting the factors in a different order still results in the same product.

12. **Practise saying the two times table with 2 as the first factor and as the second factor**

- In this lesson, we will practise learning the two times table by covering up different parts of it to learn the facts.

13. **Equations with expressions on either side with the group size of 2**

- In this lesson, we will practise learning the two times table both ways and the equations we can write with them.

4. Learn More

Contents

1. Key stage 1 maths introduction

As mathematics teachers we want our pupils to reach fluency in what we are teaching them. In mathematics, fluency requires a deep understanding of concepts and the ability to apply them flexibly and with automaticity. The mathematics curriculum

uses multiple representations to help make connections across concepts to help build a deep conceptual understanding. By making consistent use of the same core representations we will scaffold pupils' thinking to help them understand abstract mathematical concepts. The curriculum will also include intelligent practice that is designed to help pupils develop automaticity in their mathematics.

We also aim for our pupils to be able to use the precise language of mathematics, that is distinct from everyday language. The curriculum will do this by explicitly teaching mathematical vocabulary and introducing core sentence structures with which to communicate, express, connect, reason with and apply mathematical structures and ideas. Finally, we also aim for our pupils to be able to think mathematically. The tasks and activities used in the curriculum teach pupils the components of mathematical thinking: to sort and classify, compare and contrast, specialise and generalise, to make conjectures and to prove them.

Below are the set of principles we have used to build this curriculum, with these ambitions for our pupils in mind:

2. Coherence and flexibility

We strive to support schools by offering a maths curriculum that can fit alongside a range of existing structures. However, complete flexibility over unit ordering is impossible due to the cumulative nature of mathematics and the importance of prior knowledge.

We have grouped lessons into units: coherent sequences of 5 or more lessons. Although each lesson can be accessed individually, explicit connections are made to earlier lessons and later lessons in the same unit. This is because the connections between mathematical concepts are so vital to deepening understanding.

3. Knowledge organisation

The units in the maths curriculum are grouped as appropriate for each key stage, with a suggested route organised within year groups.

4. Knowledge selection

Our mathematics lessons cover the full scope of the National Curriculum. We have given more time (both in number of lessons and number of units) to those concepts within the National Curriculum that the evidence tells us are foundational to success in maths.

5. Inclusive and ambitious

We know the difference it makes when children believe they "can do" maths. We are guided by the principles of the National Curriculum to ensure that every pupil, regardless of starting point, develops their fluency, reasoning and problem solving. Our activities are scaffolded so all children can succeed. Children are offered frequent opportunities to be and feel successful as pupils of maths. We develop conceptual understanding by always building new understanding on what pupils already know, by representing concepts in different ways, and by making connections between concepts. The mathematics curriculum makes consistent use of the same core representations across year groups to help pupils connect prior learning to new learning. These representations are selected to make key mathematical structures and ideas accessible to all pupils, no matter what their starting points.

To support every child to communicate mathematically, pupils are introduced to core sentence structures with which to express, connect, reason with and apply mathematical structures and ideas

6. Pupil engagement

You learn maths by thinking about maths. Our lessons include mathematical tasks which have multiple solutions. Mathematical thinking is woven into the units using scaffolds and prompts such as 'what is the same and what's different?', 'is it sometimes, always or never true?' and 'which could be the odd one out?'. Throughout the curriculum, all pupils have opportunities to sort and classify, compare and contrast, specialise and generalise, to make conjectures and to prove them.

7. Motivation through learning

We believe that mathematics is inherently interesting and that all children are entitled to a genuine experience of mathematics. The tasks and activities that pupils engage with harness innate ways of thinking and develop the habits of mind that are drawn upon when being mathematical. Problem solving is at the heart of every lesson with opportunities to investigate, explore and reason.

8. DfE progress criteria and prior knowledge requirements

The Department for Education has published a priority curriculum that identifies the most important elements of mathematics and how to build progression in these from Y1 to Y6. These are identified in the curriculum map below so that teachers who are choosing to prioritise the curriculum in order to support recovery from the impact of COVID-19 can identify the priority areas.

Year 1

Number

Unit title	DfE ready to progress criteria	Prior knowledge required
1.1 Numbers to 10	1NPV-1	R.8 • Say, read and count numbers to 10
1.2 Addition and subtraction within 10	1NPV-1 1NF-1 1AS-1 1AS-2	1.1 • Representing numbers to ten • Experience with part-whole relationships
1.4 Numbers to 20	1NPV-1 1AS-1	1.1 • Representing numbers to 10
1.5 Addition and subtraction within 20	1NF-1 1AS-2	1.2 • Adding and subtracting numbers to 10
1.7 Exploring calculation strategies within 20	1NF-1 1AS-1 1AS-2	1.5 • Addition and subtraction to 20
1.8 Numbers to 50	N/A	1.4

		• Numbers to 20
1.9 Addition and subtraction within 20 (comparison)	1NF-1 1AS-1 1AS-2	1.7
		• Various calculation strategies within 20
1.10 Fractions	N/A	N/A
1.11 Measures (1): length and mass	N/A	N/A
1.12 Numbers 50 to 100 and beyond	1NPV-1	1.6
		• Place value to 50
1.13 Addition and subtraction (applying strategies)	1NF-1 1AS-1	1.5
		• Addition and subtraction strategies to 20
		1.12
		• Representing numbers to 100
1.14 Money	N/A	1.4 and 1.5
		• Addition and subtraction of 1-digit and 2-digit numbers
1.15 Multiplication and division	1NF-2	1.2

Unit title	DfE ready to progress criteria	Prior knowledge required
		• Addition and subtraction of single-digit numbers 1.10 • Halves and quarters
1.16 Measures (2): Capacity and volume	N/A	1.11 • Length and mass
1.17 Embedding addition and subtraction	1AS-1 1AS-2	N/A
1.18 Multiplication and money	1NF-2	N/A

Ratio and proportion

Unit title	DfE ready to progress criteria	Prior knowledge required
1.10 Fractions	N/A	N/A

Measurement

Unit title	DfE ready to progress criteria	Prior knowledge required
1.6 Time	N/A	N/A
1.11 Measures (1): Length and mass	N/A	N/A
1.14 Money	N/A	1.4 and 1.5

- Addition and subtraction of 1-digit and 2-digit numbers

| Measures (2): Capacity and volume | N/A | 1.11 |

- Length and mass

Geometry

Unit title	DfE ready to progress criteria	Prior knowledge required
1.3 Shape and patterns	1G-1 1G-2	N/A

Year 2

Number

Unit title	DfE ready to progress criteria	Prior knowledge required
2.1 Numbers within 100	2NPV-1 2NPV-2	1.12

- Representing numbers to 100

| 2.2 Addition and subtraction of 2-digit numbers | 2NF-1 2AS-1 2AS-2 2AS-3 | 2.1 |

- place value to 100

| 2.3 Addition and subtraction word problems | 2AS-3 | 2.1 |

- Place value to 100

		2.2
		• Addition and subtraction of 2-digit numbers
2.4 Measures: Length	N/A	2.3
		• Addition and subtraction of 2-digit numbers
		• Representing problems using bar models
2.5 Graphs	N/A	2.2
		• Addition and subtraction of 1-digit and 2-digit numbers
2.6 Multiplication and division: 2,5 and 10	2MD-1 2MD-2	1.10
		• Halves and doubles
		1.15
		• Bar models and arrays
		• Sharing and grouping
2.7 Time	N/A	1.6
		• Telling the time to the hour and half past the hour
		1.10

		• Halves and quarters
2.8 Fractions	N/A	1.10
		• Halves and quarters
2.9 Addition and subtraction of 2-digit numbers (regrouping and adjusting)	2NF-1 2AS-3 2AS-4	2.2
		• Addition and subtraction strategies
2.10 Money	N/A	1.14
		• Identify coins and notes
		2.9
		• Addition and subtraction of 1-digit and 2-digit numbers
2.12 Numbers within 1000	N/A	2.1
		• Place value of numbers to 100
2.13 Measures: Capacity and volume	N/A	2.2
		• Addition and subtraction to 100
		2.12
		• Understanding of numbers to 1000
2.14 Measures: Mass	N/A	2.2

Unit title	DfE ready to progress criteria	prior knowledge required
		• Addition and subtraction to 100
		2.6
		• Counting in 2s, 5s and 10s
2.15 Exploring calculation strategies	2AS-3 2AS-4	2.9
		• Calculation strategies for addition and subtraction
2.16 Multiplication and division: 3 and 4	2MD-2	2.6
		• Multiplication and division using 2s, 5s and 10s
2.17 Multiplicaiton: equal and unequal groups	2MD-1	N/A
2.18 The two times table	2MD-1	N/A

Ratio and proportion

Unit title	DfE ready to progress criteria	prior knowledge required
2.8 Fractions	N/A	1.10
		• Halves and quarters

Measurement

Unit title	DfE ready to progress criteria	Prior knowledge required
2.4 Measures: Length	N/A	2.3 • addition and subtraction of 2 digit numbers • Representing problems using bar models
2.7 Time	N/A	1.6 • Telling the time to the hour and half past the hour 1.10 • Halves and quarters
2.10 Money	N/A	1.14 • Identify coins and notes 2.9 • Addition and subtraction of 1-digit and 2-digit numbers
2.13 Measures: Capacity and volume	N/A	2.2 • Addition and subtraction to 100 2.12

Unit title	DfE ready to progress criteria	Prior knowledge required
2.14 Measures: Mass	N/A	• Understanding of numbers to 1000 2.2 • Addition and subtraction to 100 2.6 • Counting in 2s, 5s and 10s

Geometry

Unit title	DfE ready to progress criteria	Prior knowledge required
2.11 Faces, shapes and patterns; lines and turns	2G-1	1.3 • Properties of shapes 1.10 • Halves are quarters

Statistics

Unit title	DfE ready to progress criteria	Prior knowledge required
2.5 Graphs	N/A	2.2 • Addition and subtraction of 1-digit and 2-digit numbers