

# Maths

## Early Years Foundation Stage



Curriculum map





# 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.



## 2. Units



EYFSTAGE Maths is formed of 19 units and this is the recommended sequence:

Unit Title	Recommended year group	Number of lessons
1 Early Mathematical Experiences	Reception	15
2 Pattern and Early Number	Reception	10
3 Numbers within 6	Reception	10
4 Addition and subtraction within 6	Reception	5
5 Measures	Reception	5
6 Shape and sorting	Reception	5
7 Calendar and Time	Reception	5
8 Numbers within 10	Reception	10
9 Addition and subtraction within 10	Reception	5



<b>10</b> Numbers within 15	Reception	10
<b>11</b> Grouping and Sharing	Reception	10
<b>12</b> Numbers within 20	Reception	10
<b>13</b> Doubling and halving	Reception	5
<b>14</b> Shape and pattern	Reception	5
<b>15</b> Addition and subtraction within 20	Reception	10
<b>16</b> Money	Reception	5
<b>17</b> Measures	Reception	10
<b>18</b> Depth of numbers within 20	Reception	10
<b>19</b> Numbers beyond 20	Reception	5



# 3. Lessons

## Unit 1 Early Mathematical Experiences

15 Lessons

Lesson number	Lesson question	Pupils will learn
1.	<b>Sorting a collection of objects based on one attribute</b>	<ul style="list-style-type: none"><li>In this lesson, we will learn how to sort a variety of objects according to just one prominent feature at a time.</li></ul>
2.	<b>Sorting a collection of objects in different ways</b>	<ul style="list-style-type: none"><li>In this lesson, we will learn that there can be more than one way to sort objects, focusing on just one attribute at a time.</li></ul>
3.	<b>Sorting concrete objects to form sets</b>	<ul style="list-style-type: none"><li>In this lesson, we will learn to form sets based on a variety of given criteria. This lesson will be based on the use of concrete manipulates found in the home.</li></ul>
4.	<b>Sorting pictures to form a set</b>	<ul style="list-style-type: none"><li>In this lesson, we will learn to form sets based on a variety of given criteria. This lesson will be based on the use of pictures.</li></ul>



- 5. Sorting shapes based on name or colour**
    - In this lesson, we will sort shapes according to one criteria at a time.

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  - 6. Matching pairs of identical objects**
    - In this lesson, we will develop our observation skills as we learn to match pairs of identical objects. We will do this through the use of objects and pictures.

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  - 7. Matching pairs of related objects**
    - In this lesson, we will match associated items together with an expectation to explain our reasons for putting them together.

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  - 8. Matching objects in to equal sets**
    - In this lesson, we will explore the concept of equal sets to identify whether or not there are the same amount or not.

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  - 9. Matching objects in to unequal sets**
    - In this lesson, we will explore the concept of unequal sets to identify whether or not there are the same amount or not.

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  - 10. Comparing sets without counting**
    - In this lesson, we will use of compare quantities through play.
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**11. Comparing similar objects by size**

- In this lesson, we will focus on language related to size, tall, short, taller, shorter and the same
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**12. Comparing similar objects that are equal in size**

- In this lesson, we will focus on capacity and the language associated with it.
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**13. Ordering objects according to size**

- In this lesson, we will use concrete objects and pictorial representations to practice our ordering skills, taking inspiration from Goldilocks and the Three Bears
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**14. Ordering sets without counting**

- In this lesson, we will order sets of objects, without the need for counting. We will focus purely on the use of concrete objects.
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**15. A lesson to consolidate classifying, matching, comparing and ordering skills**

- In this lesson, we will combine four early mathematical experiences as we consider classifying, matching, comparing and ordering.
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Lesson number	Lesson question	Pupils will learn
1.	<b>Recognise, describe and copy colour and size patterns</b>	<ul style="list-style-type: none"><li>In this lesson, we will use our observation skills as we pay attention to the details of repeating patterns.</li></ul>
2.	<b>Recognise, describe and copy and extend colour and size patterns</b>	<ul style="list-style-type: none"><li>In this lesson, we will notice patterns, recreate them and demonstrate our understanding of the repeats by extending the patterns too.</li></ul>
3.	<b>Create and describe colour and size patterns</b>	<ul style="list-style-type: none"><li>In this lesson, we will develop our understanding of repeating patterns. We will take inspiration from nature as we make and colour patterns of our own.</li></ul>
4.	<b>Create colour or size patterns</b>	<ul style="list-style-type: none"><li>In this lesson, we will create our own patterns, using fruit and vegetables and of course paint!</li></ul>
5.	<b>Count one and two objects reliably</b>	<ul style="list-style-type: none"><li>In this lesson, we will learn to count reliably to one and to two, with the rhyme 'Two Little Dicky Birds' as inspiration. An early concept of subtraction as reduction will also be touched upon.</li></ul>





**6. Count one, two and three objects reliably**

- In this lesson, we will use the nursery rhyme 'Three Blind Mice' as inspiration to reliably count to three.

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**7. Count one, two and three reliably using abstract materials**

- In this lesson, we will learn how to count upto and including three. We will count sounds, as these cannot be seen and checked and work with numerals.

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**8. To estimate a number of objects and check by counting: Within three**

- In this lesson, we will develop an understanding of estimating. We will also improve our one-to-one correspondence when counting to three as we count and label objects around the room.

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**9. Count one, two, and three objects reliably and create representations for each number**

- In this lesson, we will make links between concrete, pictorial and abstracts representations of the numbers one, two and three.

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**10. Consolidation of pattern and early number**

- In this lesson, we will briefly recognise and describe patterns, before counting to three. We will focus on recognising patterns and numbers in everyday life, as well as counting outside of the maths lesson.
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Lesson number	Lesson question	Pupils will learn
1.	To count four objects reliably	<ul style="list-style-type: none"><li>In this lesson, we will count to four and down from four. We will learn how to form the number and match numerals to pictures and concrete objects. Additionally we will begin to touch upon the idea that four is greater than three etc.</li></ul>
2.	Develop an understanding about the number four	<ul style="list-style-type: none"><li>In this lesson, we will work with a five frame to support our understanding of the number four.</li></ul>
3.	To count five objects reliably	<ul style="list-style-type: none"><li>In this lesson, we will develop our understanding of counting to five, writing the numeral and pictorially representing this amount.</li></ul>
4.	To count six objects reliably	<ul style="list-style-type: none"><li>In this lesson, we will play tea parties to learn to count to six.</li></ul>
5.	Explore conservation of numbers within 6	<ul style="list-style-type: none"><li>In this lesson, we will encounter subitising and make our own representations of six.</li></ul>



**6. Explore one more within six**

- In this lesson, we will count in ones, learn that the next number we say is one more than the previous one and secure counting to six.
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**7. Explore one fewer within six**

- In this lesson, we will develop an understanding of one fewer in a familiar format.
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**8. To place numbers 1-6 in order**

- In this lesson, we will focus on the abstract as we order the numbers 1 to 6.
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**9. Develop conservation of number within six**

- In this lesson, we will develop our subitising skills as we explore numbers up to and including six.
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**10. Consolidation of counting to 6**

- In this lesson, we will focus on the numbers 4, 5 and 6. We will briefly recap one more, one less, ordering, conservation of number and introduce counting out a specified number of items from a larger group.
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Lesson number	Lesson question	Pupils will learn
1.	Exploring the concept of zero	<ul style="list-style-type: none"><li>In this lesson, we will learn what the number zero looks like, where it falls on a number line and how to represent it.</li></ul>
2.	Combining two groups	<ul style="list-style-type: none"><li>In this lesson, we will learn how to combine two parts to make a whole. We will also learn the language of plus and equal to.</li></ul>
3.	Combining two groups including zero	<ul style="list-style-type: none"><li>In this lesson, we will continue to combine two parts, however zero will now be included in this specifically. We will address what this means when thinking about parts and the whole.</li></ul>
4.	Exploring subtraction by partitioning	<ul style="list-style-type: none"><li>In this lesson, we will begin to understand subtraction as partitioning. We will use the language of whole, part, subtract and equal to.</li></ul>

## 5. Practising addition and subtraction

- In this lesson, we will recap both addition and subtraction skills within numbers to 6. We will focus on using the language of whole and part.
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Lesson number	Lesson question	Pupils will learn
1.	<b>Ordering objects by size</b>	<ul style="list-style-type: none"><li>In this lesson, we will be ordering objects according to size using language like bigger, smaller, biggest and smallest.</li></ul>
2.	<b>Using everyday language to compare and explore capacities</b>	<ul style="list-style-type: none"><li>In this lesson, we will use language such as full, half full and empty to compare the capacities of everyday objects and containers.</li></ul>
3.	<b>Using everyday language to compare and explore weight</b>	<ul style="list-style-type: none"><li>In this lesson, we will use language such as heavier and lighter to compare the weight of everyday objects.</li></ul>
4.	<b>Using everyday language to compare and explore length</b>	<ul style="list-style-type: none"><li>In this lesson, we will use language such as longer and shorter to compare the length of everyday objects.</li></ul>
5.	<b>Consolidating learning on measure</b>	<ul style="list-style-type: none"><li>In this lesson, we will consolidate learning we have done on weight and length and apply this knowledge to two different investigations.</li></ul>



Lesson number	Lesson question	Pupils will learn
1.	<b>Describing and sorting 3D shapes</b>	<ul style="list-style-type: none"><li>In this lesson, we will find and describe everyday household objects as 3D shapes.</li></ul>
2.	<b>Exploring the characteristics of 3D shapes</b>	<ul style="list-style-type: none"><li>In this lesson, we will recap what they already know about 3D shapes and then we will use the characteristics of the shapes which are most suitable to build different structures.</li></ul>
3.	<b>Using mathematical language to describe position</b>	<ul style="list-style-type: none"><li>In this lesson, we will learn vocabulary to describe the position of objects such as on, above, below and beside.</li></ul>
4.	<b>Using mathematical language to describe position accurately</b>	<ul style="list-style-type: none"><li>In this lesson, we will continue to use language to describe position but more accurately the position of toys and objects.</li></ul>
5.	<b>Consolidating learning on shape and sorting</b>	<ul style="list-style-type: none"><li>In this lesson, we will reason about 3D shape based on their characteristics.</li></ul>



Lesson number	Lesson question	Pupils will learn
1.	<b>Exploring and discussing time and the seasons</b>	<ul style="list-style-type: none"><li>• In this lesson, we will explore time through the days of the week, months of the year and the seasons.</li></ul>
2.	<b>Exploring and discussing the days of the week and daily events</b>	<ul style="list-style-type: none"><li>• In this lesson, we will explore the days of the week and the activities we may do on each day.</li></ul>
3.	<b>Using everyday language to talk about and sequence daily events</b>	<ul style="list-style-type: none"><li>• In this lesson, we will talk about and sequence the events we may do in a day as well as tell a time story.</li></ul>
4.	<b>Using ordinal language when sequencing events and measure short periods of time</b>	<ul style="list-style-type: none"><li>• In this lesson, we will order events in nursery rhymes using ordinal language.</li></ul>
5.	<b>Consolidating learning</b>	<ul style="list-style-type: none"><li>• In this lesson, we will consolidate our learning on time through reasoning questions.</li></ul>





Lesson number	Lesson question	Pupils will learn
1.	<b>Recognising and counting numbers within 7</b>	<ul style="list-style-type: none"><li>• In this lesson, we will explore and count numbers within 7 and represent them in different ways.</li></ul>
2.	<b>Recognising and counting numbers within 8</b>	<ul style="list-style-type: none"><li>• In this lesson, we will explore and count numbers within 8 and represent them in different ways.</li></ul>
3.	<b>Understanding the conservation of numbers within 8</b>	<ul style="list-style-type: none"><li>• In this lesson, we will explore representations of numbers up to 8 in a variety of ways.</li></ul>
4.	<b>Counting up to 9 objects reliably</b>	<ul style="list-style-type: none"><li>• In this lesson, we will count up to 9 and be able to represent it in a variety of ways.</li></ul>
5.	<b>Counting up to 10 objects reliably</b>	<ul style="list-style-type: none"><li>• In this lesson, we will count up to 10 and be able to represent it in a variety of ways.</li></ul>
6.	<b>Exploring one more within 10</b>	<ul style="list-style-type: none"><li>• In this lesson, we will explore finding one more than a number within 10.</li></ul>



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- 7. Exploring one less within 10**
- In this lesson, we will explore finding one less than a number within 10.
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- 8. Placing numbers within 10 in order**
- In this lesson, we will order the numbers 1 to 10 in ascending and descending order.
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- 9. Applying knowledge of numbers in 10 to solve mathematical problems**
- In this lesson, we will explore a problem in which we will begin to explore recording number bonds to 10 using a system.
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- 10. Using key vocabulary associated with ordinal numbers 1st to 10th**
- In this lesson, we will describe position of objects using ordinal language such as first, second and last.
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Lesson number	Lesson question	Pupils will learn
1.	<b>Using manipulatives to count on when adding</b>	<ul style="list-style-type: none"><li>In this lesson, we will be using countable objects and ten frames to count on to ten.</li></ul>
2.	<b>Adding two numbers using a number track to count on</b>	<ul style="list-style-type: none"><li>In this lesson, we will be using a number track to support counting on to ten.</li></ul>
3.	<b>Understanding the concept of subtraction as take away (Part 1)</b>	<ul style="list-style-type: none"><li>In this lesson, we will explore the concept of subtraction as take away through telling 'first, then and now' stories.</li></ul>
4.	<b>Understanding the concept of subtraction as take away (Part 2)</b>	<ul style="list-style-type: none"><li>In this lesson, we will continue to explore the concept of subtraction as take away through telling 'first, then and now' stories.</li></ul>
5.	<b>Adding and subtracting using a number track</b>	<ul style="list-style-type: none"><li>In this lesson, we will practise adding and subtracting using a number track and manipulatives to help us.</li></ul>



Lesson number	Lesson question	Pupils will learn
1.	<b>Counting up to 15 objects and putting them in order (Part 1)</b>	<ul style="list-style-type: none"><li>In this lesson, we will practise counting objects to 15 and putting them into order from fewest to greatest.</li></ul>
2.	<b>Counting up to 15 objects and putting them in order (Part 2)</b>	<ul style="list-style-type: none"><li>In this lesson, we will continue to practise counting objects to 15 and putting them into order from lowest to greatest.</li></ul>
3.	<b>Counting up to 15 objects and putting them in order (Part 3)</b>	<ul style="list-style-type: none"><li>In this lesson, we will continue to practise counting objects to 15 and putting them into order from lowest to greatest.</li></ul>
4.	<b>Knowing one more than a number within 15</b>	<ul style="list-style-type: none"><li>In this lesson, we will explore identifying one more than a number within 15 using concrete manipulatives to support understanding.</li></ul>
5.	<b>Knowing one fewer than a number within 15</b>	<ul style="list-style-type: none"><li>In this lesson, we will explore identifying one fewer than a number within 15 using concrete manipulatives to support understanding.</li></ul>



**6. Applying knowledge of one more and one fewer (Part 1)**

- In this lesson, we will begin to apply knowledge of one more and one fewer using a numberline to support understanding.

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**7. Applying knowledge of one more and one fewer (Part 2)**

- In this lesson, we will continue to apply knowledge of one more and one fewer using a number line and a bead string to consolidate understanding.

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**8. Using the guess and check strategy for problem solving**

- In this lesson, we will begin to apply the guess and check strategy to a problem involving numbers within 15.

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**9. Ordering and exploring numbers within 15**

- In this lesson, we will begin to introduce ordinal numbers and explore patterns of numbers within 15.

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**10. Consolidating learning of numbers within 15**

- In this lesson, we will revise our knowledge of key concepts from this unit, including equal to, greater than, less than, more than and fewer than.
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Lesson number	Lesson question	Pupils will learn
<b>1.</b>	<b>Understanding the concept of equal groups</b>	<ul style="list-style-type: none"><li>• In this lesson, we will develop our understanding the concept of equal and unequal groups.</li></ul>
<b>2.</b>	<b>Practising counting in equal groups and adding them together</b>	<ul style="list-style-type: none"><li>• In this lesson, we will explore how to create equal groups using concrete and pictorial representations, before adding them together to find the total.</li></ul>
<b>3.</b>	<b>Exploring counting in groups of two to find the total</b>	<ul style="list-style-type: none"><li>• In this lesson, we will explore counting in groups of two using bead strings and pictures, in order to find the total.</li></ul>
<b>4.</b>	<b>Exploring grouping objects in tens to find the total</b>	<ul style="list-style-type: none"><li>• In this lesson, we will explore grouping cubes and beads in groups of ten in order to find the total.</li></ul>
<b>5.</b>	<b>Exploring counting in groups of five</b>	<ul style="list-style-type: none"><li>• In this lesson, we will explore counting in groups of five using a range of manipulatives.</li></ul>



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| <b>6.</b>  | <b>Exploring sharing objects into two equal groups</b>  | <ul style="list-style-type: none"><li>• In this lesson, we will explore sharing objects into two equal groups.</li></ul>   |
| <b>7.</b>  | <b>Exploring sharing objects into equal groups</b>  | <ul style="list-style-type: none"><li>• In this lesson, we will explore sharing objects into equal groups.</li></ul>   |
| <b>8.</b>  | <b>Exploring sharing quantities into equal groups</b>   | <ul style="list-style-type: none"><li>• In this lesson, we will explore sharing quantities into equal groups.</li></ul>  |
| <b>9.</b>  | <b>Recognising the connection between sharing and grouping and solving practical problems</b> | <ul style="list-style-type: none"><li>• In this lessons, we will recognise the connection between sharing and grouping through solving practical problems.</li></ul> |
| <b>10.</b> | <b>Consolidating learning of grouping and sharing</b>   | <ul style="list-style-type: none"><li>• In this lesson, we will be consolidating our learning of grouping and sharing.</li></ul>                                     |



Lesson number	Lesson question	Pupils will learn
1.	Counting objects up to 20	<ul style="list-style-type: none"><li>In this lesson, we you will count up to 20 objects and look at the order of numbers to 20 on a number line.</li></ul>
2.	Ordering numbers up to 20	<ul style="list-style-type: none"><li>In this lesson, we will place number cards to 20 in order to create a number line.</li></ul>
3.	Developing a sense of 10	<ul style="list-style-type: none"><li>In this lesson, we will sort your objects and compare the groups of objects.</li></ul>
4.	Exploring place value	<ul style="list-style-type: none"><li>In this lesson, we will explore place value using objects. We will use a tens frame to place objects and to help count them. The main focus of the learning should be on practising counting and placing objects accurately.</li></ul>
5.	Finding one more than a number to 20	<ul style="list-style-type: none"><li>In this lesson, we will play a game to develop understanding of one more than.</li></ul>





## 6. Finding one less than a given number

- In this lesson, we will use a number grid and objects to find one less than a given number within 20.
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## 7. Exploring one more and one less

- In this lesson, we will practise their knowledge of one more and one less by playing a game with a coin and building blocks.
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## 8. Investigating number combinations within 20

- In this lesson, we will share in different ways and answer the questions: How can you share equally and unequally? What do you notice about the number combinations?
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## 9. Review lesson: A maths meeting!

- In this lesson, we will refresh and practice some of the maths learning we have covered in the previous sessions. We will revise and order months of the year, days of the week, counting objects and ordinal numbers.
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## 10. Patterns and ordinal numbers

- In this lesson, we will create a repeating pattern using colouring pencils and notice the order in which the colours appear.
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Lesson number	Lesson question	Pupils will learn
1.	<b>Understanding the concept of double</b>	<ul style="list-style-type: none"><li>In this lesson, we will find out what the word 'double' means by making and spotting doubles.</li></ul>
2.	<b>Understanding the concept of half (Part 1)</b>	<ul style="list-style-type: none"><li>In this lesson, we will learn about what 'half' means by practising halving amounts.</li></ul>
3.	<b>Understanding the concept of half (Part 2)</b>	<ul style="list-style-type: none"><li>In this lesson, we will continue to practise halving.</li></ul>
4.	<b>Understanding the concept of half and double</b>	<ul style="list-style-type: none"><li>In this lesson, we will look at the relationship between double and half.</li></ul>
5.	<b>Applying understanding of doubling and halving</b>	<ul style="list-style-type: none"><li>This lesson is a revision lesson. We will revise one more, one less, counting in 2s, find missing numbers, counting, finding more and less, names of 2D and 3D shapes and doubling</li></ul>



Lesson number	Lesson question	Pupils will learn
1.	Sorting 2D shapes	<ul style="list-style-type: none"><li>In this lesson, we will introduce the names and properties of some simple 2D shapes. We will use those properties to sort the shapes.</li></ul>
2.	Creating patterns with shapes	<ul style="list-style-type: none"><li>In this lesson, we will be making and spotting different repeating patterns.</li></ul>
3.	Finding 3D shapes in the environment	<ul style="list-style-type: none"><li>In this lesson, we will learn the names of simple 3D shapes.</li></ul>
4.	Describing 3D shapes	<ul style="list-style-type: none"><li>In this lesson, we will look closely at the properties of 3D shapes and talk about them, using new language to describe them.</li></ul>
5.	Revision and practise	<ul style="list-style-type: none"><li>In this lesson, we will practise some of the concepts of shape and pattern.</li></ul>



Lesson number	Lesson question	Pupils will learn
1.	<b>Combining 2 quantities to find the totals</b>	<ul style="list-style-type: none"><li>In this lesson, we will practise adding 2 quantities together by counting them all.</li></ul>
2.	<b>Exploring addition by adding on</b>	<ul style="list-style-type: none"><li>In this lesson, we will add 2 quantities together by adding on. We will remember the initial amount and counting on from that to add on the next amount.</li></ul>
3.	<b>Exploring subtraction as partitioning</b>	<ul style="list-style-type: none"><li>In this lesson, we will start learning about subtraction. We will look at the part-whole model and think about subtraction as partitioning, taking away a part of the whole and finding out how many are left.</li></ul>
4.	<b>Exploring subtraction as takeaway</b>	<ul style="list-style-type: none"><li>In this lesson, we will continue learning about subtraction. We will think about subtraction as taking away and we will make up subtraction stories.</li></ul>
5.	<b>Comparing 2 sets of objects using 'more' or 'fewer'</b>	<ul style="list-style-type: none"><li>In this lesson, we will revise more and fewer by comparing groups of objects and deciding which group has more and which group has fewer.</li></ul>



**6. Investigating quantities using more or fewer**

- In this lesson, we will compare quantities using the words 'more' and 'fewer.' We will solve a problem listening to clues to work out how many passengers are in each carriage of the train.

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**7. Exploring the concept of doubles**

- In this lesson, we will learn how to double with concrete objects and pictures. Then we will use a part-whole model to show doubling.

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**8. Finding half of numbers to 20**

- In this lesson, we will explore halving.

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**9. Estimating and counting**

- In this lesson, we will estimate the amount of items in a pot and count to check how many are actually there. We will see how close our estimation is to the actual amount.

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**10. Reviewing addition and subtraction**

- In this lesson, we will recap addition and subtraction.
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Lesson number	Lesson question	Pupils will learn
1.	<b>Recognising the value of one penny and the values of other coins</b>	<ul style="list-style-type: none"><li>In this lesson, we will learn the value of one penny and the other coins.</li></ul>
2.	<b>Exploring different combinations of coins for a given total of up to 10p</b>	<ul style="list-style-type: none"><li>In this lesson, we will be exploring different combinations of coins to give a total amount up to 10p using a ten and five frame.</li></ul>
3.	<b>Exploring different combinations of coins with a total of up to 20p</b>	<ul style="list-style-type: none"><li>In this lesson, we will be exploring different combinations of coins to give a total amount up to 20p using a number track.</li></ul>
4.	<b>Exploring giving change from ten pence</b>	<ul style="list-style-type: none"><li>In this lesson, we will be exploring giving change from ten pence using a ten frame.</li></ul>
5.	<b>Applying number sense within the context of money</b>	<ul style="list-style-type: none"><li>In this lesson, we will be exploring the values of coins and consolidating this understanding through practical activities.</li></ul>



Lesson number	Lesson question	Pupils will learn
1.	<b>Describing the capacities of objects and using language about capacity</b>	<ul style="list-style-type: none"><li>• In this lesson, we will explore capacity of cups and use language such as full and empty to describe them.</li></ul>
2.	<b>Comparing the volume of liquid in different containers</b>	<ul style="list-style-type: none"><li>• In this lesson, we will explore the volume of liquid in different containers and describe what they notice.</li></ul>
3.	<b>Comparing the weights of objects and using language about weight</b>	<ul style="list-style-type: none"><li>• In this lesson, we will explore the weight of household objects and use language such as heavier, lighter and balanced to describe weight.</li></ul>
4.	<b>Differentiating between heavier and lighter</b>	<ul style="list-style-type: none"><li>• In this lesson, we will use their knowledge of weight to decide whether objects are heavier or lighter than another.</li></ul>
5.	<b>Estimating the lengths of objects and then compare and order lengths</b>	<ul style="list-style-type: none"><li>• In this lesson, we will estimate the length of paper and order length by comparing strips of paper.</li></ul>



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| <b>6.</b>  | <b>Measuring objects using non standard units and using accurate language (Part 1)</b> | <ul style="list-style-type: none"><li>• In this lesson, we will use non-standard objects to measure the length of our toys and then order them from shortest to longest.</li></ul>   |
| <hr/>      |  |  |
| <b>7.</b>  | <b>Measuring objects using non standard units and using accurate language: Part 2</b>  | <ul style="list-style-type: none"><li>• In this lesson, we will measure and create car parking spaces for our toys using non-standard units.</li></ul>                               |
| <hr/>      |  |  |
| <b>8.</b>  | <b>Consolidating learning on capacity</b>  | <ul style="list-style-type: none"><li>• In this lesson, we will recap our capacity learning as well as explore estimating skills.</li></ul>  |
| <hr/>      |  |  |
| <b>9.</b>  | <b>Consolidating learning on weight</b>  | <ul style="list-style-type: none"><li>• In this lesson, we will recap our learning on heavier and lighter and then apply this knowledge in a range of reasoning questions.</li></ul> |
| <hr/>      |  |  |
| <b>10.</b> | <b>Consolidating learning on length</b>  | <ul style="list-style-type: none"><li>• In this lesson, we will recap our learning on longer and shorter and apply this to a real life context within our home.</li></ul>            |
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Lesson  
number

Lesson question

Pupils will learn

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<b>1.</b>	<b>Depth of numbers within 10</b>	<ul style="list-style-type: none"><li>• In this lesson, we will deepen our understanding of numbers within 10 - first singing the Two Little Dickie Birds, then practicing counting to and from 10. Finally, we will apply these skills to a game!</li></ul>
<b>2.</b>	<b>Depth of numbers within 15</b>	<ul style="list-style-type: none"><li>• In this lesson, we will look at groups, and sharing into groups. We will then apply this knowledge to a street of houses, sharing people into their homes and checking if it is equal or unequal.</li></ul>
<b>3.</b>	<b>Finding numbers to 20 in the environment</b>	<ul style="list-style-type: none"><li>• In this lesson, we are going to look at numerals that represent numbers to twenty. We will see if we can find numbers to 20 in some pictures, but also looking for numerals!</li></ul>
<b>4.</b>	<b>Counting on and back from a given number within 10</b>	<ul style="list-style-type: none"><li>• In this lesson, we will practice counting on and back from numbers within 10. This time, we will apply this skill to a maths story, talking about people getting on and off a bus.</li></ul>

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**5. Counting on and back from a given number within 20**

- In this lesson, we will practice subitising numbers to 6, so that we can quickly read them on a dice. We will then have a go at counting on and back, before using these skills to play a game.

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**6. Number bonds to 10 (Part 1)**

- In this lesson, we will practice our number bonds to ten. We will then apply this knowledge to a game of memory finding the matching cards that equal ten.

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**7. Number bonds to 10 (Part 2)**

- In this lesson, we will practice our number bonds to ten. We will then apply this knowledge to an investigation! We will find ways to make ten, using a part whole model.

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**8. Describing patterns**

- In this lesson, we will look at patterns. We will describe the pattern, and explain what comes before and after a given shape.

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**9. Continuing patterns**

- In this lesson, we will be continuing existing patterns using the knowledge of what comes before and after a shape in the pattern to carry it on. We will then see if we can predict a given part of the pattern.
-

**10.**

**Double and half of numbers within 20**

- In this lesson, we will explore doubles and halves of numbers within 20.
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Lesson number	Lesson question	Pupils will learn
1.	Numbers to 30	<ul style="list-style-type: none"><li>In this lesson, we will explore numbers to 30, looking at how they are written and what that quantity looks like. We will also consider how grouping in 10s will make counting easier.</li></ul>
2.	Numbers to 40	<ul style="list-style-type: none"><li>In this lesson, we will explore numbers to 40, looking at how they are written and what that quantity looks like. We will also consider how grouping in 10s will make counting easier.</li></ul>
3.	Numbers to 50	<ul style="list-style-type: none"><li>In this lesson, we will explore numbers to 50, looking at how they are written and what that quantity looks like. We will also try estimating some quantities for numbers beyond 20.</li></ul>
4.	One more and one less of numbers beyond 20	<ul style="list-style-type: none"><li>In this lesson, we will look again at numbers beyond twenty, and using a numberline or representation that uses tens and ones, practise saying one more and one less.</li></ul>

## 5. Sharing numbers beyond 20

- In this lesson, we will work with numbers beyond twenty as we practise sharing into groups, and then checking to see if the parts are equal.
- 



# 4. Learn More



## Contents

Section number	Section content
1.	EYFS maths introduction
2.	Coherence and flexibility
3.	Knowledge organisation
4.	Knowledge selection
5.	Inclusive and ambitious
6.	Pupil engagement
7.	Motivation through learning
8.	Unit prior knowledge requirements

### 1. EYFS maths introduction

To develop deep conceptual understanding requires building on what has been previously understood. Constructing the curriculum with this principle in mind results in careful sequencing within a topic, a year group and across key stages to create



a coherent progression for pupils. The curriculum plans here clearly indicate the prior knowledge required to help ensure this coherence is maintained when units are used in a different sequencing of the curriculum plan.

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 education**

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. Unit prior knowledge requirements

(Please note, EYFS does not include DfE "Ready to Progress" references.) R.1 (e.g.) refers to the EYFS Maths unit.

### Number

Unit title	Prior knowledge required
R1. Early mathematical experiences	n/a
R2. Pattern and early number	n/a
R3. Numbers within 6	R.2 <ul style="list-style-type: none"><li>Count up to 3 objects</li><li>Represent numbers up to 3</li></ul>
R4. Addition and subtraction within 6	R.3 <ul style="list-style-type: none"><li>Count up to 6 objects</li><li>Represent numbers up to 6</li></ul>
R8. Numbers within 10	R.6 <ul style="list-style-type: none"><li>Count up to 6 objects</li><li>Represent numbers to 6</li></ul>

R9. Addition and subtraction within 10

R.8

- Count up to 10 objects
- Represent numbers up to 10



R10. Numbers within 15

R.8

- Count up to 10 objects
- Represent numbers up to 10

R11. Grouping and sharing

R.10

- Count up to 15 objects

R12. Numbers within 20

R.10

- Count up to 15 objects

R13. Doubling and halving

R.11

- Grouping and sharing

R.10

- Addition and subtraction within 10

R15. Addition and subtraction within 20

R.10

- Count and represent numbers to 20
- Addition and subtraction within 10

R16. Money

R18. Depth of numbers within 20

R19. Numbers beyond 20

## Ratio and proportion

### Unit title

R13. Doubling and halving

## Measurement

### Unit title

R.15

- Addition and subtraction within 20

R.12 and R.15

- Count and represent numbers to 20
- Addition and subtraction within 20

R.12 and R.15

- Count and represent numbers to 20
- Addition and subtraction within 20

### Prior knowledge required

R.11

- Grouping and sharing

R.10

- Addition and subtraction within 10

### Prior knowledge required



R5. Measures

n/a

R7. Calendar and time

n/a

R16. Money

R. 15

- Addition and subtraction within 20

R17. Measures

R.5

- Experience of measuring capacity, size and length

## **Geometry**

### **Unit title**

### **Prior knowledge required**

R6. Shape and sorting

n/a

R14. Shape and pattern

n/a

