Mastering Number: Overview of content – Reception

Strand/ Half-term	Subitising	Cardinality, ordinality and counting	Composition	Comparison
1 **Children will:**	• perceptually subitise within 3 • identify sub-groups in larger arrangements • create their own patterns for numbers within 4 • practise using their fingers to represent quantities which they can subitise • experience subitising in a range of contexts, including temporal patterns made by sounds.	• relate the counting sequence to cardinality, seeing that the last number spoken gives the number in the entire set • have a wide range of opportunities to develop their knowledge of the counting sequence, including through rhyme and song • have a wide range of opportunities to develop 1:1 correspondence, including by coordinating movement and counting • have opportunities to develop an understanding that anything can be counted, including actions and sounds • explore a range of strategies which support accurate counting.	• see that all numbers can be made of 1s • compose their own collections within 4.	• understand that sets can be compared according to a range of attributes, including by their numerosity • use the language of comparison, including 'more than' and 'fewer than' • compare sets 'just by looking'.
2 **Children will:**	• continue from first half-term • subitise within 5, perceptually and conceptually, depending on the arrangements.	• continue to develop their counting skills • explore the cardinality of 5, linking this to dice patterns and 5 fingers on 1 hand • begin to count beyond 5 • begin to recognise numerals, relating these to	• explore the concept of 'wholes' and 'parts' by looking at a range of objects that are composed of parts, some of which can be taken apart and some of which cannot • explore the composition of numbers within 5.	• compare sets using a variety of strategies, including 'just by looking', by subitising and by matching • compare sets by matching, seeing that when every object in a set can be matched to one in the

		quantities they can subitise and count.		other set, they contain the same number and are equal amounts.
3 **Children will:**	• increase confidence in subitising by continuing to explore patterns within 5, including structured and random arrangements • explore a range of patterns made by some numbers greater than 5, including structured patterns in which 5 is a clear part • experience patterns which show a small group and '1 more' • continue to match arrangements to finger patterns.	• continue to develop verbal counting to 20 and beyond • continue to develop object counting skills, using a range of strategies to develop accuracy • continue to link counting to cardinality, including using their fingers to represent quantities between 5 and 10 • order numbers, linking cardinal and ordinal representations of number.	• continue to explore the composition of 5 and practise recalling 'missing' or 'hidden' parts for 5 • explore the composition of 6, linking this to familiar patterns, including symmetrical patterns • begin to see that numbers within 10 can be composed of '5 and a bit'.	• continue to compare sets using the language of comparison, and play games which involve comparing sets • continue to compare sets by matching, identifying when sets are equal • explore ways of making unequal sets equal.
4 **Children will:**	• explore symmetrical patterns, in which each side is a familiar pattern, linking this to 'doubles'.	• continue to consolidate their understanding of cardinality, working with larger numbers within 10 • become more familiar with the counting pattern beyond 20.	• explore the composition of odd and even numbers, looking at the 'shape' of these numbers • begin to link even numbers to doubles • begin to explore the composition of numbers within 10.	• compare numbers, reasoning about which is more, using both an understanding of the 'howmanyness' of a number, and its position in the number system.
5 **Children will:**	• continue to practise increasingly familiar subitising arrangements, including those which expose '1 more' or 'doubles' patterns • use subitising skills to enable them to identify when	• continue to develop verbal counting to 20 and beyond, including counting from different starting numbers • continue to develop confidence and accuracy	• explore the composition of 10.	• order sets of objects, linking this to their understanding of the ordinal number system.

	patterns show the same number but in a different arrangement, or when patterns are similar but have a different number • subitise structured and unstructured patterns, including those which show numbers within 10, in relation to 5 and 10 • be encouraged to identify when it is appropriate to count and when groups can be subitised.	in both verbal and object counting.		

Mastering Number: Overview of content – Year 1

Strand/ Half-term	Subitising	Cardinality, ordinality and counting	Composition	Comparison	Addition and subtraction/ Number facts
1 **Children will:**	• revisit subitising within 5 using perceptual subitising • practise conceptual subitising of bigger numbers as they become more familiar with patterns made by the numbers 5–10.	• explore the linear number system within 10, looking at a range of ordinal representations • explore the link between the 'staircase' pattern and a number track.	• focus on the composition of numbers within 10, with a particular emphasis on the composition of numbers 6, 7, 8 and 9 as '5 and a bit', as well as exploring the composition of numbers 5 and 6 in-depth • explore the composition of odd		Although children will not be looking at number bonds expressed as equations, their work on the composition of numbers within 10 will be developing their knowledge of number bonds.

			and even numbers, identifying that even numbers are made of 2s and odd numbers have 'an extra 1' – they will link this to the 'shape' of these numbers.		
2 **Children will:**	• continue to practise conceptually subitising numbers they have already explored the composition of.	• review the linear number system to 10 as they compare numbers.	• continue to explore the composition of the numbers 7–9 in-depth, linking this to their understanding of odd and even numbers • explore the composition of 10, developing a systematic approach to finding pairs that sum to 10.	• revisit what is meant by 'comparing' and see that quantities can be compared according to different attributes, including numerosity.	As above.
3 **Children will:**	• continue to practise conceptually subitising numbers they have already explored the composition of.		• review the composition of numbers within 10, linking these to part-part-whole representations • practise recalling missing parts for numbers within 10.	• compare numbers within 10, linking this to their understanding of the linear system • use the inequality symbol to create expressions, e.g. $7 > 2$, and use the language of 'greater than' and 'less than' • reason about inequalities, drawing on their knowledge of the composition of numbers, e.g. Is this	• develop their recall of number bonds within 10, through the use of exercises which use written numerals but not the symbols +, – , or =.

				true or false? 3 and 2 is less than 4.	
4 **Children will:**	• continue to practise conceptually subitising numbers they have already explored the composition of.	• review the linear number system to 10, looking at a range of representations, including a number line • explore the use of 'midpoints' to enable them to identify the location of other numbers.	• review the composition of odd and even numbers, linking this to doubles and near doubles • explore the composition of the numbers 11–20, seeing representations which show the structure of these numbers as 'ten and a bit'.		• continue to develop their recall of bonds within 10, through the use of exercises which do NOT involve written equations, such as 4 + 3 = ? • identify doubles and near doubles through visual representations of odd and even numbers.
5 **Children will:**	• continue to practise conceptually subitising numbers they have already explored the composition of. • conceptually subitise numbers within 20 as they become more familiar with the composition of numbers within 20.	• review the linear number system to 20, looking at a range of representations, including a number line • explore the use of 'midpoints' to enable them to identify the location of other numbers.	• continue to explore representations which expose the composition of numbers within 20.	• compare numbers within 20, including questions which use the symbols +, <, >, or =, such as: True or false? 10 + 4 < 14 10 + 4 = 14 10 + 4 > 14	• develop their fluency in additive relationships within 10, using a range of activities and games • draw on their knowledge of the composition of numbers to complete written equations • revisit strategies for addition and subtraction within 10 and apply these to a range of questions, including written equations.
6 **Children will:**	• continue to use conceptual subitising, especially		• apply their knowledge of the composition of numbers, to	• continue to draw on their knowledge of the relative size of numbers when	• continue to practise recalling additive facts within 20, applying their

	when using a rekenrek.		calculations within 10 and 20.	answering questions using the inequality symbol.	knowledge of the composition of numbers within 20 and strategies within 10.

Mastering Number: Overview of content – Year 2

Strand/ Half-term	Subitising	Cardinality, ordinality and counting	Composition	Comparison	Addition and subtraction/ Number facts
1 **Children will:**	• develop conceptual subitising skills as they become more familiar with patterns made by numbers within 10 and understand their composition • use perceptual and conceptual subitising when using a rekenrek.	• explore the linear number system within 10, looking at a range of representations • compare number tracks and number lines and explore the use of 'midpoints' to enable them to identify the location of other numbers.	• focus on the composition of numbers within 10, with a particular emphasis on the composition of numbers 6, 7, 8 and 9 as '5 and a bit', as well as exploring the composition of numbers 5 and 6 in-depth • explore the composition of odd and even numbers, identifying that even numbers are made of 2s and odd numbers have 'an extra 1' – they will link this to the 'shape' of these numbers.		• link their growing understanding of the composition of numbers within 10 to the related additive facts, including adding 2 to an odd or even number • practise recalling facts in a variety of ways, including through solving simple picture problems and completing equations with a missing sum or addend,
2	• continue to practise conceptually subitising numbers	• review the linear number system as	• continue to explore the composition of the numbers 7–9 in-	• compare numbers within 10, linking this to their	• continue to practise recalling additive facts for numbers

Children will:	they have already explored the composition of.	they compare numbers.	depth, linking this to their understanding of odd and even numbers	understanding of the linear number system • use the inequality symbols to create expressions, e.g. 7 > 2, and use the language of 'greater than' and 'less than' • draw on their knowledge of number bonds to answer questions in the form: True or false? 5 + 3 > 7	within 10, using a range of equations, games and picture problems.
3 **Children will:**	• increase confidence in subitising by continuing to explore patterns within 5, including structured and random arrangements • explore a range of patterns made by some numbers greater than 5, including structured patterns in which 5 is a clear part • experience patterns which show a small group and '1 more' • continue to match arrangements to finger patterns.	• continue to develop verbal counting to 20 and beyond • continue to develop object counting skills, using a range of strategies to develop accuracy • continue to link counting to cardinality, including using their fingers to represent quantities between 5 and 10 • order numbers, linking cardinal and ordinal representations of number.	• continue to explore the composition of 5 and practise recalling 'missing' or 'hidden' parts for 5 • explore the composition of 6, linking this to familiar patterns, including symmetrical patterns • begin to see that numbers within 10 can be composed of '5 and a bit'.	• continue to compare sets using the language of comparison, and play games which involve comparing sets • continue to compare sets by matching, identifying when sets are equal • explore ways of making unequal sets equal.	•
4 **Children will:**	• explore symmetrical patterns, in which each side is a familiar pattern, linking this to 'doubles'.	• continue to consolidate their understanding of cardinality, working with larger numbers within 10	• explore the composition of odd and even numbers, looking at the 'shape' of these numbers	• compare numbers, reasoning about which is more, using both an understanding of the 'howmanyness' of a number, and its	•

		• become more familiar with the counting pattern beyond 20.	• begin to link even numbers to doubles • begin to explore the composition of numbers within 10.	position in the number system.	
5 **Children will:**	• continue to practise increasingly familiar subitising arrangements, including those which expose '1 more' or 'doubles' patterns • use subitising skills to enable them to identify when patterns show the same number but in a different arrangement, or when patterns are similar but have a different number • subitise structured and unstructured patterns, including those which show numbers within 10, in relation to 5 and 10 • be encouraged to identify when it is appropriate to count and when groups can be subitised.	• continue to develop verbal counting to 20 and beyond, including counting from different starting numbers • continue to develop confidence and accuracy in both verbal and object counting.	• explore the composition of 10.	• order sets of objects, linking this to their understanding of the ordinal number system.	•
6	In this half-term, the children will consolidate their understanding of concepts previously taught through working in a variety of contexts and with different numbers.				

Mastering Number Year 3

Blocks 1 to 5

Block	Content	Ready to Progress Criteria
1	Composition and securing additive facts: within 5	**2NF-1**: Secure fluency in addition and subtraction facts within 10, through continued practice.
2	Structures within 10	**2NF-1**: Secure fluency in addition and subtraction facts within 10, through continued practice.
3	Composition and securing additive facts: 6 to 10	**2NF-1**: Secure fluency in addition and subtraction facts within 10, through continued practice. **2AS–3** : Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number. **3NF–3**: Apply place-value knowledge to known additive [and multiplicative] number facts (scaling facts by 10).
4	Composition and securing additive facts: 6 to 10	**2NF-1**: Secure fluency in addition and subtraction facts within 10, through continued practice.
5	Securing additive facts within 10 – strategies	**2NF-1**: Secure fluency in addition and subtraction facts within 10, through continued practice.

Blocks 6 to 8

Block	Content	Ready to Progress Criteria
6	Doubles and near doubles	**3NF-1**: Secure fluency in addition and subtraction facts that bridge 10, through continued practice.
7	Addition across 10	**3NF-1**: Secure fluency in addition and subtraction facts that bridge 10, through continued practice.
8	Subtraction across 10	**3NF-1**: Secure fluency in addition and subtraction facts that bridge 10, through continued practice.

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Mastering Number at Key Stage 2

Year 4 overview

Term 1	Term 2	Term 3
Pupils will have an opportunity to consolidate multiplication facts that have been the focus of learning in KS1 and Year 3, such as doubles and the 5 and 10 times tables. They will explore multiplicative contexts and apply these facts to them and explore relationships between factors and associated products when looking at larger numbers. The use of gesture by the teacher and pupil will support with making connections. **Pupils will:** • consider 'many as 1' - seeing that a 'unit' can represent more than 1 • Sort and classify factors and products using multiplicative number sense • recap doubles • recap × 10 and × 5 (connect to halving and doubling) • explore square numbers • use the distributive property to explore the facts in the 11 and 12 times table • use the distributive property to explore the facts in the 9 times table	Pupils will explore the core multiplication facts focusing on becoming secure with two facts per week, so that all are known and can be retrieved in a random order. As a class they will support one another to retrieve these facts and use a 'Going for Gold' approach, so that all facts are known as an oral response rather than having to be derived. They will continue to develop multiplicative number sense looking at, for example, the magnitude and/or relationship of related products. **Pupils will:** • sort and classify factors and products using multiplicative number sense • practise retrieving multiplication facts using the oral pattern • know all the core multiplication facts and those related to the 11 and 12 times table • represent the structure of a maths story.	Pupils will continue to retrieve known facts focussing on those that are less secure. They will continue to apply facts to multiplicative contexts and connect both multiplication and division equations to represent the maths story. In particular, they will connect missing factor equations to division. They will sort and classify products into multiples and not multiples of a given number knowing that for example 38 ÷ 4 will not result in a whole number quotient because 38 is not a multiple of 4. **Pupils will:** • practise retrieving multiplication facts using the oral pattern • sort and classify factors and products using multiplicative number sense • connect multiplicative contexts to writing and interpreting equations and connect multiplication equations, and multiplication equations with a missing factor, to division, knowing that the product in a multiplication equation is equivalent to the dividend in the corresponding division equation.

• use the commutative property of multiplication to reorder factors to reduce the number of facts that need to be learnt and start to explore the core multiplication facts table (CMF).		
This term will build and consolidate the Year 3 RtP listed as well as support the consolidation of the following year 4 RtP criteria: 3NF–2 Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number. 4NF–1 Recall multiplication and division facts up to 12 × 12, and recognise products in multiplication tables as multiples of the corresponding number. 4MD–3 Understand and apply the distributive property of multiplication.	This term will particularly support the teaching and consolidation of the following RtP criteria: 4NF–1 Recall multiplication and division facts up to 12 × 12, and recognise products in multiplication tables as multiples of the corresponding number. 4MD–2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication. 4MD–3 Understand and apply the distributive property of multiplication.	This term will particularly support the teaching and consolidation of the following RtP criteria: 4NF–1 Recall multiplication and division facts up to 12 × 12, and recognise products in multiplication tables as multiples of the corresponding number. 4MD–2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.

Year 5 overview

Term 1	Term 2	Term 3
Pupils will have an opportunity to consolidate multiplication facts that have been the focus of learning in previous years and use the core multiplication facts table (CMF) to practise those that are less secure. They will explore multiplicative contexts and scale known facts by 10 and 100 and explore relationships between factors and associated products when looking at larger numbers. The use of representations, such as arrays, and the use of gesture by the teacher and pupil will support pupils to see structure and to make connections. **Pupils will:** • continue to practise retrieving multiplication facts using their oral pattern and focus on those that are less secure • explore contexts where 1 is a factor • recap scaling by 10 and then apply to scaling by 100 (creating multiples of 10 and 100 - not looking at decimals) • applying scaling in the contexts of ratios • make links between multiplication and division expressions as well as	Pupils will continue to retrieve the core multiplication facts in a random order. They will practise these facts when using the written algorithms for multiplication and division. They will continue to develop multiplicative number sense and connect contexts to equations. When looking at division there will be a focus on remainders and knowledge of when a number is 1 more, 2 more, etc., than a given multiple. They will continue to sort improper fractions into those that will give a whole number quotient and those that do not, and use this knowledge to write improper fractions as mixed numbers and vice versa. **Pupils will:** • continue to practise retrieving multiplication facts using their oral pattern so that they know all the core multiplication facts • connect a multiplication and addition equation to a division equation with a remainder	Pupils will focus on multiplicative composition of number. When a context gives rise to more than two factors, they will use the associative and the commutative property of multiplication to make calculations more accessible. When working with larger numbers they will be encouraged to consider how they see the maths as you shift from one expression to another, for example 3 × 72 to 3 × 73, and 3 × 72 to 4 × 72, being able to explain what each number represents. They will also make connections when number facts have been scaled by 10 (or 100). For example, 5 × 6 = 30; 30 ÷ 5 = 6 and 50 × 6 = 300; 300 ÷ 5 = 6. They will also apply known facts to when a factor is $\frac{1}{10}$ the size making connections to decimal fractions where the denominator of a unit fraction is a multiple of 10. **Pupils will:** • continue to connect multiplicative contexts to writing and interpreting equations • apply scaling by, 10, 100, $\frac{1}{10}$ or $\frac{1}{100}$ to known facts

equations in different multiplicative contexts • write an improper fraction and as a whole number such as $\frac{36}{6}$ = 6.The dividend is a multiple of the divisor. • find a unit fraction of a number to connect the known division fact to scaling down. The dividend is a multiple of the divisor. • continue to explore multiplicative contexts.	• develop multiplicative number sense through using knowledge of divisibility laws • sort and classify improper fractions into those that give a whole number quotient and those that do not.	• look at the multiplicative composition of number • explore expressions with three factors and use brackets, considering how the associative property and commutative property can be used to make calculations easier to solve.
This term will and consolidate some of the Year 4 RtPs listed as well as support the pupils understanding of the following Year 5 RtP criteria: **4MD–1** Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. **4NF–1** Recall multiplication and division facts up to 12 × 12, and recognise products in multiplication tables as multiples of the corresponding number. **4MD–3** Understand and apply the distributive property of multiplication. **5NF–1** Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.	This term will build and consolidate the Year 4 RtPs listed as well as support the pupils understanding of the following Year 5 RtP criteria. 4NF–1 Recall multiplication and division facts up to 12 × 12 and recognise products in multiplication tables as multiples of the corresponding number. 4NF–2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context. 4MD–2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication. 5NF–1 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.	This term will build and consolidate the Year 4 RtPs listed, as well as support the pupils understanding of the following Year 5 RtP criteria: **4NF–1** Recall multiplication and division facts up to 12 × 12, and recognise products in multiplication tables as multiples of the corresponding number. **4MD–2** Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication. **5NPV–1** Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.

		5NF–1 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice. **5NF–2** Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth). **5MD–1** Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.