Number - number and place value

Pupils should be taught to:

- count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number
- recognise the place value of each digit in a 3-digit number (100s, 10s, 1s)
- compare and order numbers up to 1,000
- identify, represent and estimate numbers using different representations
- read and write numbers up to 1,000 in numerals and in words
- solve number problems and practical problems involving these ideas

READY TO PROGRESS CRITERIA

Year 2 conceptual prerequisite	Year 3 ready-to-progress criteria	Future applications
Know that 10 ones are equivalent to 1 ten, and that 40 (for example) can be composed from 40 ones or 4 tens. Know how many tens there are in multiples of 10 up to 100.	3NPV-1 Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10.	Solve multiplication problems that involve a scaling structure, such as 'ten times as long'.
Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning.	3NPV-2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning.	Compare and order numbers. Add and subtract using mental and formal written methods.
Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10.	3NPV-3 Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10.	Compare and order numbers. Estimate and approximate to the nearest multiple of 1,000, 100 or 10.
Count in multiples of 2, 5 and 10.	3NPV-4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.	Read scales on graphs and measuring instruments.

SMALL STEPS

Autumn	
White Rose Maths	NCETM
Place Value • Hundreds • Numbers to 1,000 • 100s, 10s and 1s (1) • 100s, 10s and 1s (2) • Number line to 1,000 • Compare objects • Compare numbers • Ordering numbers • Count in 50s	

To compare two digit numbers, we need to compare the tens digits; if the tens digits are the same, we need to compare the ones digits.	Generalisation structure	
To compare three digit numbers, we need to compare the hundreds digit; if the hundreds digits are the same, we need to compare the tens digits; if the tens digits are the same, we need to compare the ones digits.	Generalisation structure	

To compare two numbers, we compare digits with the same place value, starting with the largest place value digit.	Generalisation	
When we find ten more, the tens digit changes and the ones digit stays the same. When we find ten less, the tens digit changes and the ones digit stays the same.	Generalisation	

We had ___ tens and ___ ones. Ten more gives us ___ tens and ___ ones.	Structure	
We had ___ tens and ___ ones. Ten less gives us ___ tens and ___ ones.	Structure	

One part is ten, the other part is ___ and the whole is ___.	Structure	One part is ten, the other part is 36 and the whole is 46.
There are one hundred ones in one hundred.	Structure	
There are ten tens in one hundred.	Structure	
One hundred is divided into ___ equal parts so each part/ division has a value of ___.	Structure	One hundred is divided into four equal parts so each part has a value of 25.

Year 3 Curriculum Overview

Number - addition and subtraction

Pupils should be taught to:

- add and subtract numbers mentally, including:
    - a three-digit number and 1s
    - a three-digit number and 10s
    - a three-digit number and 100s
- add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction
- estimate the answer to a calculation and use inverse operations to check answers
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

READY TO PROGRESS CRITERIA

Year 2 conceptual prerequisite	Year 3 ready-to-progress criteria	Future applications
Add and subtract across 10, for example: 8 + 5 = 13 13 - 5 = 8	3NF-1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice.	Add and subtract mentally where digits sum to more than 10, for example: 26 + 37 = 63 Add and subtract across other powers of 10, without written methods, for example: 1.3 - 0.4 = 0.9 Add within a column during columnar addition when the column sums to more than 10 (regrouping), for example, for: 12**6** + 14**8** Subtract within a column during columnar subtraction when the minuend of the column is smaller than the subtrahend (exchanging), for example, for:: 45**3** - 12**4**
Automatically recall addition and subtraction facts within 10, and across 10. Unitise in tens: understand that 10 can be thought of as a single unit of 1 ten.	3NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10), for example: 80 + 60 = 140 140 - 80 = 60 30 x 4 = 120 120/4 = 30	Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100), for example: 8 + 6 = 14 and 14 - 8 = 6 So 800 + 600 = 1400 1400 - 800 = 600 3x4=12 and 12/4 = 3 So 300 x 4 = 1200 and 1200/4=300

Automatically recall number bonds to 9 and to 10. Know that 10 ones are equivalent to 1 ten, and 10 tens are equivalent to 1 hundred.	3AS-1 Calculate complements to 100, for example: 46 + ? = 100	Calculate complements to other numbers, particularly powers of 10. Calculate how much change is due when paying for an item.
Automatically recall addition and subtraction facts within 10 and across 10. Recognise the place value of each digit in two- and three-digit numbers. Know that 10 ones are equivalent to 1 ten, and 10 tens are equivalent to 1 hundred.	3AS-2 *Add and subtract up to three-digit numbers using columnar methods.* ***NOTE: This will be new to our curriculum in year 3.*** ***It will be suggested in Spring teaching - but if the other criteria are not secure - leave this segment altogether in preference of "understanding" the number system, complements, inverse, commutative properties and problem solving and reasoning exercises.***	Add and subtract other numbers, including fourdigits and above, and decimals, using columnar methods.
Have experience with the commutative property of addition, for example, have recognised that 3+ 2 and 2+3 have the same sum. Be able to write an equation in different ways, for example, 2 + 3 =5 and 5 = 2+3. Write equations to represent addition and subtraction contexts.	3AS-3 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.	All future additive reasoning

SMALL STEPS

Autumn	
White Rose Maths	NCETM
Addition and Subtraction RECAP bonds to 100 from Year 2 • Add 3-digit and 1-digit numbers - crossing 10 • Subtract a 1-digit number from a 3-digit number - crossing 10 • Add 3-digit and 2-digit numbers - crossing 100 • Subtract a 2-digit number from a 3-digit number - crossing 100 • Add and subtract 100s • Spot the pattern - making it explicit • Mixed addition and subtraction problems • Add and subtract 2-digit & 3-digit numbers- not crossing 10 or 100 • Add 2-digit and 3-digit numbers - crossing 10 or 100 • Subtract a 2-digit number from a 3-digit number - crossing 10 or 100 • Add two 3-digit numbers - not crossing 10 or 100	1.17 Composition and calculation: 100 and bridging 100 1.18 composition and calculation: three digit numbers 1.19 Securing mental strategies: calculation up to 999

STEM SENTENCES

___ plus ___ is equal to ___ so ___ tens plus ___ tens is equal to ___ tens. ___ plus ___ is equal to 100.	Structure	7 plus 3 is equal to 10 so 7 tens plus 3 tens is equal to 10 tens. 70 plus 30 is equal to 100.
Ten minus ___ is equal to ___. So ten tens minus ___ tens is equal to ___ tens. 100 minus ___ is equal to ___	Structure	10 minus 3 is equal to 7. So 10 tens minus 3 tens is equal to 7 tens. 100 minus 30 is 70.
There are ___ groups of ten. There is ___ group of 100 and ___ more tens. There are ___ altogether.	Structure	There are 14 groups of ten. There is one group of 100 and 4 more tens. There are 140 altogether.
I know that ___ plus ___ is equal to ___. (single digit addends)	Structure	I know that seven plus five is equal to twelve. So seven tens plus five tens is equal to twelve tens. 70 plus 50 is equal to 120.

So ___ tens plus ___ tens is equal to ___ tens. (multiple-of-ten addends) ___ plus ___ is equal to one hundred and ___. (number names)		
I know that ___ minus ___ is equal to ___. (bridging ten) So ___ tens minus ___ tens is equal to ___ tens. (bridging ten tens) One hundred and ___ minus ___ is equal to ___. (number names)	Structure	I know that twelve minus five is equal to seven. So twelve tens minus five tens is equal to seven tens. 120 minus 50 is equal to 70.

There is ___ group of 100 and ___ more. There are ___ ___.	Structure	There is 1 group of 100 and 24 more. There are one hundred and twenty-four.
___ is ___ ones. ___ is ___ hundreds and ___ ones. ___ is ___ tens and ___ ones. ___ is ___ hundreds, ___ tens and ___ ones.	Structure	243 is 243 ones. 243 is 2 hundreds and 43 ones. 243 is 24 tens and 3 ones. 243 is 2 hundreds, 4 tens and 3 ones.
There are ten hundreds in one thousand. There are one hundred tens in one thousand. There are one thousand ones in one thousand.	Structure	

digit, the difference is a multiple of ten.		
First we add: ___ plus ___ is equal to ___ … then we adjust: ___ minus ___ is equal to ___.		First we add: 52 plus 30 is equal to 82 … then we adjust: 82 minus 1 is 81.
For calculations that involve both additions and subtraction steps, we can add then subtract, or subtract then add; the final answer is the same.	Generalisation	
The value of the expressions on each side of the equals sign must be equal.	Generalisation	=

Written algorithms for addition and subtraction		
For Dienes: We line up the ones; ___ one(s) plus ___ one(s). We line up the tens; ___ ten(s) plus ___ ten(s). For the column addition calculation: The ___ is in the ones column- it represents ___ one(s); the ___ is in the ones column- it represents ___ one(s). The ___ is in the tens column- it represents ___ ten(s); the ___ is in the tens column- it represents ___ ten(s).	Structure	We line up the ones; three ones plus five ones. We line up the tens; four tens plus two tens. The '3' is in the ones column- it represents three ones. The '5' is in the ones column- it represents five ones. The '4' is in the tens column- it represents four tens. The '2' is in the tens column- it represents two tens.
In column addition, we start at the right hand side.	Generalisation	
If the column sum is equal to ten or more, we must regroup.	Generalisation	

To only be done if children are secure in other areas of add/sub otherwise this concept can be introduced in Year 4.

Spring	
White Rose Maths (in their autumn plans) • Add two 3-digit numbers - crossing 10 or 100 • Subtract a 3-digit number from a 3-digit number - no exchange • Subtract a 3-digit number from a 3-digit number - exchange	NCETM 1.20 Algorithms; column addition 1.21 Algorithms; column subtraction ***It is suggested to separate these two segments to minimise the chance of children confusing the two algorithms.***

STEM SENTENCES

Enigma-Stem-Sentence-bank-Number-Addition-Subtraction.pdf

Year 3 Curriculum Overview

Number - multiplication and division

Pupils should be taught to:

- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects

READY TO PROGRESS CRITERIA

Year 2 conceptual prerequisite	Year 3 ready-to-progress criteria	Future applications
Calculate products within the 2, 5 and 10 multiplication tables.	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	Use multiplication facts during application of formal written layout. Use division facts during short division and long division.
Automatically recall addition and subtraction facts within 10, and across 10. Unitise in tens: understand that 10 can be thought of as a single unit of 1 ten.	3NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10), for example: 80 + 60 = 140 140 - 80 = 60 30 x 4 = 120 120/4 = 30	Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100), eg.: 8 + 6 = 14 and 14 - 8 = 6 So 800 + 600 = 1400 1400 - 800 = 600 3x4=12 and 12/4 = 3 So 300 x 4 = 1200 and 1200/4=300
Recognise repeated addition contexts and represent them with multiplication equations. Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).	3MD-1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.	

SMALL STEPS

Autumn	
White Rose Maths	NCETM
Multiplication and Division RECAP 2s 5s and 10s • Multiply by 3 • Divide by 3 • The 3 times-table • Multiply by 4 • Divide by 4 • The 4 times-table • Multiply by 8 • Divide by 8	2.7 Times Tables: 2, 4 and 8, and the relationship between them 2.8 TimesTables: 3, 6, 9, and the relationship between them **Note: Conceptual foundations for multiplication and division are introduced in Year 2, and you may wish to review the key concepts of unitising, repeated addition and equal grouping in segments 2.2 - 2.6 before starting the Year 3 *Spine* 2 segments. 2.7 - 2.9 focus on developing conceptual understanding of the times tables. Fluency**

• The 8 times-table	**in times table factst is crucial, and regular practice should be undertaken outside the main maths lesson to achieve this. *Spine* 2 segments have been distributed throughout the Year, to allow children to achieve fluency in each set of times tables before moving on, and to prepare for the next set of times tables by practicing skip counting in the relevant multiples. Note that, for each set of times tables, corresponding division facts and calculations are embedded within each segment.**

STEM SENTENCES

Enigma-Stem-Sentence-bank-multiplication-and-division-with-links.pdf

One ___is one each. That's ___ Two ___ is two each. That's ___ _____divided between ___ is equal to ____ each.	Structure	One five is one each. That's five Two fives is two each. That's ten Three fives is three each. That's fifteen. Four fives is four each. That's twenty. 20 ÷ 5 = 4 Twenty divided between five is equal to four each.
If the divisor is two, we can use the two times table to find the quotient. **If the divisor is five, we can use the five times table to find the quotient.** **If the divisor is two, the quotient is half of the dividend.**	**Generalisation**	
Rules of divisibility		
A number is divisible by two if the ones digits is even.	**Generalisation**	
A number is divisible by ten if the ones digits is zero.	**Generalisation**	
A number is divisible by five if the ones digits is five or zero.	**Generalisation**	

When the divisor is equal to one, the quotient is equal to the dividend.	**Generalisation**	
When zero is a factor, the product is zero. **When the dividend is zero, the quotient is zero.**	**Generalisation**	0 x 5 = 0 One of the factors is zero so the product is zero. Zero groups of five is zero.
When one is a factor, the product is equal to the other factor.	**Generalisation**	1 x 10 = 10 One of the factors is one so the product is ten.
When the dividend is zero, the quotient is zero.	**Generalisation**	
When the dividend is equal to the divisor, the quotient is one.	**Generalisation**	

When the divisor is equal to one, the quotient id equal to the dividend.	**Generalisation**	
For a number to be divisible by three, the sum of the digits of the number must be divisible by three.	**Generalisation**	e.g. 453 4 + 5 + 3 = 12 m (12 is divisuble by 3 1 + 2 = 3 (Keep adding and if you get 3, 6 or 9 then it is divisible by 3)
For a number to be divisible by three, it must be divisible by 3 and divisible by 2 (even)	**Generalisation**	
For a number to be divisible by nine, the sum of the digits of the number must be divisible by nine.	**Generalisation**	e.g. 63 6 + 3 = 9 567 5 + 6 + 7 = 18 1 + 8 = 9
Odd and Even factors		
Odd factor x odd factor = odd product	**Generalisation .**	

Even factor x odd factor = even product	**Generalisation**	
Odd factor x even factor = even product.	**Generalisation**	
Even factor x even factor = even product.	**Generalisation**	
Square Numbers		
We can write this as ___ times __ is equal to ___. Both factors are the same, so we can also write this as __ squared is equal to ___	Structure	There are seven netball teams, each with seven players. We can write this as 7 times 7 is equal to 49. 7 x 7 = 49 Both factors are the same, so we can also write this as 7 squared is equal to 49 $7^2 = 49$
When both factors have the same value, the product is called a square number. **Square numbers can be represented by square shaped arrays.**	**Generalisation**	

Spring	
White Rose Maths	
Multiplication and Division Consolidate 2, 4 and 8 times tables Comparing statements Related calculations Multiply 2-digits by 1-digit Divide 2-digits by 1-digit Scaling How many ways?	**NOTE: White Rose maths includes formal calculations which can be left to Year 4.** **It is imperative that the children learn and understand their times tables as well as possible in Year 3.** **It is understood some children will not yet be ready for rapid recall. If they have explored and manipulated equipment to understand multiplication and division then they will be well placed in Year 4 to learn those**

	facts. **IF you choose to do this part of the White Rose maths ensure you use base 10 equipment and place value counters to explore the topic.** **Some children may find the jump from base 10 to counters quite difficult, only move them on *IF* they are ready.**

Summer	
	NCETM
	2.9 Times tables: 7 and patterns within / across timestables.

Year 3 Curriculum Overview

Number - fractions

Pupils should be taught to:

- count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
- recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
- recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
- recognise and show, using diagrams, equivalent fractions with small denominators
- add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]
- compare and order unit fractions, and fractions with the same denominators
- solve problems that involve all of the above

READY TO PROGRESS CRITERIA

Year 2 conceptual prerequisite	Year 3 ready-to-progress criteria	Future applications
	3F-1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.	Use unit fractions as the basis to understand non unit fractions, improper fractions and mixed numbers, for example: ⅖ is 2 one-fifths 6/5 is 6 one-fifths, so 6/5 = 1 ⅕
	3F-2 Find unit fractions of quantities using known division facts (multiplication tables fluency).	Apply knowledge of unit fractions to non-unit fractions.
Reason about the location of whole numbers in the linear number system.	3F-3 Reason about the location of any fraction within 1 in the linear number system.	Compare and order fractions.
Automatically recall addition and subtraction facts within 10. Unitise in tens: understand that 10 can be thought of as a single unit of 1 ten, and that these units can be added and subtracted.	3F -4 Add and subtract fractions with the same denominator, within 1.	Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.

Some children may have missed fractions content or not fully grasped it in 2020. Having a firm foundation with fractions is important for confidence and future success in mathematics, hence the reason for extra time dedicated to the topic. The Year 3 fractions content has been moved to the Summer term so that more time can be spent revisiting the fractions content for Key Stage 1.

SMALL STEPS

Summer	
White Rose	NCETM
Make equal parts	3.1 Preparing for fractions: the part whole

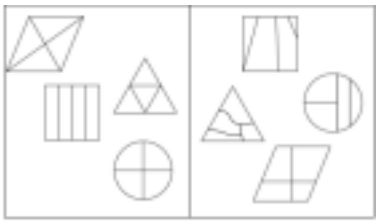
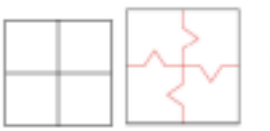
Recognise a half Find a half Recognise 1/4 Find a quarter Recognise a third Find a third Unit fractions Non-Unit fractions equivalence of ½ and 2/4 Count in fractions Making the whole Count in tenths Tenths as decimals Fractions on a number line Fractions of a set of objects Equivalent fractions fractions Order fractions Add fractions Subtract fractions	relationship 3.2 Unit fractions: identifying, representing and comparing 3.3 Non unit fractions: identifying, representing and comparing 3.4 Adding and subtracting within one whole

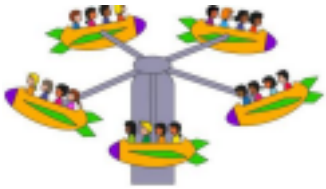
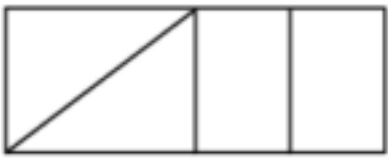
It is not necessary to do decimals. This is a very heavy content topic. Focus on fractions being equal parts of the whole. Do not feel that you have to cover anything in fractions which is not a ready to progress criteria. it is advised to only manipulate fractions in Year 2 so much of the learning will be in Year 3. Concentrate on what a fraction is and how you can add and subtract like fractions within one whole.

STEM SENTENCES

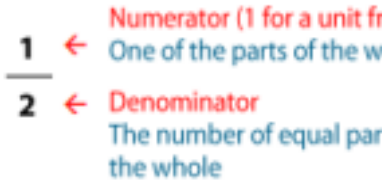
Enigma-Stem-Sentence-bank-Fractions-with-links.pdf

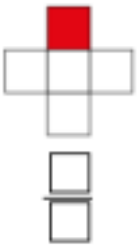
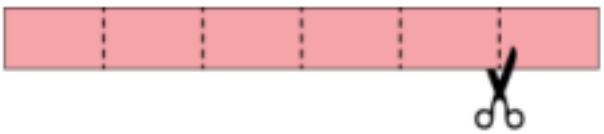
Part-Whole relationships		
Example of stem sentence	**Type of stem sentence**	**Examples from the NCETM PD**
If _____ is the whole then _____ is part of the whole.	Structure	 If Europe is the whole , then the  Tuesday is part of the whole

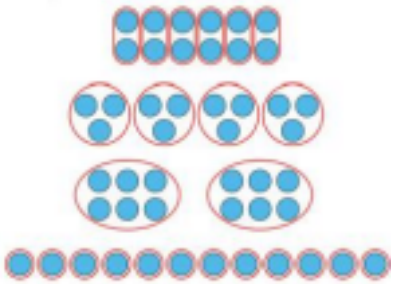
A part is always smaller than the whole.	**Generalisation**	
If _____ is the whole then _____ is **not** part of the whole.	Structure	If my face is the whole then my
The whole has been divided into ___ equal / unequal parts.	Structure / language	
The whole has been divided into ___ equal parts.	Structure	 The whole has been divided into

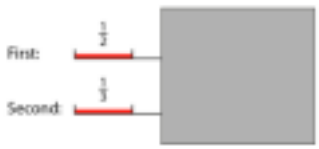
The parts are **equal**, I know this because the number of ___ in each part is **the same**.	Structure	
The parts are **unequal**, I know this because the number of ____ in each part is **not the same**.	Structure / language	
Equal-sized parts do not have to look the same.	**Generalisation**	
Different parts of the same sized whole can be directly compared based on their size.	**Generalisation**	 In the first set of counters, the y then in the second set.

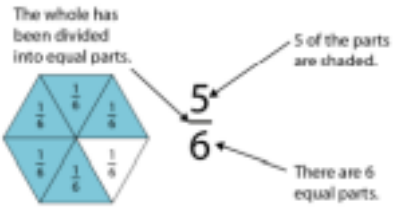
As the while increases in size and the size of the selected part remains the same, each part becomes smaller in relation to the whole.	**Generalisation**	
Unit Fractions		

A unit fraction is any fraction where the numerator is one.	**Generalisation**	
The whole has been divided into ___ equal parts ___ of the parts has been shaded.	Structure / language	 The whole has been divided into

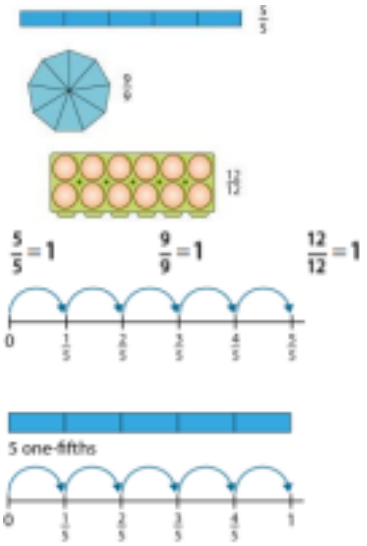
The denominator is ___ because the whole is divided into ___ equal parts. The numerator is one because one part is shaded.	Structure	 The denominator is 4 because the whole is divided into 4 equal parts. The numerator is 1 because one part is shaded.
The whole has been divided into __ equal parts. Each part is one ___ of the whole. ___ of the whole ribbon has been cut off.	Structure	 • *'The whole has been divided into six equal parts.'* • *'Each equal part is one-sixth of the whole.'* • *'One-sixth of the whole ribbon has been cut off.'*
The whole has been divided into __ equal parts. One of these parts is highlighted. This part is one ___ of the whole line.	Structure	 The whole has been divided into 5 equal parts. One of these parts is highlighted. This part is one fifth of the whole line.

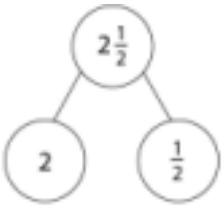
The whole has been divided into ___ equal parts. One of these parts in one ___ of the whole.	Structure	Dividing 12 counters into equal groups: 
When the whole is the same, the greater the number of equal parts, the smaller each equal part is. **When the whole is the same, the smaller the number of equal parts, the bigger each equal part is.**	**Generalisation**	
When comparing unit fractions, the greater the denominator, the smaller the fraction.	**Generalisation**	Ordering the fractions: 

When we compare fractions, the whole has to be the same.	**Generalisation**	*'Emma looks at these two diagrams. She says that they prove that $\frac{1}{4} > \frac{1}{2}$. Do you agree or disagree?'*  • *'Disagree: to compare fractions, the wholes must the same.'* 
If one ____ is a part, then the whole is __ times as much. Take ___ parts and put them together to make a whole.	Structure	 *First: 'If one-half is a part, then the whole is two times as much. Take two parts and put them together to make one whole.'* *Second: 'If one-third is a part, then the whole is three times as much. Take three parts and put them together to make one whole.'* 
Non- Unit Fractions		

I have ____ one tenths. I have ___ tenths.	Structure / language	 • 'I have three one-tenths. I have three-tenths.'
There are ___ equal parts in the whole. There are __ parts shaded. ___ is shaded.	Structure / language	 • 'There are five equal parts in the whole.' • 'There are four parts shaded.' • 'Four-fifths is shaded.'
The whole has been divided into ___ equal parts. ___ of the parts are shaded. That is _____ of the whole.	Structure / language	 • 'The whole has been divided into six equal parts.' • 'Five of the parts are shaded.' • 'That is five-sixths of the whole.'
The whole has been divided into ____ equal parts. ___ of the parts have been shaded; that is ___ of the whole.	Structure / language	 The whole has been divided into 7 equal parts. 5 of the parts have been shaded; that is 5/7 of the whole.

The denominator is ___ because the whole has been divided into ___ equal parts. The numerator is ___ because ___ of the parts have been identified.	Structure / language	 The denominator is 5 because the whole has been divided into 5 equal parts. The numerator is 3 because 3 of the parts have been identified.
Making a whole		

When the numerator and the denominator are the same the fraction is equivalent to one whole.	**Generalisation**	

Improper fractions and mixed numbers		
Quantities made up of both whole numbers and a fractional part can be expressed as mixed numbers.	Generalisation	
Each whole is divided into four equal parts. We have __ of these equal parts. |This represents ___ quarter(s)	Structure/ language	 Each whole is divided into four equal parts. We have 11 of these equal parts. This represents 11 quarter(s)

	Comparing Fractions		
Year 3: 3.3 **7:2**		Language / structure	¼ is 1 lots of ¼ ¾ is 3 lots fo ¼ I know that 1 is less than 3 so ¼ is less than ¾.

Year 3: 3.3 **7:5** 3.5 **3:3**	**When we compare fractions with the same denominator, the greater the numerator, the greater the fraction.**	**Generalisation**	
Year 3: 3.3 **8:1** **8:4**	**When comparing unit fractions, the greater the denominator the smaller the fraction.**	**Generalisation**	
Year 3: 3.3 **8:12**	**When we compare fractions with the same numerator, the greater the denominator, the smaller the fraction.**	**Generalisation**	

	Adding and subtracting Fractions		
Year 3: 3.3 **5:2**		Language / structure	3/5 is 3 lots of 1/5.
Year 3: 3.4 **1:7**	____ tenths and __ more tenths make _____ tenths.	Structure	6 tenths and 2 more tenths make 8 tenths.

Year 3: 3.4 **1:9**		Structure	
Year 3: 3.4 **1:12**	**When adding fractions with the same denominators, just add the numerators.**	**Generalisation**	
Year 3: 3.4 **2:3**	___/10 is ____ lots of 1/10 ___/10 is ____ lots of 1/10 I know that ___ = ___ = ___ So I know that __/10 - __/10 = __/10	Structure	
Year 3: 3.4 **2:5**	**When subtracting fractions with the same denominators, just subtract the numerators.**	**Generalisation**	

Year 3 Curriculum Overview

Geometry - properties of shapes

Pupils should be taught to:

- draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
- recognise angles as a property of shape or a description of a turn
- identify right angles, recognise that 2 right angles make a half-turn, 3 make three-quarters of a turn and 4 a complete turn; identify whether angles are greater than or less than a right angle
- identify horizontal and vertical lines and pairs of perpendicular and parallel lines

READY TO PROGRESS CRITERIA

Year 2 conceptual prerequisite	Year 3 ready-to-progress criteria	Future applications
Recognise standard and non-standard examples of 2D shapes presented in different orientations. Identify similar shapes.	3G-1 Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations.	Compare angles. Estimate and measure angles in degrees.
Compose 2D shapes from smaller shapes to match an exemplar, rotating and turning over shapes to place them in specific orientations.	3G-2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.	Find the area or volume of a compound shape by decomposing into constituent shapes. Find the perimeter of regular and irregular polygons.

SMALL STEPS

Summer	
White Rose Maths	
Turns and angles • Right angles in shapes • Recognise and describe 2-D shapes • Parallel and perpendicular • Recognise and describe 2-D shapes Compare angles Draw accurately Horizontal and vertical Parallel and perpendicular Recognise and describe 3-D shapes Make 3-D shapes	

Year 3 Curriculum Overview

Measurement

Pupils should be taught to:

- measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
- measure the perimeter of simple 2-D shapes
- add and subtract amounts of money to give change, using both £ and p in practical contexts
- tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
- estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight
- know the number of seconds in a minute and the number of days in each month, year and leap year
- compare durations of events [for example, to calculate the time taken by particular events or tasks]

THERE ARE NO READY TO PROGRESS CRITERIA

SMALL STEPS

Spring	
White Rose Maths -money	
Count money - pence Count money pounds (notes and coins) Pounds and pence Convert pounds and pence Add Money Subtract Money Give Change	**Money in pounds and pence is Revisited here before children start looking at them side-by-side.** **At this stage children should not learn about money using decimals, although they may have come across this in real life. Instead they learn about money in terms of a number of pounds and a number of pence.**

Spring	
White Rose Maths Measurement: length and perimeter	
Measure Length (m) Equivalent lengths m and cm Equivalent lengths mm and m Compare length Add lengths Subtract lengths Measure and calculate perimeter	**In this block, additional time has been given to measuring length, comparing lengths and calculating perimeter.** **A secure understanding of place value and addition & subtraction will be needed to access the new learning.**

Summer	
White Rose Maths -Time	
O'clock and half past Quarter past and quarter to Months and years Hours in a day Telling the time to 5 minutes Telling the time to the minute	**Children must be able to tell the time to the hour, half hour and quarter of an hour before moving on to tell the time to the nearest 5-minutes and then the nearest minute.** **Do ot feel obliged to move on beyond hour, half and quarter if the children are not ready.**

Using a.m. and p.m. 24-hour clock Finding the duration Comparing durations Start and end times Measuring time in seconds	**You may choose to cover these steps daily across the year to save time for some of the earlier concepts such as place value, addition & subtraction and multiplication & division.**

Summer	
White Rose Maths - Mass and Capacity	
Compare mass (Recap) Measure mass (1) Measure mass (2) Compare mass Add and subtract mass Compare volume (recap) Measure capacity (1) Measure capacity (2) Compare capacity Add and subtract capacity Temperature (Recap)	**Recap steps are included to provide the opportunity for children to revisit what is meant by mass, capacity and volume before building on this knowledge.** **This is also a good place to revisit the concept of temperature so this has been added into the steps.**

Year 3 Curriculum Overview

Statistics

Pupils should be taught to:

- interpret and present data using bar charts, pictograms and tables
- solve one-step and two-step questions [for example 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables

SMALL STEPS

Spring -	
White Rose Maths - Statistics	
Make tally charts Pictograms (2, 5 and 10) Interpret pictograms (2, 5 and 10) Pictograms Bar charts Tables	**Tally charts and pictograms are revisited as this content may have been missed.** **This will help children access the rest of the content on bar charts and tables. Use this block to consolidate previous number work.**