



Additional information for Reading, Writing and Maths units - Spring 2

Reading

Reading includes a focus on key reading comprehension skills: vocabulary, inference, predicting, explaining, retrieval and summarising.

Children will learn strategies and recognise when to apply these to corresponding skills whilst also improving their reading fluency with exposure to an engaging, vocabulary-rich text.

A reading teaching and learning cycle will include:

- the text as a whole (where context and understanding as whole is applied to achieve higher order thinking)
- exploring and analysing extracts of a text (with a skill focus primarily being word meaning, retrieval and inference)
- understanding the themes and conventions of a text and understanding its purpose
- applying learnt strategies to multi-skills lessons

Writing Units links

Year 3 Spring 2

Text Structure, Sentence, Useful Vocabulary, Word Classes, Punctuation

Non-Chronological Reports

Year 3

Text Structure	Sentence	Useful Vocabulary	Word Classes	Punctuation
Clear introduction. Organised into paragraphs shaped around a key topic sentence. Use of subheadings.	Simple sentences with extra description. Some complex sentences using when, if, as etc. Tense consistent, e.g. modal verbs can/will. Adverbials, e.g. When the caterpillar makes a cocoon...	The following report... They don't... It doesn't... Sometimes... Often... Most...	<u>Noun</u> Form nouns using prefixes. Nouns and pronouns used to avoid repetition. <u>Verbs</u> Present perfect forms of verbs instead of 'the'. <u>Adjectives</u> Choose appropriate adjectives. <u>Connectives/conjunctions</u> Express time and cause (when, so, before, after, while, because). <u>Tense</u> Correct and consistent use of past and present tense. <u>Adverbs</u> Introduce/revise adverbs. Express time and cause: then, next, soon.	Introduce possessive apostrophes for plural nouns. Introduce inverted commas.

Word list – years 3 and 4

accident(ally)	early	knowledge	purpose
actual(ly)	earth	learn	quarter
address	eight/eighth	length	question
answer	enough	library	recent
appear	exercise	material	regular
arrive	experience	medicine	reign
believe	experiment	mention	remember
bicycle	extreme	minute	sentence
breath	famous	natural	separate
breathe	favourite	naughty	special
build	February	notice	straight
busy/business	forward(s)	occasion(ally)	strange
calendar	fruit	often	strength
caught	grammar	opposite	suppose
centre	group	ordinary	surprise
century	guard	particular	therefore
certain	guide	peculiar	though/although
circle	heard	perhaps	thought
complete	heart	popular	through
consider	height	position	various
continue	history	possess(ion)	weight
decide	imagine	possible	woman/women
describe	increase	potatoes	
different	important	pressure	
difficult	interest	probably	
disappear	island	promise	

Maths Unit - Year 3

Unit Journey

Fractions: Overview

unequal equal

"There are two equal parts."

Numerator
___ equal parts are highlighted

Denominator
There are ___ equal parts altogether

"Two sixths is equal to one third"

Concepts: Understanding fractions, Comparing fractions, Equivalences, Calculating with fractions

"Zero, one tenth, two tenths...."

Year 3

- Develop an understanding of tenths; count up and down in tenths
- Recognise, use as numbers, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
- Compare and order unit fractions, and fractions with the same denominators**
- Recognise and show, using diagrams, equivalent fractions with small denominators
- Add and subtract fractions with the same denominator within one whole
- Solve problems that involve all of the above

0.4 0.5 0.6 0.7 0.8 0.9

0.52 = 52 hundredths

$\frac{1}{2} = \frac{2}{4} = \frac{3}{6}$

Year 6

- Use common factors to simplify fractions; use common multiples to express fractions in the same denomination
- Identify the value of each digit in numbers given to 3 decimal places
- Compare and order fractions, including fractions >1**
- Recall and use equivalences between simple fractions, decimals and percentages
- Add and subtract fractions with different denominators and mixed numbers
- Multiply simple pairs of proper fractions
- Divide proper fractions by whole numbers
- Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction
- Multiply/divide numbers by powers of 10 giving answers up to 3 decimal places
- Multiply one-digit numbers with up to 2 decimal places by whole numbers
- Use written division methods in cases where the answer has up to 2 decimal places
- Solve problems which require answers to be rounded to specified degrees of accuracy

Year 5


- Recognise mixed numbers and improper fractions and convert from one form to the other
- Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- Round decimals with 2 decimal places
- Read, write, order, compare and solve problems numbers with up to 3 decimal places
- Develop understanding of percentages (%) as a 'number of parts per 100'
- Compare and order fractions whose denominators are all multiples of the same number**
- Read and write decimal numbers as fractions
- Identify, name and write equivalent fractions of a given fraction, including tenths and hundredths
- Add and subtract fractions with the same denominator, and denominators that are multiples of the same number
- Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
- Solve problems which require knowing percentage and decimal equivalents of common fractions

Year 4

- Round decimals with 1 decimal place to the nearest whole number
- Develop understanding of hundredths
- Compare numbers with the same number of decimal places up to 2 decimal places**
- Recognise and show, using diagrams, families of common equivalent fractions
- Recognise and write decimal equivalents of any number of tenths or hundredths, $\frac{1}{10}$, $\frac{1}{100}$ and $\frac{2}{10}$
- Solve problems involving increasingly harder fractions to calculate quantities
- Add and subtract fractions with the same denominator
- Divide a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
- Solve simple measure and money problems involving fractions and decimals to 2 decimal places

Key vocabulary

Year 3	Definition	Example
Time	Related to duration. Measured in seconds, minutes, hours, days, weeks, months, years etc.	After lunch it will be time for P.E.
Analogue clock	A clock with a face and hands.	
Anticlockwise	Movement in the opposite direction to the motion of the hands of a clock.	
Clockwise	Movement in the direction of the hands of a clock.	

Half turn	A 180 degree rotation, i.e. $\frac{1}{2}$ of a 360 degree or 'full' turn.	
Hour	A unit of time.	There are 24 hours in one day.
Minute	A unit of time.	We will have lunch in five minutes.
Fraction	1. A part of a whole number, quantity or shape. 2. Expressing a division relationship between two integers in the form $\frac{a}{b}$.	I have shared my sweets into four equal parts. Everyone will get a fraction of the whole quantity of sweets. One group is a quarter of the whole.
Denominator	The number written below the vinculum in a fraction. In a measure context, it indicates the number of equal parts into which the whole is divided. In a division context, it is the divisor.	In the fraction one quarter, four is the denominator.
Numerator	The number written above the vinculum in a fraction. In a measure context, it indicates the specified number of parts out of the whole. In a division context, it is the dividend.	In the fraction one quarter, one is the numerator.
Non-unit fraction	A fraction with a numerator greater than one.	Two thirds is a non-unit fraction.
Unit fraction	A fraction with a numerator of one.	One-third is a unit fraction.

Strategies and representations

Year 3 Key Representations

Dienes equipment

An important resource for demonstrating the relative size of place value columns. Supports the process of **regrouping** – one ten is equal to ten ones, one hundred is equal to ten tens and so on. Can also be used to represent addition and subtraction with 2- and 3-digit integers.

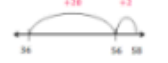
One ten is regrouped for ten ones. Ten ones is regrouped for one ten.



234 is two hundreds, three tens and four ones. I can represent subtracting 20 by removing two ten sticks.

Number lines

Number lines can be used to represent and compare numbers and can be used alongside a bead string. They demonstrate the continuous nature of the number system. When calculating, number lines may act as a jotting of the steps of a mental calculation and may begin 'empty' i.e. not have numbered divisions. Pupils will have experienced this most through adding tens then ones as shown. The use of number lines is extended during Year 3.



Equations

The phrase 'is equal to' is used consistently to refer to the = symbol. Equations should be presented with symbols and missing numbers in different positions:

$$38 = 25 + 13$$

$$\square = 37 + 44$$

$$12 + \square = 4$$

Number bond knowledge

Pupils should be increasingly fluent in number bond recall for all numbers to 20. Make use of transitions and Maths Meetings to develop this.

$$17 = 12 + 5$$

$$17 = 11 + 6$$

$$17 = 10 + 7$$

Deriving facts

Pupils use known facts such as number bonds and understanding of place value and magnitude to derive further facts.

If I know $12 + 5 = 17$ then $22 + 5 = 27$.
 If I know $12 + 5 = 17$ then $17 - 12 = 5$
 If I know $17 - 12 = 5$ then $37 - 12 = 25$

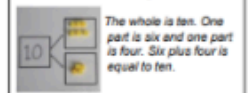
Bead strings

Bead strings help support the ordinality of number. They are repurposed e.g. beads have the value 101-200 for representation when rounding.

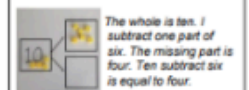


Part-whole language and representations

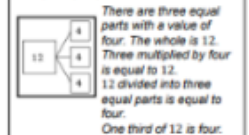
A part-whole model is used to represent the relationship between numbers in all four operations. The model is made of a whole and two or more parts.



By moving the manipulatives the model represents subtraction.



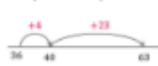
Multiplication, division and fractions of quantities can be represented using multiple equal parts.



The 'make 10' strategy

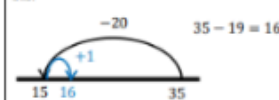
Pupils apply number bonds to 10 to calculate how many more/less to the next multiple of ten. They partition the part into two parts to calculate mentally. Using concrete or pictorial representations can scaffold thinking.

$36 + 27 = 71$ I can partition 27 into 4 and 23. 36 plus 4 is equal to 40. 40 plus 23 is equal to 63.



Round and adjust

Pupils apply understanding of ordinality of number, recognising when a part or whole is close to a multiple of 10 e.g. 29, 32. They round before calculating, then adjust their answer accordingly. Concrete or pictorial models are used to represent this.



Place value charts

Place value charts have been used to represent two-digit numbers and can be used alongside concrete, pictorial and abstract representations of number to secure understanding of the positional aspect of the number system. Pupils have made use of place value charts when adding two 2-digit numbers and their use is extended in Year 3.



Representing fractions

A range of concrete and pictorial representations are used for fractions including fractions of a whole, as part of a set of objects and as part of a quantity such as a length or volume. Pupils should be familiar with a range of representations.



One of four equal parts.

numerator → 1
 vinculum → —
 denominator → 4



One quarter of 12 is three.

One quarter of a metre is 25 cm.

Arrays

Concrete and pictorial arrays demonstrate the **commutativity** of multiplication and **inverse relationship** of multiplication and division. Pupils should be familiar with considering rows and columns. **Part-whole language** may be used alongside.

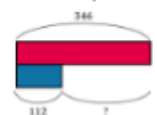


There are four parts/groups each with a value of three. The whole is 12. Four multiplied by three is equal to 12.

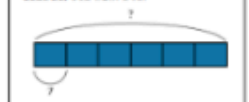
The whole is 12. There are three parts/groups each with a value of 4. 12 divided by three is equal to four. One third of 12 is equal to four.

Bar models

Pictorial bar models and concrete Cuisenaire as bar models are used throughout the year and represent **part-whole relationships and knowns and unknowns** within problems. See PD videos for further exemplification.



I know the whole is 346, and one of the parts is 112. I do not know the value of the missing part. I can subtract 112 from 346.



The value of each part is 7 and there are 6 equal parts. The whole is unknown. $7 \times 6 = 42$

Timestables

	Year 3	Year 4	Year 5	Year 6
Autumn 1	1 & 2	9	Mixed times and divide	Primes
Autumn 2	5 & 10	7		Square
Spring 1	3	(9) 12		Cubes
Spring 2	6	11		Mixed
Summer 1	4	Mixed		
Summer 2	8			